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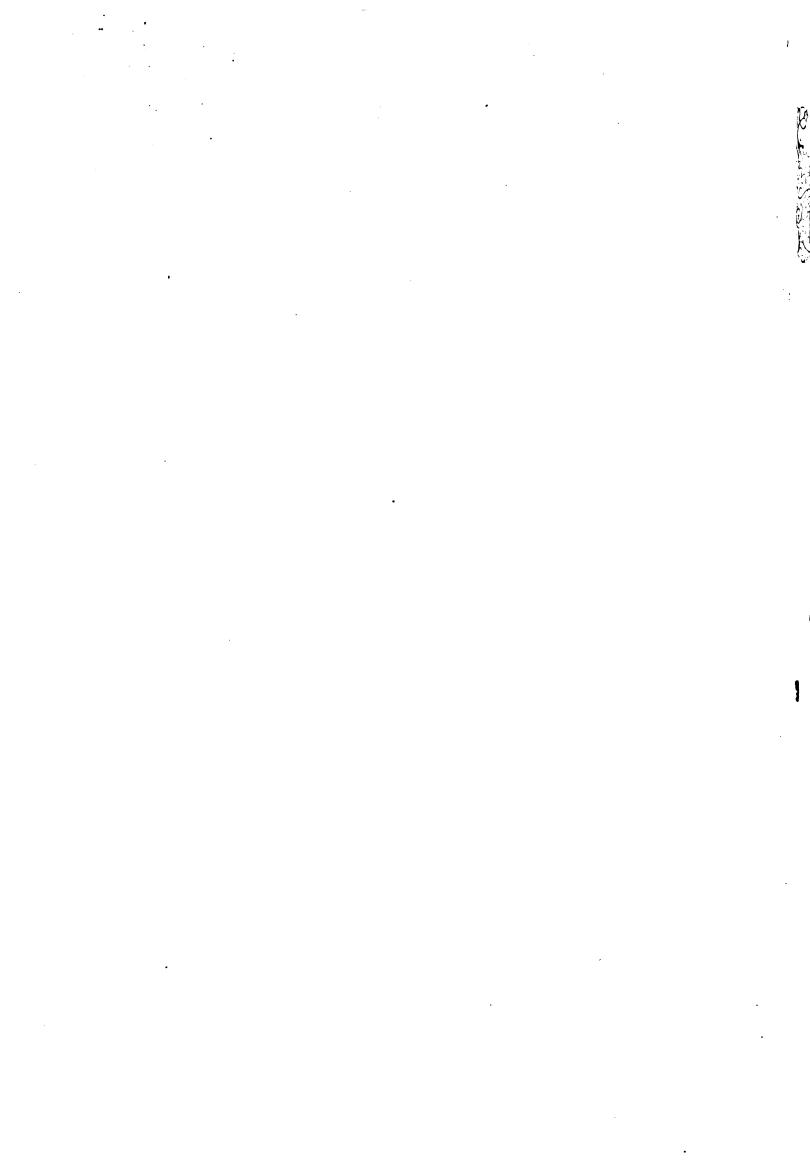
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AN

ILLUSTRATED WEEKLY MAGAZINE,

FOR THE

ARCHITECT, ENGINEER, OPERATIVE, AND ARTIST.

Golume the R hird.

LONDON:

PUBLISHING OFFICE, 2, YORK STREET, COVENT GARDEN. 1845.

(RECAP) 9100 1845, 4.3

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8ATURDAY, JANUARY 4, 1845.

ADDRESS.



E issue to-day the hundredth Number of THE BUILDER, and commence with it a new year. Our progress up to this time has been in the highest degree

satisfactory; friends have grown up around us on all sides; the goodness of our purpose has been universally recognized; and we consequently now find ourselves in a position to effect much more than we have yet attempted. Of this position we shall vigorously avail ourselves, and will spare no pains or outlay to render this journal the organ, par excellence, of the numerous and influential classes interested in architecture, building, engineering, archæology, practical science, and the decorative arts.

We are making such arrangements as will ensure for our readers the earliest and most authentic information on all subjects whereof THE BUILDER treats, both foreign and domestic, with sound and impartial opinions on the various matters which may come before them. New buildings, new materials, new processes, and new books, will be described and illustrated. As regards the latter, it is a constant complaint amongst provincial architects and builders, that having nothing to guide them in their purchases, they are led to order from London works which are of no use to them, and more often to refrain from buying those which, if they had a general notion of their contents and worth, they would gladly possess. We shall endeavour to supply this deficiency : and being untrammelled by any connection with publishers, shall do so fearlessly and honestly; with a disposition at all times to hold out a friendly hand to rising merit, and to give praise rather than censure, but with a resolute determination to shew no mercy to the shallow empiric or the egotistical pretender.

The properties of materials, and all new andes of construction, we shall be anxious to investigate; and we invite the earliest intelligence on these points, so that we may place the result of inquiry before our readers.

The new Metropolitan Buildings-Act, which came into operation on the 1st instant, will necessarily be liable for a time to various readings, and will offer some disputed points. Our pages will be open for the discussion of them, and consideration will be given to such

form a prominent feature in our journal, and we shall aid resolutely every endeavour that may be made with that end in view. Against faulty modes of construction, unfortunately numerous and general, we shall continue to wage war,one great object of THE BUILDER being the introduction of sound principles in building. and the dissemination of practical know-

is an object of national importance. Close pursuit of the useful will not, however, prevent attention to the beautiful, indeed the connection is too intimate to admit legitimately of separation.

ledge. The improvement of dwelling-places

"Taste never idly working, saves expense." It must be constantly remarked that architecture as a fine art is much less understood by

the public than as a useful art, whence it follows that our advance in matters of taste is much slower than in matters of utility. It will be our aim from time to time to diffuse a knowledge of the principles of architectural criticism and to cultivate the taste of our readers so far as it may be in our power to do so. The preservation of ancient remains, the proper conduct of societies devoted to architecture and archæology, and the due administration of competitions, will be specially regarded by us, and strenuously advocated. On all these points public opinion is now very different from what it was even ten years ago, and we believe we shall materially aid in obtaining a satisfactory result by concentrating information relating to them, and exposing unflinchingly, every instance of tergiversation which may become known.

We have a wide field, and strong determination : with that co-operation on the part of those interested in these matters that we have a right to expect, and which the present editor, commencing a new task, earnestly solicits, we cannot fail to effect much good. WE ASK THIS CO-OPERATION, KIND READER, FROM YOU YOURSELF.

MODEL (?) HOUSES FOR THE LABOURING CLASSES.

IN THE BUILDER for December 21st, we drew attention to a statement and engraved plan of fifteen houses for the labouring classes, recently issued by the society for improving the condition of that part of the population. From this we learn that :---

"The committee, feeling that no description or reasoning, however accurate, is likely to make such an impression on the public as an actual experiment, had resolved to build a certain number of houses as models of the between Gray's-inn-road and the Lower-road. Pentonville, on the estate of Lord Calthorpe, and had commenced, under contract, the erection of the buildings shewn on the plan.

"In the arrangement of these buildings, the object had been to combine every point essential to the health, comfort, and moral habits of the industrious classes and their families, reference being had to the recommendations of the Health of Towns' Commission, particularly with respect to ventilation, drainage, and an ample supply of water."

Anxious to examine the society's first work, constructed with such an end in view, we hastened to the site of the new houses-the model bouses near the Bagnigge Wells Tavern. We regret to say, unaffectedly and seriously, that our worst anticipations are confirmed. The arrangement is a disgrace to the society, and cannot surely have been seen by Lord Ashley, the chairman of the committee.

In the Buildings Regulation Bill, brought in by that excellent nobleman in conjunction with Mr. Fox Maule and Mr. Tufnell, Feb. 1842, it is set forth most justly "that it shall not be lawful to build any new court or alley (except mews and stable-yards) narrower than 30 feet, through which there shall not be an open and entirely open from the ground upwards." And in the new Metropolitan Buildings Act, it is actually provided that no court or alley shall be built without "two entrances thereto, each being at the least the full width of the alley." Will it be believed then, by our the alley." Will it be believed then, by readers, it certainly was not by ourselves w hen we firstsaw it even with our own eyes, that these houses now in course of erection, model houses remember, to which the society are to appeal when endeavouring to persuade some money-loving landlord to build in a manner more conducive to the health of the future occupiers than to the increase of his revenue, are actually arranged to form a court open at one end only, AND LESS THAN 23 FEET IN WIDTH AT THE WIDEST PART !! The plot of ground on which the fifteen buildings are crammed is so small, that, notwithstanding this proximity, the yard attached to each house is literally what its name imports in feet, or very little more.

We call most urgently on the committee and the shareholders to prevent the consummation of this most dangerous mistake, or they will rear a hot-bed for infection, and throw a great impediment in the way of that im-provement which they profess to seek. The houses on one side are nearly roofed in; those on the other side have merely the footings laid; and we trust our contemporaries of the press will aid us with their powerful voices in our endeavour to prevent the completion of the plan as at present contemplated. we vere not assured that the income derived from these buildings would be devoted to the general objects of the society, we should questions as may arise. The health of towns, to which this Act materially refers, has always received from us the attention that the import-sace of the subject demands : it will continue to

CURIOUS ARCHITECTURAL REMAINS IN BOW CHURCH-YARD.

At the Society of Antiquaries, on Thursday, 19th ultimo, a paper was read from Thomas Lott, Esq., F.S.A., noticing some subterranean architectural remains (being stone vaultings of substantial masonry) beneath the houses in Bow church-yard, City, of a very interesting character, although of a much later date than the celebrated Norman crypts at present existing under the church.

Beneath the house No. 5, occupied by Messrs. Grocock, is a square vaulted chamber, 12 feet by 7 feet 3 inches high, with a slightly pointed arch of ribbed masonry, similar to some of those of the old London bridge. There had been in the centre of the floor an excavation which might have been formerly used as a bath, but which was now arched over and converted into a cesspool. Proceeding towards Cheapside, there appears to be a continuation of the vaulting beneath the houses Nos. 4 and 3. The arch of the vault here is plain, not ribbed, and more pointed. The masonry appears, from an aperture near to the warehouse above, to be of aperture near to the warehouse above, to be of considerable thickness. This crypt or vault is 7 feet in height from the floor to the crown of the arch, and is 9 feet in width and 18 feet long. Beneath the house No. 4 is an outer vault. The entrance to both these vaults is by a depressed Tudor arch with plain spandrils, 6 feet high; the thickness of the walls about 4 feet 4 feet.

In the thickness of the eastern wall of one of the vaults, are cut triangular-headed niches, similar to those in which, in ancient ecclesiastical edifices, the basins containing the holy water, and sometimes lamps, were placed, instances of which are seen in Old Stepney Church, and many other buildings of the same period.

These vaultings appear originally to have extended to Cheapside, for beneath a house there, in a direct line with these buildings, and

close to the street, is a massive stone wall. The arches of this crypt are of the low pointed form, which came into use in the 16th entury.

There are no records of any monastery having existed on this spot, and it is difficult to conjecture what the building originally was; Mr. Chaffers thought it might be the remains of the crown sild, or shed, where the sovereigns repaired to view the joustings, shows, and great marching watches, on the eves of the festivals.

Accompanying his communication Mr. Lott had sent two old deeds, being grants by letters patent from Henry VIII., with impressions of the great seal attached, on which he had stumbled in his researches as to the existence of any monastery on this spot. One of these deeds excited great interest, inasmuch as the splendidly illuminated margin contained a portrait in colours of the king, which, from the care bestowed on its execution, and its resemblance to the heads on the coinage of the period, might possibly be a good likeness of the absolute monarch.

Mr. Lott also laid on the table the ancient silver parish seal of St. Mary-le-Bow, representing the tower of the church as it existed antecedently to the Fire of London, with its bows or arches of stone, and five lanterns therein, intended to have been glazed, and lighted at night to guide the passengers across the ferry of the Thames.

DISTRICT SURVEYORS' ASSOCIATION. "A chicl's amang ye, takin' notes, An' faith, he'll prent 'em !"

THE anniversary dinner of this association took place on Monday last, at the Freemasons Tavern, when forty gentlemen sat down, and Tavern, when forty gentlemen sat down, and H. E. Kendall, Esq., took the chair, supported by Professor Hosking, the official referee ap-pointed under the Metropolitan Buildings Act. Mr. Baker, hon. sec., read the friendly apolo-gies of Mr. Higgins, the other official referee, and of Mr. Symonds, the registrar, for their unavoidable absence unavoidable absence.

After the usual toasts, the Chairman alluded of Mr. Hosking gave to himself and to the meeting, and proposed the health of "The Official Referees and the Registrar." The toast having been received with cheers,

Mr. Hosking thanked the society for the compliment paid to him, and expressed much pleasure at having received their invitation; it was

an earnest that, under the new circumstances in which they would soon be relatively placed to each other, he should receive their co-operation; they would all shortly be in the same boat together, and when he considered the great experience of many members of the Association, and the attention which they had bestowed upon the new Act, he hoped to derive great benefit from their assistance. If, however, in the performance of his office, he should be compelled to differ in opinion from them, or to exercise any of the powers which the law gave him over their appointments and their duties, he was glad to have this opportunity afforded to him of shewing the usual feeling of an Englishman, who always shakes hands before the fight. (Cheers.) With some complimentary observations, he then proposed, " Prosperity to the District Surveyors' Association.

The Chairman having acknowledged the toast, briefly gave, "Mr. Donaldson and the y elected Surveyors.

Mr. Donaldson said, that the duties of the new surveyors would be comparatively light, for whenever any case of difficulty arose, he should not fail to call in Trafalgar-square for proper directions (a laugh); so that, what with following the example of the senior sur-veyors, and the advice of the official referees, the path would be clear, and easily pursued.

The Chairman then said, it would be recol-lected that, three weeks ago, Mr. Baker, the honorary secretary, had stated his intention to resign the office, and assigned his indisposi-tion alone as his reason for doing so. The The association felt that much was due to their esteemed friend, not only for the efficient manner in which he had for so long a period per-formed the duties of his office, but for his exertions at the formation of the society. A committee was therefore formed, and it was unanimously agreed to present him with a silver salver, having an appropriate inscription. However inadequate the gift, he now begged to present it in the name of the association, and to couple with it, a bumper to "Mr. Baker's health."

The toast having been received with cheers, Mr. Baker said, that though he had been led to expect this mark of kindness at their hands, he was, nevertheless, but ill prepared to express, in appropriate terms, his grateful sense of it. Returning thanks seemed, at first sight, an easy task, but when the heart was full, no one knew, until he tried, how difficult it was to clothe gratitude with words. On this account, he begged for their forbearance, for like Trotty Veck, he found "every word swelling in the throat to the size of the whole alphabet." Imperfect, however, as he might express it, he assured them that his gratitude phabet." was at least sincere, and that he felt deeply indebted to all,—to those whom an intercourse of many years had impressed him with the knowledge of their worth and their good fellowship, and also to those new members, who, uncalled for and unlooked for, but not uncared for, had voluntarily come forward on this occasion. He valued the inscription upon the plate more than the plate itself, and trusted that he should preserve his friends as long as he should preserve their testimonial. He could not relinquish the post of secretary without congratulating the association on its healthy and prosperous condition : there had been no quarrellings, no jealousies, or discontent, to induce one member to retire ; but all the meetings had been conducted in harmony and hemight add too, with discretion, when he recollected that the last act of the association was to appoint Mr. Pownall to the post of secretary (loud cheers), a gentleman thoroughly qualified for the office, and who had already entered on his task with activity and zeal. No wonder then that a body like this, associating together quite as much for the public good as for its own, should meet with the sanctioning presence of the gentleman on the right of the chair. I am delighted, concluded Mr. Baker, to see him amongst us, and as he has alluded to our heirs in the same here I provide him to our being in the same boat, I promise him that if, on the untried waters in which our vessel is to be launched on Wednesday next, he will steer steadily, we will pull heartily, and so the boat shall go merrily down the stream. (Loud cheers.)

"Mr. Allason and the visitors," "the Magistrates of Middlesex, Kent, and Surrey," and several other toasts followed. We must

not omit, however, one toast proposed by Mr. Pownall, who prefaced it by saying that the company had drunk the healths of new members and new friends, and right glad was he to see them, but that they ought not to forget a cer-tain good old friend who was about to part with them for ever. Many a time had this good friend, now seventy years old, done them able service; many were the debts of grati-tude due for these services; indeed those who had known him longest loved him best, and no one therefore would refuse to drink to "The Blessed Memory of the old Act."

ST. PAUL'S CHURCH, HERNE HILL.

ST. PAUL'S CHURCH, Camberwell, consecrated on the 21st of last month. was The building consists of a nave and side aisles, or chancel, and a tower and spire at the west end, placed in the centre. The nave has a clerestory, and is covered with a double roof, so arranged as to give the appearance of an open roof of lower pitch. The roof of the aisles is very simple and effective; it consists of boarding supported on a frame-work of timber which forms square panels for the ceiling, and is covered with asphalted felt and slated. The pulpit is on the north side of the chancel-arch, and is entered by means of steps from the chancel; the robing-room is con-tiguous. The pulpit is of stone, and is adorned with paintings of St. Peter, St. Paul, and other apostles, on porcelain tablets, drawn by Nixon, executed by the firm of Copeland and Garrett, and presented by the latter gentleman, together with the encaustic tiles with which the centre of the nave and the whole of the chancel are paved. The steps, formed also of porcelain confined by iron nosings, are ingeniously designed and arranged. One difficulty in the manufacture of encaustic tiles seems to be, that of making them all exactly of the same size, and so obtaining straight lines when they are A little more attention in this respect doubtless overcome it. The material laid. will doubtless overcome it. seems excellent.

The organ is placed in a small chamber formed over the north porch, so that the front is flush with the walls of the aisle. All the windows are filled with stained glass by Messrs. Ward and Nixon, and deserve commendation. The large east window contains figures of Matthew, Mark, Luke, and John, with the lamb, dove, and other emblems. Unsightly galleries, so often destructive to the effect of new churches, have been avoided, in consequence of which, although this edifice is in reality low, it has an open and airy appearance. The church is noticeable for the extent of

its coloured decorations, ably executed by Mr. Warrington. The roof of nave, sisles, and chancel, is elaborately painted in patterns, the whole of the wood-work having been first stained to represent oak. On both sides of the tie-beams of the nave-roof are Scripture sentences; those facing west, confirmations of the ten commandments, from the New Testa-ment; those east, proverbs from Solomon. On the spandrils of the arches separating the nave and aisles, is represented the vine, with scrolls bearing sentences of thanksgiving, and surrounding an emblem of the sufferings of the Saviour, the crown of thorns, the nails, &c. Originally the scrolls were supported by angels, and over the chancel-arch were painted figures of St. Peter and others, the size of life; but these, at the suggestion of the bishop, were church, we entirely agree. In an artistical point of view we may be anxious to see decorations of this description introduced in our churches,considered abstractedly no reasonable objection can be made to them; but when they are understood to be a banner of a party in the church bent on introducing dangerous changes, our artistical feelings give way to higher considerations, and we express our approval of the caution which would delay their introduction. On the subject of mural decorations and stained glass we shall shortly offer some general remarks.

The architect of the church, Mr. George Alexander, F.S.A., of the firm Messre. Stevens and Alexander, has displayed most praiseworthy care, and much ability, in rendering the whole consistent and homogeneous, and has succeeded in producing a very successful building. The

style adopted is that of the 15th century. If we were disposed to find fault, we might say that the mouldings of the principal arches in the nave are too large, and produce a heavy effect; they should have been out up into smaller parts. Where so much, however, has been done with comparatively small means, we are not willing to qualify our praise.

done with comparatively small means, we are not willing to qualify our praise. The body of the church is 80 feet in length, 51 feet wide, and 30 feet high, and affords seats (low pewing of oak) for 700 persons. The chancel is 19 feet deep; the tower and spire 120 feet high. The amount of the estimate, including the stained-glass windows in the clerestory and chancel, was 4,500%. Some extra works and alterations amounted to 100%. The painted decorations cost 205%; but this was defrayed by the drawback obtained on timber, glass, and other materials not liable to duty when used in the construction of a church. The boundary wall and gates cost 450%; the organ, 270%, and the hot-water apparatus (by May) 153%; so that the whole expense, exclusive of the stained-glass windows in the aisles (which were all presented, and cost about 15% each), the encaustic tiles, the porcelain decorations, and architect's commission, was 5,473%. The Church Commissioners contributed 700%, and the remainder of the sum was obtained by subscription. The exterior of the building is of Sneaton stone (Yorkshire), hammer worked, with free-stone from Box for the dressings.

Mesrs. Howard and Son, of Newington, were the builders; and it is but justice to them to say, that the works are well executed.

CHURCH ARCHITECTURE IN PARIS.

THE church of St. Vincent de Paul, in the Place Lafayette, which has been many years in progress, from the designs of M. Pere and M. Hittorff, is now completed, with the exception of some external and internal paintings, and has obtained considerable praise as well for all the artists who have been employed upon it, as for the architects themselves. It was commenced in 1824; but for several years the works were suspended altogether. The building is very advantageously placed, being on a considerable elevation above the surrounding ground, and is approached by extensive flights of steps (with semi-circular terraces branching off on either side with a gradual descent for the approach of carriages), which produce a striking effect. An Ionic portico of six columns, three intercolumniations in depth, and the two towers 181 feet high, are the principal features of the entrance front.

risal features of the entrance front. The width of the building is 123 feet 6 inches; the depth, 298 feet 6 inches; the height of the nave is 96 feet. The interior is divided by four ranges of columns into five parts, the centre being the nave, the adjacent division on each side the aisles, and the outside divisions the chapels. The nave and aisles are two stories is height, the latter having a gallery over them. The nave is covered with an open timber roof, as was generally used for the Roman basilica: the building is terminated at the east end by a semicircular absis, embracing the whole width of the nave and aisles. Painting and sculpture, stained glass, cast iron, and all the contemporary arts, have been employed with the new of rendering the whole perfect. Erected at the expense of the city of Paris, money seems hardly to have been considered: it has cost no less than 156,0002, exclusive of the steps and terraces, which cost 9,6001.

A French writer, speaking of this church, sys, "that although it fully recals the beautiful types of antique architecture and the primitive ages of Christianity, it is in no degree as imitation, except in the application of the principles which presided at the conception of the noble monuments of Greece and Rome." "We find in it (the writer continues) no direct plagiarism; none of those counterfeits of ancuest fragments, the introduction of which, under other circumstances, will be always oppred to those principles which regulate that, in architecture, the true and the fitting can alone produce the beautiful."

IRON TRADE.—An advance of 10s. per ton bes taken place in the price of Welch iron, while the price of Staffordshire iron has advanced 11. The trade appears to be more steady than it has been for months, and it is said that a general advance of wages is not unikely to take place shortly.—Welchman.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE Institute will hold their next meeting (January 13th) in new apartments, although in the same building. The first floor of the house in Grosvenor-street has been fitted up to receive them, and arrangements have been made to give additional *éclat* to the proceedings. It is to be hoped that the members will come forward with the result of their experience and reading, to assist the council in carrying out the purposes of the society. We should like to see such men as Mr. Cockerell, Mr. Barry, Mr. Hardwick, Sir Robert Smirke, and others, communicating to their brother members new points of practice, or their observations on ancient building, instead, of as now, attending simply when vice-presidents for the year, if not totally absenting themselves. To say that they have no time to spare is but a poor excuse. They ought to consider it a bounden duty to maintain the character of the profession to which they belong, and to play their part in forming the minds of those who are to succeed them. We propose in chronicling the proceedings of the institute, not to confine ourselves to the papers which are read, but to notice such remarks as may be thrown out afterwards in discussion, so that our pages may become a more perfect record of the proceedings than exists at present.

The officers for the present. The officers for the present year are—Earl de Grey, president; Messrs. H. E. Kendall, J. B. Papworth, and George Smith, vicepresidents; Messrs. Booth, Foxhall, George Godwin, Grellier, Noble, Parker, W. F. Pocock, Roberts, and James Thompson, ordinary members of council; Messrs. A. Poynter and G. Baily, honorary secretaries; and Mr. T. L. Donaldson, foreign secretary.

RESTORATION OF GLASGOW CATHEDRAL

This fine old building is about to be thoroughly renovated. Workmen are busily engaged at present in removing the iron cages from the outside walls, and in lowering the soil, so as to shew the proper elevation of the church. When completed this will make the venerable pile look quite another thing outside. Inside the work of renovation and improvement is also going forward with spirit. The many and elaborately wrought pillars of the crypt, or old barony church, are being neatly mended wherever it is necessary, and the blackness settled down upon them in the course of years is being washed off by a solu-tion for the purpose. The effigy of St. Mungo, which had been very unceremoniously removed and laid on an adjacent window-sill, has once more been deposited in its proper place, on the raised shrine in the centre of the crypt, where there is very little doubt it originally stood over the grave of the saint. The elabor rate groinings and carvings of this portion of the building, most of which have been gilt and painted with various devices, is a theme of universal admiration since it was opened up to the public, and glass windows introduced instead of the blind ones. In this compartment of the building, and over a niche in the lower chapter-house, there is an inscription in Latin, which we translate thus :—"The House of Faith, the Chapel of the Lord." The arms of the founder, Bishop Lauder, are placed over the niche. Lauder died in 1425. In the different portions of the bosses of the roof of the lower chapter house, which was built by Bishop Cameron, we have his own arms, and the arms of Archibald Earl of Douglas, who endowed the cathedral with the church of Cambushlang. Next these are the Royal arms of Scotland, and the arms of Scotland and England on one shield. Above the original south door, entering to the nave, the groined arches are decorated with crowns, which we must say we never observed before, and would not have done so now, had they not been pointed out by our friend, Mr. Andrew Adie, than whom no man in all Glasgow has a more minute knowledge of every hole and bore about the cathedral. These crowns are beau-tifully carved, and amount in number to eight, inscriptions and mottoes, in the with English characters, which, we have no doubt, could be deciphered were a person near enough to trace the letters. On the arch next the ascent to the choir, on the south side, and to the right of the entrance door to Principal Macfarlan's church, the decorations of the roof

point it out as a chapel of consequence. Besides a great many devices and inscriptions, there is the figure of a man kneeling before a blazing altar, with the word "Maria," thereby indicating aftar, with the word "Maria, thereby indicating that this was the chapel of the Virgin. We have no doubt a splendid tomb stood here, and that were the pavement re-moved, and a search made, its foundation and When the other relics would be found. pavement was laying a short while ago, the workmen felt quite certain that there was something strange below, as it sounded quite "boss," or empty. The arch on the south aisle, next the high altar, is most elaborately decorated and carved. Amongst the carvings to be mentioned is an emblem of the Holy Trinity, and the five wounds of our Saviour, a crown of thorns, a cross, a scourge, &c. At the south door of the lady's chapel the tombstone of Archbishop Boyd attracts attention. It bears the date 1581, and lay originally on the steps of the high altar, just below where the pulpit of the very rev. principal now stands. When of the very rev. principal now stands. When removed in 1800, the skeleton of the archbishop was found in a very entire state, and wrapped in a silk, besides a worsted damask dress. **`On** the summit of the roof of the chapter-house, we observed, for the first time, a small stone slab, bearing the initials of Archbishop Law, and the pastoral staff. It was this archbishop who restored the lead roof of the cathedral, after its destruction at the Reformation, and bis monument may still be seen in tolerable preservation in the lady's chapel. He died in 1632. Blackadder's Aisle.—The workmanship here, and especially the groinings of the roof, are most elaborate and beautiful, The follow-ing is the style of the inscriptions over the tombs of those who are buried in the aisle, and it must be confessed the information furnished is not very great :--

| Mr | | |
|-------|---|--|
| J • D | | |
| 1658 | | |
| Mr | , | |
| A N | | |
| 1628 | | |

...

Mr. Kirkman Finlay, of Castle Toward, seems to have been the last interment in this sacred spot.

&c. &c.

The remains of the identical Strap, who makes such an interesting figure in Smollett's "Roderick Random," lie under a slate-coloured grave-stone in the yard, not far from the entrance to the church of the principal.

The whole of these works are being carried on at the expense, and under the superintendence of Government. A gentleman, sent down by the Woods and Forests, lately arrived in Glasgow, to make the preliminary arrangements, and to overlook a portion of the restoration.—Glasgow Constitutional.

METHOD OF DETERMINING WHETHER A STONE WILL RESIST THE ACTION OF FROST.

A FEW years since M. Brard communicated to the Royal Academy of Science, in Paris, a method of determining, by a few prompt and easy experiments, whether a stone to be used for building purposes is capable of resisting the destructive action of moisture and frost. The Academy appointed a committee to inquire into the merits of M. Brard's process, and to make a report thereon. We are indebted for the following extracts from this report to to a work recently published by Parker, and entitled The Useful Arts Employed in the Construction of Dwelling-houses :---

In the choice of a stone for building purposes, it is of the utmost importance to be able to determine, by a few prompt and easy experiments, whether the proposed stone is capable of resisting the destructive action of moisture and frost. The means of ascertaining this were difficult and uncertain, until M. Brard, several years ago, communicated his method to the Royal Academy of Sciences at Paris. This learned body having appointed a committee of their own members to inquire into the merits of M. Brard's process, and to make a report thereon, the united testimony of engineers, architects, masons, and builders from different parts of France was received, and proved so favourable as to its merits and simplicity, that the committee recommended

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the plan to public notice and general adoption. From their report we select a few details which, hitherto, we believe, have not appeared in English.

When water is converted into ice an increase in bulk suddenly takes place with such amazing force that it appears to be almost irresistible. This is the force which cracks our water-bottles and ewers; splits asunder the trees of our forests; and destroys some of the stones of our buildings. But the action of frost upon stone is very gradual; it is confined to the surface, and when we see a layer of stone separated from the rock or the building, we see the result of the action of the frost during several successive winters, whereby the fragment is gradually thrust out of its perpendicular position, and at length falls. This natural process is repeated in our buildings: we rarely see squared stones split into large fragments by the action of frost except there be a cavity of some considerable size, in which a quantity of water can be collected. The usual action of the frost is at the surface, which is destroyed by the chipping off small fragments in consequence of the adhesion of the materials of the stone being partially destroyed.

All stones absorb water in greater or less quantities, and there is no rock that does not contain some humidity. The great difference between stones which is now to be considered is in their power of resisting frost. Stones of the same kind, nay, stones from different parts of the same quarry, are acted upon very differently by frost; for, while one stone soon begins to shew the destructive effects of its action, another remains uninjured during many centuries. It will, therefore, be convenient to call those stones, of whatever kind, which withstand the action of frost, resistant, and those which yield to its action, non-resistant. M. Brard's first idea, in order to test these

M. Brard's first idea, in order to test these resistant properties in building-stones, was, to saturate the stone with water, and then expose it to cold artificially produced; but this was found to be impracticable on a large scale, and the freezing mixtures and other means of producing cold were liable to act chemically upon the stone, and thus produce other effects than those of cold.

M. Brard was then led to compare water with those numerous solutions of the chemist, which, under certain modes of treatment, crystallize. The expansive force of salts in crystallizing is very great, and he saw no reason why water should not be regarded as a crystalline salt similar in its nature to those saline bodies which effloresce at the surfaces of stones, and in time destroy them and even reduce them to powder. He therefore tried, in a very large number

He therefore tried, in a very large number of experiments, the action upon buildingstones of solutions of nitre, of common salt, of Epsom salts, of carbonate and sulphate of soda, of alum and of sulphate of iron, and found that the stones cracked and chipped, and in many cases behaved precisely in the same way as when under the influence of freezing water. In the course of these trials, sulphate of soda (Glauber's salts) was found to be the most energetic and active, and to be the best exponent of the action of freezing water.

In order, therefore, to determine promptly if a stone be resistant or non-resistant, the following process was adopted. A saturated solution of sulphate of soda was made in cold water; the solution being put into a convenient vessel, the stone was immersed, and the solution boiled during half an hour : the stone was then taken out, and placed in a plate containing a little of the solution. It was then left in a cool apartment, in order to faciliate the efflorescence of the salt with which the stone was now impregnated. At the end of about twenty-four hours the stone was covered with a snowy efflorescence, and the liquid had either by evaporation or by abdisappeared sorption. The stone was then sprinkled gently with cold water until all the saline articles diappeared from the surface. After particles diappeared from the surface. The this first washing the surfaces of the stone were covered with detached grains, scales, and angular fragments, and the stone being one that the sulface draw frost, the sulface sulface of the substance of the stone being one that the sulface of the stone being one that the sulface of the substance of th that was easily attacked by frost, the splitting of the surfaces was very marked. But the experiment was not yet terminated : the efflo-rescence was allowed to form, and the washing

was repeated many times during five or six days, at the end of which time the bad qualities of the stone became fully established. The stone was finally washed in pure water; all the detached parts were collected, and by these the ultimate action of the frost upon the stone was estimated.

The behaviour of various non-resistant stones under this process was remarkable. Some were found to have deteriorated in the course of the third day; others to have entirely fallen to pieces; those of which the power of resistance was somewhat greater, held out till the fifth or sixth day; but few stones, except the hard granites, compact limestones, and white marbles, were able to stand the trial during thirty consecutive days. For all useful purposes, however, eight days suffice to test the resistant qualities of any building-stone.

The explanation of this process is very easy. The boiling solution dilates the stone and penetrates it to a certain depth, nearly in the same way that rain-water by long-continued action introduces itself into stones exposed to the severity of our changeable climate. Pure water when frozen occupies a greater bulk than when fluid, and the pores or cellules of the stone not being able to accommodate themselves to the increased bulk of the water, great pressure is exerted between and among them, whereby a portion of the water is driven to the surface, and in doing so rends and detaches small portions of the stone. The same action takes place with the saline solution; it is introduced into the stone in a fluid state, from which passing into the solid it occupies a greater bulk, and a portion of it appears at the surface. The repeated wash-ings have no other object than to allow the salt to exert its greatest amount of destructive action upon the stone. There is a striking analogy between the effect of congealed water and that of the efflorescence of salts, in the disintegration of non-resistant stones; namely, that pure water acts on the stones destructively evidently proceeds from the interior to the exterior like the saline efflorescence; which water at the surface of the stones may freeze into hard ice without injuring them, just in the same way as the salts, which may crystallize upon stones without exerting any injurious action.

The experience of several engineers, extending as it does over several years, fully proves, of a large variety of stones whose qualities were well known, that the action of M. Brard's process and that of the long-continued frost exactly coincide.

It is not the least interesting part of the inquiry to know that this process may be applied with perfect success to ascertain the solidity and resistant power of bricks, tiles, slates, and even mortar. From a mass of minute detail, we will select a few general results.

During one winter season M. Vicat composed seventy-five varieties of mortar, the difference between any two consisting in the proportion of sand and the method of slaking the lime. In the following June these mortars were exposed to the disintegrating process. Most of them were attacked in twenty-four hours; almost all of them in forty-eight hours; and all except two in three days. This gentleman also found that a mortar made ten years previously, of one hundred parts lime which had been left exposed to the air, under cover, during the whole year, and then mixed up into a paste with fifty parts of common sand, withstood the trial admirably during seventeen days, while the best stones of the neighbourhood speedily gave way. In this case the solution was saturated while hot, which is so powerful in its effects that stones which have resisted the action of the frost for ages, soon give way when exposed to it. M. Vicat calculates that the effect of the

M. Vicat calculates that the effect of the sulphate of soda upon a non-resistant stone after the second day of trial equals a force somewhat greater than that exerted by a temperature of about 21 degrees Fahrenheit, on a stone saturated with water.

The action of the process upon bricks proved that, whatever their qualities in other respects, if imperfectly burnt, they are speedily acted on. The sharp edges of the brick, and then the angles, are first rounded, and finally the brick is reduced to powder. Such is precisely the action of frost often repeated. Wellbaked bricks, on the contrary, retain their colour, form, and solidity by this process, as well as under the influence of frost. Ancient Roman bricks, tiles, and mortar, and hard well-baked pottery resisted the process perfectly; as did also white statuary marble of the finest quality, while common white marble was soon attacked. In Paris, portions of buildings which had been exposed to the air during twenty years without undergoing the least alteration, were submitted to this ordeal, and the experiment agreed with observation. In one extensive series of experiments on stones from different quarries of France, the action of the salt was continued for seven days, and the results noted down; it was then continued for fourteen days, and the results compared with the preceding ones, which only served to confirm the judgment first given, for those stones which were noted as of bad quality crumbled to dust or split into fragments, while those noted for their good qualities had experienced no sensible alteration.

One of the great advantages of this process is the power it gives to the architect of choosing a hard, durable stone for those parts of the building most exposed to the action of the weather, when the funds are insufficient to admit of the whole building being so constructed. Thus the cornices, the columns, and their capitals, are struck in all directions by rain, and hail, and damp air, and are consequently far more exposed to their destructive action than the flat surface of a wall, which offers but one plane to the air.

In the course of this inquiry a very curious case arose. During the erection of a church in Paris, the architect required a good durable stone for the Corinthian capitals; and many circumstances disposed him to select it from the neighbouring quarry of the Abbaye du Val. But, on seeking the opinion of two brother architects, he was surprised to find their estimations of the stone to be totally at variance, for while one declared that he had employed it with the greatest success, another said that he had seen it yield speedily to the effects of frost. On visiting the quarry it was found that two beds of stone were being worked, an upper and a lower bed; specimens of the stone were taken from each, and on submitting them to a hot saturated solution, it was ascertained almost immediately that the upper layer furnished excellent stone, while the lower one supplied that of which the architect had so much reason to complain. But it is remarkable that the stones from the two beds had precisely the same appearance in grain, colour, and texture; so much so, that when brought into the mason's yard it was impossible by ordinary tests to distinguish the good from the bad stone.

At the conclusion of the inquiry of the committee, the Royal Academy of Sciences proved the high estimation in which they held this contribution of science to the useful arts, by directing to be published the following practical directions for repeating the process, for the use of architects, builders, mastermasons, land proprietors, and all persons engaged in building. 1. The specimens of stone are to be chosen

1. The specimens of stone are to be chosen from those parts of the quarry, where from certain observed differences in the colour, grain, and general appearance of the stone, its quality is doubtful.

2. The specimens are to be formed into twoinch cubes, carefully cut, so that the edges may be sharp.

3. Each stone is to be marked or numbered with Indian ink or scratched with a steel point; and, corresponding with such mark or number, a written account is to be kept as to the situation of the quarry, the exact spot whence the stone was detached, and other notes and information relating to the specimen.

4. Continue to add a quantity of sulphate of soda to rain or distilled water, until it will dissolve no more. You may be quite sure that the solution is saturated, if, after repeatedly stirring it, a little of the salt remains undissolved at the bottom of the vessel an hour or two after it has been put in.

5. This solution may be heated in almost any kind of vessel usually put on the fire, but perhaps an earthen pipkin may be most convenient. When the solution boils, put in the specimens of stone, one by one, so that all may be completely suak in it.

6. Continue the boiling for thirty minutes.
 Be careful in observing this direction.
 7. Take out the cubes one at a time, and

7. Take out the cubes one at a time, and hang them up by threads in such a way that they may touch nothing. Place under each specimen a vessel containing a portion of the liquid in which the stones were boiled, having first strained it to remove all dirt, dust, &c.

8. If the weather be not very damp or cold the surfaces of each stone will, in the course of twenty-four hours, become covered with little white saline needles. Plunge each stone into the vessel below it, so as to wash off these little crystals, and repeat this two or three times a day.

9. If the stone be one that will resist the action of frost, the crystals will abstract nothing from the stone, and there will be found at the bottom of the vessel neither grains, nor scales, nor fragments of stone. Be careful in dipping the stone, not to displace the vessel.

If, on the contrary, the stone is one that will not resist the action of frost, this will be discovered as soon as the salt appears on the surface, for the salt will chip off little particles of the stone, which will be found in the vessel beneath; the cube will soon lose its sharp edges and angles; and by about the fifth day from the first appearance of the salt, the experiment may be considered at an end.

As soon as the salt begins to appear at the surface its deposit is assisted by dipping the stone five or six times a day into the solution.

10. In order to compare the resisting powers of two stones which are acted upon by the frost in different degrees, all that is necessary is, to collect all the fragments detached from the six faces of the cube, dry them and weigh than, and the greatest weight will indicate the stone of least resistance to the frost. Thus, if a cube of twenty-four inches of surface loses 180 grains, and a similar cube only 90 grains, the latter is evidently better adapted than the former to the purposes of building.

LAW OF DILAPIDATIONS.

THERE are few points of architectural jurisprudence which interest so large a number of persons as does the question of dilapidations. Whether to landlord or tenant, surveyor or operative, the matter is one of importance, and several attempts have consequently been tmade to reduce the laws which relate to it to some sort of certainty. Being in many cases a question of degree, law cannot always be made to apply; and custom, and the experience of the surveyor, must be appealed to. "Still," as Mr. Gibbons remarks in his "Treatise on the Law of Dilapidations," "it is important that the surveyor should have some knowledge of the principles of law, in order that he may know the points to which he has to apply himself in framing his survey and estimate, and may not labour in vain. The great discrepancy in the evidence of different surveyors, and the little esteem in which their testimony is consequently held, arises in a measure from inattention to legal principles; and if, in making their surveys, they were to govern themselves by the settled rules of law, and not proceed upon their own vague notions of right, they woold be more useful to the administration of justice, and their opinions more respected."

The attention of the council of the Institute of Architects having been directed to this subject, as one on which the opinion of the institute might be expressed with advantage; a committee, consisting of Messrs. George Smith (Mercers' Hall), John Newman, John Bull Gardiner, W. F. Pocock, and W. Rogers, was appointed to investigate and report on the practice in valuing dilapidations, and on the state of the law by which such valuations are effected. The Report of this committee is now published,* and forms an exceedingly useful document. We do not hesitate to recommend it to our readers. In the preface to the Report, the council remark that it appears "to be an inherent defect in the general mode of preparing leases, that they are drawn from antiquated precedents, without an attempt at the modifications necessary to meet modern improvements, or to provide for "pecial cases or contingencies. A tenant bound to repair, uphold, support, and maintain

• Weale, London, 1844.

a new house, is obviously in a very different position from one upon whom the same condition is imposed with respect to an old and nearly worn-out, though tenantable fabric, and yet the distinction is unheeded in the repairing covenants of any form of lease commonly adopted."

To obviate this difficulty they propose that previous to the execution of a lease the premises should in all cases be surveyed, and that a schedule should be drawn up, signed by the lessor and lessee, specifying the actual state of every part of the buildings, by reference to which the dilapidations should be assessed at the end of the term.

As to the definition of the term dilapidations, the report says, "dilapidations are, in usual practice, considered to be those defects only which have arisen from neglect or misuse; and not to extend to such as only indicate age, so long as the efficiency of the part still remains. But if the effects of use or age have proceeded so far as to destroy the part, or its efficiency in the structure, this argues neglect or misuse; it being the presumption that at the commencement of his term, the tenant was satisfied that every part was sufficiently strong to last to its close."

tenant was satisfied that every part was sufficiently strong to last to its close." In cases of yearly tenancy, the usual practice, says the Report, is to require the tenant to make good all works damaged, or any waste committed during his tenancy; but not to make good injuries arising from fire, use, or wear, or lapse of time; "in fact, he is only bound to such repairs as are necessary to keep a house or building wind and water-tight." This latter statement is not correct, or all events is ill-expressed, and does not agree with that which precedes it. If paper-hangings be torn by a tenant, a hearth broken, the mosing of a step *knocked* off (not worn), or any other waste committed, he must make good the damaged work. Even if external wood-work decay for want of painting sooner than it otherwise would do, the tenant is bound to restore it.

As regards ecclesiastical dilapidations, the Report states, the usual practice "is to consider that (independently of the obligation to compensate for actual deficiencies) the representatives of a late incumbent are liable for the value of repairs equivalent to, or consonant with, the extent of those which, in civil cases, a lessee would be called upon to perform on taking a lease for twenty-one years, under an agreement to put the premises into complete and substantial repair at the commencement of such a term."

But it points attention to a case wherein it was ruled that the incumbent was not bound to supply or maintain any thing in the nature of ornament.

The Report afterwards says, "An incumbent is in many instances bound to keep the chancel of the church in repair; and the liabilities to repair it may be considered as amounting to those above stated with respect to the other premises held by him."

The law is more stringent than is here stated. Excepting through special custom, the incumbent is bound in all cases to repair the chancel and maintain it in a proper state for divine service. By the 35th of Edward I., statute 2, the incumbent is permitted to fell timber growing in the church-yard for this purpose, and may, if he please, do so for the relief of the parishioners when the body of the church needs repair.

FALL OF A SCAFFOLD THROUGH OVER-LOADING IT. On Monday last a melancholy event occurred

On Monday last a melancholy event occurred at the corner of Jermyn-street and Duke-street, St. James's, involving the loss of one human life, if not more. During the last few weeks, the house at which the occurrence took place had been pulled down, and was nearly rebuilt. At the time of the accident the workmen were employed in raising a large cornice stone, weighing between six and seven hundredweight, and on its arriving near the top of the building, the stone was over-balanced, and fell with the scaffolding, striking aworkman named Francis, a mason's labourer, and two other workmen, John Perry, a mason, and William Smith, a labourer. The poor follow Francis was killed on the spot, and fell into a well which was in the area, the depth of several feet, whilst Smith and Perry were so frightfully injured, that they were conveyed to St.

George's Hospital in an almost dying condition; Smith, in particular, had his skull fractured in a shocking manner. On the recovery of the body of Francis from the well, he appeared literally crushed to an almost indistinguishable mass, and those who saw the sad spectacle were so paralysed, that for some time they were unable to render assistance. At the inquest upon Francis, the following evidence was given :-James Sanderland said he was a labourer in the employ of Mr. Archbutt, the builder, of Chelsea, and was at work that morning at the house rebuilding for Mr. Slater, at the corner of Jermyn and Duke streets. Deceased was in the same employ, and worked there also. Shortly after nine o'clock he was on the scaffold when it gave way. The deceased, with the other two injured men, were on the scaffold at the time. There were two stones on the scaffold, weighing between fourteen and fifteen hundred-Witness was engaged with the others weight. in lifting one of the stones, weighing six and seven hundred-weight, when some part of the scaffold gave way, and both pieces of stone fell suddenly, and deceased and the other two men with them. Could not account for the accident, and thought the scaffold perfectly safe before. Most likely it was the puttors gave way. They were not very strong, at least they did not appear to be. Mr. Edward Foster did not appear to be. Mr. Edward Foster deposed that he was clerk of the works for Mr. Archbutt, at the house, 47, Jermyn-street. Was in the building at the time, and heard the scaffold break. He ran from the place where he was standing, and saw the poor fellows, Perry and Smith, lying in an excavation made for vaults. They must have failen at least from 60 to 80 feet. He could not assign any reason for the accident, as the scaffold was a good one, although only a bricklayer's scaffold. The putlocks might have given way, but he thought that could only have been caused by the working of the stone with the mallet on the scaffold; that would considerably increase the weight. The strength of the scaffold was not increased on account of the stone being raised upon it. It was considered safe, as on Saturday the scaffold had upon it three times the weight of stone it had to-day. The jury, after constone it had to-day. The jury, after con-siderable discussion, returned a verdict of Accidental Death. They, however, added their strong opinion that the scaffolding had been used for the purpose of suppoting a much greater weight than was proper.

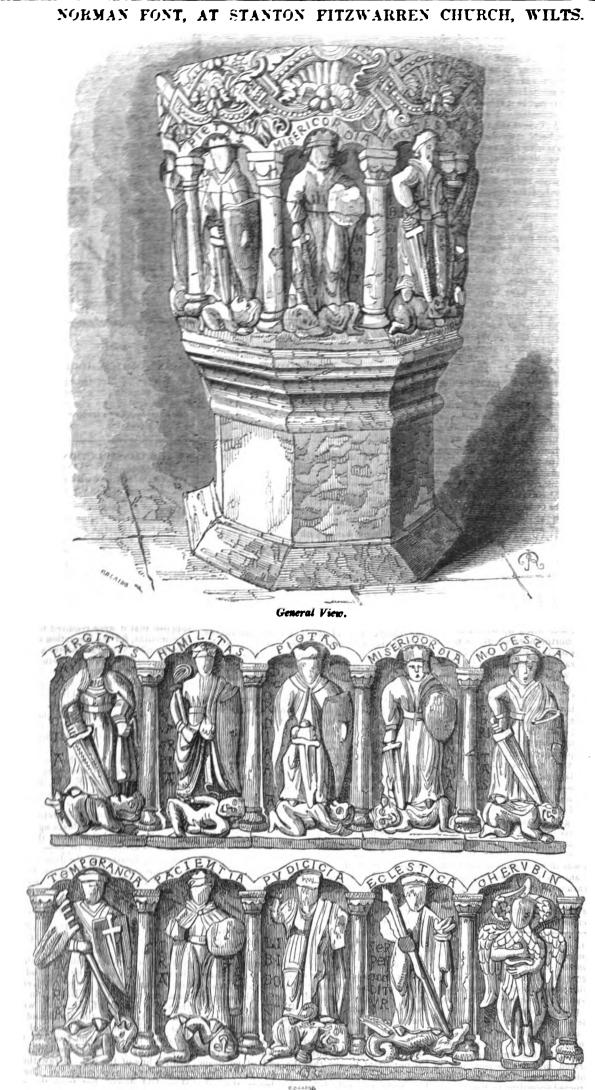
New METHOD OF SILVERING GLASS.— At a meeting of the Chemical Society, Mr. Warrington described a new method of cover-ing glass, by precipitation, with a coating of metallic silver, the invention of Mr. Drayton. It consists of partially precipitating, and thus neutralising (to use the inventor's own words), a solution of nitrate of silver, by spirit of hartshorn, and adding to the clear solution, after subsidence, oil of cassia, previously dis-solved in spirits of wine. This compound mixture forms the silvering menstruum, and is mixture forms the silvering menstruum, and is to be poured on the surface of the glass, or into the vessel intended to be silvered, the surfaces having been previously rendered per-fectly clean. Oil of cloves, dissolved in spirits of wine, is then to be gradually dropped over the surface of the silvering solution, or the two solutions may be rapidly mixed and then applied immediately. In the course of about fifteen minutes a faint purple cloud appears, and this gradually spreads through the whole of the solution, and deepens in tint until it becomes opaque, when the operation is complete, and a most beautiful mirror is obtained. As thus produced, the reflecting surface is darker in its aspect and more similar to the brilliancy of a very highly polished speculum. The risk of breakage attendant on the usual process, by means of tinfoil and mercury, is also avoided, particularly where very large looking-glasses are being constructed; and the great advantage obtained of being enabled to silver uneven surfaces, as of lenses or cut glass.

BISHOP KEN'S TOMB.—A subscription has been opened for the purpose of renovating the tomb of Bishop Ken in the churchyard at Frome, and, as a tribute to the memory of the good bishop, restoring, in strict accordance with ecclesiastical propriety, the adjoining chancel of Frome church. In furtherance of these objects, the family of Longleat have subscribed 250%, the Bishop of Salisbury, 10%, and there follows a long list of contributors.

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Elevation of Figures round the Font.

ANCIENT NORMAN FONT AT STANTON FITZWARREN CHURCH, WILTS.

THE small church of Stanton Fitzwarren, in which the fine font represented on the other side, is to be found, is situated about three miles from Swindon, in Wiltshire. The font has, only within the last three years, been relieved from a load of whitewash, which had so completely filled up the carving, that it looked like a rough stone. This cleaning out was super-intended by the Rev. J. Trenchard, the rector, and he certainly has been rewarded for his trouble, as a more interesting font can scarcely be found. The date is probably that of the late Norman. The illustrations scarcely require any description, except to state that it is termed an emblematical and inscribed font, representing the Triumph of the Virtues, with the aid of the Church, over a variety of curious hob-goblins termed Vices. On one side of the font, opposite to the figure emblematical of the Church, is a kneeling stone, no higher than the slanting moulding at the base. The sketch was taken with the camera lucida while a strong light was on the object. The church is said to have been a very

curious structure, but it has now, from being either compoed or refaced, the appearance of a modern building. The interior has a chancel arch, which bears the reputation in the neighbourhood of being Saxon, but it is in reality a fine early Norman specimen. C. J. R. a fine early Norman specimen.

DESCRIPTION OF A HOUSE IN DAMASCUS.

In order to give me an opportunity of seeing his house, the Effendi politely sent a message te the ladies of his establishment, announcing the presence of a stranger, on which they withdrew to the upper chambers. The Mulatto having duly informed us that all was in readimess, we rose, and passing through another dark passage, found ourselves in the courtyard of the harem. Then, and not till then, did I understand the warmth with which travellers had spoken of the beauty of the Damascene houses : we seemed to have passed from Purgatory to Paradise. The pavement of the immense yard was of polished marble of various colours, beautifully inlaid. A fountain in the centre, thirty feet in length and half that breadth, into which brazen snakes' heads poured a copious supply of water, was over-hung by orange, citron, and pomegranate trees; and an immense vaulted recess (*leewan*) at the further end was fitted up with a divan, which, having a northern exposure, is never subject to the rays of the sun. As in Egypt, the ground-floor was of stone, and painted in alternate layers of white, blue, and red: this, with the rich dark green vegetation of parterres divided by slabs of Carrara, produced the most brilliant and captivating effect on me. The space between the basin and the recess was elaborately inlaid, and the marbles of rarer quality than in any other part of the court-yard. The principal apartment, which opened off the lower part of the leewan, was lofty, extensive, and of dazzling magnificence. Every part of the wall was of stone, cut into arabesque ornaments, the most curious object being a miniature recess of white marble, supported by tiny columns with gilt capitals, between which the Saracenic honeycomb luxuriated in all its istricacy. The raised floor was covered with a rich Persian carpet, and the divan that ran round the room was in satin, embroidered with flowers. Large antique China bowls displayed themselves in various shelves; and altogether feit that the often sought but rarely found splendour of the Arabian Nights' Entertainment was at length realized.—The Modern Syrians.

BONNER HALL .- Last Monday week a sale took place, by order of the Commissioners of Woods and Forests, of the ancient residence Woods and Forests, of the ancient residence formerly belonging to Bishop Bonner, called Bonner Hall, which is situated on a part of the site of Victoria-park. The portion remaining, which is stated to have been a part of one of the wings of the original palace, is about 120 feet long and shout 20 feet in width, the external walls being the same that were first erected. This building has for several years past been separated into five houses, one of which was a public house. These have been internally constructed according to the modern style of architecture, and there is very little to denote its former state.

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G. Codwin. F.R.S.

THE BROMPTON PAROCHIAL NATIONAL SCHOOLS.

THESE Schools, represented above, are the designs of Mr. George Godwin, by Mr. situated on the north side of Knightsbridge, and will accommodate 200 girls and 200 boys; rooms for the master and mistress are attached, rooms for the master and mistress are attached, additional works came to 8*l*.; the forms, boxes, on either side. The building was erected from and desks cost 48*l*.

FIRE FROM OVERHEATED FLUES.

MR. BRAIDWOOD, the superintendent of the Fire Brigade, accompanied by a surveyor, made a close examination of the ruins of Mr. Farey's house in Great Guildford-street, recently burnt down, with the view of ascertaining, if possible, the cause of the fire, for the information of Mr. Wakley and the jury; and the former gentleman expressed his decided opinion to be, that it was occasioned by a hot-air flue becoming overheated, and setting fire to a beam in the back parlour. The death of the unfortunate persons he attributes to the falling in of the upper stories, through the insufficiency of the building, the timber, and joists, &c., having been (as he says) too light for so capacious a residence, as was the case in Lord Hillsborough's mansion in Gros-venor-street last year, which fell in before it was burnt to the lower stories. Mr. Braidwood is confirmed in this opinion by several sur-veyors. Mr. Farey differs from Mr. Braidwood as to the particular flue in which the fire originated. In addressing the jury Mr. Wakley observed, "If this inquiry should have the effect of drawing the attentiou to flues in general, great benefit may be derived from it, and future accidents be prevented. Too much attention cannot be paid to them, and I am really surprised that intelligent people in this country as we are should allow such fires to be continually occurring without taking measures to prevent them." At the inquest, Colfe, of the Fire Brigade, remarked that "even hot-water pipes would set fire to beame. Such an instance had recently hap-pened at Day and Martin's Warehouse." The coroner said "this was something new in science," but, we are sure, if he had reflected, he would have seen it was nothing new, and was perfectly correct. In an open vessel, water cannot be heated above the boiling point, all the surplus caloric goes off in steam; but in a close boiler the case is very different. It may be made red-hot, so to speak, and would ignite wood. Two or three speak, and would ignite wood. Two or three years ago this fact excited considerable attention, in consequence of a fire at Manchester which was attributed to the hot-water apparatus on the premises. Persons having stoves with iron pipe flues, should be certain that the pipe is not in contact with any ignitible material. In the construction of chimneys it is important to see that the end of no b eam rounds, no deal wedges be driven through. To the subject of fires generally, we shall

return before long.

ON THE CONSTRUCTION OF HAND-RAILS OF STAIRS. BY MR. GEOBGE RIDLEY.

Bonnin, Jun., in little more than four months.

The amount of the contract was 1100/., the

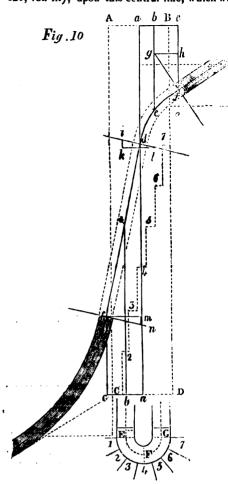
No. III.

25. FROM the combined properties of the tribedral and the cylindric solid, as shewn in our former remarks on this subject, we are enabled to make their use subservient to any purpose relative to the formation of the face mould; and from the properties of the trihedral alone, we can ascertain, to the greatest degree of accuracy, the bevels for the buttjoints in the wreathed portions of the handrail. In order, however, to make the use and application of these solids more clear, let us suppose that it were required to lay down the face-moulds, for the formation of the wreathed portion of a hand-rail, where a flight of seven winding steps intervenes between two ranges of flyers. Let the semi-circular well-hole, around which the winding steps radiate, be 3 inches in diumeter within the perpendicular planes of the outside surfaces of the rail. Let the rail itself be 3 inches wide and 21 inches deep; also let the treads of the flyers be 10 inches wide, and the height of each step 7 inches.

26. The first thing to be done is to lay down a plan of the rail, as shewn by fig. 10, where-in the circular line, E F G, is taken as the mean line for the radius of our cylindric surface mean line for the radius of our cylindric surface (see article No. 11, page 620, vol. ii.); next proceed to lay down a development of this cylindric surface, by obtaining the length of the circular line, E F G, in the manner de-scribed in article No. 10, page 619, vol. ii., or, hy having ascertained the diameter, E G, which in the negative former in the manner form in the present case is 6 inches, we may, from the well-known properties of the circle, obtain the length of one-half the circumference, thus, $\frac{11 \times 6}{11 \times 6} = 9 \frac{1}{10}$ inches.

the length of the line, $E \in G$, sufficiently near for practice. Make the line, C D, equal to $E \in G$; let the point σ in the development correspond with the point F on the plan. At the point C lay down the riser and tread of the last step in the first range of flyers, draw the parallelogram, A B C D. Upon D B set off the entire height of the seven winding steps, and next lay down the tread and riser of the first step in the second range of flyers; also lay down the treads and risers of the winding lay down the treads and risers of the winding steps, as they occur immediately beneath the central line of the rail. Draw the inclination of the rail over each of the flyers, as thus laid down; but from the steepness of the steps, at the narrow ends of the winders, it is usual to bring forward the rail, as shewn

in the figure. Draw the line shewing the thickness of the rail, and draw also the central line of the rail on the development (for which cause see article 13, page 620, vol. ii.); upon this central line, which we



have designated as the line of heights (see article 15, page 620, vol. ii.) case of the abrupt angles, caused by reason of the different inclinations of the rail, in the manner described by article 13, page 620, vol. ii. Next determine the points e and e of the development of the cylindric surface, through which the cutting plane of the face-moulds are to pass; the mode of ascertaining these points is described by articles 16 and 17, figs. 5 and 6, page 620, vol. ii. Having done this, draw the lines fc, be, and ad, which represent the heights for our guidance in laying down the face-mould.

27. In article 16, page 620, vol. ii. we have noticed that the division of the wreathed portions of the rail should not, as far as regards the economy of the material, exceed one-fourth of the revolution around the entire cylinder; it is therefore necessary to mark off, on this developed surface, the position of the butt joints; thus, the lines fn, il, and fg are made as near as possible at right angles to the inclination of the rail. The line fn is fixed at a sufficient distance from the circular surface of the cylinder as to admit of the joint being entirely free from the wreathed part of the rail, and the line fg should be similarly arranged for the same purpose; but when convenient, it is best to have this butt joint at the commencement of the straight rail, as shewn by the engraving. From the points f and f draw the lines fc and fc, each parallel to B D and A C; but the height or distance fc, which regulates the line A B, should always be sufficient, to avoid confusion, in laying down the lines for the facemould, as will be seen in figs. 11 and 12. 28. Having thus far completed our development of the line of the joints, we are next to lay down such portions of the plan of the rail as pertain to each of the divisions of the wreath respectively; for this purpose, let the central

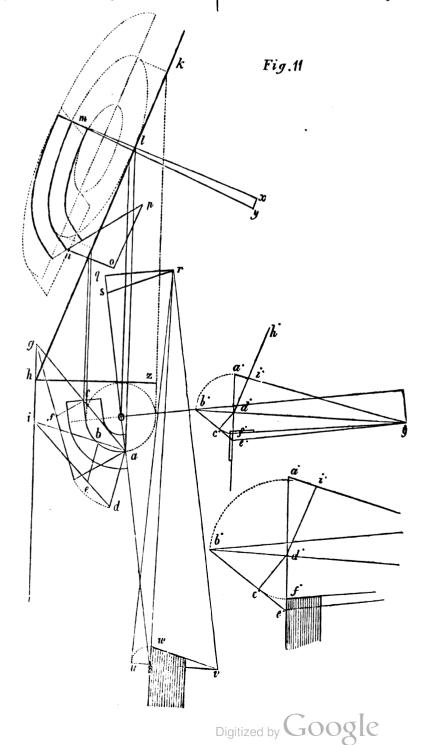
28. Having thus far completed our development of the line of heights, we are next to lay down such portions of the plan of the rail as pertain to each of the divisions of the wreath respectively; for this purpose, let the central line, $a \ b \ c$ of the plan in figs. 11 and 12, represent the line $E \ F$ in fig. 10, with the addition of the straight portions of the rail, as shewn in the development by the line $B \ c$ and $C \ c$. Fig. 11 shews the mode of obtaining the face-mould for that portion of the wreath contiguous to the lower range of flyers, and fig. 12 shews that which is required for the wreath adjoining the upper range of flyers. In both figures, each portion of the plan is similar to the other, but varying in the heights and

inclination of the rail; by reason of which, the angles as well as the bearings in each figure will be found to differ widely; in each case, however, the same principle and mode of construction may be traced throughout by the letters of reference which apply to both figures.

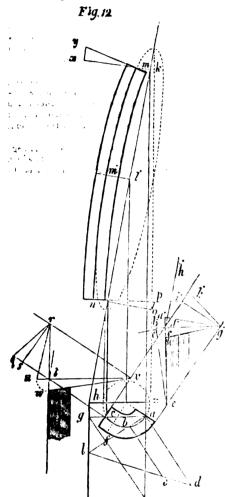
letters of reference which apply to both figures. 29. We shall, however, confine ourselves to fig. 11 (which is here laid down to a scale of $\frac{1}{2}$ th part of an inch to the inch), wherein the line a b c, represents the plan of the cylinder with a portion of the straight line of the rail attached thereto; let the distance from a to b on the plan be the same as the distance from a to b on the line A B of the development in fig. 10. Here let the student refer back to article 23, fig. 9, page 632, vol. ii., and article 9, fig. 2, page 619, vol. ii., where the mode of determining the position of a plane, cutting obliquely through three given points on the surface of a cylinder, and the mode of performing the contour of the ellipse, produced by the cylindric section, are described; it will be observed, that the same methods therein propounded must be adopted. In the present case, the line abc is the base line of the cylindric surface, the three heights cf, be, and ad fig. 10, are the perpendiculars which give the position of the cutting plane over the points c b and a respectively. In laying down the intersecting line $i\lambda$, upon the plane of the base of the cylinder it is of little importance whether we take the entire length of the lines cf, be, and ad, or of any proportionate part of each, inasmuch, as we arrive at the same result by substituting one-half or one-fourth of the entire height of each ; in the present case, as will

be seen from the lines ad, be, and cf, in fig. 11, they are taken at one-fourth of the entire heights of each of the lines ad, be, and cf, in fig. 10. The elliptic curve of the cylindric section, which forms the central elliptic line of the face-mould, will require the same method of procedure as that adopted in article 9, fig 2, page 619, vol. ii., by which rule also the inner and outer curves of the section of a hollow cylinder, whose shell is equal in thickness to the width of the rail, may thus be obtained; these curves we have shewn in fig. 11 by the dotted elliptic lines, which surround thecentral line sm of the face-mould ; but if our face-mould (in such a case as the present) were constructed so as to form a perfect section of the shell of a hollow cylinder, and the outline thereof were marked upon the faces of the plank at the proper pitch, so that by cutting the cylindric surfaces of the quadrilateral solid (as referred to in articles 4 and 5, page 619, vol. ii.) out of the plank, by means of the saw-cutting in the direction of the vertical surfaces of the cylinder, we should find (however strictly scientific the process may be) that much waste of material would be made by the requirements rendered necessary in the formation of the joints. We may observe, however, that it is only in cases like the present, where a great number of winders are introduced, and where small well-holes are adopted, that it becomes necessary to deviate from the general rule.

30. Hence, then, by articles 16 and 17, page 620, vol. ii., we have shewn the proximity which exists between the line or arris produced by



winding the development of the line of heights read the surface of the cylinder; and that, which is produced on the same surface by the intersection of the cutting plane, made to pass through any three given points which ap-proximate nearest to the line of heights. From this it will be seen that the central line m s of the face-mould approximates very searly to the centre line of the hand-rail; and as our line of heights is made to pass through the centre of the rail, it therefore follows, that if we mark off a parallel width of 11 inches (one-half the width of the rail), on each side of the central line mn, we shall have a facemould, which, when marked on both surfaces of the plank, each face being brought directly opposite the other, the solid may cut out of the plank, of substance sufficient for the ation of our rail when moulded to its faished shape.



31. But we are first to determine not only the width for a face-mould of this description, but also to lay down such lines as may enable us to work the butt-joints with accuracy. Having already determined the points m and n, in the central elliptic curve of the face-mould, let us proceed to find the bevels, not only for the ends of the face-mould, but also the bevels of the ends across the thickness of the plank. Thus to find the bevel for the end of the wreathed portion of the rail, contiguous to the straight part of the rail, over the upper range of flyers—in fig. 10, take any point he in the line fc draw hg perpendicular to fc, cutting the line of the butt-joint fg in the point g: in fig. 11, draw a line from O in the centre of the In bg. 11, draw a line from O in the centre of the circle on the plan of the rail through the point b; also draw the line e g parallel thereto; draw any line ea parallel to the intersecting line h i; make the perpendicular distance of the point d from the line eg, equal to hg in fg. 10. Through the point d draw the line b g at right angles to e e; make d a equal to hf in fg. 10; join a g, and draw the line d h parallel to h f in fg. 10; join a g, and draw the line d h parallel to h f in fg. 10; join a g. to k, intersecting the line $a^{i}g^{i}$, as shewn in the figure in the point *i*. From this point of intersection, and with one point of the compusses section, and with one point of the compasses in the point d, describe the dotted circular line, cutting the line b g in the point b; join b e from which let fall the perpendicular line c d; and with d as a centre, describe the circular line c f, cutting $d \cdot e$ in the point f; join $f \cdot g$, and the angle $e \cdot f \cdot g$ is the bevel which is to be applied to the end of the face-

mould in forming the butt-joint across the

thickness of the plank. 32. Again, to find the bevel or end of the face-mould for our guidance in marking the face of the plank : having already drawn the ordinate line, on, at right angles to hk, make the distance on equal to $d \cdot o$, also make the perpendicular line, o p, equal to $b \cdot d$, and through the points, n p, draw the line across the end of the face-mould, as shewn in the engraving, which is the end of the face-mould required. The bevels for the opposite end of this face-mould are obtained in a similar manner. Let the line of the butt-joint, through the point d of the development, fig. 10, form the hypothenuse to a right-angled triangle, whose base, $k \cdot l$, is parallel to the line A B. In fig. 11 draw a line through the centre O of the circle and the point a of the plan of the rail; let this line be produced to the distance of the let this line be produced to the distance of the points t and q, as shewn in the engraving. At any distance from the point q, draw the line, r v, parallel to q t; make the triangle, q r s, in fig. 11, similar, in all respects, to the triangle, k l i, in fig. 10; parallel to g i draw the line r t, cutting the line q t in t; from the point t, draw the line t v at right-angles to the line r t, and cutting the line r v in the point v. Then, with the line rt as base, form a right-angled triangle, whose perpendicular, t u, make equal to gs. With the point t as a centre describe a circle touching the nearest point of the hypothenuse, r u, and cutting the line rt, produced in the moint m icin ar s and the angle produced in the point w, join w v, and the angle which it forms with t w will be the bevel to be applied across the thickness of the plank. 33. The direction of the oud of the f

The direction of the end of the facemould through the point m may be ascertained in the following manner :- Produce the ordinate line through the point m to x, make the distance, m x, the same as r t; from the point which, when produced across the width of the end there are the position of the end thereof.

34. The bevels for the other portion of the wreathed rail may be obtained in a similar manner to those here shewn.

35. The more important use of these bevels are for the purpose of constructing the joint-ing-box (which we shall hereafter describe), without which it will be next to impracticable, by the use of the plane and the bevels only, to work to that degree of truth which the nature of the work requires. The shaded parts in the figures shew the thickness of the plank, on which a centre line is drawn, also shewing by the end thereof what allowance should be made beyond the centre of the butt-joint for the obliquity of the planes of the butt-joints with the planes of the faces of the plank

PROPOSED NEW PARK AT BATTERSEA.

PUBLIC attention has recently been directed to the formation of a new park in Battersea-fields. It has been ascertained that 500 or 600 acres of land might be purchased there at very moderate price; and if half of it only were appropriated to the public as a park, the other half would, if let for building, most likely produce sufficient rental to pay all expenses; and it would make a valuable place of recreation to the public, who could get easy access to it from the most crowded parts of London. The steam-boats have become a very important means of transit; they still appear to be in-creasing very much, and probably they cannot have too much encouragement. By diverting the busy traffic of our streets to the river, they relieve the crowded thorough fares of the town, and they have been during the busy traffic of the town. and they have already proved themselves to be important auxiliaries in the cleansing of the river and its shores.

By means of these boats this park would be accessible to a vast number of all classes of persons who live on both sides of the Thames, including the whole extent of London, a length of 7 or 8 miles. The poorer class of persons could get there by the steam-boats at a less expense than they can get a change of air in Another of the advantages connected with

the purchase of this land at Battersea, would be that from its position by the side of the Thames, there would be facilities for making large pieces of water. In summer these might be changed, if necessary, every tide; and they would furnish an excellent bathing-place for

the working population in hot weather. present the working classes have no means (or at best very limited means) of bathing. These baths might be so inclosed by plantations as to prevent them from being in any way offensive, and on that account would be much fitter for the purpose than the Serpentine River, where the bathing is always a great nuisance, and so offensive, as to drive many persons from the park, and where, even if this objection did not exist, there is not a tenth part of the space requisite for these purposes. Besides, any bathing-places made here would not only have the advantage of the water being frequently changed, but they might be so regulated as to be perfectly free from danger, by standing at any desired depth, being affected neither by dry weather nor by floods.

A further advantage, it is obvious, which would result to the population of London of all classes (and one which would be attended by not one shilling additional expense), would be the very perfect skating-ground which these pieces of water would afford in winter. Now the ground is of comparatively little value at present, and therefore very extensive means of promoting the health and recreation of the public could be acquired for a small sum. The number of persons who would take advantage of it would be immense, and however desira-ble it may be (and it undoubtedly is so) to widen our crowded thoroughfares, and to im-prove our over-populated districts, yet some outlay would not be missenplied in the acquisi outlay would not be misapplied in the acquisition and inclosure of spaces on the immediate outskirts of the town where there is little if any building at present to remove; and where, consequently, improvements could be made at comparatively small expense, to make good communications and airing places to which the public would be tempted to resort, and above all, in the selection, when opportunities offer, of sites having the river for their leading highway—a highway subject neither to the wear and tear, nor the expensive repairs, hor the dusty and inconvenient transit in dry

the dusty and inconvenient transit in dry wea-ther of ordinary roads, and by which it is obvious no one can travel without, by that alone, whatever may be his occupation, en-larging his stock of health. Mr. Thomas Cubitt, the eminent builder, has the credit of having first proposed this improvement. The daily observation and extensive intercourse which this gentleman has with artisans and working people of all sorts, his means of knowing their rea-sonable wants and their real value, and the unusual interest he takes in whatever con-cerns the health and comfort of the poorer classes of our population, evidently poorer classes of our population, evidently led to the idea, and induced him to submit his philanthropic proposal to the considera-tion of her Majesty's Commissioners for the Improvement of the Metropolis, who, in their second report (the first being exclusively devoted to the embankment of the Thames), will doubtless refer to it at length.

ENGINEERING IN EGYPT .- On the 28th of November, a dry dock at Alexandria, which has been about eight years in execution, and has cost Mehennet Ali half a million sterling, was opened, and the first vessel hauled in. According to the *Times*, it is constructed in deep water; and the engineer, a Frenchman, of the name of Mougel, had great difficulties to contend with from the nature of the soil, besides labouring under a peculiar disadvatage, owing to there being no tides in this port. The dock has been made on the model of that of Toulon; its length is 243 feet, and its width 72 feet, taken on a level with the sea. M. Mougel will shortly leave for France, and it is said that he has received from Mehemet Ali instructions to take all the necessary measures for the construction of the "barrage" of the Nile, which work, if ever completed, will be a great boon to Egypt. The site fixed upon, at present, for this purpose is the point of rami-fication of the Rosetta and Damietta branches of the river, about ten miles below Cairo. It will consist of two bridges, one over each branch of the Nile, both joining at the extreme point of the Delta. The bridges will be formed of a certain number of arches, and one arch of each bridge will be made with a lock, for the purpose of navigation. In the centre of the Delta, will be opened several canals, to which the water of the Nile will be allowed ingress, as it may be required.

Lew Books.

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The Church Restorers : a Tale, treating of Ancient and Modern Architecture and Church Decorations. By F. A. PALEY, M.A., Hon. Sec. Cambridge Camden Society. Van Voorst, London: 1844.

v corst, London: 1844. THEER years ago, when the Cambridge Camden Society had but commenced the publication of their opinions, the Dublin Review, a Roman catholic organ, said their position was most inconsistent, and that "the good men who were so earnestly labouring for the revival of catholic church architecture must be charineed that we must have the arthelic must be convinced that we must have the catholic must be convinced that we must have the calholic service revived, in the first place, before any real good could possibly be accomplished." At that time they resolutely *denied* any such con-viction, but the tendency of their views was nevertheless sufficiently apparent to all who looked beneath the surface. Now a days they speak out more plainly, or at all events indi-vidual members do; and when each indivi-dually says the same thing, and the society, when they do speak collectively, coincide, it would be absurd to make any distinction; would be absurd to make any distinction; even though, as in the present case, the author state carefully in his preface, "that neither his publisher, nor the society with which he is connected, can be in the remotest degree responsible for any opinions expressed in the narrative."

The little book before us is one of those which have been justly termed "engines of polemical theology." Its intention is to prove the "meanness of protestantism" (p. 3), "the descerations and profenities of protes-tantism" (p. ix), "the desolation of protes-tantism," and to shew what "hell-hounds of destruction" (p. 62) were let loose by the Reformation — the glorious reformation, as the author satirically terms it; and glorious it unquestionably was, notwithstanding the expresses which disfigured it, or the sneers of a disguised jeauit. The advantage of daily mass, cressets constantly burning, incense, and holy water, is quietly hinted. He cannot hope that we "shall yet get back our monasteries" (p. 179); he urges the propriety of prayers The little book before us is one of those (p. 179); he urges the propriety of prayers for the dead (p. 22), and devotes several pages to induce a more unlimited belief in miraculous cures at holy fountains, and the preservation of saints' bodies "entirely incorrupt,"

than is at present general. The deep chancel, the screen to separate the clergy from the laity,[•] the rood above it, and all the other fittings and arrangements in use when the church was Rome's, are to be intro-duced in our new edifices. And with these duced in our new edifices. fittings, Mr. Paley does not blink it, the rites and ceremonies in accordance with the rites and ceremonies in accordance with them are to be restored also. He says (p. 190), "In Christian architecture, we find a definite use for every single part of a secular as well as of a religious edifice. Now the question is this; can we retain the form, irrespective of the use, without violating the fundamental prin-ciples of architecture?" and then he answers

unequivocally, "Clearly we cannot." Far be it from us to speak disrespectfully of a creed because it differs from our own (our conviction of the weakness of human judgment, of our own fallibility, would prevent us); and if this book were written by an honest Romanist, we should have little to do, perhaps, but to thank him for some zealous efforts to protect old memorials of Christian art from the injuries of time and the ignorance of men. As it is, however, we say that it is a disgrace As It is, nowever, we say that it is a disgrace to its author and the college to which he belongs, and denounce it as an insidious attempt (one of many, or it would not require notice) to introduce theological opinions of the most dangerous character.

Conversationslezicon für bildende Kunst. Band I. Williams and Norgate, Henriettastreet, Covent-garden : 1844.

THIS work promises to be a very complete encyclopedia of architecture and building, and embraces all the arts and sciences con-nected with them. The volume now before us, consisting of 640 closely-printed pages pro-fusely illustrated, is occupied solely by letter A, and contains some able articles on Greeian and Egyptian art (Aeginetische kunst ; Aegyp-

* "Do we not instinctively feel that while the nave is, as it were, the vestibule, the chancel is the palace of the Great King "(reserved solely for the clergy ?). "The chancel is the choir of the angels, the church triumphant, the Holy of Holies."-p. 105.

tische kunst), acoustics (akustik), &c., &c. When it is further advanced, we shall examine it more carefully, and transfer to our pages some of the information it contains.

To such of our readers as are acquainted with the language in which it is written, we do not hesitate to recommend the book itself. A knowledge of German, by the way, has become almost indispensable to architects, in conse-quence of the numerous excellent works relating to their art which have been recently published in that tongue. Architectural students who wisely seek to diversify their evening studies, cannot do better than apply themselves vigo-rously to it. Recreation may be found in change of labour.

Companion to the Almanac for 1845. Charles

for the public, Mr. Charles Knight, contains its usual amount of information. The "Com-panion" to it, which more immediately concerns us, presents a general view of public improvements and the erection of new buildings, and although necessarily brief, forms, with preceding volumes, a valuable record. It contains views of the Royal Exchange, new church, Lever-bridge (executed in terra-cotta), Nunhead Cemetery Chapel, Lincoln's-inn new Hall, the Conservative Club, and the new Guildhall in progress at Bristol.

Description of the New Royal Exchange. Effingham Wilson, London: 1844.

A VERY pretty little volume, containing an historical notice of the former edifices, a de-scription of Mr. Tite's new building, and a Companion to the Almanac for 1010. Knight, London. THR "British Almanac" for the new year, published by that able and enterprising caterer published by that able and enterprising caterer brief memoir of Sir Thomas Gresham, the founder of the original burse. It is illus-trated by eighteen woodcuts, and nicely printed. The fol-lowing engraving, which we

lowing engraving, which we introduce, includes a view of Gresham's tomb, in St. Helen's Church, Bishopsgate street, a singularly interesting structure. Without explanation, which the work does not give, the reader would be led to conclude that the monument with columns and arches belonged to Gresham; this, however, is in me-mory of Sir William Pickering, who is said to have been the finest gentleman of his time " for worth in learning, arts, and warfare." We don't read the words "fine gentlemen " so now-a-days. Gresham's monu-mont is in the farther corner. It is a large sculptured altartomb, covered with a marble slab, on which is inscribed, "Sir Thomas Gresham, Knight, buryd Decem^{br} 15th, 1579.'



GRESHAM'S TOMB.

METROPOLIS IMPROVEMENTS. (From the 21st Woods and Forests' Report, not yet Published.)

W?

IN the several lines of improvement autho-rized by the Acts 3 & 4 Vict., cap. 87, and 4 Vict., cap. 12, we have, since the dates of those Acts respectively, completed purchases to the amount in the whole of 457,844. 15s 10d., and have contracted for further purchases to the amount in the whole of 191,6171. 153. 10d.; and besides these, the purchases now remaining to be made in order to clear the whole of the ground re-quired for completing the several lines of im-provement, it is estimated will cost the further sum of 54,256l, 5s., or thereabout, viz. :

1. In the line from Oxford-street to Holbern we have completed the purchases to the amount for further purchases to the amount of 56,979%. 3s. 4d., and besides these there remain to be made purchases estimated to cost the sum of 14,5711. 15s., or thereabout.

2. In the line from Bow-street to Charlottestreet, Bloomsbury, we have completed pur-chases to the amount of 70,958/. 18s. 3d., and have contracted for further purchases to the amount of 3,000%. 11s. 9d., and besides these there remain to be made purchases estimated to cost the sum of 17,5951, or thereabout.

3. In the line from the London Docks to Spitalfields Church, we have completed purchases to the amount of 96,7421. 16s. 11d., and have contracted for further purchases to the amount of 30,2361. 8s. 7d., and besides these there remain to be made purchases estimated to cost the sum of 6,7401., or thereabout.

4. In the line from Coventry-street to Longacre we have completed purchases to the amount of 77,078/. 5s. 10d., and have con-tracted for further purchases to the amount of 89 2021 12a 9d and havidan these there 89,2021. 12s. 2d., and besides these there remain to be made purchases estimated to cost the sum of 8,097*l*. 10s., or thereabout.

5. In the line from East Smithfield to Rosemary-lane we have completed purchases to the amount of 1,420*l*., and have contracted for further purchases to the amount of 12,2001., lines with the Than and besides these there remain to be made first-rate property.

purchases estimated to cost the sum of 7,2521. or thereabout.

By a statement of receipts and expenditure in respect of monies applicable to these im-provements, it appears that of the sum of provements, it appears that of the same 500,000% mentioned in our nineteenth report to have been borrowed of the Equitable Assurance Company for the purposes of these improvements, upon the security of certain portions of the land revenue of the crown in the county of Middlesex, and of monies arisen from interest on exchequer-bills and profit on the purchase and sale of those bills, in which part of that loan was temporarily invested, from the sales of old materials, and from rents of property purchased for the purpose of these improvements, there remained a balance of 1,420%. 6s. 63d. These funds being, as will be seen by the

These funds being, as will be seen by the statement above-mentioned, nearly expended, we are taking measures for obtaining a further loan of 250,000*l*., which, we find, it will be necessary to raise for the purpose of making the several remaining purchases requisite for the completion of these improvements.

TOLLINGTON PARK NEW CHURCH, HORNsEy.—The trustees of the Metropolis Churches Fund have contributed 1,000% towards the

rund have contributed 1,000% towards the erection of this church; the Marquis of Nor-thampton has intimated his intention of con-tributing 50%, and the Rev. Mr. Venn has presented 200%. WEST LONDON RAILWAY. — The London and Birmingham Railway Company has agreed to pay the existing liabilities of the West London Railway Company, amounting to 60,000%, and to allow the shareholders one-fourth of the gross proceeds arising from the traffic or of the gross proceeds arising from the traffic on the railway and Kensington Canal. Applica-tion will be made to Parliament when it tion will be made to Parliament when it meets, for powers to extend the fine to the Thames and to Knightsbridge. In its present incomplete state this railway has seemed to those who were ignorant of its real purpose a fit subject for ridicule. There can be little doubt that, when fully carried out, so as to give to the Great Western and the Birmingham a west-end terminus, and connect both these lines with the Thames, shares in it will become

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Correspondence.

ARCHITECTURAL COMPETITIONS.

TO THE BDITOR OF THE BUILDER. SIR,—I received a very oily letter from the Borsar of Magdalen College, stating that the College, "after long and painful deliberation," had decided in favour of Mr. Derrick's design for the Choristers' School, and terminating with some further civilities by way of thanks without a word as to the very extraordinary favour granted to the successful (?) competitor.

favour granted to the successful (1) competitor. If you or I were to break an agreement, we should be immediately proceeded against "with the utmost rigour of the law." Now, as the "Instructions to Architects" is to all as the "Instructions to Arcuneuts is to an intents and purposes an agreement, cannot all the competitors proceed against the College for the value of the drawings sent to them in pursuance of that agreement? For, in fact, the designs sent at the time appointed by them—and not a fortnight after—were to be them—and not a fortnight after—were to be considered as exclusively those in bonia fide competition. The law may not help me in this case, but equity should do so. Perhaps you or some of your correspondents will oblige me by stating your opinion in your valuable paper. By-the-bye, don't you think this is a proper subject for the Institute to take notice of? I wish they would wake up a little; their slumbers have been very long, and, if I may judge by the little notice that has been taken of them, undisturbed.

ONE OF THE DUPED. Dec. 30, 1844.

[We believe our correspondent is correct in saying the law will not help him. If, however, some of our legal friends will look carefully into the matter, and give us the result of their examination, they will earn the thanks of the profession. Few competitions are decided, wherein the agreement (morally, if not legally, binding) is not broken. In the case of the "Hospital for Consumption" last year, the committee threatened to refuse examination even to any design likely to cost more than the advertised amount, and yet ultimately selected a plan, the estimated cost of which was half as much more. They fancy, from the time which has elapsed since their scandalous decision, that they have escaped the castigation they deserved; they may find themselves deceived. -ED.]

ESTIMATES FOR WORK NOT TO BE EXECUTED.

SIR,—As much has been written in your valuable publication on the aubject of the ignorance and partiality exhibited upon the decisions of architectural competitions, fully sympathizing with those who have spent their talents and time to gratify the curiosity or cupidity of self-appointed committees, I do hope the exposure in THE BUILDER of the system will be the means of checking the evil. To assist in so desirable a work, allow me to record on your pages a method (I trust a solitary one) of victimising the builders.

During the past autumn, a gentleman prac-tising one of the liberal professions, not 50 miles from this place, conceived the idea of having a residence built suitable to the importance of his station in life ; an architect was elected, and Elizabethan the style adopted. Plans were prepared and builders solicited to tender, but as the sanctity of the architect's office could not be invaded, tracings of the drawings with copies of the specification were to be with copies of the specification were to be furnished, upon each competitor paying down five guineas!! with the privilege of obtain-ing a copy of the quantities for four guineas more!!! which latter charge may be considered moderate, as duplicate and in some instances triplicate estimates of certain parts were to be made, the architect not having decided whether certain parts were to be worked in stone or cement. Seven builders were to be worked in stone or ement. Seven builders were caught, taken in, and nicely done for; three of whom, I believe, paid the nine guineas; the rest only paid five each, for the privileges of making estimates of a building not likely to be exe-cuted, as the estimates of the builders exceeded that of the architect, who of course was the

test informed upon the subject. Now, Sir, if the architect was paid by his mployer, and did not go upon the speculation of being paid by those who were willing to give up their time and experience, to enlighten bin upon the cost of carrying his design into execution, I think they should receive back

their money. The several amounts were as under :-

| Ashby £2.200 | 0 |
|-----------------------------------|-----|
| Grover 2.109 | 9 |
| Haynes & Co 2,100 | Ō |
| Wood 1,997 | ŏ |
| Coleman 1,913 | |
| Sanham | - |
| Kirk 1,767 | - |
| Should you consider the foregoing | ata |

Should you consider the foregoing state-ment worthy a place in your columns, I should feel obliged, as an original subscriber, A BUILDER (NOT ONE OF and

Dartford. THE VICTIMISED).

[We agree with our correspondent, that if the building be not erected,—if no prize be given, for the chance of obtaining which the builders each bought a ticket, so to speak,— their money should unquestionably be returned. We cannot vouch for the accuracy of the statement; indeed, we hope our correspondent may have been misled, and that one of those who tendered may yet be employed .- Ed.]

TEMPLETS AND MOULDS.

SIR,-A joiner and carpenter contracted for his branch in building a church, finding all timber and workmanship, and in his contract bound himself to make all moulds and templets of timber that might be wanted for the stone work. He has done so, and completed his contract satisfactorily; to whom do the templets and moulds belong β If you would be kind enough to insert the answer in your next number, you will confer a favour on me, and set the question at rest. C. [To the carpenter.--ED.]

CARPENTERS' PRICES. CARPENTERS' PRIDES. SIR,—I beg leave to inform you that your list of prices for timber and deals is apt to de-ceive the builders; for instance, the present price of Quebec red pine timber is 85s. to 90s. per load at first hand and by the cargo; Que-bec oak is also from 105s. to 150s. ditto; spruce deals are from 171 to 211 par 120. Christiang bec oak is also from 100s. to 100s. onto, sprace deals are from 171. to 211. per 120; Christiana deal 301. to 321 per 120 as 12 fs.; second pine planks are now 111. to 121. standard.—Your obedient servant, W. CLEAVE.

[No pains are spared to obtain a correct list, but prices vary so much, and are so influenced by circumstances, that the utmost we can do is to give an approximation to the truth.-ED.]

LEEDS BOROUGH GAOL. SIR,—In the last number of THE BUILDER, it is stated, under the head of "Tenders," that we are the "inspectors for the committee," of the new gaol now erecting at this place; this is incorrect: we are the architects of that building, and no other party is, or has been employed in that capacity.

The building is being executed according to a design made by us, and approved by Sir James Graham, on the recommendation of

Major Jebb, inspector of prisons. There is another inaccuracy in the paragraph which mentions only three branches of work as being the third contract (C), whereas the plasterer's work, slater's work, plumber and glazier's work, painter's work, smith and founder's work, form part of the said contract and tenders were sent in for these branches also; the amount of the whole contract being

when information is sent for insertion in your useful journal, it is the duty of those who furnish it to ascertain its correctness, in justice to the parties concerned and the public: if this course had been pursued by your corre-spondent, we should have had no cause to tresass upon your time with this explanation.

We remain, Sir, your most obedient servants, PERKIN AND BACKHOUSE. Leeds, Dec. 31st, 1844.

LIST OF NEW PATENTS RELATING TO ARCHITECTURE, ENGINEERING, &c., GRANTED FOR ENGLAND.

SIX MONTHS FOR ENROLMENT.]

Louis Antoine Ritterbandt, of Gerrard-street, Soho, doctor of medicine, for certain improve-ments in preventing and removing incrustation in steam boilers and steam generators. cember 2.

William Henry James, of Clements'-lane, London, civil engineer, for certain improve-ments in carriages for the conveyance of pas-

sengers and goods, and in the means of work-

sengers and goods, and in the means of work-ing the same. December 2. James Winter, sen., of Wardour-street, Sobo, upholsterer, James Winter, jun., of the same place, upholsterer, and William Lane, of Bed-ford-place, Russell-square, gentleman, for an improved scaffold, or mode of scaffolding, ap-plicable also as a fire-escape for life and pro-nerty. December 2

perty. December 2. James Nasmyth, of Paticroft, Lancaster, civil engineer, for certain improvements in machinery or apparatus for hewing, dressing, splitting, breaking, stamping, crushing, and pressing stone, or other materials. December 2.

Benjamin Seebohm, of Horton Grange, York, merchant, for an improved mode of manufacturing certain description of chains. December 4.

John Ryan, of Liverpool-street, surgeon, for certain improvements applicable to or in the construction of casks, barrels, or other vessels intended to contain wine, beer, fermented liquors, or other liquids or substances which are liable to fermentation or decomposition from exposure to the action of the atmosphere.

December 7. William Wilcocks Sleigh, of Saint James's-William Wilcocks Sleigh, of Saint James's-square, M.D., for the hydro-mechanic appa-ratus, which, by a certain combination of hydraulic and mechanical apparatus on well-known philosophical principles, is intended to supersede the use of fire and steam in working and propelling all kinds of machinery and engines. Decomber 7 engines. December 7. Joseph Weiger, of Vienna, doctor of medi-

cine, and surgeon-dentist, for improvements in the amalgamation, alloying and soldering of certain metals. December 12.

Charles Louis Felix Franchot, of Paris, engineer, for improvements in engines, to be worked by air or games. December 12.

William Malins, of Mansion House-place, London, ironmaster, for improvements in constructing roofs and other parts of baildings of iron or other metals, and in the preparation of the materials of which the same are or may be

constructed. December 12. Robert Heath, the younger, of Shidsgrove; Stafford, coal agent, for improvements in heat-ing ovens and kilns used in the manufacture of chins, bricks, tiles, and other earthenware. December 12.

Moses Poole, of Searle-street, London, gen-Moses Foole, of Searle-street, London, gen-tleman, for improvements in the construction of fids for ship's masts and in the means of setting up ship's rigging. Being a communica-tion. December 12. Warren De la Rue, of Bunhill-row, manufac-turer, for improvements in covering the surface

of paper and other materials with colour and

other substances. December 12. Nathaniel Fortescue Taylor, of Vauxhall, engineer, for improvements in apparatus for measuring gas. December 18. Arthur Wall, of Bisterne-place, Poplar, sur-

geon, for certain improvements in the manu-facture of steel, copper, and other metals. December 18.

Benjamin Biram, of Wentworth, Yorkshire, entleman, for certain improvements in oscillating engines, worked by steam, water, or other fluids, which are also applicable to the raising or propelling of fluids. December 21.

Charles Johnstone, of Southampton, Hants, engineer, for certain improved arrangements for raising ship's anchors, and other purposes. December 21.

Miscellanea.

NEW LUNATIO ASYLUM, &C. WARWICK .-The following motions will be submitted by C. H. Bracebridge, Esq., at the next Warwick Quarter Sessions: — "That the committee appointed at last Sessions do make every inquiry respecting the expense of erecting a county lunatic asylum, the probable number of lunatics, and a proper site."-" That the committee appointed at last Sessions, for the purpose of inquiring into the extent of alterations in the county prisons necessary to carry out the regulation of the Acts 4th George IV., c. 64, and 2nd and 3rd Victoria, c. 56, be continued, with power to confer with Mujor Jebb, and determine on the most feasible plan for altering the prisons, and to report at the Easter Sessions.

COMPETITION OUTLINES FOR ART UNION OF LONDON. - In reply to the advertised premium of 60% for the best series of designs in outline, the committee of this valuable association have received nineteen sets of various degrees of merit. So soon as the decision is made, we shall allude to them at greater length.

NEW CHURCH AT FARRINGTON GURNEY, SOMERSET .- This church was consecrated on the 23rd ultimo by the Bishop of Salisbury. It is built from the design of Mr. Pinch architect, of Bath, in the Norman style, and consists of a nave, 35 feet high, with a clerestory, supported by round pillars and semicircular arches; a deep chancel at the east end, and a tower, 55 feet high, at the west end. The whole length of the building is 91 feet, and the width 42 feet. The proportions and general effect of the interior appear to great advantage in consequence of the absence of galleries, excepting one in the tower for the singers. The chancel is lighted by a triple window, and one on either side, intended to be filled with stained glass. There is ac-commodation for about 350 persons in low, open scats, three-fourths of which are free and unappropriated for ever; the whole of these, with the gallery, altar-rail, desk, and timbers of the roof, are in imitation of dark oak. The pulpit, altar-piece, and font, are executed in Bath stone. The execution of the work was intrusted to Mr. John Thatcher, of Wellow, and Mr. David Aust, of Bath, whose contract for the building was under 1,2001.—Somerset Gazette.

MONUMENTAL BRASSES. - A monument lately erected in Stonehouse Church, Glou-cestershire, to the memory of the Rev. Washington Hallen, hus excited a good deal of attention. It is in imitation of the monumental brasses prevalent several centuries since, except that in the present instance the metal used is lead, which has apparently been molten and run into the sculpture. In the centre of the slab is a pedestal supporting a cross, which is bordered on the four sides by an inscription, the letters of which are formed of the above the letters of which are formed of the above metal, as follows:—"Here rests Washington Hallen, a priest of the Anglican Church, born into this life 1797, departed 1837. Pray we, as our Holy Mother teaches, for the perfect consummation of his bliss, both in body and soul, through Jesus Christ." In addition to the principal genue content in the perfect in the perfect the principal centre cross, there is a small Maltese cross at each corner of the slab, and the whole effect of the monument is a revival of the antique models. - Gloucester Journal. [Yes; and an attempted revival of something more than antique models.—ED.] LIVERPOOL SAILORS' HOME.—

An associa tion has lately been formed in Liverpool similar to the one in the eastern part of the metropolis for the purpose of providing a suitable dwelling for sailors while ashore. The first meeting of the members was held last week, and presided over by James Aiken, Esq. The subscriptions and donations announced amounted to 13,193*l*, among which was one of 400*l*. from Messrs. Brocklebank. On the motion of Mr. Cotesworth, seconded by Mr. Henderson, the following gentlemen were appointed trustees : - Mr. Robertson Gladstone, Mr. Rulf Brocklebank, Mr. Willian Potter, Mr. Duncan Gibb, and Robert Rankin. In reply to a question put by a subscriber, the chairman stated that buildings north and south of the town had been spoken of and various plans had been suggested, but nothing could be done until they knew the result of their appeal to the public. On the motion of Mr. J. B. Yates, seconded by Mr. E. Molyneux, it was decided that the committee be recommended to take steps for obtaining the patronage of her Most Gracious Majesty to the institution.

ALTARS IN THE EAST .- There is no canon that I know of, says Bishop Heber, for placing churches with their altars eastward; and though this custom is certainly most ancient and usual, there have been many remarkable exceptions to it, from the cathedral of Antioch, built in the age immediately succeeding the apostles, down to St. Peter's, at Rome, which has also its sanctuary we-tward.

For Bodies, Wheels, Axles, Axle-boxes, Guards, Guard-plates, and Springs for 200 Coal Waggons, for the Taff Vale Railway. January 6.

For laying the Pipes required in the Hull New Water Works.-Thomas Thompson, Esq., Town Clerk, Hull, or Mr. Thomas Wickstead, Old Ford,

hear London. January 6. For the supply of the following stones for pavements, namely, York Flag of 3 inches and 24 inches thick, at per yard superficial; Castle Hill Stone, 24 and 14 inches thickness, at ditto; Rock-hill of like respective thicknesses, at ditto; Aberdeen Granite, half sovereigns, at per ton; Devonshire Kerb, at per yard run, &c.-Francis Southgate, Clerk to the Paving Commissioners, Milton, next Gravesend. January 7. For the execution of certain alterations at the

Workhouse of the Coventry Union.—Thomas Hine, Clerk to the Board of Guardians, Coventry. January 8.

For Re-pewing Leverington Church, near Wisbeach.—The Rev. Henry Jackson, Leverington, or Mr. W. Adams, Architect, Wisbeach. January 7. For Four Locomotive Engines and Tenders.— George King, 62, Moorgate-street, January 8.

For a Survey Plan and Valuation of the Township of Kimberworth, in Rotherham Yorkshire.-George Taylor or Mr. Richard Rhodes, Over-M seers of the Poor. January 8.

For taking down the present Bridge at Carrick-on-Shannon, and constructing a Stone Bridge of five segmental arches, with its approaches; building quays and harbour, forming wharfs, and deepen-ing the bed of the river.—Edward Hornsby, Secre-tary, Shannon Commissioners' Office, Customtary, Shannon Commissioners' Office, Custom-house, Dublin. January 8, 1845. For completing the Railway from Bishopstoke to

Salisbury.—Alfred Morgan, Secretary, Nine Elms Station, Vauxhall. January 10. For building a Sewer in Vine-street, Minories.— Joseph Daw, Sewers' Office, Guildhall. January 14.

For the erection of a Wesleyan Chapel at Hythe. - Mr. T. Pilcher, Stationer, &c., Hythe. uary 21. Jan-

For making a Sewer in the town of Cambridge. The sewer to be cylindrical, and 2 feet diameter in the clear, the length will be about 385 yards, and the average depth about 9 feet .- Frederick Randall, Town Hall, Cambridge. January 21. For the erection of the Railway Works between

Leeds and Bradford, including fencing, earthwork, masonry, roads, and permanent way.—William Clarke, Secretary, Hunslet-lane Station, Leeds. Jaouary 27, 1845.

For the execution of Works on the Chester and Holyhead Railway.—1st. A distance of eight miles, or thereabouts. 2nd. A distance of twenty-two miles, or thereabouts. 3rd. A Tunnel through the promontory of Penmaen Back, near Conway.-George King, Secretary, 62, Moorgate-street. January 29, 1845.

For the supply of Wrought Iron Rails and the requisite number of Chairs for about 15 miles of the Southport and Euxton Junction Railway. The weight of rails to be from 60lb. to 70lb. per lineal yards and 15 feet lengths, equal to 11 om 1,500 to 1,800 tons of wrought iron, and about one-third of that quantity of cast iron.—Woodcock and Part, Solicitors, Wigan. January 31. For erecting the Works of the third division of

the Main Line of the Great Southern and Western Railway, being 11 miles, 6 furlongs, and 75 yards Also for the first division of the Carlow in length. branch, being 10 miles, 7 furlongs, and 160 yards; comprising excavation, embankments, bridges, cul-verts, &c.-William Taylor, Secretary, 3, College Green, Dublin. February l.

For the supply of 11,000 feet of nine-inch castiron Pipes for a new line of Aqueduct to be laid in the Island of Malta.—Vin. Casolani, Collector of Land Revenue, Office of Land Revenue and Public Works, Valletta, Malta. March 31, 1845.

COMPETITIONS.

THE Committee of the Association recently formed in the Metropolis for the Construction of Baths and Wash-houses for the Labouring Classes, are desirous of obtaining Plans and Estimates for the Erection and Fitting-up of the First Esta-blishment. The general basis of the plan can be seen at the Office, No. 3, Crosby-square. The author of the plan considered the best by the Committee will be selected to execute the work.

Plans and estimates are required for a Pauper Lunatic Asylum for the County of Somerset; the building to accommodate 300 patients, and to contain two Storics. The Committee of Visiting Magistrates wish it to be of a plain, cheerful character, but will not further fetter the architect by suggesting any particular arrangement as to the terior, its ventilation, warming, or otherwise. The center, its ventilation, warming, or otherwise. The ground selected contains 36 acres.—The Clerk of the Peace, Taunton. A Premium of 1001. will be adjudged for the best plan, and 501. for the next best Langer 90 best. January 22.

to be done in a plain and substantial manner, without any expensive embellishments. architects' estimates to be sent to out any expensive embellishments. The plans and architects' estimates to be sent to Robert Mercer, the Clerk of the Clifton Union, Pennywell Road, Bristol, on or before the 17th of February next, and the Board of Guardians will adjudicate on the 28th. The architect producing the best plan in the estimation of the Board will be employed at a sum not exceeding 5 per cent. on the outlay, and a gratuity of 25 guineas will be given to the architect producing the second best plan in the opinion of the Board.

The Committee of the Art Union of London offer the sum of 5001. for an Original Picture illustrative of British History. Cartoons, six feet by four feet six inches, are to be sent in (as will be hereafter notified) by the 1st day of January, 1846, and from these the selection will be made. Artists must send specimens of their abilities as painters, if required so to do. The successful candidate must undertake to complete the finished picture, of the same size as the cartoon, by the lst of January, 1847, and to superintend the engraving. The Committee wish it to be understood that their object in giving so long a period for the preparation of the cartoon is for the purpose of affording artists sufficient time thoroughly to study the various details of their compositions, and to produce in the cartoon a completely finished and well-wrought study for the picture. The Committee reserve to well-wrought selves the right of withholding the premium if works of sufficient merit be not submitted.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

At Willesden: 318 Oak, Ash, and January 6. Elm Timber Trees .- Baker and Son, auctioneers, Manor Terrace, Kilburn.

January 7.- At90, Blackman-street, Southwark: 600 cut Deals; 3,000 Fir Boards; 250 Pine Plank; 100 Red Pine Deals and Plank; 100 Yellow Deals; 3,000 feet of Quartering; 1,000 feet of Mahogany; 20 load of Ash, Beech, Birch, &c.--Southey and Son, auctioneers, 191, Tooley-street.

January 7, 1845.—At the Hall of Commerce, Threadneedle-street: 1,232 logs of St. Domingo Mahogany of superior quality and large dimen-sions; also 3 logs of Satin Wood; 182 logs of pencil cedar; 850 lancewood spars.—Thomas Ed-wards, Broker, 1, Pinner's-hall, Great Winchesterstreet.

January 17, 1845.--At Garraway's Coffee-house, Cornhill: 10,000 Baltic and Swedish Deals and Battens; 10,000 Colonial Yellow Pine and Sprace Deals.—E. D. Warrington, broker, 15, New City Chambers.

TO CORRESPONDENTS.

"J. M. Newport."-Will our correspondent inform us in what respect his mode of drawing elliptiform us in what respect his mode of Grawing ellipti-cal arches of large span, by means of two figured rods working on pins at the two foci, is superior to the common mode, wherein a cord the length of the span, and secured at the two ends, occupies the place of the rods?

New Flooring Dog."-The model sub by Mr. Snowball, although ingenious, is not likely to supersede the present form. The lever is more effectual than wedges in driving the boards together The inapplicability of the new dog to joiste and trimmers of various sizes is likewise an objection.

The model is left at the publisher's, with thanks, "A Young Architect."—We will inquire. "John Howe" will find an answer in another part of the Journal. The official referees are Mr. James While Higgins and Professor Hosking, Trafalgar Square. "William John Lea."—The sketch is left at the

office, with many thanks.

"J. W. W., Jun," next week. "J. J. F." "H. G." "J. S." "H. S." and "Nauticus" received.

A correspondent wishes to know what form it is best to adopt in the construction of Pot Kilns for common red ware.

*** We have received several letters requ us to give, in a tabular form, a list of the New District Surveyors and their official residences; immediately they are all fixed and have received a Magistrates sanction, agreeably to the Act, it is our intention to comply with the wishes of our correspondents.

APPOINTMENT.

The Commissioners of Sewers for Westminster and part of Middlesex are about to appoint a Fourth Clerk of the Works at a salary of 120?. per annum. The appointment in the first instance best. January 22. Plans and estimates are required for a Work-house, to contain about 1,180 persons. The whole Tuesday, January 14.

NOTICES OF CONTRACTS.



CI.

SATURDAY, JANUARY, 11, 1845.



HE Metropolitan Buildings Act came into full opera-tion on Wednesday, the lat tion on Wednesday, the lat instant, and the new surveyors appointed under it came into authority. Their

duties are not light,-there is much work before them; as, indeed, there is much increase of work for the district-surveyors appointed under the old Act,-and they must apply themselves vigorously to their task.

According to the new Act, buildings begun before the 1st instant, " and covered in end rendered fit for use within twelve months thereafter," are exempted from its provisions. A knowledge of this circumstance led to the commencement of a vast number of buildings in the new districts at the end of last year, for the most part in an insufficient and faulty manner. Immediately preceding the frost, and in some places during its continuance, the bricklayers were at work without taking even ordinary precautions to prevent injury to the work, such as using the lime quite fresh, clean Thames sand, good bricks perfectly dry; and covering up the walls at night, so as to allow the mortar to set as quickly as possible. The great demand having made bricks scarce, and consequently very dear, the merest rubbish has been used, and mould, in many places under our own eyes, has supplied the place of sand in the mortar. The consequence is, that much of the work done is not sound, and should be taken down; in fact, in several quarters it has not waited to be taken down, but has fallen of its own accord. Except in extreme cases, however, we apprehend the district-surveyors will not be able to interfere. Where danger is actually apparent, they may perhaps treat them as ruinous buildings, under the 40th section, and with the aid of the overseers and official referees, may cause them to be strengthened or demolished.

Schedule E. provides, relative to projected buildings, that "such projections must neither be built with, nor be added to, any building, or any face of an external wall thereof, so as to extend beyond the general line of the fronts of the houses." In some of the new districts, where the houses stand back from the road, and have front gardens, shops have been hastily executed on that space, to the destruction of regularity, the annoyance of the neighbourhood, and the manifest injury of the adjoining houses. In Brompton (part of Mr. Donaldson's district), a number of such erections have been made, in rows of what have been private houses. Whether or not the owners of adjoining buildings will be allowed to come forward in the same manner, the value of the houses as private residences being destroyed, will depend on the surveyor, as by the section already referred to, what is "the general line of the fronts of the houses" may be determined by him.

The question of drainage is one to which the attention of district surveyors is now first directed, and a very important one it is. Schedule H. provides that the drains from all buildings (hereafter built) shall be completed before the walls are ten feet high; and shall be taken into a common sewer, "if there be

within 100 feet from any part of the building, or from the inclosure about the building, a common sewer into which it is lawful and practicable to drain."

Further on it provides, touching cesspools, that "if there be a common sewer within 50 feet from any front of or from the inclosure about any house or other building (hereafter built), then a cesspool must not be made for the reception of drainage from such house or other building, unless there be or shall be built a good and sufficient drain from such cesspool to such common sewer."

Insomuch, however, as the Commissioners of Sewers, who retain all their powers and authority, will not ordinarily allow drains to be taken into a sewer until it be brought up to the building about to be drained, this provision would seem to have the effect of compelling owners in many cases to build 50 feet of sewer :--- a sewer being within that distance, they may not form cesspools.

Every main drain must be 9 inches in diameter inside; and must have a fall of at least half an inch to every 10 feet, and be arranged so that it shall be wholly covered over under the lowest floor, and independently thereof. It must likewise be made airtight. In many new houses built "to sell," the pavement in the kitchen or passages forms the top of the drain: a most inefficient and improper mode of construction, which the foregoing provision will prevent for the All cesspools constructed under a future. building must be made air-tight. We need hardly say to our practical readers that in nine cases out of ten where the drains go into a sewer, it is much better to have no cesspool at all. With drains properly formed, sufficient water, and a good fall, cesspools are quite unnecessary, and should be avoided as a great nuisance.

Another important matter (so far as relates to public health) in which district surveyors are required to co-operate is, the prohibition of the use of buildings unfit for dwellings. No decided steps can be taken till the 1st of July, 1846; but overseers should already have re-ported to the official referees, the number and situation of dwellings in their respective parishes, wherein any underground room or cellar is occupied as a dwelling, in order that notice may be given to their owners and occupiers, of the provisions of the Act in this respect.

DECAY OF TIMBER-CAUSE AND CURE.

THE prevention of decay in the timber-work of buildings we may consider as being very much within our own power; for where due precautions are taken, in felling at the proper time, and thoroughly seasoning the wood itself, and in obviating the chances of harm which might accrue to it from contact with other materials, decay will rarely appear in any form. There are, no doubt, causes which induce decay, where the operation of those under the control of the architect or builder has been prevented : lofts are often filled with stores of a damp and musty nature; manufactures are carried on in which much water is used, much constantly spilt; very frequently, co-operating with this moisture in the work of destruction, is the heat of powerful stoves, which keep the air at a high temperature; painted and other floor-cloths are unsuspectingly and unsparingly spread and fastened down, intercepting the salutary action of the air, and retarding, if not totally preventing, such evaporation as may be wanted. But for such cases as some of these, extraordinary treatment is necessary, although much may be accomplished by mature pre-consideration of the intended purpose of the building, and an anticipation of its liabilities.

Among the most active agents of decay in the timber of buildings may be instanced deficient drainage and imperfect ventilation. Where these exist, even perfect seasoning will not be sufficient to ensure durability. Where a radical reform is carried out in them, timber,

even imperfectly seasoned, may better serve our purpose; for where damp is precluded, and thorough ventilation sustained, the season-ing must advance to perfection. It is in this conviction that we feel disposed to arraign the conviction that we feel disposed to arraign the whole system of building, as it has been pursued in later times; and to hail with gratulation a change which, though little more than begun, will progress surely, and the further the more rapidly; till, with the "wisdom of our ancestors," in this particular, in vivid light before our eyes, enhanced by the superior light before our eyes, enhanced by the superior state of science, a code of principles will be formed, infallible because founded on common sense. It will not long, we think, be cavilled with, that the existing (now passing) system of stuccoing, external and internal, however much talent, in many respects, it may display, is, in a great measure, contemptible and in-indicious. Comparing induces bed bond i bad judicious. Compoing induces bad bond; bad bond has given rise to bond timbers; these have been pent in by brick and plaster till they rotted away, and disunited the work they were meant to hold together. A niggardly anxiety to reduce the cost of carpentry, the most scientific and perhaps the most beautiful part of good building, has produced plaster ceil-ings, to the endangerment at once of the science itself, therefore of the stability of our walls, and of the durability of our floors, confining noxious and corrupting vapours. What can we more admire than the open timbering of an in-genious, skilfully-disposed roof, one worked with a view to its being left at all times visible? Which can we the more esteem, the palpable falsity of an ornamented plaster ceiling, that impends over our own heads and the brilliant scenes that shine around, or the more honest and safe, and equally ingeniously-elaborated timber soffit, not blandished over at fitful intervals with colour, but kept in healthy trim by good wholesome rubbing? But we must not diverge further from the straight line of our subject.

DAMP is a very active cause of decay: alternations of dryness and moisture are very **Ď**амр destructive, such as is the case with the supports of a wooden bridge, or any other timbers in similarcircumstances, weather boarding, or fencing, exposed to the vicissitudes of the weather, for example. Timber placed in a situation which is constantly damp, is also liable to rapid decay-especially when exposed to atmospheric influence.

The object, then, is so to prepare the wood by some saturation or coating, as to render it impervious to the moisture which assails it: for this purpose several compositions are em-ployed; but it must be remembered that while they are calculated to prevent decay in sea-soned timber, unless the wood is thoroughly so, the application of any such covering will produce just the opposite effect to that which is intended—inclosing sap, and preventing evaporation, being known to afford infallible facilities to internal decay, besides which, however well the timber may be seasoned, and its sides defended against external influences, if due attention be not paid to the ends, whatever the position, all the care otherwise bestowed will be unavailing; the pores will

admit the moisture, and decay will follow. It is found that the wooden posts introduced to support the impending portion of salt mines, are rendered in a great degree im-perishable by the constant and strong saline perishable by the constant and strong saline infusion which they imbibe; but notwith-standing this fact, it is obvious that timber seasoned by immersion in sea-water ought never to be employed for house-carpentry; for the impregnation which it has received will render it ever after most susceptible of damp, as indeed is any substance which con-tains salt; and while the particular timbers which had been so seasoned might contain within themselves principles exempting them within themselves principles exempting them from decay, they would most probably be the vehicle to bring destruction to the work around them : for the same reason the walls of buildings should not be built with mortar made with sea-water, or finished with plaster in which it is used.*

[•] If the mortar or parget with which a chimney-flue is to be plastered be mixed with salt, it will obviate any future temptation to contravene a very humane enactment —that which closed the particular channel for the pursuit of ku.d., which whilom invited the especial investigation of the climbing-boy; for with every spell of damp weather, the salt will liquify and disengage the soot, a property which in one recorded instance remained unimpaired after thirty years' operation, but whether to the advantage or disconfort of those immediately interested docs not appear. discomf appear,

In building on a damp soil, having pro-vided for the drainage of the site and its vicinity, the walls to a little above the groundline should be built with mortar incorporated of a hydraulic cement, or such as would set under water; otherwise the mortar will never properly harden, but be inclined rather to decompose, and will always facilitate the rise of damp into the walls of the superstructure. Where there does not appear imperative occasion for incurring this extra expense, and indeed in all other cases than the one named, it is well to introduce near, but out of contact with the ground, a course of some material which is of a nature much more impermeable to moisture than the generality of building ma-terials, a thin plate of some incorrodible metal for example, or a layer of hard slates in Roman cement, or of coal-tar and sand; either of these will intercept the rise of damp. In buildings of brick, it is the more necessary to have recourse to such measures, since that material is very absorbent in its nature, draws up damp to a considerable height, and retains it for a long time. Where the walls of a building in which no such precautions have been taken, have become damp, it would have a salutary effect to dig out the earth which lies against them, and apply a coat of concrete, or Roman cement, to the parts under the groundline, then fill in the earth again; the current would thus be effectually stemmed, and on the right side of the wall; and all short-sighted attempts to shut it out from within, by means of tarred-paper, or tea-lead, rendered unne-cessary. It is plain that where water is col-lecting, it must either run out or run over; and if an internal coating resists the percolation, the more is the pity, since the consequence must be the rise and spread of the mischief.

But where there is a sunk basement, and indeed in all cases, the best practice is to separate the walls from the surrounding ground by open areas, more or less wide as they can be obtained. Then, interiorly, the flagging should not be laid upon the natural earth or vegetable mould, but upon a stratum of concrete, or compact layer of ashes, stone-chippings, dry lime rubbish, or other material calculated to intercept humidity and destroy calculated to intercept humidity and destroy vegetative principles, a precaution which is of course equally essential under the boarded floors of the same story,—it being provided in the latter case that a clear space of 18 inches height, or more, intervene between the said finishing stratum and the floor-boards, and a thorough ventilation admitted by means of perforated iron castings in the plinth course of the external walls. Where sleeper-walls occur, little arched openings should be formed in them for the same purpose. In superior build-ings this method should be adopted for the flagging as well, as being the best for insuring a perfect exemption from damp,—the slabs being of large dimensions, assorted to certain widths, laid on dwarf walls with apertures, and their cross joints joggled or rebated for mortar to prevent any upward draught. Allusion need only be here made to the necessity which there is for making the right sort of provision, in the first instance, against the leakage of parapet gutters, down-pipes-whether soil or rain-water, cisterns, tanks, drains, &c.; the gutters named demand more care than is usually bestowed on them, and indeed can scarcely be made altogether perfect; and it is frequently from some of these causes, and where there is no damp foundation to blame, that timbers are rotted, and serious mischief mend the relinquishment of wood bond, and suggest also the invariable adoption of a method of inserting the ends of timber beams in lieu of the more common practice of building close about them. Arched recesses, larger in every way than the ends of the beam, and having stone cills flush on the face, some-what wider than the opening, and dovetailing inwards, should be prepared in carrying up the walls; the beams when laid in their places should be held there in one or other of the following ways; irons, say 2 feet long, should be bolted or screwed against the sides at each end, and turn down into mortises in the stone cill or templet, or dowels of iron or Valentia slate (if the latter, say 3 inches square by 4 long) should be let one-half of their length into the contiguous surfaces of the beam and templet-centrally in their width and as far

from the ends of the former as is compatible with the strength of the latter supposing a tendency in the wells to fall outwards, and the beam to fulfil the part of a tye. The former and more expensive method is best calulated for cases where damp, and consequently decay at the ends of the beam is to be feared, but where all other precautions have been taken, the latter, which is extremely simple, is suffi-cient. When it is inconvenient to place the beams at the time of carrying up the walls, there can in general be no obstacle to leaving the back of one of the recesses open that the beam may subsequently be pushed far enough through it to admit of its other end being introduced into the one opposite. This mode of placing beams provides for the circulation of air round their ends, which from the exusion there that proceeds from such vegetable moisture as happened to main and the table to be soonest affected; it supersedes the neces-sity for charring or pitching the ends, which, however excellent in cases where the timber however excellent in cases where the shows is perfectly seasoned, is injurious where it is not so; it also affords superior facility, should any deficiency take place, for splicing or entirely replacing them. J. W. entirely replacing them.

ROYAL INSTITUTE OF ARCHITECTS.

In the middle of last year the Institute In the middle of last year the institute offered medals for the best essays on the following subjects :---"On the system and principles pursued by the Gothic architects from the eleventh to the fifteenth centuries inclusive, in the embellishment by colour of the architectural members and other parts of the architectural members and other parts of their religious and civil edifices;" and "On the various species and qualities of slates, with an analysis of their component parts. their relative value and applicability for building purposes, and the best chemical tests for ascertaining their durability." They further offered the Soane medallion for the best design for a college in a university, of Roman or Italian architecture, with chapel. Roman or Italian architecture, with chapel, theatre, &c.; and required that the principal buildings should compose in a noble and imposing manner. We regret to learn that, in reply to these

we regret to learn that, in reply to these invitations, only two essays have been received, both on the qualities of slates; and that no design has been sent in. It is extraordinary to find so little emulation amongst the rising members of the profession, as is thus rendered

members of the profession, as is thus rendered apparent. We shall aid in rendering widely known the subjects proposed for the ensuing year, and hope we shall have to record a more satisfactory result. The merits of the essays now submitted remain at present unknown. At the next ordinary meeting of the In-stitute, which will be held in the new rooms on Monday next, a paper will be read by Mr. T. L. Donaldson, "On the history of archi-tecture, from the building of the pyramids to the revival of Italian architecture in the sixteenth century." sixteenth century."

RISE IN THE PRICE OF TIMBER .---- We are informed that the advance in the price of American timber, within the last twelve months, has been nearly 50 per cent. This extraordi-nary rise is attributed to the steady demand and the diminished stocks, caused by the great amount of shipping employed in the guano trade. The timber-carrying trade has not, for many years, been a profitable one, and though a great amount of tonnage will, no doubt, be employed next year, and tend to check the rise, still, as freights will necessarily be high, timber will, no doubt, for some time to come, command first-rate prices to the importers.----Glasyow Courier.

GIGANTIC BRONZE STATUE.-The Journal des Débats states that the gigantic head of the statue of Bavaris, a bronze statue, which is to be 68 feet high, was withdrawn from the mould in which it was cast at the royal foundry of Munich on the evening of the 14th ultimo, or Munich on the evening of the 14th ditimo, in presence of the king and queen of Bavaria, and a considerable number of distinguished personages. The beauty of the head of Bavaria, which is the work of the celebrated Schwanthaler, excited such enthusiasm amongst the mentations that they is including voices to a the spectators, that they joined their voices to a chorus of 300 of the Philharmonic Society of Munich, who chanted a hymn composed for the occasion by the Baron de Poissel, director of the Theatre Royal of Munich.

BUILDING SOCIETIES. LETTER V. BY WILLOUGHBY WILTON.

Wg hinted in our last that we should now touch upon the interest charged by these societies; this, however, must briefly give place to some matters equally important in our in-vestigations. If our readers will turn to page 589 of THE BUILDER (vol. ii.), they will find what interest is charged per cent. per annum. For example, a man takes 42 shares at the price of 70*l*., making 315*l*.; for these 315*l*. he cove-nants to pay in time 540*l*.; but till he does so, he is charged what is called "redemption monau or interest" per abare par mouth upon he is charged what is called "redemption money or interest" per share per mouth upon the sum he gives up to the society as a bonus for immediate cash. In the case before us, he submits to a deduction of 50% a share, or 225% for 315 + 225 = 540. This monthly payment the poor man deems easy; the rich man finds it the nimblest element in the improvement of his capital. For it is this : interest or redemption money at 4s. a month, i. e. on the bonus or sum which the man did not receive; this on 41 shares makes 18s. a month, which, with redemption money, 10s. a month, makes 34. 3s., or 374. 16s. a year; but 374. 16s. multiplied by 84, become 3214. 6s.; so it is made to appear that the man can within even 84 years pay off the loan with interest on the bonus by monthly instalments of 31. 3s. We must not, however, omit the ground-rent, 5*l*. a year or 50*l* in ten years, dilapidations, insurance of property, and loss of time in dancing attendance on the secretary with monthly payments, which we may here pass over, having already shewn the operation of these; nor must we omit the bonus of 225*l*, which must be made good even-tually, and which drags on the man's existence for some six years more than the 84 we have alluded to above, or in all about 144 years, as explained at large in our second letter, pages 601 to 603 of THE BUILDER. But it is shewn, page 626, column 3, that the bonus is as much as 55*l*, ; and in the same page, column 1, at the top, we quote the words of the loss of time in dancing attendance on the bonus is as much as 55*l*.; and in the same page, column 1, at the top, we quote the words of the "London and Westminster Society," which says, "the average bonus for such advances being 63*l*. 0s. 10*d*. per share;" so that in this case the borrower would receive in cash 56*l*. 19s. 2d., making himself answerable for 120*l*, on each share he takes up at this prac-tical relations of the price outront. tical valuation of the price current.

In the first case the man takes 70*l*, to pay 120*l*; in the second 65*l*, to pay 120*l*; in the third 56*l*, 19s. 2d, to pay 120*l*, in ten years; the im-possibility of which has been fully demonstrated.

strated. This constitutes what is termed the sale of shares, "for in full satisfaction of the share or shares he subscribes for of 1201. each," "he shall immediatly pay 11. per share in part of the subscription money, and charges payable thereon."• Moreover, "members not wanting money are liable to be ballotted to draw their shares, or be subject to a fine;" + but in "other societies the more general plan is to give power to the directors to dispose of money not wanted by the society in some profitable manuer," as in the Bridgwater Building Society, which makes "advances upon notes of hand," t "as the committee shall deem most conducive to the interests of the society."—"We think it highly expedient in societies where competition is allowed, to get a good number of capitalists." Here then we have proof of the inference deduced in our last letter, that these are more properly speaking Loan than Building Societies; and they identify themselves with the money-This constitutes what is termed the sale of

they identify themselves with the money-lending clubs in the manufacturing districts. Let us now consider the security for money advanced by the building societies. From all we can learn the property must be of "suffi-cient security to the society," or the borrower must find good men and true to join in their

must find good men and true to join in their common bond for the amount advanced, the parties agreeing "to accept the said share or shares, subject to the payments, rules, and regulations" of the society. If the party wish to build, one-half of the money shall be advanced when the building is covered in on paying half the premium; and the other half when the premises are finished, on paying the residue of the premium: but if

Tring Benefit Building Society, pp. 46, 47.

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inn, p. 48.
inn, p. 48.
Britigwater Benefit Building Society's Rules—Investment of Undisposable Funds.
Kerr's Building Societies, p. 52.

the party fail for six nights (monthly) to pay subscriptions, payment, and redemption money, the trustees shall absolutely sell the premises for the most money that can be gotten for them, and all loss shall be borne by the mortgagor. We see nothing objectionable in the party being made answerable to the society for the payments of the subscriptions and other charges, as the same shall become payable, after he consents to take its money at terms which must eventually prove his ruin to "the satisfaction of the solicitors and trustees for the time being."

The following plan has been suggested to render Building Societies really beneficial; and we cheerfully insert it on the principle, *audi alteram partem*; premising that our quotation is the result of its author's laborious calculation :--

tion :---"Suppose a member to require an advance of 4502, the following statement will shew the comparison between the present system and that suggested by the writer :---

| Present System. | Proposed System. | |
|--------------------------|---------------------------------------|--|
| | S shares, at 150% £450 0 | |
| | ments would be | |
| Subscription, 74 shares, | Subscription, 3 shares, | |
| at 6/ 45 | at 12/ 36 0 | |
| Interest, 75 shares, at | Interest, 3 shares, at | |
| 48 | 1508 22 10 | |
| | | |
| £6 3 | <i>∎</i> €58 10 | |
| which, mu | ltiplied by | |
| 10 | | |
| | otal payment of | |
| £630 | | |
| Deduct the sum recei | | |
| LASO | | |
| # 40V | £450 0 | |
| | · · · · · · · · · · · · · · · · · · · | |
| | t paid for the loan of the | |
| | to be | |
| £180 | £105 15 | |

"Now, if it were possible for the existing societies to close in ten years, the payments by the borrowers for a loan of 450*l*. would be 4*l*. 10s. per annum less to a society similar to that here suggested, than it would be to any of the existing societies, and there would be a difference in the total payments of 74*l*. 5s. The borrowers who paid the lesser sum would likewise have the advantage of only being required to give security for the amount they actually received; and, in the event of their failure in making their monthly payments, the property would not be sold for more than the balance remaining due of the amount actually advanced.

"In a society formed on this principle, it would be the interest of all the members to prevent the failure of the borrowers; at any rate, if such an event did occasionally occur, it would not have been caused by his connection with the society, or would they be liable to the imputation of having largely benefited by his ruin?"

Transfer of shares.—Shares may be transferred on payment of 10s. 6d. for each share transferred or sold, as a bonus to the society, and subject also to the premium at which the same shall have been purchased, and to all other fines, subscriptions, and charges, payable according to the rules of the society, all of which make a material difference in augmentation of the society's funds, and which we could not contemplate in our previous calculations of the capitalists' profits.

Members withdrawing.—" Protest, if you like," said Lord Ellenborough to William Hone, " and go about your business;" not so the building societies—if a member withdraw, we suppose he has protested—in the first year he shall forfeit one guinea per share, in addition to the entrance fee; if within the second year, a forfeiture of 10s. 6d. per share, in addition to the entrance fee, and so on; but " these forfeitures extend not to the widows and children of deceased members, holding not more than two shares in the society."

Power of the directors to borrow money for the use of a society.—This is very questionable, and, we believe, entirely at variance with the letter and the spirit of the Act of Parliament, inder which these societies are constituted, though that Act, s. 2, allows of "bonus on any share or shares, for the privilege of receiving the same in advance prior to the same being realized." Capitalists in these societies should not need to borrow; and a banker who would lend, at 4 or 5 per cent., to enable a society to discount "notes of hand," would, in Parliamentary language in the times of George IV., "urn his back upon himself."

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> We may be associated with that "detestable case of wretches who oppose building so-

cieties ;"[•] but we would bear any obloquy if we could reform things amiss in these societies; and shew sensible men, who may be in their direction, that the borrowers are aggrieved, and, we believe, no two justices of the peace in Britain can gainsay our arguments, as to the profits of the lenders and the duration of these societies. It is the abuse, not the use of the thing, we speak about; and we discard all morbid philanthropy for the industrious classes in treating of the equity belonging as well to the rich as to the poor man. We would court justice for both; and we should recommend the directors to print their rules as the *Book of Justice of Building Societies*, and add thereto the *Catechism of Borrower and Lender*.

Sustee of Buttaing Societies, and add thereto the Catechism of Borrower and Lender. These observations, in allusion to the reformation of building societies, are suggested by the arithmetic of their managers, not by assumed data of our imaginings; and we find them responded to by the "Fourth Annual Report of the Liverpool Temperance Benefit Building Society," in which the average premium is stated to have been 581. 10s. 6d. a share; and while the society "had not the least difficulty in effecting sales of its funds," yet the withdrawals during the past year had increased, and the committee could not look upon this peculiarity in the history of the year gone by without feelings of pain; "but this is ascribed in so calamitous an extent every grade, but more especially the industrious classes of the community."

We might bring an array of figures, like the trees in an American wilderness, to dissect the balance-sheets of the several societies we have noticed, and of others we have not space to introduce, but we spare ourselves the trouble, and the societies the pain, this would inflict, being satisfied of this one thing, that the legislature will soon look into the management of these societies; for as sure as " the prayer of the humble pierceth the clouds; and till it come nigh he will not be comforted;" so will the appeal of men yet reach the ears of the legislature, who " will not accept any person against a poor man, but will hear the prayer of the oppressed, and will not despise the supplication of the fatherless, nor the widow when she poureth out her complaint."

In that of LAMBETH the borrower is said "to participate equally in the premium and interest given by himself and by all other borrowers," thus "reducing in proportion his amount of premium and interest, till at last, when the deeds of property are returned to him, he will find that he has paid the capital borrowed, that the premium has become a shadow,—

' Siste gradum, teque adspectu ne subtrahe nostro, Quem fugis ?' ''

"and the interest trifling." But we have done, observing that the people of Lambeth covet domiciles at Kingsland, where they have mortgages in six houses; the city, where they have one; Newington, one; Lambeth-proh pudor! one; and FOUR at Lewisham, which "are mortgaged for 6,600/.," or above 576/. a piece. And, in the balance-sheet, it is fairly stated that "3,556% are Dr. to premiums on piece. fifty-five shares taken up and secured on pro-perty," viz. the thirteen houses aforesaid mortgages on the Cr. side of the account. This, we presume to believe, makes it pretty plain that the bonus is treated as profit which the society has realized by its transaction with the borrower; and when we look at the very small sums allowed surveyors in the balance-sheets of the various building societies, we cannot lend our belief to the words of "W.," who has replied to Greenway Robins, that "Architects and surveyors are the gentlemen who most profit by these societies ;" professional menprofit by these societies;³³ professional men-save and except the lawyers, are not usually men of means to set on foot or sustain such societies; and we therefore still adhere to our opinion, that these societies could not make the advances they lavish without the assistance of capitalists; for to whom else would the Liverpool Banking Company advance 466*l*., the Hertfordshire Bank 414*l*., the Reading

* Kerr's "Advantages to be derived from Building Societies" rule axii.; (his commentary thercon), p. 73. Bank 9941.? Not to the man assuredly who bought 571. for 120 good sovereigns, to be paid within a given time.

We speak without prejudice and in a spirit of reverence in what follows, that the rules of these societies are "as the words of a book that is sealed, which men deliver to one that is learned, saying, Read this, I pray thee; and he saith, I cannot, for it is sealed. And the book is delivered to him that is not learned, saying, Read this, I pray thee; and he saith, I am not learned." Isaiah xxix. 11, 12. Learned men, good men, and men well skilled in commercial dealings, belong to these societies; they are their supporters. All other men who question their management are denounced "traducers" of building societies. But in a great country like Britain this should not be the language applied to these conscientious dissentients, who are not "found where parables are spoken."

"In order to terminate the society in ten years, a payment of 10s. per month, with compound interest and accumulations, must realize 120*l*.; and to accomplish this, the money paid in each year must produce twenty per cent. per annum, as is proved by the following calculation :—

INTEREST REQUIRED BY THE LENDERS.

| Payments each year. | Number of years' interest required. | Amount at 20 per cent. | Amount paid with interest at end of 10 years. |
|---|--|--|--|
| £. s. d. 1st. 6 0 0 2nd. 6 0 0 4th. 6 0 0 4th. 6 0 0 5th. 6 0 0 7th. 6 0 0 5th. 6 0 0 9th. 6 0 0 10th. 6 0 0 | 93 84 73 84 84 84 84 14 14 14 | # n. d. 11 B 0 10 4 0 9 0 0 7 16 0 6 12 0 5 8 0 4 4 0 3 0 0 1 16 0 1 2 0 | ± s. d. 17 8 0 16 4 0 15 0 0 13 16 0 13 16 0 13 16 0 11 8 0 10 4 0 9 0 0 7 16 0 6 12 0 |
| Sum } 60 0 0 | Intere | st 60 0 0 Tota in 1 yrs | u 120 u 0 |

"The borrowers pay two pounds per cent. on the nominal value of the share --viz., 120%; but as only 61% is received from the society, and the repayment is by monthly instalments, it is actually seven and a half per cent., that is, supposing these societies to terminate in ten years. If they continue for a longer period, the annual payments are to be added to the interest, which is thereby very largely increased.

creased. "If the fines and other extra payments amount to another two and a half per cent., making in all ten per cent., the monthly payments of ten shillings will, if constantly employed (which is very doubtful), in ten years only realize 90%, being but half the profit required to terminate these societies.

"In the Manchester society, those members who did not purchase shares had to pay 110/. before they realized the sum of 150/.; by the same rule, a monthly payment of ten shillings will, in the same time, only realize 75/. The members of the Manchester society paid fourteen shillings and eightpence before they realized twenty shillings, being five shillings and fourpence profit in the pound : and if the members of these societies have to pay in the same proportion, their duration will be fourteen years and eight months."

FIRES FROM FLURS AND HOT-WATER PIPES.—In Mr. Braidwood's report on fires during the ten days ending Jan. 1st, it is stated that out of twenty-six which occurred, in six cases the fires were caused by stoves or flues, one by unslacked lime, one by hot-water pipes used for heating the building, one by a malt-kiln, three by the ignition of curtains, and one by the breaking of a melting pot. In the remaining cases the cause was unknown.

THE TEMPORARY EXCHANGE.—Thisbuilding, which was erected about six years ago in the Excise-office yard, Old Broad-street, is to be sold next Wednesday, in one lot, by Messrs. Simson, of King's Arms-buildings. It is 140 feet in length, and 40 feet wide, supported on wood pillars, with wrought-iron girders, and slate roof.

ECCLESIASTICAL ARCHITECTURE.

MR. WIGHTWICK has recently published a letter on the determination of some principle for the establishment of an ecclesiastical style of architecture, expressing the reformed church of England, in consequence of a communication from the secretary of one of the churchbuilding societies, which seemed to indicate the prohibition of "any departure from ancient ecclesiastical example," and of the encouragement given to that prohibition by the Cambridge Camden Society. He says :--

"That the Diocesan Architectural Societies have effected great good in aiding to subvert the 'Carpenter's Gothic' of Batty Langley, it were most unjust to deny: but, if they have done this only to insist hereafter on the close imitation of the mere models, rather than of those motives of fitness, which guided our old RomanCatholic architects, they will tyrannically impede those progressive movements, which might, ere long, lead to the perfection of a form and style of architecture emphatically expressing the 'True and perpetual Church.'

"The magnificent cathedrals of our ancestors are admirable, from their perfect adaptation to the religious ceremonies which prevailed in the English Church before the Reformation; and it is said to have been in the hope of reviving the popish service, with its processional pageantries, that the Duke of York opposed Sir C. Wren's first design for St. Paul's cathedral, on account of its 'departure from ancient example;' thus precluding the only opportunity which has ever yet been afforded of our possessing a cathedral essentially Protestant."

essentially Protestant." Mr. Wightwick considers the positive requisites for a church to serve all the purposes of Christian worship as now established in England to be these :--

"First under the head of Convenience-

"I. A main space for public worship, &c., wherein a maximum number of persons[®] shall be commodiously seated without impediment to sight and hearing. Pillars, therefore, and galleries which must be supported by pillars, are prohibited. 2. An altar, as open as possible to the whole congregation, with the least practicable interception by the pulpit and desk. 3. A highly-raised pulpit, and a lower-raised reading-pew or lectern, having one desk for the Prayer-book, looking towards the altar, and another for the Bible, looking towards the people. Also a faldstool for the Litany, in a central position, directly facing the altar. 4. A font, within view of the assembled congregation; or, 5. A baptistery, united with the body of the church. 6. An organ-loft, at the west end of the church, opposite the altar at the east end. 7. Chapterroom, library, vestry, or other offices as required, near the chancel. 8. A tower, or towers, for the reception of bells, and as also useful in attracting the distant observer to the locality of the church.

"Secondly, under the head of *Expression*:----"9. The general plan to be cruciform, as prominently symbolizing the Christian faith. 10. The visible signs of Trinitarian belief to be indicated, wherever practicable, consistently with the unity of the whole. 11. The sentiment of Infinity to be observed in the adoption, or invention of a style most conducive to it, as affording the best opportunities for proportional loftiness and length of perspective. 12. The utmost respect to be manifested for our ancient examples, in the consideration (and, if practibable, in the adoption) of so much of their form, style, and particular features, as may be pure, and interesting in their connection with the progressive history of the 'Holy Catholic Church;' and equal care to be taken in avoiding the repetition of those architectural dispositions and decorative details which are proper only to the Romish Church."

In reference to Pointed architecture, and its fitness for ecclesiastical buildings, he says,— "The movement which Pointed architecture

"The movement which Pointed architecture has now taken, as most suitable to the Christian temple, derives additional impetus when we consider it as the positive offspring of Christianity itself. Churches have been built in almost all styles; but the Gothic Pointed architecture of Catholic Europe is exclu-

It has been found, by experiment, that not more than 2,000 sitters can be conveniently placed within a church (even where there are galleries), so as to have the advantage of perfect hearing; the sight being, of course, rendered imperfect by the pillars supporting the galleries.

sively Christian in its origin, progress, and perfection. In form, in detail, in mysterious effect, it proclaims the spirit of which it is the sign.

sign. "But, by that same authority under which our Saxon architects differed from those of the Constantinal era, by that under which the designer of the first Pointed church differed from the matured and established Norman model, and by that under which were practised all the successive modifications of Pointed architecture, from the Temple Church to the chapel of King's College at Cambridge, we claim the privilege of allowing our regard for present necessities and altered circumstances, to co-operate with our respect for ancient usages and forms, in the production of what shall have both a retrospective and prospective merit; nor will we be told that, because we may find it imperative to deviate from 'ancient example' in general form and proportion, we shall therefore exhibit a 'departure' from We have the spirit of our pious ancestors. We have looked minutely into the merits of Pointed architecture, and have vainly sought to improve on its essential principles and details, whether of construction or ornament; but we have now to provide for certain requirements which did not exist when our Gothic churches were built, and to avoid the mere imitations of such forms, , as are no longer necessary, but are rather hostile to our reformed worship."

ENGLISH SKILL AND CAPITAL EN-LIGHTENING THE CONTINENT.

IF we do borrow from our foreign neighbours singers, musicians, modes, and the polka, they have to thank us in return for much increase of comfort, and for the means of social advancement. Amongst the advantages conferred by England on continental towns there is none more evident than those afforded by the supply of gas.

the supply of gas. In France, Germany, Belgium, and Holland, English capital and English skill have laid down pipes, built manufactories, and still direct the supply of light to numerous towns. In Holland it was some time before the authorities could be induced to afford facilities for such undertakings, fearing the danger which might arise from opening trenches in their uncertain soil, and the difficulty of passing pipes through the canals and basins which occur constantly; but experience has shewn that these fears were groundless.

these fears were groundless. The last town visited by English enterprise for this purpose is the Hague, where the works, commenced hardly six months ago, were completed only a few days since. The local papers are full of compliments to English skill. Honour, says one of them, to the able and active engineer, Mr. Shepherd, who has directed the whole, and realized with so much talent and rapidity the idea of this vast undertaking! Honour to the clever manufacturers, Messrs. Goldsmid and Co., who have made so complete all the machinery of this fine establishment! and honour to our Ediles, who, enemies of routine and conquerors of prejudice, have given us the advantage of a useful discovery. The Hague is now the equal of the great cities of Europe,—like them, she too has a sun for the night.

NEW LUNATIC ASYLUM, SOMERSET. -At the Quarter Sessions held last week at Wells, a report from the Lunatic Asylum Committee was read. It stated that every thing was now nearly complete for the conveyance of the land selected as the site of the asylum, and that they had contracted for an additional four acres of land, which were considered necessary. They had advertised for plans for the building, but circumstances over which they had no control had delayed the appearance of the advertise ments, and complaints had been made that the time fixed for receiving plans was too short; it had, therefore, been extended to the 22nd of January. The committee would have increased difficulty in their choice of a plan, unless they knew the amount of money which would be granted; they were bound by the 26th section of the 9th Geo. 4, c. 40, to fix the sum which might be expended; and from the inquiries which the committee had made, they enter-tained the confident hope that 30,000/., the sum formerly stated as required, would not be exceeded.

FIRE-PROOF HOUSES.

THE attempts which have been made to render houses fire-proof are so intimately connected with the construction of dwellings, that it will be proper to give a few brief details on the subject. There are many difficulties attending these attempts; for so long as wood forms the chief inner frame-work of a house, there will always be considerable liability to destruction by fire. Most of the proposed plans have had relation to the coating of the wood with some substance which should render it less inflammable, while others have been directed rather to the rejection of combustible substances from the list of those used in house-building. So long back as 1775, Mr. Hartley made

So long back as 1775, Mr. Hartley made several trials in order to test the efficacy of a method invented by him for that purpose. Thin iron plates were nailed to the top of the joists: the edges of the sides and ends being lapped over, folded close, and hammered together. Partitions, stairs, and floors were proposed to be defended in the same manner. The plates were so thin as not to prevent the floor from being nailed on the joists in the same manner as if the iron were not used; and the plates were kept from rust by being painted or varnished with oil and turpentine. Mr. Hartley had a patent for this invention; and Parliament voted a sum of money towards defraying the expense of his numerous experiments. It does not, however, appear that the plan was permanently adopted.

About the same period, Lord Mahon, afterwards Earl Stanhope, a nobleman possessing a highly inventive tact in mechanical matters, brought forward another method having the same object in view. This method was of a three-fold character, comprising under-flooring, extra lathing, and inter-securing.

extra-lathing, and inter-securing. The method of under-flooring is either single or double. In single under-flooring, a The metuod of single or double. In single under non-common strong lath of oak or fir, about one-fourth of an inch thick, should be nailed main timber, supporting the floor which is to be secured. Other similar laths are then to be nailed along the whole length of the joists, with their ends butting sgainst each other. The top of each of these laths or fillets ought to be at an inch and a half below the top of the joists or timbers against which they nailed; and they will thus form a sort of small fillets are to be well bedded in a rough plaster These when they are nailed on, so that there may be no interval between them and the joists; and the same plaster ought to be spread with a trowel upon the tops of all the fillets, and along the sides of that part of the joists which is between the top of the fillets and the npper edge of the joints. In order to fill up the ìntervals between the joists that support the floor, short pieces of common laths, whose length is equal to the width of these intervals, should be laid in the contrary direction to the joists, and close together in a row, so as to touch one another; their ends must rest upon the fillets, and they ought to be well bedded in the rough plaster, but are not to be fastened with nails. They must then be covered with one thick coat of the rough plaster, which is to be spread over them to the level of the tops of the joists; and, in a day or two this plaster should be trowelled over, close to the sides of the joists, without covering the tops of the joists with it.

In the method of double-flooring, the fillets and short pieces of laths are applied in the same manner as here noticed; but the cost of rough plaster ought to be little more than half as thick as that in the former method. Whilst the rough plaster is being laid on, some more of the short pieces of laths must be laid in the intervals between the joists upor the first cost, and be dipped deep in it. They should be laid as close as possible to each other and in the same direction with the first layer of short laths. Over this second layer of short laths there must be spread another coat of rough plaster, which should be trowelled level with the tops of the joists, without rising above them. The rough plaster may be made of coarse lime and hair; or instead of hair, hay chopped to about three inches in length may be substituted with advantage. One measure of common rough sand, two measures of slacked lime, and three measures of chopped hay, will form in general a very good proportion, when

sufficiently beaten up together in the manner of common mortar. The hay should be put in after the two other ingredients are well mixed up together with water. This plaster should be made stiff; and when the flooring boards are required to be laid down very soon, a fourth or fifth part of quicklime in powder, formed by dropping a small quantity of water on the limestone shortly before it is used, and well mixed with this rough plaster, will cause it to dry quickly. If any cracks appear in the rough plaster work near the joists, when it is thoroughly dry, they ought to be closed by washing them over with a brush wet with mortar wash; this wash may be prepared by putting two measures of quicklime and one of common sand into a vessel, and stirring the mixture with water till the water becomes of the coasistence of a thin jelly.

Before the flooring boards are laid, a small quantity of very dry common sand should be strewed over the plaster work, and struck smooth with a hollow rule moved in the direction of the joists, so that it may lie rounding between each pair of joists. The plaster work and sand should be perfectly dry before the boards are laid, for fear of the dry rot. The method of under-flooring may be applied to a wooden stairease, but no sand is to be laid upon the rough plaster work. The method of extra-lathing may be applied to ceiling joists, to sloping roofs, and to wooden partitions. The third method, which is that of intersecuring; is very similar to that of underflooring; but no sand is afterwards to be laid on. Inter-securing is applicable to the same lathing.

parts of a building as the method of extralathing. Such is a general outline of the modes proposed by Lord Mahon for rendering houses fire-proof; in which it will be seen that the safeguard consists in the use of a non-combustible material with, and among, and between the pieces of wood forming the frame-work of a house.

. The more recent attempts to gain the same object by means somewhat similar have been very numerous; some of which we may here notice as examples of the whole.

An American patent was granted in 1837 to a Mr. Louis Pambœuf, for the invention of a fire-proof paint. The mode of preparing it is thus described. A quantity of the best quicklime is selected, and slacked with water in a eovered vessel; when the slacking is complete, water, or skimmed milk, or a mixture of both, is added to the lime, and mixed up with it to the consistence of cream. When milk is not used, a solution of rice paste is employed, obtained by boiling eight pounds of rice to every hundred gallons of paint. When the creamy liquor is prepared, alum, potash, and common salt are added, in the proportion of twenty pounds of alum, fifteen pounds of potash, and a bushel of salt, to every hundred gallons of the paint. If the paint is to be white, aix pounds of prepared plaster of Paris and the same quantity of fine white clay are added to the above proportions of the other ingredients. All these ingredients being mingled, and then ground in a colour-mill.

When roofs are to be covered, or when crumbling brick walls are to be coated, fire white sand is mixed with the paint, in the proportion of one pound to ten gallons of paint; this addition being made with a view to giving the ingredients a binding or petrifying quality. In applying this paint, except in very warm weather, it is prepared in a hot state; and in very cold weather precautions are necessary to prevent it from freezing. Three coats of this paint are deemed in most cases sufficient.

In another variety of this paint oil is the chief liquid ingredient. To prepare it forty gallons of boiled linseed oil are mixed with slacked lime to the consistence of a paint; and to this are added two pounds of alum, one pound of potash, and eight pounds of common salt; or good wood-ashes may be substituted for the potash. This paint is used in the same manner as other paint; and any colour may be obtained by adding the usual pigments to the composition.

The preparation of a kind of paint containing alkalies seems to have been a favourite measure among inventors of "fire-proof" composition; for many of the modern projects have had this for its basis. But in most cases there have not been means for determining the degree of efficacy possessed by these compositions.

Perhaps the mode in which we may more consistently look for the practical attainment of the object in view is by the adoption of some improved mode of building, in which either wood is not employed at all, or, where sparingly used, measures are taken to shield it from the action of fire. One such method is Leconte's, described as follows.

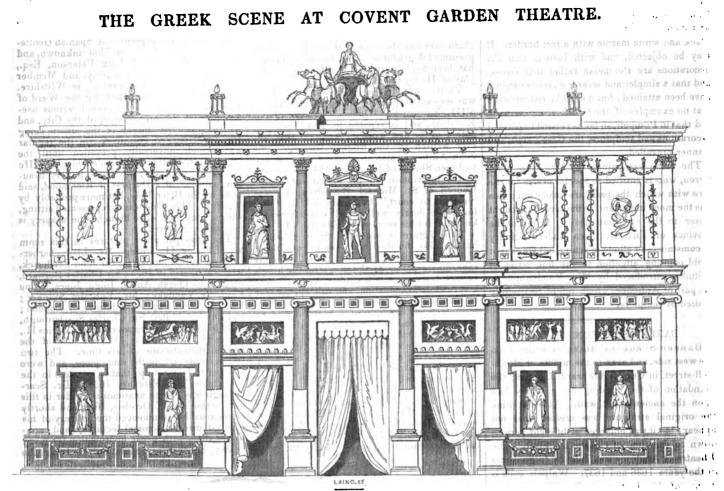
This plan consists in the employment of iron frames to receive concrete matter for forming the walls. The basement story of the building is constructed according to the ordinary methods up to one foot or more above the ground. On the basement so constructed is to be erected the patent wall, formed of frames entirely of cast-iron, in one or more pieces, or a combi-nation of cast-iron and wrought-iron plates. nation of cast-iron and wrought-iron plates. These frames are to be set one on the other until the required height is attained, the ne-cessary stability being obtained by means of steady pins at the corners of one frame fitting into holes made in the corners of the frame which is opposed to it. Suitably-shaped frames are amployed for the interval methics which is opposed to it. Suitably-shaped frames are employed for the internal partition walls, and for doorways, window-frames, &c. The flues of the chimneys are formed of iron or other metal pipes, placed in the thickness of the walls. When the required elevation is obtained a concepte of any suitable metricle obtained, a concrete of any suitable material is poured into the framing, and fills up the vacant space, giving firmness and solidity to the structure; the concrete being made of gravel and lime. To give steadiness, lead is to be introduced between the joinings of the iron-work. The doors and window-frames are to be fastened to the walls by any of the usual known methods. The main beams and cross beams of floors and roofs may be of cast-iron, or formed of iron and wood; or they may be formed of one or more pieces of plate-iron, bent up into an oval form, and straightened by an iron or wooden bar passing through them lengthwise, the upper edges of the metal being turned over to increase the strength. In the interval between the beams there are to be iron rods running in various directions, and supporting a metallic wire-work, which forms the foundation for the ceiling. Similar wire-work is to be employed in lieu of lathes for all plaster surface. All the iron-work is be all plaster surfaces. All the iron-work is be painted over with some suitable composition to prevent oxidation.

A plan for the same purpose has been proposed by Mr. Varden as follows :—"It appears probable that common fir or oak joists with their lower edges chamfered, and coated over with a mixture of alum, black lead, clay, and lime, or some similar composition, would (if closely floored above with earthenware tiles, bedded all round into the plastering, the joists being made air-tight) resist the action of flames, at least for a considerable time. Fire could not descend through such a flooring so as to communicate with the rooms below, till the tiles used in it had become red-hot; neither could it ascend until the tiled floor above gave away from the burning joists; which if coated, as proposed, would not take fire from below till the tiling over them acquired a sufficient heat to cause the distillation of the turpentine from the wood. In general, there is not furniture enough of a combustible nature in any room to do this. The battening against the outer walls might be of larch, as that wood burns less freely than most others; but if the walls were brick, or lined with brick, battening of any kind will be unnecessary. If this plan should be thought likely to answer the end proposed, houses built in the common manner might be altered at a moderate expense, by taking up the boarded floors, and substituting earthenware tiles."

Another plan, proposed by Mr. Frost, consists in forming the floors of rooms of hollow earthenware tubes embedded in cement, combined so as to form a sort of flag-stone, covering the whole floor. These hollow tubes are squares in section, about an inch and a half on the side externally, with a tubular space of an inch and quarter on the side internally; they are formed of brick earth, prepared in a superior manner, and pressed through moulds by machinery; and their length is about two feet. In forming a floor of these tubes, the centering, after being prepared and fixed in the usual manner, is first covered with a coating of cement of a quality sufficiently fine to form the ceiling of the apartment to be floored over; and if it is desired that there should be mouldings or ornaments in this ceiling or its cornices, moulds for them can be placed in the centering, so as to form a part of it. One or two coats of cement having then been laid over the centering, a stratum of the square tubes laid side by side, and breaking joint, is next embedded in fine cement, and the interstices between them also filled in with that material. One thin coating of cement is then laid over the whole stratum; and in a week, when this is dry, another stratum of tubes is laid over the first in a contrary direction, bedded and filled in with cement as before, and finished by a coating of the same material.

Mr. Loudon gives descriptions of two me-thods, the one for building houses in general fire-proof, and the other for imparting that property to houses already built. He considers the two main points for the consideration to be, to have staircases of iron or stone, or both combined, and to avoid having any hollow partitions or floors. A house having a stone or iron staircase, and having all the partitions either of four-inch brickwork, or of brick nogging, in whatever way it might be set on fire, could hardly be burned down, if ordinary exertions were made to extinguish the flames. One apartment might be est on fire, but before the flames could spread to the one under or over it, or to a staircase adjoining it, the fire might be extinguished. In a house so constructed there would be no piece of timber that was not in close contact with mortar, at least on one side ; and all the strong pieces of timber, such as joists, rafters, quartering in partitions, &c., would be closely imbedded in mortar on two sides. Where the partition could not be made entirely of brick, the interstices might be filled up with a mortar prepared of clay with a small proportion of lime. The same material might be filled in between the joists, and where it was desired to render the roof fire-roof, the rafters might be made of iron, or the space between wooden rafters might be filled in with thin mortar. This mode of proceeding would lengthen the time required for the drying of a newly-built house, and would also add somewhat to the expense; but it is conceived that the increased safety would more than counterbalance these inconveniences.

In respect to the means of giving a fire-proof quality to a house already built, Mr. Loudon remarks: — "All the interstices be-tween the floors, in the partitions, and in the roof, where there was a ceiling formed to the rafters, might perhaps be filled in with earthy matter in a state of powder. This powder might be clay or loam mixed with a small proportion of Roman cement; it might be injected into the vacuities, through small orifoces, by some description of forcing-pump or bellows, which, while it forced in the powder, would permit the escape of the air; and, while this operation was going forward steam might be injected at the same time so as to mix with the mortar and be condensed by it; by which means the whole mass would be solidified with a minimum of moisture. In short, in rendering houses fire-proof, the next important object to using fire-proof materials, is that of having all the walls and partitions, and even the steps of wooden staircases, filled in with such materials as will render them in effect solid. On examining into the causes of the rapidity of the spread of the flames in London houses when on fire, it would almost invariably be found, that whatever may have occasioned the fire to break out, the rapidity of its progress has been in proportion to the greater or less extent of the lath and plaster partitions, less extent of the lath and plaster partitions, the hollow wooden floors, and the wooden staircases. Were the occupiers of houses sufficiently aware of the danger from lath and plaster partitions, especially when inclosing staircases, they would never occupy such houses, or, if they did, they would not give such rents for them as they would for houses with brick powering partitions. It appears to with brick-nogging partitions. It appears to us to be the duty either of the general or local government or police to see that no houses are built without stone or iron staircases; and that no partitions and floors are made hollow; or, if they are, that the materials should be iron and tiles, or slates, or stones, or cement, or other earthy composition."-The Useful Arts Employed in the Construction of Dwelling Houses.



THE GREEK SCENE AT COVENT GARDEN THEATRE.

Amonest the Greeks and Romans, the theatres were regarded as important public buildings. Every citizen was entitled to admittance, and they were cousequently requized to be of large size. An arbour constructed of the branches of trees, or if in a town, a rude scaffolding, served in the early ages of Greece as a scene for dramatic representations; but these soon gave place to vast and magnificent structures in all the Grecian cities. As regards the decorations of them, there are no actual examples left; but from accounts which remain, and comparison with the theatres in Italy, it is believed that although the Greek and Roman theatres differed in some minor arrangements, they were similar in the general distribution of the parts, and were used in the same manner. The most perfect specimens remaining of the Roman theatre are those at Pompeii and Herculaneum.

Their form was semi-circular, and consisted of two parts, the cavea and the scena. The former was appropriated to the audience, and had seats rising one above the other, of such size and height, that the back of the seat of one row served as the foot-place for the row above. The seats were in three divisions, the lower being appropriated to the magistrates, the middle to the people, and the topmost to the women. The scena had two main divisions, the proscenium, or stage, which the actors occupied, and the orchestra, for the bacchanals and chorus. The stage was very shallow, as compared with that of our own theatres; the back wall of it formed the scene, and was nearly the only part of the Greek theatres which was erected, as they were generally excavated in a hill, and so formed at comparatively little expense.

The theatre was open at the top, but was at times protected by a velarium, or awning. This was sometimes of silk, but generally of woollen cloth. It is stated that Nero once covered | the scene were gardens and colonnades, some-

the Coliseum with a purple velarium sprinkled with gold stars to represent the heavens, and having the chariot of the sun embroidered upon it. The orchestra was semi-circular, and spread out from the stage to the first row of seats, and was in reality, therefore, in the position of our pit. In the centre of it was an altar inscribed to Bacchus, to whom theatres were dedicated, because the origin of dramatic entertainments was found in the solemn processions in honour of Bacchus and Ceres, which took place at the times of harvest and vintage.

Moveable scenes were not ordinarily introduced, but it is stated there was on each side of the stage a triangular frame for painted representations, which revolved on a centre, similar to some advertising carts which may be seen in our streets.

As a conventional mode of informing the audience the relative position and character of the actors in the piece, the latter were required to enter and leave the stage by particular entrances. The scene had a principal door in the centre, called the royal door, through which only the king, or chief actor, entered and retired; this was often situated in a semicircle, and was very richly decorated. On the right of this was a second door of less size and importance, for the next principal characters; and on the left a third door for the inferiors. Joining each end of the fixed scene was a lower wall, at right angles, in which on both sides was a door: that on the right leading to the city, for the citizens, &c., and that on the left, leading to the country, for messengers and strangers. The choruses entered the orchestra by doors at each side of it, on one side the strophe, on the other the antistrophe.

The scene was decorated with niches, containing statues, and, no doubt, as at Pompeii, so in Greece, it was painted in polychromy; as were the other chief buildings of antiquity, both Egyptian, Greek, and Roman. On the stage near the royal door was an altar to Apollo, and behind

times a temple, visible when the surtains of the doors were withdrawn. The access to the principal parts of the theatre was often from the back.

The theatre always faced the sea, if a sea was near, even though it might not be visible. The reason for this arrangement probably was that as a breeze generally prevails in the after part of the day from the sea, the voice of the actors was thus carried to the sudience.

We are led to make these few general remarks on the Greek stage by the production of a scene at Covent Garden Theatre for the representation of the "Antigone" of Sophocles, wherein the ancient arrangement is adhered to, as far as circumstances would allow, and which we recommend our readers to see. The manager very wisely consulted an architect for the design, and the result is a degree of completeness and architectural propriety not often found on the stage. As the pit could not be given up to the choruses and bacchanals, the front of the stage is set apart as the orchestra, and the action of the piece takes place on an elevated platform behind, from the level of which rises the fixed scene. The scene is represented by the engraving at the head of this article (made from the original drawing), and shews the principal and two secondary doors mentioned in the previous description. Cleon and his son use the centre door, Antigone and her sister the right-side door, and the sages and guards the left-side door. The side-walls, not shewn in the engraving, contain the fourth and fifth doors before alluded to, from one of which the dead body is carried in as from the country. The strophe enter at the right side of their orchestra, and the antistrophe the left; the altar of Bacchus is in the centre of it.

The scene is decorated with statues of Melpomene, the muse of tragedy, Olio, the muse of comedy, Apollo, bas-reliefs, &c. Tripeds are painted on the doorposts, figures in the panels, and the whole of the architecture is

polychrome. Tripods are burning on the top of the scene, and in the centre, terminating the whole, is a car of triumph. The orchestra and stage present the effect of a pavement of black and white marble with a fret border. It may be objected, and with justice, that the decorations are Pompeian rather than Greek, and that a simpler and severer character should have been attained; but it must be remembered that no examples of the Greek scene remain, and that in Pompeii, so far as related to painted decorations and sculpture, the Greek style and manner prevailed.

The scene was painted by Mr. John Macfarren, who is entitled to special praise for the care with which the parts are made out; this was the more important, as the scene is brought closer to the eye than usual. It is not the province of THE BUILDER under ordinary circumstances to allude to actors, but we cannot avoid pointing attention to the fine series of attitudes introduced by Miss Vandenhoff in the part of Antigone, which might be usefully studied by sculptors.

BARBER-SURGEONS' HALL.

BARBER-SURGEONS' HALL is situated on the west side, and near to the middle of Monkwell-street, in Cripplegate ward, London; the foundation of the building being partly laid upon the ancient City wall. At what time the original structure was erected does not appear ; but it was enlarged at different periods down to the time of Charles the First. The Theatre of Anatomy was built by Inigo Jones in the years 1636 and 1637. Walpole calls it "one of his best works." This theatre, through being a detached building, escaped conflagration, but all the other parts suffered in the great fire of 1666; and the theatre itself, which had an elliptical cupola, and was decorated with figures of the seven liberal sciences, -the signs of the Zodiac, cedar benches and doors, &c. was pulled dewn about the year 1783, the company having no use for it; and three houses, were soon afterwards erected upon its site. b. The present buildings were erected by subscription within a few years after the fire, and are of brick ; the entrance and dwelling of the clerk fronting the street and dwelling of the clerk fronting the street are separated from the other parts by a small pared court. The hall is a good room, but not large; the west end is semicircular, and remarkable from having formed the interior of one of the towers (or bulwarks as they are called in the minutes) that defended the city wall. Here are two full-length paintings of human figures, shewing the disposition of the muscles, &c.

The court room, which has a small elliptical cupola in the centre, built in 1752, is an apartment affording much interest, from the various pictures with which it is decorated. The principal of these is the celebrated piece by Holbein of *Henry the Eighth delivering the Charter of the Barber-Surgeons to the Court of Assistants and Company.* This picture, which is painted on panel, and in a very excellent state of preservation, measures ten feet two inches in length, and six feet in width. The bluff sovereign is represented in his royal robes, and crowned, seated in a chair of state, and holding in his left hand a sword erect, resting upon his knee; on each side are the principal members of the company, kneeling, with others behind standing; and the king is in the act of presenting the charter with his right hand to Thomas Vicary, the then master. The names of thirteen of the chief members are above their heads. All are in gowns trimmed with fur; the three on the right of the king represent the Doctors Chamber, Butts, and Alsop, all of whom, at the time of the giving of the charter, were past masters of the company. Dr. John Chamber was Henry's principal physician, and Dean of St. Stephen's College, Westminster, where he built the curious cloister, a part of which remained in the

speaker's house until destroyed by fire a few years since; he has on a close cap, and his hands are wrapped in the large sleeves of his gown. Dr. William Butts, who was also king's physician, is also in a cap, and has a gold chain over one shoulder; his conduct on the presumed degradation of Archbishop Cranmer has been finely portrayed by Shakspere in his play of Henry the Eighth. Vicary, who has a gold chain like Butts,

Vicary, who has a gold chain like Butts, was serjeant-surgeon to the sovereigns, Henry VIII., Edward VI., Queen Mary, and Queen Elizabeth, and is reputed to have been the author of the first work on Anatomy that was ever written in the English language. Sir John Ailife was also an eminent surgeon, and had been Sheriff of London in 1548: according to the inscription on his monument in the Church of St. Michael Bassishaw, he was " called to court," by Henry VIII., "who loved him dearly well," and was afterwards knighted for his services by Edward VI. This picture is not only finely coloured, but is also finished with such carefulness and minuteness of pencilling that even the

This picture is not only finely coloured, but is also finished with such carefulness and minuteness of pencilling, that even the subordinate parts, as the rings on the king's fingers, the ermine of his robes, &c., will bear a very close examination, and still appear true to nature. It is remarkable likewise from furnishing an example of a beginning of an alteration in costume in respect to shirts, the wrists of Henry being encircled by small *ruffles*, and the necks of several of the members displaying a raised collar. An engraving from it was made in 1736, at the expense of the company (who have the plate still in their possession), by B. Barrow, whose reduced drawing in red chalk is also preserved in this apartment. The painting itself was borrowed by James I. (whose grandmother, Margaret, was Henry VIII.'s sister), and his letter on the occasion is yet preserved by the com-

pany; it asserts that "the portrait of Henry was both like him and well done."

On the same side of the room with this picture, are two excellently painted wholelengths, said to represent "A Spanish Gentleman and a Lady, his sister," but unknown, and a mezzotint head of John Paterson, Esq., formerly clerk to this company, and Member of Parliament for Ludgershall, in Wiltshire. This gentleman was deputy for the Ward of Farringdon-within; he projected various useful plans for the improvement of the City, and was the principal means of the streets being paved with Scotch granite, &c. in the regular way, which universally prevailed until the recent introduction of wooden blocks. He presented the company with a very beautiful painting of a Duchess of Richmond, said to be by Sir Peter Lely, but more probably by Vandyke. The Duchess is represented sitting, with a lamb and olive branch : the drapery is very finely coloured.

with a lamb and olive branch : the drapery is very finely coloured. The principal other pictures in this room are Charles II. sitting; Mr. Lisle, barbersurgeon to that monarch; Sir John Frederick, who was sheriff in 1655; Sir Charles Bernard, surgeon to Queen Anne; Inigo Jones, a fine head, by Vandyke; Mr. Ephraim Skinner; Edward Arris, Esq., an alderman of London; and the celebrated Sir Charles Scarborough, chief physician to three sovereigns, Charles II., James II., and William III., and one of the first mathematicians of his time. The two last portraits are in the same piece, and were ordered to be "set up (that is, painted) in the void table" in February 1654. Dr. Scarborough was chosen anatomical reader in this hall on the 12th of October, 1649, and shortly afterwards he commenced the delivery of his highly-famed anatomical lectures, and continued them with great approbation for many years; he has the reputation of being the



ENTRANCE TO BARBER-SURGEONS' HALL,

first person who in discourses on the muscles demonstrated their uses and power by geome-trical and mechanical illustrations. He is represented "dressed in the red gown, hood, and cap of a doctor of physic in the act of lecturing, with one hand on his breast, the other a little stretched out. On the left is another figure, Mr. Alderman Arris, dressed in the livery gown, holding up the arm of a dead subject, which is placed upon a table and

partly covered with a sheet, the sternum, or that part of the breast where the ribs meet, being naked and laid bare, so that the pectoral muscles are seen." Under the picture is an inscription in Latin which was composed by Dr. Thomas Arris, M.P. for St. Albans in 1661, and son to Mr. Alderman Arris, the latter of whom bequeathed the sum of 510%. for founding the muscular lecture in the hall.



[The engraving on the other side repre-sents the entrance in Monkwell-street to the court-yard in which the Barber - Surgeons' Hall stands. The arms of the company are protected by a semi-circular canopy supported on carved consoles, which serves likewise to protect from the rain those who may be wait-ing for admittance. Under the arms is the date 1671, with the words De Præscientia Dei. The foliage on the lintel, represented at large by the annexed engraving, is well carved. A gateway of similar character may be seen at the entrance to New-inn, Wychstreet, Strand, but there the canopy is concave inside, and is ornamented simply with foliage, and a shield on the face of it.

Monkwell-street and its immediate neighbourhood present a very different appearance from the more frequented parts of the city, although immediately adjacent, and serve to

induce in the contemplative mind many recollections of old London. The name street itself records the well belonging to a the site." Nearly street itself records the well belonging to a hermitage originally on the site.⁶ Nearly opposite to the hall are twelve almshouses founded in 1578 by Sir Ambrose Nicholas, and rebuilt shortly after the great fire. And at the north end of the street are "Lamb's Chapel" and Almshouses, originally the Her-mitage of St. James-on-the-Wall, above re-ferred to. Then you see written, "Alderman-bury Postern Chapel," and in another direc-tion the "Barbican." On coming suddenly on St. Gilee's Church, Cripplegate, you remember that immortal John Milton lies buried there, and wander on full of plessant thoughts and and wander on full of pleasant thoughts and associations, till you come to Grub-street, and so have your ideas diverted into another course.—ED.]

* Malcolm's " Londinium Redivioum," vol. ii.

SCAGLIOLA, OR THE ART OF IMITATING and afterwards polished with plaster by fric-MARBLE.

THE art of manufacturing scagliols, or imitation-marble, was well known to the ancients; although chiefly confined to the pure white or marmoratum opus, and albarum opus, men-tioned by Pliny, and of which the statues, busts, basso-relievos, and other ornaments of architecture were composed. The cements of the Egyptians employed in costing the walls of the tombs, and forming the ground-work of their paintings, also partake of the character of marble. In modern times the art of imiof marble. tating marbles has been carried to a far higher state of perfection, particularly in Italy, and some parts of France and Germany; and the imitations of many of the precious marbles, such as sienna, brocatello, jasper, porphyry, verde antique, &c. exhibit an astonishing degree of beauty of perfection and finish. In England this art is comparatively unknown, having almost sunk into disuse in consequence of the perish-able nature of the material, its insecurity when employed as pillars baving to bear a heavy super-incumbentweight, its liability to damage, ready absorption of damp, and its expense, which, although trifling when compared which, although triffing when compared to marble, is still much higher than is warranted by the nature of the material.

It is evident that this truly beautiful art is open to great improvement, and experience tells us there is something wanting beyond that of mere skilful imitation and beauty of finish, for after all it is simply lath and plaster with an exterior coating, rather harder, it is true, than the rest, but still incapable of resisting the influence of moisture or the slightest ex ternal violence. By the present imperfect process the plaster of scagliola work is pro-duced by applying a pap of finely-ground calcined gypsum, mixed with a weak solution of Flanders glue upon any figure formed of laths nailed together, or occasionally upon brickwork, and bestudding its surface while soft with splinters of spar, marble, granite, bits of concrete, coloured gypsum, or veins of clay in a semi-fluid state. The substances employed to colour the spots and patches are the several ochres, boles, *terra di sienna*, chrome yellow, &c. The surface of the column is yellow, &c. The surface of the column is turned smooth with a lathe, polished with stones of different fineness, and finished with some plaster pap to give it lustre. Pilasters and other flat surfaces are smoothed by a car-Pilasters penter's plane with the chisel finely serrated, By the above process the scagliola manufac-

tarer, with a vast deal of labour employed in the final polishing, is enabled to turn out pillars and pilasters of great magnitude and beauty of polish; but the glue which is the cause of the gloss, is also a cause of its subse-quent dulness and decay when it becomes ex-posed to moisture and damp air. Again, by employing plaster of Paris alone the manufac turer is subject to great loss by waste of material, in consequence of its setting too rapidly, or of the coagulating property of the burnt alabaster being very much impaired or lost by the powder being kept too long, espe-cially if in the open air, before it is made use of, for when it has once been suffered to grow hard, it is no longer serviceable, nor can it be made so, by any known process of burning.

The first and most important step towards improving the art, so as to ensure durability, is by employing more substantial materials in the body or ground-work than are at present used. The second consideration is to substitute a cement of mixed qualities instead of pure plaster of Paris or burnt alabaster, so as to ensure the requisite strength and density of the material, and to enable the artist to finish off the polishing without the use of glue or any other substance which has the property to absorb, and thereby cause the rapid decay of the work; greater hardness is also essentially requisite to avoid moisture, the chipping, indentations, an scratches to which it is now so very liable. and

For pillars of magnitude, pedestals and pilasters, a core of rough brickwork might be used to great advantage instead of the present lath and plaster, the bricks being cemented together, and roughly covered in by one of the cheap durable coments commonly in use, or by a mixture of lime, oxide of iron, and manganese, similar to Parker's cement, which has the effect of setting rapidly even under water. Mortar made with about five parts of flint powder, one of shell-lime and the newell triturated together, will make an exceed-ingly fine and durable base on which to dispose the colours, and if properly used and follo up with an outer coating composed of fine shell-lime, flint powder, milk, and eggs, will assume the hardness and capability of polish of marble. The room in which these works are carried on should be kept at a warm temperature, and great care should be taken under all processes of scagliola work to exclude the atmospheric air as much as possible, also that the stucco should be free from saline impurities, contain some cohering body, and ha capable of acquiring hardness gradually until it become of stone-like quality.

The art of making plasters of mixed quali-ties, to be employed in modelling statues, busts, and other works of architecture, instead of using pure plaster of Paris, is unknown to us. The Romans paid great attention to these matters, and the ancient plastering pre-served to this time, where it has not met with violent blows or injuries from accidents, is still as firm and solid, as free from cracks or crevices, and as smooth and polished on the surface as if made of marble; the bottoms and sides of their aqueducts were made of plaster, which has endured many ages without decay. Again, the roofs of houses and the floors of rooms at Venice are covered with a sort of plaster, made at later date, and yet strong enough to endure the sun and weather for several ages without spoiling or crack-ing, and without much injury from the feet. But the greatest attention perhaps is paid to this subject by the natives of the East Indies, who, for their finer cements, which are capable of receiving a most exquisite polish, use ghee (butter in its oily state), oils, jaggery, and other to us expensive ingredients. At Madras fifteen bushels of pit sand well sifted are added to fifteen bushels of stone lime; this is slaked in the common man-ner, and so laid two or three days together. Twenty pounds of coarse sugar or molasses is dissolved in water, and the mortar is sprin-kled with the liquor, which is then beat up together and well incorporated, and afterwards let to lie in a heap. A peck of gram (similar in nature to our coarse gray pea) is then boiled to a jelly, and the liquor strained and preserved. A peck of mirabolans is also boiled, and the liquor set aside; the three waters are then added together. The mortar beaten up, and, when too dry, sprinkled with this liquor, proves remarkably good for laying bricks or stone, keeping some of the liquor always at hand for the workman to wet his bricks with. For very strong work, tow is incorporated with Of this the natives make many archimortar. tectural ornaments, such as columns, arched work and imagery, besides using it for common building purposes. For finer works, to every half bushel the white of five or six eggs and four ounces of *ghee*, or ordinary salted butter, and a pint of butter-milk beaten all well together; mix a little of the mortar with this, till the ghee, butter-milk, and white of eggs be soaked up; then soften the rest well with plain fresh water, and so mix all together, and let it be ground, a trowel-full at a time, on a stone with a stone roller. When you use it, in case it be too dry, moisten it with some water, or the before-mentioned liquors. This is for the second coat of plastering.

When the first coat of plastering is laid on, let it be well rubbed with a hardening trowel, or with a smooth brick, and strewed with a gritty sand, moistened, as occasion requires, with water, or the before-mentioned liquor, and then well hardened again; when half and then well hardened again; when half dry, take the last-mentioned composition for the fine plastering; and, when it is almost dry, lay on the whitening varnish; but, if the work should be quite dry, then the chunama liquor must be washed over with a brush.

The best sort of whitening varnish is made thus :---take one gallon of toddy (the juice of a tree), a pint of butter-milk, and as much fine shell-lime as shall be proper to colour it ; add to it some of the chunam liquor, wash the plaster-ing gently over with this, and when it is quite dried in, do the same again. A plaster thus made is more durable than some soft stone, and stands the weather better in India than any of the bricks they make there. Butter-milk is always added to the outer coating. There are several varieties of cements of durable quality, and capable of receiving a fine polish.

I have been thus particular in describing one of the Indian methods because the cement so of the Indian methods because the cement so made is vastly preferable in every respect to the plaster of Paris used in the process of scagliola work, and also for making large capitals to imitate marble, which, however beautifully executed, soon lose their polish, and are liable to be injured past the power

of repair. It may be thought that the materials are much too expensive, but the small quantities of each actually required for scagliola or plastering of walls and floors will raise it but little ove the common price of cements. The boles and earths laid on for the imitative abov

art of the work ought to be mixed with the like material, so that it may incorporate as one with the interior costs, the pillars being care-fully fashioned on the lathe, as is at present practiced, or polished dry, or with the use of the liquor. Clay ought to be used as sparingly as possible, the requisite plastic quality being given to the mass by the mixture. The commen segliola of the day, as exhibited in some of the leading shops of the metropolis, deceives nobody; it is what it purports to be, a vile imita-tion of Natere; but nevertheless there are some fine specimens to be found in Buckingham Palace, the Pantheon in Oxford-street, in Everington's, and other buildings of the metropolis. No attempt is, however, made in the present day to extend and improve the art of imitating the precious marbles, or to ensure durability, consequently it falls into disesteem, and is rarely used.

I have mentioned in a preceding article that the Palace of Munich is built of artificial marble, the material being boiled, and the colouring added when the boiling mix-ture has acquired consistence. This practical application of the art might be employed to great advantage with us, chimney-pieces and vest variety of ornaments being by this means formed at so cheap a rate, and of so fine a fabric, as to supersede marble. I trust that this beautiful branch of architectural art will bolder will be without some specimen of it adorning his mansion, as pillars, pedestals, slabs, vases, baths, or other ornament. A little determination and enterprise on the part of the scagliola manufacturers, and the importa-tion of a few first-rate Italian artists, would tion of a few hrst-rate stations soon bring it into favourable notice. H. G. M.

PROJECTED ACADEMY OF PAINTING.

THE lovers of the fine arts will hear with no small pleasure that an Academy of Painting is about to be established in Bristol, under the most favourable anspices. Its object would be to foster and call forth native talent and genius in the various branches of art, and to gratify the public by periodical exhi-bitions of paintings. A School of Design, and prizes to reward superior merit, form also parts of the plan. The want of such an in-stitution has long been felt in Bristol, particularly by the artists, but the sum of money calarly by the artists, but the sum of money required to give efficiency to the plan is so considerable, that no hopes were entertained of raising it. In fact, a spacious picture gallery, and apartments for artists to study and copy casts, designs, and pictures, form es-sential parts of the projected scheme. The peruniary difficulty, the most formidable of all, is, bowever, removed in a considerable degree by the munificence of a lady, whose name we shall ere long have the pleasure to announce as a contributor of no less a sum than 2,000*l*. (under certain conditions) to the Academy. This splendid example will, we feel no doubt, attract numerous contributions from the public of Bristol and its neighbour-hood in furtherance of the design. When we mention that P. W. S. Miles, Esq., M.P., John S. Harford, Esq., and Robert Bright, Esq., are actively promoting this truly interesting object, in conjunction with the artists of this city and neighbourhood, we are per-sonded that these names will be deemed a sure guarantee of success.—Bristol Journal.

YORK AND RIPON TRAINING SCHOOLS. The subscriptions and donations towards the erection of these buildings already amount to 2,500L; but much more is needed to carry the original design into execution. It is remarked by the *Hull Packet*, that nearly half the subrection of these buildings already amount to scribers are clergymen.

HAMBURG IMPROVEMENTS. We learn from the Frankfort Journal that Mr. Munday, the builder of Abchurch-lane, is at present constructing a sewer at the cost of 80,000*l*. through Hamburg, and employs on the work 500 Englishmen.

VENTILATION. (From a Correspondent.)

IF an architect were to build a house without windows, he would be thought a very odd sort of person, but he may shut out what is far sort of person, but he may shut out what is far more important than light—fresh air, and nei-ther he nor any one else will discover any thing unusual. We are so much in the habit of looking on a building as a shelter and an ornament merely, that we do not require it to be any thing else. As to any provision being made for a due supply of fresh air, that never enters into the mind of an architect at all, or enters into the mind of an architect at all, or if it do, he regards it as an art and mystery which has as little to do with construction as law with physic. If fresh air should happen to be insisted on, he must needs call a professor of the science of ventilation to his aid, and he, he dist of fire a former on both contribute to by dint of fire or force, or both, contrives to accomplish his purpose, as many a legislator can vouch, to his cost.

Now, however, that the importance of ven-Now, nowever, that the importance of ven-tilation is beginning to be understood, the best means of effecting it are being studied, and several ingenious and scientific persons are taxing their invention to repair the omissions of former architects; some by providing efficient vents for the foul air, others by giving free and safe admission for pure air.

The plans in common use for accomplishing the same object are, the revolving ventilator, the hopper, and the glass louvres.

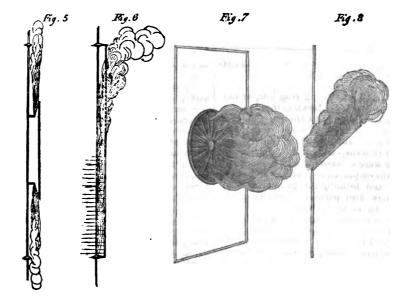
The first of these, the revolving ventilator, is open to every possible objection. It is noisy, dirty, ugly, and liable to get out of order; and it does not prevent a draught. When not in action it is useless, and when revolving it is a nuisance.

The hopper is somewhat better, but open to the serious objection, that it disfigures a build-ing by breaking the line of the window; and that, though it modifies a draught, it does not prevent it.

The glass louvres are elegant in appearance, and ingenious in arrangement, but very ex-pensive, and open to the same objection as the hopper, viz., that they only modify, but do not prevent draughts.

Indeed, it must be quite evident that no form of ventilation which causes the air to enter a of ventilation which causes the air to enter a room at an angle, however small, can prevent a draught; for the cold air, though its course may be altered, and it may be directed above the head, will descend again into the room before it has mixed with the warmer air of the apartment. There is but one way then in which a draught can be wrevented, and the is apartment. There is but one way then in which a draught can be prevented, and that is by a shield fixed, not obliquely, but parallel to the point of admission of the air. If, in addition to this shield, a perforated plate or plates be provided, by which the current of air is broken up into a number of small streams, we have the most complete invention for preventing a draught which it is possible to imagine imagine.

This is the principle of a mode recently in-vented by Dr. Guy. In place of the oblique shield, of the hopper, and louvre, he employs a shield, of the hopper, and louvre, he employs a parallel shield, by which means the air is distri-buted over the wall or window by which it gains admission, and all direct draught is effectually prevented. The aperture in the wall or window is filled by a perforated plate, which is flush with the surface of the wall or window itself, and the shield is connected with this plate through the medium of a second per-forated plate and flanges.



The first of the subjoined figures (marked fig. 5) represents a section of Dr. Guy's simplest and cheapest form of ventilation, with the course of the air traced by smoke. In this figure, the dotted line represents a plate of perforated zinc bearing upon it a narrow flange. The plate is let into the centre of a pane of glass; parallel with this perforated plate is a shield of glass, joined to a second flange, fitting within the first by means of a second perforated plate, inclined at an angle to the shield and flange. The air enters through the first-mentioned perforated plate, strikes on the glass shield, and is thrown back through the second perforated plate on to the glass, along the surface of which it runs to an extent proportioned to the force with which it enters the room.

Another form, which is open to the objection that the air is thrown into the apartment instead of being confined to the line of the wall or window, is shewn in fig. 6. The remaining figures shew the course of the air as it issues through the revolving ventilator and the common hopper. It is said that Dr. Guy's invention, besides

possessing the great advantage of preventing a draught, may be made to assume a great variety of ornamental forms, so as to adapt it to any style of architecture. The parallel position of the shields evidently gives it an advantage, in this respect, over all other forms of ventilator. When the apertures in the zinc are large (as they must be in large towns, or they will soon

become so clogged with dust and soot as not to allow any air to pass), and the shield is of glass, the ventilator obstructs very little light, and if kept clean, is open to no reasonable ob-jection. Messrs. Cottam and Hallen, in whose hands Dr. Guy has placed his patent, have suc-ceeded in introducing the ventilator securely into a pane of glass without using cross bars, so that the pane and the ventilator seem one

If on trial Dr. Guy's invention shall be found effectually to prevent a draught, we shall con-gratulate him and the public on the fulfilment of a great desideratum. The prevention of a draught lies at the root of all improvement in this respect; without it, the most elegant and costly inventions are mere waste of time

and money. [We shall take an opportunity to examine this invention.—ED.]

PROPOSED METHOD OF CLEANING STATUES EXPOSED TO THE AIR.-It has long been remarked that the stone staircase of the bronze marked that the stone staircase of the bronze obelisk to the memory of the Bavarians who fell in the campaign of Russia, was perfectly clear from green mould in the parts washed by the rain. M. Jobard, of Brussels, is of opinion that the oxide of the copper carried down with the rain destroys this vegetation; and recommends that a solution of copper should be tried in the cleaning of statues covered with vegetable matter.

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THE BUILDER.

ORIGIN OF THE APPELLATIONS DORIC, IONIC, AND CORINTHIAN, AB APPLIED TO THE OBJERS OF ABCRITECTURE.

RESEARCHES into the early history of nations, the rise and development of their lancharm for the inquirer, though little but con-jecture can result. Out of the mass of mythi and traditions handed down from the times when the Pelasgi ruled, or from those in which the first symptoms of Hellenic civilization appeared, how hard must it be from the false to select the true, to divest the tangible body of its beautiful but deceptive garb. Yet I venture to offer a few conjectures, arising out of certain well-authenticated features in the early age of Grecian history. During that period the Hellenes were divided into four great tribes, two of which subsequently merged into the others; and the country may from that time be considered as inhabited by the widely differing races of the Dorians and the Ionians. In examining the characteristics of the latter, we behold a yearning after intellectual cul-ture, a keen perception of the beautiful, and a desire to excel in the arts, which gave birth to the philosophic legislature of Solon, the breathing sculpture of Phidias, the impassioned poetry of Sophocles, and the command-ing eloquence of Demosthenes. Wheresoever the Ionian influence was shed, arose a people peculiarly alive to the refinements of life, peculiarly alive to the refinements of life, sowing seeds destined to expand and refructify till the globe itself should become extinct. Athens, "the violet queen," from her isolated position in the continent of Greece, retained in a peculiar manner the distinctive impress of an Ionian origin. Angelica Kaufmann somewhat fancifully ascribed her enthusiasm to the water of Rome: but it would appear as to the water of Rome; but it would appear as though the "earthborn" Athenians were gifted with a love of beauty, and a thirst for fame, by the consecrated soil from which they sprung, and by the szure sky on which they gazed. Historic recollections of their own city, for whose sovereighty deities contested, and where the genius of liberty was invoked by Solon, and defended by Harmodius and Miltiades, tended to enlarge and heighten the influence of their birth.

Opposed to the revivifying picture we contemplate in Athens, we are struck by the rapulsive character of the Dorian Spartans, whose name only remains to after-times. Fit subjects for the cold and mechanical legislature of Lycargus, they were ever desirous by crafti-ness and obstinacy to gain the supreme rule over the Grecian states. Selfish in their policy, over the Greecian states. Seins in their policy, they shared not in the glorious victory of Marathon, which even to themselves was a second birth, and by their apathy to the cause of Greece, they had nearly brought about the enslaving of the whole country. Their severity of memory was increased by Lyconrue, but was of manner was increased by Lycurgus, but was from the first a feature of the Dorian race.

The peculiar characteristics of the two nations being thus contrasted, may we not argue that the names "Doric" and "Ionic," as applied to each order of architecture, severally arose, not so much from its having originated in any particular country, as from its typifying those distinctive features?

It is scarcely requisite to contend against the exploded story of Vitruvius (lib. iv., c. i.), since the period to which he assigns the introduction of the orders is long antecedent to the time of Homer, who, so remarkable for the care he takes in describing minute points in the history of his own time, would hardly have omitted mention of the names. Columns, in-deed, he speaks of, but without leading us to suppose that they were any thing but posts; and we know from Pausanias and others, that and we know from Pausanias and others, that the earliest temples were constructed of the rudest materials. (Pausan. lib. x., c. v.) The opinion of Goguet (Origine des Lois, &c.), that the orders arose in the colonies of Asia Minor, may have foundation, without militating against the opinion expressed as to the origin of their names. But, if the Doric order was invented by the Dorings to which construct invented by the Dorians, to which country, bearing the name Doris, must it be ascribed? Names are not good marks for ascertaining the origin of things; in proof of which we need but cite the appellation Gothic. If the Ionian colonies preferred the Ionic order, we should hardly assume that circumstance as a proof that it was by them invented : we might with as much propriety ascribe the invention

of the Corinthian to the Romans. (Gwilt.) The fact is, there is no conclusive evidence for stating the origin of either order; but, it appears, that, whichever was invented first, that one received no distinct name, further than the name "Grecian order," until the invention of the second, when the names would be applied for the reasons stated. Holding these opinions as to the Doric and Ionic orders, I feel even more confidence in stating them as regards the Corinthian. The story of Vitru-vius can but be considered as a beautiful fable; for there are Egyptian capitals, bearing so striking a resemblance to those of the Tower of the Winds, which last were, probably, copied from the earliest examples, that we feel tified in looking to Egypt as the country from which the first idea of the order was brought to Greece. Heeren (Manual of Ancient History) says, that "what the Greeks borrowed tory) says, that "what the Greeks borrowed from foreigners, they previously stamped with their own peculiar character, so that it became as it were, the original property of the nation." Thus was it with the Corinthian; under their improving hand the decorations of its capital were varied and nationalized; and, in place of encircling its bell with plants nourished by the encircling its bell with plants nourished by the the waters of the sacred Nile, they substi-tuted leaves of the olive, sacred to the tute-lary deity of Athens. It became the richest of the orders, and, the city of Corinth being famed for richness and luxury, the order was denominated "Corinthian," a name probably applied to any thing of supressing luxury. applied to any thing of surpassing luxuriance, in the same manner that the term "Cyclopian" was given to works of great size or laborious execution, though, perhaps, not erected by the Cyclops. We need but mention the words "stentorian" and "herculean" as having had similar origin. EDWARD HALL.

SOCIETY OF ARTS.

JANUARY 8th .- Dr. Roget, Sec., R.S.V.P., in the chair.

The first illustration for the evening was "On the Arts and Manufactures of Mexico and Yucatan," by the Rev. James Thompson.

The second subject for illustration . was "Pilbrow's Atmospheric Railway, without a valve," a large working model of which was placed before the meeting, including a carisge, which was moved on the railway at considerable velocity by exhausting the tube by means of an air-pump. The object aimed at by the inventor is to

get rid of the slot or chase in the cylindrical main pipe or tube, and also the valve, with its appurtenances. If, in practice, this desidera-tum can be attained as efficiently as it is ac-complished on a small scale, an important advance will be made in railway locomotion.

The pipe or tube, instead of being fixed above the level of the rails, as in the case of Pinkus's and Samuda's plans, is sunk consi-derably below it, whereby facilities are afforded of effecting a junction between two or more railways, as also of allowing (when necessary) roads and railways to be crossed on a level. At intervals of about 30 feet are fixed two boxes cast on to the tube, one on each side, in each of which works a vertical spindle or axis, to which are fixed two small cog-wheels or pinions, the one being inside the box, and the other outside. A diaphram or piston works within the main ipe or tube, as in the ordinary atmospheric railway tube, to which, however, is attached a double rack, so that when the piston is moved forward by the exhaustion of the tube in front of the piston, the rack is moved with it, and which, working on two or more sets of the lower or under pinions, causes the upper or outside pinions to revolve at the same time and with the same which we have been as the same time and with the same velocity. A second rack, of the same length as that within the tube, is attached to the first carriage of a train, and as the upper pinions revolve, the rack, and conse-quently the carriage to which it is attached, moves with it. Thus the valve ordinarily used is entirely dispensed with.

THE LONDON BATHS AND WASH-HOUSES. The Committee have so far advanced their plans as to be ready to treat for the purchase of eligible sites for the erection of model esta-blishments. The space required is equal to 100 feet square at the least. The situation, in or very near to a crowded and poor neigh-bourhood, but with good access. Freeholds will be preferred.

Aew Books.

A series of ill Ecclesiantical Architecture. trations of the rise and progress of deco-rated window-tracery. Edited by E. SHABPE, M.A., Architect. Van Voorst, London, M.A., Architect. 1845. No. 1.

THE object of this work, according to the prospectus, is to supply the want of some publication expressly devoted to the illustration of the origin of tracery, its gradnal development, and the perfection which it attained in the middle of the 14th century. Our parish churches contain examples which for purity. churches contain examples which for purity and elegance of design are unsurpassed, and it is proposed to present in this publication a continuous series, exhibiting the gradual alteration which took place from the early geo-metrical form to the elaborate window-besds of rich flowing tracery. The present Number contains eight examples, and is nicely got up. The work would be more valuable if sections accompanied the elevations.

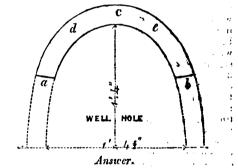
Correspondence.

HAND-RAILS.

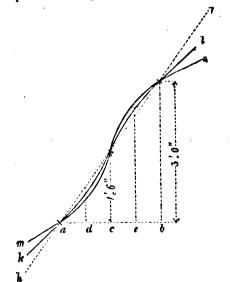
TO THE EDITOR OF THE BUILDER.

SIR. -By inserting the following question,

SiR,—By inseiting the following question, you will oblige me and instruct many :— What is the least thickness, and how much stuff will be used, in getting out a hand-rail $2\frac{1}{2} \times 2$ in., as the drawing, without a joint, the rise on the falling mould from a to b being 3 ft.? J. W. W., Jun.



If the mean inclination of the rail from a to point 3 feet in height above b be uniform, as shewn by the dotted line h i, in the disgram : below, the thickness of plank required for the formation of the wreathed rail (moulded in the ordinary manner) will be $4\frac{1}{2}$ inches; or, if the mean inclination be an undulating curved line, as shewn by the line kl, the thickness of plank required will be 31 inches.



Again, if the mean inclination be such as thickness of the plank required should not be less than $2\frac{1}{2}$ inches, so as to allow for the proper finishing which ought to be given to the work. G. R.

SHIP-BUILDING.

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SIR,—From the name of your paper, I presume you enter into the controversy of ship-building, for nothing can be worse than those that have lately been built for the service of Government.

I have all along asserted we shall never improve the speed of our ships without we alter their form, which is decidedly against going a bead. If they would study to make the sails on the fore-mast to keep the ship to the wind, we should not want all that after-sail fur that parpese, which impedes going through the water. Our study should be that the prome divide the water, and as it comes aft, should form that resistance at the water-line

only, and not as it is at present. We are going to commission a number of ships, to try their good qualities, but as for sailing, they will never go faster than they have invariably dome, from the mal-formation have invariably dome, from the mai-formation adhered to. A sensible plan has been sug-gested, that would increase speed without interfering with masts, yards, or sails, but they in their wisdom will not give it a trial, because it will bring into notice a power that will supersede spending so much of the public money, and being a novel idea, it is not attended to.—I am, Sir, your obedient servant, NAUTIOUS. NAUTIOUS.

London, Dec. 31, 1844.

ESTIMATE FOR WORKS NOT TO BE EXECUTED. SIR,-The exposure of injustice is a laudble undertaking, but he who attempts to make the exposure should assure himself that his accusation is correct, otherwise he may be incusation is correct, otherwise ne may be in-flicting a real injustice upon the party accused, while he is endeavouring to expose a fancied injustice, which, nevertheless, has not been committed. This, Sir, is often exemplified among those numerous (?) mis-statements which so much depreciate the value of your useful so much depreciate the value of your useful paper, and, at page 11 of your last num-ber, there is one from a builder at Dartford, who, shielding himself behind an anonymous signature, asserts a series of falsehoods. He does not venture to name the parties accused, one of whom is my client, residing near Dartford, and the other is my client, resuling near Dart-ford, and the other is myself. The accusation is, that we have, by a particular method, "vic-timized the builders," and have put them to the expense of making estimates for work not intended to be excended. He states that, "as the sanctity of my office could not be invaded. copies of the drawings and specification were to be furnished, upon each competitor paying down five guineas, and a copy of the quantities for four guineas more.²⁴ The fact, however, is, that no copies nor any quantities were fur-nished by me, nor did 1 receive one shilling from either of the builders, but each competioffice for that purpose, and who were sens to my office for that purpose, and who, I assure you, invaded its sanctity much more than was agreeable. Your correspondent makes out, that I manimum for the sense out, that I received forty-seven guineas from the builders, whereas I received nothing. He fur-ther states, that the estimates of the builders exceeded mine, but that was impossible, as no estimate was made by me. The lowest tender was Mr. Kirk's, and was not above what I expected the house would cost, but, to my surprise and disappointment, my client stated, after the tenders had been opened, that it was not prudent for him to spend so much, and, after a few days' consideration, he determined not to build, but to pay Mr. Kirk and myself for the labour and expense which had been incurred, and he thus most honourably sacrificed a certain sum of money rather than run the risk of spending too much. I would now ask your correspondent to point out the injustice, if he can; and would suggest that, on a future occasion, he should sign his statements with his own name, or that he should previously ob-tain correct information, which, in this case, might have been easily had from the success. might have been easily had from the success-ful competitor, Mr. Kirk.-I am, Sir, your most obedient servant,

EDWIN NASH, Architect.

53, Moorgate-street, London. 7th January, 1845. [We readily give place to Mr. Nash's letter. The statement to which it refers did not men-tion the names of the parties, and was admitted into our pages as applying to a *class* of cases. Mr. N. will observe, by our note attached to it, that we had no confidence in its accuracy

ABCHITECT'S COMMISSION.

SIR.-Will you be kind enough to inform an old subscriber what are the usual professional charges of an architect. As for "general" drawings," "working ditto," and "specifica-tion," "superintendence," &c., I am aware that the charge, including every thing, is usu-ally 5 per cent. on the outlay, but I wish to know how that is generally divided under the heads given above. Honge you will oblige heads given above. Hoping you will oblige me, I am, Sir, am, Sir, Yours respectfully, H. G.

[There is no general rule for such a division. The charge for designing and superintending works is 5 per cent; but it does not follow that if the various matters included in that charge are done for different persons, or at charge are done for different persons, or at different times, that the separate charges should amount only to 5 per cent. 21 per cent is an ordinary charge for plans and specifications when the building is not executed. 5 per cent. for designing and superintending does not pay for the time occupied and the responsibility incurred when the amount expended is small, and many architects charge more than this commission when the amount is under $\pounds 500$. An auctioneer is much better paid: he walks through a house full of furniture, jots down what he thinks the value of each item, and charges 5 per cent. on the gross amount.-ED.]

BRIDGE OVER THE LEA AT HACKNEY.

SIR,—I beg to inclose a notice, just issued, for tenders for building a bridge across the Lea. I should think that the persons about to tender for the same will take care to ascertain that the parties have made up their minds to have the bridge built, or, as in the last case, they may have the pleasure of making out the specifications for the trouble. At all events, they will not have among their victims Your obedient servant,

A BUILDER.

"To Bridge Builders, Carpenters, and Others. -Notice is hereby given, that the Board of Surveyors of the Highways of the parish of Hackney have ordered to be built a new wooden foot bridge, over the River Lea, near Temple foot-bridge, over the River Lea, near Temple Mills, in the Hackney Marshes. A plan of which, and specification of the works to be done, may be seen at the committee room in the parish house, in Church-street, Hackney any day (Sunday excepted) from January the 6th to January the 16th, between the hours of nine and three; and any further information may he hed on employetion to Mr. Samuel For may be had on application to Mr. Samuel Fox, jun., of Morning-lane, Hackney, surveyor. Sealed tenders, endorsed "Tender for Bridge," to be sent into the clerk before Thursday the 16th inst., on which day, at seven o'clock in the evening, the board will meet, at the place aforesaid, to open such tenders, and to con-tract. The board do not bind themselves to accept the lowest tender. The persons who Tender must attend the board personally, to

"By order of the board, "By order of the board, "CHAS. HORTON PULLEY, Clerk. "28, Great Winchester-street, and Upper Hommerton. January 1st, 1845."

Ødituary.

MR. ALFRED BARTHOLOMEW, F.S.A., the late Editor of this Journal, expired, after a severe illness, on the 2nd instant, at his resi-dence in Gray's-Inn. We cannot now do more than express our sincere regret, but shall en-deavour next week to furnish our readers with some particulars of his life and works.

MR. THOMAS WEBSTER, Professor of Geology in the London University, who died on the 26th of last month, was educated as an architect, and built the theatre and laboratory of the Royal Institution; but ultimately aban-doned the profession for philosophical pursuits.

THE NEW FRENCH PROTESTANT CHUBCH. -Last Thursday week the ceremony of laying the first stone of this church, situate in Bloomsthe first stone of this church, situate in biooms-bury-street, late Charlotte-street, was per-formed by the Bishop of London. It is to be built in the Elizabethan style, the front facing Bloomsbury-street. The dimensions are rather confined, being 68 feet 6 inches by 38 feet 7 inches, affording room for about five hundred persons. A gallery is to be erected in the west end. The architect is Mr. Amb. Poynter.

Miscellanea.

GIBBONS' WOOD CARVINGS AT CHATS-WORTH.—A visitor, on viewing the suite of rooms of that magnificent mansion, Chatsworth, cannot fail in remarking the excellency of the cannot tail in remarking the excellency of the carvings in wood, which adorn, in many in-stances, the interior of this truly termed "Pa-lace of the Peak." They consist in represen-tations of dead game, fish, flowers, shells, and trophies, variously composed and distributed, being the efforts of that celebrated artist, G. Gibbone particularly in the chernel Viet Gibbons, particularly in the chapel. In the great antechamber are several dead fowl over the chimney, finely executed, and over a closet-door a pen, not distinguishable from a real fea-ther: the latter is considered his chef. d'œuvre, When Gibbons had finished his marks in the When Gibbons had finished his works in that palace, he presented the Duke of Devonshire with a point cravat, a woodcock, carved in wood, and likewise a model with his own head, all preserved in a glass case in the gal-lery. Horace Walpole says, that "There is no instance of a man before Gibbons who gave to wood the loose and airy lightness of flowers, and chained together the various productions of the elements, with a free disorder na-tural to each species." In the "Family Library" we also find the claims of that artist strongly enforced. All the wood carvings in England fade away before that of Gibbons, at Chats-Tade away before that of Gibbons, at Chats-worth ;--the birds seem to live, the foliage to shoot, the flowers to expand, before your eye. The most marvellous work of all is a net of game. You imagine, at the first glance, that the gamekeeper has hung up his day's sport on the wall, and that some of the birds are still in the death futtore. Gibbon: the wall, and that some of the birds are still in the death flutters. Gibbons' works chiefly are the carvings in St. Paul's choir, the wooden throne at Canterbury, the embellishments at Chatsworth, Petworth, Burleigh, Houghton, Southwick, in Hampshire, where the whole gallery is embroidered in pannels, by Gibbons' own hand, and the altar-piece of 'Trinity Col_r lege, Oxford. This artist was appointed master carver in wood to George the First, with a , salary of eighteenpence a day, which splendid allowance he enjoyed from 1714 to 1721, on the 3rd of August in which year he died,-Doncaster Gazette.

PROPOSED NEW CHURCH AT FREEIBY A meeting of ratepayers was lately held in the parish church of Ferriby, to consider the propriety of building another church. We usder-stand that Joseph Robinson Pease, Eeq., of Hessle Wood, who was present at the meeting, greatly to his bonour, generously stated, that his tenants should not be called on to pay one farthing towards it, as he himself would pay their portion.—Hull Packet.

MR. COCKERELL'S LECTURES .-- Mr. Cock erell commenced his course on architecture at the Royal Academy, on Thursday night. In the next and following Numbers we shall fur-

nish our readers with a report of them HORNSEY DISTBICT.— The death of Mr. Bartholomew has left this district vacant. Seven candidates have already declared them-Selves, namely, Mr. James Harrison, Mr. S. S. Teulon, Mr. Moon, Mr. Thomas Bird, Mr. Witherden Young, Mr. Herbert Williams, and Mr. John Dent. Some of these gentlemen have not yet passed the examiners, and will not be able to do so in time for this election, as will be seen, on comparing the two following notices :-

A notice has been issued by the Middle-sex magistrates, signed "C. H. Ellis, Clerk of the Peace," to the effect, that the court will proceed, on Thursday, the 30th instant, to the election of a surveyor for the district of Hornsey. All candidates must, on or before Friday, the 17th instant, forward to the clerk of the peace a statement, in writing, of his name, residence, age, and qualification, and must also personally appear before the Committee for General Purposes, at 12 precisely, on Saturday, the 18th instant, at the Sessions House, Clerkenwell.

A notice has been issued by the Registrar of Metropolitan Buildings, "that the exa-miners will hold their next examination of per sons desirous to obtain a certificate of qualification for the office of district surveyor, on Friday, the 24th instant. Persons desirous to be examined must apply on or before the 23rd instant, and their applications must be accompa-nied by a preliminary statement, according to the course of examination prescribed in the rules for that purpose."

INCRUSTATION IN BOILERS .-The incrustation formed by deposits from the water in steam-boilers is the cause of considerable inconvenience and loss. In some cases it is necessary to clear it away every three or four weeks, for which purpose the works must be stopped, unless there is a second boiler. In the operation too, the boiler is necessarily in-jured, and at all times it causes great waste of caloric. Any invention to prevent this is im-portant. Letters patent have recently been granted to Mr. Francis Watteeu, for a material by which this desideratum is said to be at-tained. It is inexpensive and innocuous; is applicable to all sorts of boilers, and acts by preventing crystallization and attraction.

RESTORATION AND RE-OPENING OF SKERNE CHURCH.-Skerne Church was reopened on the 22nd of December. This edifice has undergone a complete restoration; the roof is entirely new and a Gothic design; the root is entirely new and a Gothic design; the pews are designed to resemble open seats and stall ends; they are of a simple character, aud are also new; the pulpit, reading desk, altar rails, and table are exceedingly chaste speci-mens of ancient architecture. The stone-work of the windows & has been also work of the windows, &c., has been also restored to its original design, by Messrs. Simpson and Malone, of Hull. The church is heated by an ingenious hot-water apparatus, fixed by Atkinson, of Driffield. The roof and all other wood-work has been stained and all other wood-work has been stained and varnished in imitation of old oak; the Com-mandments, Creed, and Lord's Prayer are upon four tablets of slate, in the ancient illuminated style; and these, in addition to the national arms, which have also been em-blazoned, have all been executed by Messrs. Binks and Son, Hull. The whole of the marks compacted with the above restoration Diazoneo, nave an been executed by Messre. Binks and Son, Hull. The whole of the works connected with the above restoration have been executed under the judicious ma-nagement of Mr. C. Appleton of Anlaby, upon whom it reflects the highest possible credit as a builder. The whole of the restoration has been at the expense of Charles Arwright, Esq., of Dunstall, Burton-upon-Trent.—Hull Packet.

THE NEW BUILDING ACT.—On Thursday the district surveyor for the Strand district, accompanied by assistants, viewed the houses in the parishes of St. Mary-le-Strand, &c., in which persons resided in cellars or under-ground kitchens, in order to see whether they were fit for habitation. In New Church-court and other places the cellars were very confined, and in some places the landlords were called upon to give notice, under the New Building Act, for the occupiers to quit within a fortnight. In other cases, where the kitchens were dry and of sufficient size, the only other requisite being light and air, notice was given to the owners to increase the size of the windows, and to extend the gratings over the area in front.— Young England.

BATHS FOR THE WORKING CLASSES .--We are gratified to learn that the traders of this city continue steadily to subscribe to the erection fund of this institution, and are determined to do their utmost to carry out the scheme. As an instance of the spirit with which they subscribe, may be adduced that of the workmen at the Holyrood Glass-works, South Back of Canongate, who paid to the sub-treasurer the other day the sum of 20/. sterling, as their subscription. When the number of men employed at these works is taken into consideration, the average subscription of each will appear very large, and evinces how much self-denial the workmen are capable of to carry out a plan upon which they now set their hearts. —Edinburgh Witness.

IMPROVEMENTS AT WHITEHALL.—We are informed that Mr. Barry has been directed to examine the buildings now occupied by the Board of Trade, with a view to provide ad-ditional accommodation for the different deditional accommodation for the different de-partments now under the control of that board. Mr. Barry has determined upon a plan which will afford the required accommodation, and greatly improve the present appearance of the buildings, by raising the elevation, and thus afford an effectual screen to the ugly roofs and bimmary nots which are now widther bows the chimney-pots which are now visible above the present parapet. It is also in contemplation to pull down the old building at present occu-pied by the department of the Home Secretary of State, which has long disfigured that portion of Whitehall, and to erect a more sightly structure in conformity with the new front of the Board of Trade.—Observer.

HIGHGATE TUNNEL .--- It will probably be

in the recollection of many persons living, that

early in the present century, an attempt was made to construct a tunnel through the London

clay at Highgate Hill, for the purpose of making a more easy communication between Holloway and Finchley. The attempt, how-ever, failed, and the result was the construction

ever, failed, and the result was the construction of the open cutting which forms the present Highgate Archway-road. The failure appears to have arisen, in a great measure, from the want of experience on the part of the engineers who had charge of the work, more especially

as they had such very difficult and heavy ground to work in as the London clay. Those

ground to work in as the London cray. Those who have witnessed the trouble and difficulties that have been recently experienced in work-ing in that treacherous soil will be less sur-prised at a failure in such a work thirty years ago. In the year 1811, while the works this better programming the committee

at Highgate were progressing, the committee of management thought it necessary to obtain the opinion of the late John Rennie, Esq., as

the opinion of the late John Remne, Edd, as to the correctness of their mode of proceeding, as difficulties began to appear. The report of that truly eminent engineer threw some light on the probable cause of the failure of the work, and at the same time led to the erroneous

opinion that too generally prevails, namely,

that Mr. Rennie was the engineer to the said

The

-Practical Tun-

work; whereas the fact was otherwise. The author believes that Mr. Nash, the architect,

was the principal, and a Mr. Vazie the resident

engineer. It may, at the present day, be a matter of surprise that an architect should undertake the construction of a tunnel; but so late as August 17th, 1812, there appeared in the Star, a London newspaper, an advertise-ment from the Regent's Canal Company, addressed to "architects and engineers," offer-

ing a premium of fifty guineas for the best design for a tunnel that was to be made (and afterwards was made) under the town of Is-

lington; in which advertisement it was stated, that the company were "anxious to have the

best information which science and practice

WEIGHT OF BRICKWORK.—An experiment was tried on September the 3rd, 1842, to de-

termine the weight of a cubic yard of brick-On the works at Saltwood there was

an excellent weighing machine, by Pooley and Son, upon which the experiments were tried:—

can afford on the subject."-nelling by F. W. Sims, C. E.

work.

Tenders.

TENDERS delivered for Erecting the New Pheasant Public-house, at the corner of the Palace New-road, Stangate.—Messrs. Willshire and Parris, Architects, Lambeth.

| Mr. Samuel Mason | £1 | ,248 | |
|------------------------------|--------|------|-----|
| Messra. Plaskett and Shelton | 1 | ,230 | |
| Mr. Robert Hicks | 1 | ,210 | |
| Mr. John Willson | 1 | ,188 | |
| m states taken out and | monlie | d to | the |

The quantities taken out and supplied to the builders, and the tenders opened in their presence.

TENDERS delivered for the Erection of Two Cottages, Cow-shed, and Stabling, at Chiswick, for Mr. Pits.—Mr. Welsted, Clerk of the Works, St. John's-wood. . .

| La | swater, H | | | 610 | 10 | |
|----------|----------------------|---|------|-----------------|----------|-----|
| Tar | nes Slade tenders | | | 590 ence | 10 of | the |
| parties. | | - | | | | |

NOTICES OF CONTRACTS.

For the erection of a Wesleyan Chapel at Hythe. Mr. T. Pilcher, Stationer, &c., Hythe. Jan-

uary 21. For making a Sewer in the town of Cambridge. The sewer to be cylindrical, and 2 feet diameter in

For making a Sewer in the town or Camornage. The sewer to be cylindrical, and 2 feet diameter in the clear, the length will be about 385 yards, and the average depth about 9 feet.—Frederick Randall, Town Hall, Cambridge. January 21. For Warming and Ventilating the new Build-ings of the Suffolk Lunatic Asylum; and for fitting up the laundry with Drying Apparatus, upon the most approved plans.—John Henry Borton, Milton, Suffolk. January 21. For the Erection of Stone Booking-offices at Ashton and Stalybridge Stations; and for the Erection of a Station at Sheffield for the Sheffield and Manchester Railway Company. January 21. For the erection of the Railway Works between Leeds and Bradford, including fencing, earthwork, masonry, roads, and permanent way.—William Clarke, Secretary, Hunslet-lane Station, Leeds. January 27, 1845. For the execution of Works on the Chester and

Jaouary 27, 1845. For the execution of Works on the Chester and Holyhead Railway.—1st. A distance of eight miles, or thereabouts. 2nd. A distance of twenty-two miles, or thereabouts. 3rd. A Tunnel through the promontory of Penmaen Back, near Conway.---George King, Secretary, 62, Moorgate-street. January 29, 1845.

January 29, 1843. For the Execution of Works on that part of the Blackburn and Preston Railway extending from Blackburn to Pleasington, being about 34 miles in length.—Peter Sinclair, Secretary, Blackburn. January 29.

For the supply of Wrought Iron Rails and the requisite number of Chairs for about 15 miles of the Southport and Euxton Junction Railway. The weight of rails to be from 60lb. to 70lb. per lineal 2 yards and 15 feet lengths, equal to 11 om 1,500 to 1,800 tons of wrought iron, and about one-third of that quantity of cast iron.—Woodoock and Part, Solicitors, Wigan. January 31. For erecting the Works of the third division of the Main Line of the Great Southern and Western Railway, being 11 miles, 6 furlongs, and 75 yards in length. Also for the first division of the Carlow branch, being 10 miles, 7 furlongs, and 160 yards; comprising excavation, embankments, bridges, cul-For the supply of Wrought Iron Rails and the

comprising excavation, embankments, bridges, cul-verts, &c.--William Taylor, Secretary, 3, College Green, Dublin. February 1.

For the supply of 11,000 feet of nine-inch cast iron Pipes for a new line of Aqueduct to be laid in the Island of Malta.—Vin. Casolani, Collector of Land Revenue, Office of Land Revenue and Public Works, Valletta, Malta. March 31, 1845.

COMPETITIONS.

Plans and estimates are required for a Pauper rians and estimates are required for a rauper Lunatic Asylum for the County of Somerset; the building to accommodate 300 patients, and to con-tain two Stories. The Committee of Visiting Magistrates wish it to be of a plain, cheerful cha-racter, but will not further fetter the architect by suggesting any particular arrangement as to the insuggesting any particular arrangement as to the in-terior, its ventilation, warming, or otherwise. The ground selected contains 36 acres.—The Clerk of the Peace, Taunton. A Premium of 1001. will be adjudged for the best plan, and 501. for the next best. January 22.

Plans and estimates are required for a Work-house, to contain about 1,180 persons. The whole to be done in a plain and substantial manner, with-out any expensive embellishments. The plans and architects' estimates to be sent to Robert Mercer, the Clerk of the Clifton Union, Pennywell Road, Bristol, on or before the 17th of February next, and

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| Son, upon whic | h the | expe | rime | nts w | ver | e tr | ied | : |
|--|--------------|---------|--------|-------|-----|--------|--------|---------|
| 81 | 1CKW | ORK II | N CEM | ENT. | Fon | cwt. | qra | . 16. |
| A cubic yard of dry Sand, water, and ce | ment 1 | or ditt | 0 | ••• | 1 | 9 6 | 1 9 | 20 4 |
| Total weight of a in cement | •• | •• | •• | •• | 1 | 8 | 3 | 24 |
| 181 | RICKW | ORK I | N MOI | TAR. | Fon | cwt | . qr | 1. lb |
| Bricks, as above | •• | •• | •• | •• | 1 | 2 | ĩ | 20 |
| Monton for ditto | •• | | : . | . :• | | 4 | 1 | 8 |
| Total weight of work in morta | one cui r | bic yar | d of 5 | nck | 1 | 6 | 3 | 0 |
| <i>Ibid.</i> The late | MR. | GEO | RGE | Млт | ססנ | ox. | _ | We |

. We direct our readers' attention to an effort now making to obtain a fund for the widow of the late George Maddox, an able man, to whom many members of the profession are indebted. LABOURERS' COTTAGES.—In the course of

an inquiry before the coroner for Oxfordshire, touching the death of a poor girl at Hampton Poyle, a village within six miles of Oxford, it came out that the cottage of the family contained only one sleeping room, and that of the most miserable description, being near the thatched roof, and being barely high enough to stand upright in the middle. There were three beds in this room, and eight persons (comprising the father, mother, a grown-up daughter and son, and four young children) occupying it as a dormitory. This is not at all an isolated case in the neighbourhood of Oxford, where, with the exception of a few villages, the labourers' cottages are wretched in the extreme.

THE COLLINGWOOD MONUMENT. edifice has risen to the height of 18 feet above the ground. It stands at the entrance of the Tyne, a little to the west of the Spanish Battery, and will form a conspicuous landmark for seamen, easily distinguishable from all others. In consideration of this circumstance, a subscription of 100 guineas has been made by the Trinity House of London. The height of the erection, including Mr. Lough's statue (21 feet high), will be 80, 90, or 100 feet, just as the countrymen of Collingwood, and more espe-cially his townsmen, may decide.-Durham Advertiser.



SATURDAY, JANUARY 18, 1845.



HE society for obtaining baths and wash-houses for the labouring classes advertised, some time ago, for plans and estimates for erecting and fitting up the

first establishment in London. Nearly a hundred architects, it is said, applied for the particulars; and the designs were sent in on Saturday last. It is unnecessary to say we shall look anxiously for the decision of the committee. We beseech them to reflect on the time and thought which have been expended on the production of these designs, and to decide fairly and honestly, with especial reference to the instructions that were given to the competitors. These instructions must be constantly before the committee during their examination. The plans in which they are complied with in the most perfect and satisfactory manner, should unquestionably be selected. We are so accustomed to find competitions managed badly and decided unjustly, that we can hardly bring ourselves to anticipate a better result in the present case. Feeling very strongly, however, on the subject, we call carnestly on each member of the committee to act as if the whole responsibility rested on himself. If they will do this-if they will decide as individuals open to question. and not with the feeling that they merge in the bedy, there will be little reason to cavil at their decision. As an incentive to such a course, they may be reminded that many eyes are upon them; and that by exciting an ill feeling against themselves in this respect, they would greatly injure the important object they have in view. Our readers may rest assured that we shall return to this subject when the plans are fairly before the public.

In the meantime we would make a few observations on the general question of baths and wash-houses, and urge the public to provide funds suitable to the greatness of the occasion.

The committee are anxious to carry out the plan on an extensive scale. They wish to begin with four model establishments in populous districts-three on the Middlesex side, and one on the Surrey side of the river, and they have advertised their desire to purchase land for sites. As yet, however, they have not received sufficient money to do all that is required, and we would gladly aid in obtaining it for them.

Assertions have been made that our poorer brethren will not avail themselves of the contemplated advantages when they are offered to them; that they prefer dirt to cleanliness; and various others equally unjust and libellous. The baths and wash-houses at Liverpool will of themselves afford sufficient answer to such statements. We can from them set facts against conjectures, and render unnecessary all querulous suppositions of what may take place by shewing positively what has occurred. We have recently visited the Liverpool establishment (in Frederick-street), in order to judge for ourselves, and were thoroughly satisfied with the result. It was there a mere experiment, and the establishment is very small. They have eighteen baths in three THE BUILDER.

classes, for which the charge is respectively 1s., including the use of two towels, 6d. and 3d. with use of one towel. For cold baths the charge is 6d., 3d., and 2d., formerly 1d. In the first year 11,661 baths were taken, and in the second, 16,323; the majority being warm. The keeper informed us, that the average number of bathers in summer was from 100 to 150 each day. In winter the number is small. There is a vapour bath .- for which, with the use of three towels, is, is charged, but no plonging bath. The revenue last year, including the wash-houses, equalled the expenditure within 1L, and this year will probably exceed it ! In consequence of which and of the advantages found to result, Mr. Franklin, the town surveyor, has prepared plans for a second and more extensive establishment (including two plunging baths), which will be carried out immediately.*

The baths are open till 9 o'clock every evening in the week but Sunday; and on Saturday till an hour later. They are also open on Sunday morning from 6 till 8 o'clock in the summer, and from 7 till 9 in the winter. In these two hours on a fine morning, 50 or 60 persons usually avail themselves of the baths. In the London establishments there should be a proper place for the applicants to wait their turn, and it would be desirable if arrangements were made so that those persons who wished it might be shaved cheaply. There are many additional comforts that working classes might enjoy by co-operation, and gladly would we see them in the way of obtaining them. The labourer pays more for his cup of bad tea (when he gets it) than his more wealthy brethren do for good. With this, however, it is hardly our province to deal. The waiting-place should be decently fitted up, and if it were adorned with good prints, now so cheaply obtainable, might aid in improving the character of the visitants more powerfully than at first sight seems likely. Let us take them away for a time from their "coals and potatoes," hold up virtuous actions and heroic deeds for admiration, give them something to think about and talk about, and increase their self-respect.

Turning for an instant to the wash-houses: we found that the desire to avail themselves of these is even greater than of the baths, and that, although the establishment is not so extensively known in Liverpool as it ought to be, there were often more applicants than could be accommodated. There is room in the whole for twenty-six tubs, and these are usually all occupied. Each tub is furnished by pipes with hot and cold water, and has a plug by which it can be speedily emptied. There are two coppers to boil the linen, and a room heated by steam and fitted up with iron slides, termed there "maidens," to dry the clothes. The charge for the use of one tub from six till twelve o'clock is a penny, and for the whole day two-pence.

To those who have visited the abodes of the poor, the courts and alleys of great towns,who have found a father, mother, and seven or eight children of different ages with only one small room for all purposes,-with, perhaps, a bed-ridden grandmother or sick child-it is unnecessary to point out the important boon which will be afforded to that class by the establishment of public wash-houses. In such a position cleanliness is out of the question; and moral degradation must follow its abandonment. To those who have not seen it we

* The site chosen is in Paul-street, a poor and crowded part of Liverpool.

would say, think on the fact that thousands of families are in this state, and worse, and you must recognize the value of the endeavours now being made, and will feel disposed to assist them. The establishment of public wash-houses will at once improve considerably the dwellings of a very numerous class,

In the arrangement of the plans about to be submitted much attention must be given to questions extra-architectural; such as the supply of water to the baths and mode of heat. ing it, construction of the drying-rooms, heating and ventilating the apartments, &c. To these we shall recur anon.

DOINGS UNDER THE METROPOLITAN BUILDINGS ACT.

THE official referees are active in their vocation. The subject of buildings commenced before the 1st of the present month, particularly alluded to in our leading article last week, is receiving special consideration. On the 19th of December last they issued a ciris receiving special consideration. On cular to the district surveyors, requesting them to make a return, as early as possible after the 1st inst., of all buildings commenced before that day and then unfinished, distinguishing the classes and rates and the respec-tive situations of such buildings. On the the 3rd inst. they sent out another circular with reference to the last, wishing to know to what height from the base of the footings such buildings had been carried on the 1st, and asking information of any circumstances respecting them which the surveyors might think necessary. It had been represented to them, the letter stated (and it is true enough), that, "in some cases, mere trenches have been excavated with nothing in them; in others, a skimming of concrete is laid in the trench; in some, a course of clinkers merely, and in others, a single course of bricks. In others, again, a foundation is put in to only part of the walls, without its being continued so as to be united at the back or ends;" and they wished to know, as early as possible, the number of buildings in such or similar cir-cumstances. How they will decide in such cases, should the question of exemption or otherwise come before them, remains to be seen, but is not very doubtful. One of the earliest, if not the first, applica-

tion to a magistrate under the new Act, was made at Lambeth, on the 10th inst., when Mr. Southby, firework-manufacturer, applied to the Hon. Mr. Norton, to solicit his interference to prevent the erection of a varnishmanufactory near his premises. Mr. Southby said if the building were permitted it would be highly dangerous, and a serious loss of life might ensue from the combustible materials. The building was within 50 feet of his pre-mises. There was also a great deal of timber in an adjoining yard, and should an explosion take place the consequences would be frightful. Mr. Norton said the person had clearly no right to erect such a building, and asked if

there was a public way?

Mr. Southby stated there was. Mr. Norton immediately sent an officer of the court, with the applicant, to inform the person that he must discontinue the building, and that, under the 54th clause of the new Building Act, he was liable to a penalty of 50%. per day, every day the business was carried on, and, in default of payment, was liable to be sent to the House of Correction for six calendar months, with hard labour.

The official referees have adopted a measure which is likely to be exceedingly useful, namely, lithographing the correspondence from and to certain surveyors on matters connected with the new Act, and transmitting a copy to each district surveyor, for his instruc-tion and guidance. The Act, from its com-plicated nature, is as yet but little understood by either surveyors or builders,* and, in order to spread information on the subject, we propose to give our readers the substance of each case as it occurs.

^{*} Many of the builders and zinc-workers have been asto-nished at the interference of the district surveyor when erecting a funnel or smoke-pipe on a chimney-shaft! Never-theless, he would seem to be justified; if it be 4ft. above the brickwork, notice must be given of such work, and the fee paid, or the penalty may be incurred. See Sect. 13, and Sched. F, Art. Chimney-pots, tubes, &c.

Mr. Browne, surveyor of the Greenwich district, made a complaint against Mr. James Williams for a certain alleged illegal "projection of a shop-front, and cellar-flap and way," but having omitted to state all the grounds and particulars of his objection, and the particular parts of the new Act to which the said works were not conformable, he was advised, by the official referees, to do this, " by means of a drawing, sketch, or outline, with explanatory observations." The following is then added, and as it is highly important to all classes to know that the referees never intend to make a survey, without charging for it, we reprint it at length :--

"You will at once perceive, that it is of importance that the parties who make a complaint, or refer a matter to the official referees for their determination, should state the complaint, or the matter referred, with a fair degree of certainty, in order that they may be enabled to judge of it without the expense of a personal survey, which may be avoided, and in order that the opposing party may be fairly informed of the subject-matter of the complaint or reference." The letter concludes with a little wholesome advice to Mr. Browne not to interfere in an irregular manner.

The same gentleman also made a complaint against Mr. John Hiscock, for an irregular projection before a line of houses, but it was referred back to him for the "grounds and particulars of his objection," as in the last case. Mr. Badger, of Lewisham, complained of Mr. John Godwin, for erecting some cottages contrary to the Act, but as the buildings in question were carried up to aconsiderable height before the lat inst., they were deemed by the official referees to be "already built," and not within the operation of the Act. Mr. Badger imagined that as they were being built by contract they came within the meaning of the 9th section, which directs such contracts to be so modified that all buildings may be erected according to the provisions of the Act, but this of course only applies to buildings commenced since the lat of January. Mr. Sibley, of Clerkenwell, having mixed

Mr. Sibley, of Clerkenwell, having mixed up with his return of buildings in progress on the lat inst., an allusion to the dangerous state of St. John's Gate, erected several hundred years ago, representing that the decaying stone fell on the public way, received a request that his communications might be made "formally in future," and directions that he would make a survey of the building, with a view to its repair, under the 40th section. Mr. Sibley, we believe, has not yet made his report, and until then the official referees cannot take any steps for the abatement of the danger.

Mr. Baker, of St. Pancras, likewise received authority from the official referees to survey the scene of the late calamitous fire in Guildford-street, they having received information from another party that the walls were in a dangerous state. The case being urgent, Mr. Baker lost no time in serving the notice required by the 24th section upon Mr. Farey, the lease-holder; he was accompanied in his survey by that gentleman's son, who so narrowly escaped from the fire, and the report and certificate were at once drawn up and transmitted to the registrar. The purport was, that a hoard would be useless, as the front of the house might be blown down right across the street, but that it was necessary, for the eafety of the public, immediately to pull down the front as low as the stone balcony, inclusive, and also the rear-front to the level of the ground-floor, shoring up the walls which would be left standing. The official referees have to send a copy of such certificate to the overseers of the poor, and the latter again have to write to the owner of the building to repair or pull down "within fourteen days."

The whole regulations respecting ruinous buildings seem rather complicated. The 40th section takes the matter in hand, but instead of giving some simple directions, refers to the 24th section, which is a mass of regulations about the survey and condemnation of partywalls, and contains a form of notice which is not strictly applicable in both cases. Time will, however, simplify these points.

In another part of the journal we present in a tabular form a list of all the district surveyors and their offices, the names and address of the official referees and registrar, and an abstract of those portions of the Act which relate to the notices required from builders.

INSTITUTION OF CIVIL ENGINEERS.

JANUARY 14, 1845 .- The President in the chair.

The first meeting of the session of 1845 took place on Tuesday evening, the 14th inst. We noticed that some further improvements had been effected in the comfort and decorations of the rooms of the society. The collection of portraits has been augmented by that of Mr. Walker (the president), which was painted by J. P. Knight, R.A., last year for the members of the institution. The model gallery has also received some interesting additions.

The first paper read was on the different modes of confining railway bars in their chairs, by Mr. W. H. Barlow, resident engineer on the Midland Counties Railway. Of the numerous methods which have been tried for keying the rails in the chairs, it would appear that the one now most generally practised is that of parallel compressed wooden keys, but even to these Mr. Barlow states several objections, which, in his opinion, counterbalance the advantage of their elasticity and tendency to assume their original dimensions when exposed in a damp atmosphere. Being of small dimensions and placed just at the surface of the ballast, they decay rapidly; they swell and shrink with every change of temperature, thus becoming loose in dry weather, and requiring constant driving up, which soon destroys them. On the Midland Counties Railway the duration of the wooden Counties Railway the duration of the wooden joint keys has not exceeded five years, and at the present price of compressed keys, which varies from 8*l*. to 12*l*. per thousand, the ex-pense of renewal of keys per mile per annum at the latter rate would be 10*l*. 25. 6d. for a line with 3 feet bearings, and 8*l*. 95. with 3 feet 9 inches bearings. This induced Mr. Bealow to the ballow wrought icon have made Barlow to try hollow wrought-iron keys made like the Russel gas-tube, but of such a form as to bear equally against the jaw of the chair, the middle web of the rail, and the top and bottom flanches. This form and substance it has been found gave great stability, held the rails firmly in their places, and yet possessed such elasticity as to neutralize the effect of the travelling of the wheels over the chairs, and rendered the motion of the carriages peculiarly smooth and agreeable. A number of experiments were given, wherein the great superiority of these keys, in their inherent qualities and their cost, over all other kinds was satisfactorily shewn. They have now been used for a considerable period on the Midland Counties, the South-Eastern, the Warwick and Leamington, and other railways; and in the discussion which ensued, several engineers expressed themselves so well pleased with them, that they intended to introduce them in all their new works. A paper, by Mr. John Storey, described an oblique bridge of freestone over the river

A paper, by Mr. John Storey, described an oblique bridge of freestone over the river Gaunless, on the Hagger Leases Branch Railway. This bridge is remarkable for the acute angle (27°) which it forms with the line of the river it spans; and from its having been built so long ago as the year 1830, when that kind of construction was but imperfectly understood and but little practised in England, the square section of the arch is 19 feet, while the length of the face of the arch, in consequence of its extreme obliquity, is 42 feet. The paper described the mode of setting out the work and of executing the masonry; they were not so theoretically correct as the methods now practised, but the practical effects were struck, the crown of the arch did not drop half an inch, and no subsidence has been since observed in any part of the work.

The meeting was adjourned until the 21st instant, when the annual general meeting will be held for the election of the council and officers for the ensuing session. A considerable change is contemplated.

PURE OIL FOR MACHINERY.—Owing to the impurities which oils contain in their natural state, such as mucus, or albumen, and which act like yeast in promoting chemical action, most of them, when kept, become rancid. To obviate the difficulty this causes to philosophical instrument-makers and engineers, Messrs, Lundholm and Co. have produced a new oil, called pure Elaine, which seems worthy of trial.

ROYAL INSTITUTE OF ARCHITECTS.

ON Monday evening, the 13th instant, the Institute met in their new rooms for the first time, George Smith, Esq., vice-president, in the chair. Thanks were voted to Messrs. Mair, Scoles, and Thompson, and to the honorary secretaries, for their services in effecting the removal. Mr. C. N. Cumberlege was elected a fellow, and Messrs. Henry Peet and Edward F. Hutchins associates. The foreign secretary read an extract from a letter stating that the King of Prussia had purchased all the drawings and papers left by Schinkel, in order to preserve them intact.

Mr. Donaldson then laid before the meeting a brief view of the history of architecture, from the building of Babel, assumed to be 2249 years B.C., to the revival of Italian architecture in the 16th century, illustrated by a beautiful series of drawings. The chief object of the lecture was to point out the connection which existed between the architecture of the various countries of antiquity. Egypt, Greece, Italy, and Byzantium were each alluded to, and the rise of Christian architecture pointed out. The lecturer considered that the pointed arch came to us from the Saracens, and read some extracts from M. Guizot's "History of Civilization in Europe," to shew the effect of the crusades on arts and manners in this quarter of the globe.

Some clever sketches of Athenian and other Greek monuments, recently made by Mr. George Knowles, were exhibited; and a coloured copy of Mr. Lewis Gruner's elaborate work on the freeco decorations and staccoes of buildings in Italy.

SOCIETY OF ANTIQUARIES.

At a meeting of this society, held on Thursday, the 9th instant, Mr. Henry Hallam, the historian, in the chair, Mr. Albert Way exhibited an ancient altar-cloth from Steeple Aston Church, Oxon. A letter from M. de Caumont, of Normandy, was read, solicity ing subscriptions for a statue of William the Conqueror, proposed to be erected at Falaise, the place of his birth. The letter also stated that the French antiquaries would hold their annual congress at Lille in July next, and expressed a hope that they might be favoured with the presence of some members of the society.

A communication from Mr. Edward Richardson was read, describing a number of coffins, stone and lead, found in the circular part of the Temple Church, London. The lead coffins were attributed to the time of Henry III., the stone coffins might be earlier. An account of Old Sarum, by Mr. Hatcher, illustrated by a model, was also read.

We have received several communications complaining of the apathy which prevails in this ancient and respected society, and the little good it effects as compared with its powerful means and influential position. The chief cause of the evil seems to be, that its management is allowed to rest exclusively with a few individuals (excellent though they may be), and has become a mere matter of routine.

THE "STATUE OF WILLIAM IV."—The commemoration of the erection and inauguration of the statue of the "Sailor King," which has just been completed by Mr. Samuel Nixon, and is now placed on a pedestal at the termination of King William-street, at the point which faces London-bridge, was celebrated a few evenings since at the Adelaide Tavern, at the foot of the bridge, where, at six o'clock, a numerous assembly of the influential gentlemen of the wards of Bridge and Candlewick sat down to an excellent dinner. The chair was filled by Sir Chapman Marshall, who was supported on the right hand by Sir George Carroll (these two gentlemen being the aldermen of the respective wards), and on his left by Mr. Nixon. We are sorry that we cannot coincide in the flattering opinions of the statue which have been expressed. It is, to us, coarse and clumey, and not likely to advance the reputation of the sculptor.

ROYAL ACADEMY. — Every academician was entitled to exhibit eight pictures each season, and for which, of course, the best places were retained. By a recent resolution they have now limited themselves to *siz*. This alteration cannot fail to be gratefully received by the profession generally.

TABLE OF METROPOLITAN DISTRICT SURVEYORS.

Official Referees, JAMES WHITE HIGGINS, Esq., and WILLIAM HOSKING, Esq.-Registrar, ARTHUR SYMONDS, Esq. Board of Examiners appointed to assist the Official Referes in the Examination of Candidates for the Office of District Surveyor, SIR ROBERT SMIRKE, JAMES PENNETHORNE, Esq., and THOMAS CUBITT, Esq.

All Communications are to be addressed under cover to the "Registrar of Metropolitan Buildings," 3, Trafalgar-square.

LIST OF SURVEYORS' DISTRICTS (OLD AND NEW) APPOINTED BY THE JUSTICES OF THE PRACE OF THE RESPECTIVE COUNTIES, PURSUANT TO THE ACT 7 & SVICT. C. SI. WITH THE NAMES OF THE SURVEYORS, THEIR RESIDENCES, AND OFFICES,

| DISTRICT, | SURVEYOR. | RESIDENCE. | OFFICE. |
|--|---|---|---|
| | MIDDLESE | | |
| RASTERN DISTRICT, containing the wards of Lime-street, Tower,) | CITY OF LONDON | 30, Jewin-street, Cripplegate | 30 Jewin-street, Crinnlegate. |
| Aldgate, Portsoken, Billingsgate, and Langbourne | | | |
| 8. Bartholomew the Greater and Less, the Inner Temple, and that part of the Middle Temple within the City, the Serjeants' Inns, Fleet-street, and Chancery-lane, Clifford's-inn, Barnard's-inn, Tha- vies'-inn, and those parts of Furnival's-inn and Staples'-inn which are within the City. | John Stevens | 6, Clement's-inn, Strand | 6, Clement's-ins, Strand. |
| MORTHERN DISTRICT, containing the wards of Bassishaw, Bishops- gate Within. Bishopsgate Without, Broad-street, Coleman-street, Cornhill, Cripplegate Within, Cripplegate Without | James Mountague | | Office of Works, Guildball. |
| | TOWER HAMLETS | | |
| Fower Liberty | J. B. Redman | { 11, Canton-place, East-India-road, } Limehouse | 48, Lime-street. |
| kratford-le-Bow (St. Mary), and Poplar (All Saints) | Henry Flower | 75, Hatton-garden 14, North-buildings, Finsbury-circus | High-street, Bow. 23, Prince's-square, St. George's East |
| Limchouse (St. Anne), Wapping (St. John), St. Catherine, and the Hamlet of Ratcliff Hile End, Old Town | | 30, Jewin-street, Cripplegate Devonshire-square, Bishopsgate-street. | London-street, corner of Pump-yard Ratcliff. 1, Stepney-green, Mile-End-road. |
| Broanley (New) | | 113, Aldersgate-street | Bromley-house, near the Church Bromley, Middlesez. |
| Rackney (St. John) | Thos. Henry Wyatt | {75, Great Russell-street, Bloomsbury- square | Church-street, Hackney, corner of Baxter's court. |
| Bethnal Green (St. Matthew) pitablelds (Christehurch), Shadwell, and Hamlet of Mile End, New Town | Charles Hamor Hill. | Canonbury-terrace, Islington | 9, Tokenhouse-yard, Lothbury. 4, Brick-lane, Spitalfields. |
| Whitechapel (St. Mary) koreditch (St. Leonard), and) Norton Folgate Liberty | William Grellier | 20, Wormwood-street, Bishopsgate-st | 26, Wormwood-street, Bishopsgate-st. 64, Old-street-road. |
| Norton Folgate Liberty | EDMONTON HUNDR | | |
| | 1 | 22, Parliament-street | Warner's-terrace, Tettenham-high |
| Guannain (NCW) | 1 | 1 * | l cross. |
| | FINSBURY DIVISIO | | i . |
| R. Lake's. Finsbury, (Old-street), and Giass-House-yard alington (St. Mary), and St. Sepalehre Without locks Newington Jornsey (New). Markaswall (St. Jámes and St. John). | George Edwards | Duncan-place, City-road 20, Swinton-street, Gray's-inn-road 239, Maida-vale, Paddington | 3, Montague-place, Islington, 45, Church-street, Stoke Newington, 10, South-square, Gray's-inn. |
| For a start of the start of the | HOLBORN DIVISION | ۷. | |
| Dans, and St. Mary-le-Strand, within the Duchy of Lancaster, and the Savoy precinct | Samuel Angell | 18, Gower-street, Bedford-square | 5, Hatton-garden. |
| Liberty of the Rolls | George Legg | 239, Maida-vale, Paddington | 10, South-square, Gray's-inn. |
| c. Giles-in-the-Fields, and St. George, Bloomsbury | George Pownall | 5, Gordon-square 11, Upper Gower-street, New-road | 14, Upper King-street, Holborn. 11, Upper Gower-street, New-road. |
| t. Marylebone | John White George Gutch | Westbourne-green, Paddington Bridge-house, Harrow-road | Devonshire-place, north, New-road Regent's-park. Bridge-house, Harrow-road. |
| ampetcad (New) | Henry Edw. Kendall, jun | 33, Brunswick-square | Crown-cottage, Haverstock-hill. |
| | KENSINGTON DIVISIO | | |
| beises (St. Luke) iorth Kensington (New) | Samuel Beachcroft | 83, Cadogan-place, Sloane-street 11,Westbourne-st., Hyde-park-gardens | 83, Cadogan-place, Sloane-street. 48, High-street, Notting-hill. |
| outh Kensington (New) | | 7, Hart-street, Bloomsbury-square | 3, Pelham-terrace, Pelham-road, Brompton. |
| ulham (New) | | | High-street, Fulham. 5, Serampore-terrace, Hammersmith. |
| | WESTMINSTER CITY AND | LIBERTY. | |
| L Margaret and St. John, Westminster, and the extra parochial parts } | William Pilkington J | | 1, Vincent-square, Westminster. |
| . Martin-in-the-Fields, and St. Anne, Soho | Henry Edward Kendall Edward Martin Foxhall | 17, Suffolk-street, Pall Mall East 18, South Audley-street, Grosvenor-sq. | |
| - James | James Gray Mayhew Edward Chas. Hakewill | 35, Cambridge-terrace, Hyde-park 8, Thurloc-square, Brompton | 14, Argyll-st., St. James's, Westminster 8, Craig's-court, Charing-cross. |
| | SURREY | | |
| beherbithe (St. Mary), and Hatcham, or the portion of St. Paul,) Deptford, in Surrey. | George Allen | 69, Tooley-street, Borough | {2, Monmouth-place, New-cross, Hatcham. |
| Thomas, Southwark Megdelee), and St. John, St. Olave, and St. 7 Thomas, Southwark much for the second structure of the second | Robert Hesketh | | 12, Bermondsey-square. |
| ehurch, Southwark | David Roper | | 11, Stamford-street, Blackfriars-road. 11, Kennington-row, opposite Ken |
| beth (central division of), and Newington (St. Mary) | George Porter | | st. Ann's-road, Brixton. |
| mberwell (New) | William Crawford Stow | • | { 1, Camden-place, near Camden-cha pel, Camberwell. |
| restham (New). | John Mullins | 5, St. John's-grove, Brixton-road | 5, St. John's-grove, Brixton-road, and Streatham-place, Brixton-hill. |
| apham (New), and Battersca (part of, lying sonthward of the South-western railway) | Edward I'Anson, jun Alfred James Hiscocks | | |
| andsworth, and Teoting Graveny | | Cornbury-place, Kent-road | High-street, Wandsworth. |
| ertiord (St. Paul, in Kent, and St. Nicholas), (New) | KENT. | George-street, Greenwich | 23, Broomfields, Deptford. |
| reawich New). | Robt. Palmer Browne | | Royal-place, Royal-hill, Greenwich. |
| ₩ volwsch (New) | | 1 bill | High-street, Woolwich. At Mr. Harris's (Parochial Tax-col |
| Unisham (New) | | | lector's), Lewisham-road, opposit the Anchor brewery. |
| Charitone, Lee, and Kidbrooke (New) | 1 | | f Frederick-place, Tranquil-vale, |

The Metropolitan Buildings-Act provides, that it shall be the duty of the Builder to five two days' notice to the District Surveyor at his office, in the terms specified in the forms contained in the schedule to the Act, under a penalty of 20. data trails of the Surveyor, be required to be done immediately, or before notice can be given to the Surveyor, be required to be done immediately, or before notice can be given to the Surveyor, be required to be done immediately, or before notice can be given to the Surveyor, be required to be done immediately, or before notice can be given to the Surveyor, be required to be done immediately, or before notice can be given to the Surveyor, be required to be done immediately, or before notice can be given to the Surveyor, then it shall be lawild for the Suilder or any person to do such act, matter, or thing so requisite, but upon this condition, that within foury-cick thours after beginning to execute such work, notice thereof be given to the Surveyor, shall be bande in any party-wall. It is builting he suspended for any period succeding three months, or if during the pro-trees of a building the Builder must give notice to the Surveyor, under a penalty of 201. §13. With regard to buildings specially named in the Act (schedule B.), the Archiect or the Builder must give notice to the Surveyor, under a penalty of 201. §13. With regard to buildings specially named in the Act (schedule B.), the Archiect or the Builder must give notice to the Surveyor, under a penalty of 201. §13.

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LONDON AS IT WAS, AND IS.*

WE commence our present narrative at that period when London was threefold afflicted with the terrible calamities of famine, pestilence, and fire. In 1663, and for some years previous, there was a general dearth throughout England, wheat being sold at the enormous price of 3/. 14s. per quarter, and malt at 2/. 2s. This was succeeded by the plague in 1665, by whose direful ravages 68,596 persons were swept away, which, together with the number of those that died of other distempers, made the bill of mortality of this year amount to 97,306 souls. The recurrence of this dreadful calamity, after an interval of forty years, worked upon the superstition of the age, and many began to impute the fatality to that number, as if in that sense the land was to have rest only forty years. Many ingenious conjectures have been made concerning the origin of this scourge, and from all the facts that can be collected in modern times, there is every reason to believe that it originated with the hot, poisonous blasts of the deserts of Persia, Arabia, and Egypt, and travelling into Europe, it occasionally committed great ravages in the chief cities, and was never eradicated therefrom. During the calamitous period we are now speaking of, it was observed by Dr. Baynard, a very intelli-gent physician, that there was a general calm and serenity of weather, as though both wind and rain had been expelled the kingdom, and that for many weeks together he could not discover the least breath of wind, not even so much as to move a weathercock, and the fires in the streets were made to burn with great difficulty; the birds too, as in tropical regions, flew heavily on the wing, panting for breath.

In the history of nations we find very often a singular coincidence of events, surpassing human comprehension, and appearing almost miraculous: London furnishes a remarkable illustration of this; a few months only had elapsed, the houses untenanted by the plague had scarcely been opened to the new comers from the country, than they were turned out again by a disaster more sudden than the former. The great fire of London, which happened in the year 1666, broke out Sept. 2nd, at one o'clock in the morning, in Pudding-lane (near now Fish-street), in a quarter of the town closely built with wooden, pitched houses, and made such ranid headway under a strong easterly such rapid headway under a strong easterly wind then blowing, that before daylight it became too great for any hopes of mastering it by the engines, or even for approaching within any reasonable distance. Many attempts were made to prevent the spreading of it by pulling down houses and making great in-tervals; but the fire, seizing upon the timbers and rubbish, soon passed the spaces, and continued its devastating progress the whole of Monday and Tuesday. On Tuesday night the wind slackened a little, and the flames meeting with brick buildings at the Temple, began to lose their force gradually on that side, and on Wednesday a stop was put to it at the Temple Church, near Holborn-bridge, Pye-corner, Aldersgate, Cripplegate, near the end of Aldersgate, Cripplegate, near the end of Coleman-street, at the end of Basinghallstreet, by the postern at the upper end of Bishopsgate-street and Leadenhall-street, at the Standard in Cornhill, at the Church in Fenchurch-street, near Clothworkers' Hall in Mincing-lane, at the middle of Mark-lane, and at the Tower Dock.

Thus, after raging three days with the utmost violence, and in despite of the feeble efforts of the inhabitants to check its progress, it gradually ceased, after laying waste and consuming the buildings on 436 acres of ground, 400 streets, lanes, &c., 13,200 houses, the cathedral church of St. Paul, 86 parish churches, 6 chapels, the magnificent buildings of Guildhall, the Royal Exchange, Custom-house, and Blackwell Hall, several hospitals and libraries, 52 of the companies' halls, and a vast number of other noble edifices, 3 of the city gates, 4 stone bridges, and the prisons of Newgate, the Fleet, the Poultry and Wood-street Compters, the loss of which, together with that of merchandize and household furniture, by the best calculation amounting to ten millions seven hundred and thirty thousand pounds.

Without staying to inquire into the validity of the numerous reports handed down

* See vol. ii. page 528.

to us concerning the origin of the fire, which in these days are truly placed to the prejudices and bigotry of the age, we will proceed at once to notice the permanent benefits derived by the inhabitants of London from what was then considered by them an irreparable calamity. Instead of very narrow, crooked, and incommodious streets; dark, irregular, and ill-contrived wooden houses, with their several stories jutting out, or hanging over each other, whereby the circulation of the air was obstructed, noisome vapours produced, and destructive and obnoxious vermin harboured, the order of the King in Council declares that no man shall henceforth presume to erect any house or building, great or small, but of brick or stone, under penalty of having it brick or stone, under penalty of having it pulled down; the cellars to be well arched. That Fleet-street, Cheapside, Cornhill, and all other eminent and notorious streets shall be of sufficient breadth; that no lanes or alleys shall be erected but where absolutely necessary; that keys or wharfs be formed, and no house to be erected within so many feet of the river. Many superb edifices were erected; greater attention was paid to paving and lighting the streets, and had the plan of Sir Chris-topher Wren been carried out, many of our modern improvements would have followed.

The Building Act of 19 Car. II. determined that there be only four sorts of buildings, defined by the Act, the largest embracing noblemen's mansions, not to exceed four stories high; that all new buildings be built with stone or brick, with party-walls; and three years were allowed, from the time of the conflagration, to rebuild the houses destroyed. All bricklayers, masons, plasterers, and joiners were to enjoy the privileges of freemen for seven years, or so long as the building was completing, and any exaction by them for material or labour was punished by fine or imprisonment. Α spacious wharf 40 feet in breadth was also ordered to be erected from Tower-wharf to Temple-stairs, clear of all buildings other than cranes and sheds for the convenience of landing and preservation of merchandize; and for the more effectual preventing inundations, Thames-street and the ground between it and the river Thames to be raised 3 feet. And to enable the lord mayor and citizens to perform the stipulations of the Act, they were permitted to exact 1s. for every chaldron or ton of coals imported into the port of London. The exact width of many of the streets was defined by this Act.

Another order of council was shortly after issued to regulate the duty of surveyors, that special care be taken to preserve as far as possible uniformity in the lines of houses, the breast-summers ranging an equal height house with house; that encouragement be given to builders for ornament sake, the ornaments and projections of the front buildings to be of rubbed brick; that the signs be fixed against the balconies, instead of across the street as here-tofore, &c. A tax of 6s. 8d. for every foundation was also levied for the surveyor. Rules and regulations were also laid down for paving and levelling the streets. Many other local acts followed for improving and beautifying the city. Sir John Evelyn's plan, as given in Maitland's History of London, would have greatly added to the beauty of the city.

From this time nothing of interest to the "builder" can be said to have taken place until 1703, when the metropolis was visited by a terrible tempest, which, lasting for eight hours, committed great devastation, destroying many spires and turrets, overturning houses blowing down a vast number of trees and houses, and killing many people. The city was particularly afflicted by this visitation, scarcely a house escaping without damage, and the streets being literally filled with bricks, tiles, signs, bulks, and pent-houses, and many of the houses were wholly stripped of their roofs; some idea of the immense damage may be formed by the rise of tiles from one guinea to six pounds the thousand. The damage at sea exceeded that on land. Twelve men-of-war were lost, with above 800 men on board, and an immense number of merchant-ships, the Thames and sea-coasts being covered with wrecks. In 1709, in consequence of the vast increase of the city and suburbs, fifty new churches were ordered to be built, in or near the cities of London and Westminster, an

of London for the space of 137 days, and 3s. per ton for eight years afterwards. By the Act 2 Geo. 1, cap. 28, in consequence of many contentions having arisen among neighbours concerning rebuilding their houses within the city and liberties, it was ordained, that if any person refused or neglected to build his share of a party-wall after due notice was given him, his next neighbour may build it for him, and oblige the person so neglecting it to pay the charges of rebuilding it; and that the ater falling from the tops of houses, &c., should be conveyed into channels or kennels by pipes in the front or sides of the houses, on pain of twenty pounds penalty. In 1734, the city of London was lighted by 1,000 lamps only, the contractors paying the city the sum of 600%. annually for lighting the same. Every house-holder paying poor's rates being taxed 6s. per annum by the contractors, who were compelled to light only on dark nights till twelve o'clock from Michaelmas to Lady-day, excluding moonlight, or ten nights in every moon. In this year an alteration took place, a more equitable mode of lighting and taxing was imposed, and the number of lights were increased to 4,679. About this time the Fleetditch was covered in, and converted into a market. In 1738 the Mansion-house was built on the site of Stock's-markets, the first pile was driven at Westminster-bridge, and the foundations of the Foundling Hospital were laid. In 1747 a great fire happened in Corn-hill, by which 100 houses were burnt down, which had the usual effect of improving the appearance of the city. In 1750 the city was visited by an earthquake, but without any damage being done; it was sensibly felt in the cities of London and Westminster, Highgate, Hampstead, Greenwich, Richmond, &c. In 1739 London within the Bills of Mortality

consisted of 5,099 streets and 95,968 houses; of which 42,676 houses were insured in the Hand-in-Hand Fire-office. at 9.231.4004. and 7,852 in the Westminster Fire-office, at 2,059,1217. The rents of the houses at a medium within the city and suburbs were estimated at 26% 23. 11d. each, or 2,509,160%. 3s. 7d. for the whole.

Having thus noticed every matter of interest to the builder connected with the vicissitades and progressive improvements of London up to the present time, we shall conclude with a few remarks on its present condition. London now stands pre-eminent among nations; its progress in architectural improvements since 1814 is acknowledged even by foreigners to be marvellous; and the piles of buildings meeting the eye at every turn in the West-end, are unerring testimonials of the increasing wealth of its inhabitants, comparatively little affected by an enormous taxation, the result of . long-protracted war. Its proudest edifices are the results of individual enterprise, unaided by the government ; for though the latter affects rivalry, it cannot hope to surpass the numerous monuments of individual enterprise with which this great metropolis is adorned : its docks, bridges, canals, the colleges and hospitals, theatres, clubs, palaces, picture-gal-leries, breweries, distilleries, and other public works. The inhabitants walk with pleasure the carefully-paved and well-regulated streets by day, and the illuminated streets by night, secared from violence by a well-regulated police; and an endless stream of wealth flowing in from all quarters of the globe, however unequally distributed, is still in some degree shared by all. "When," says the Marquis de Vermont, "I reflect on the variegated scenes which hourly draw my notice; when I add to may own observation those of others, on whose judgment I can rely; when I gaze upon this nighty metropolis, so rapidly sugmenting in size and grandeur; when I recollect the high moral and military character which your avins attained in the last war; when, extending my views to literary and scientific subjects, I find that while the Duke of Wellington triumphed in the field, Dr. Jenner and Sir H. Davy were immortalizing both themselves and Great Britain by discoveries for which they will receive the blessings of ages yet unborn ; and that Crabb, Moore, Scott, and Byron, after raising the poetical fame of the country, still live, and still promise to carry higher (own and England's reputation; when I their Dut all these contemporary circumstances together, additional duty of 2s. per chaldron being laid upon all coals and culm brought into the port to acknowledge that you are rapidly approach. I am compelled, in spite of early prepossessions,

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ing the goal of national greatness." Twenty years have passed since the above was written, and since then improvement has marched through the metropolis with giant strides, swelling her dimensions and multiplying her inhabi-tants, and still we appear as far as ever from the goal of our greatness. West, north, east, and south, we see London still stretching forth its thousand arms, swallowing up every villa in its environs, and compassing every obstacle which it cannot overcome; and railways, as so many main arteries, diverging on every side from the great seat of life, must and will give additional impetus to its trade and commerce, and contribute to swell out still further its extent and population. As the powers of the human mind become developed, as improvement keeps pace with invention, as wealth increases with the increase of our wants and and disease lose its force. Time and space analibilated, and apparent impossibilities ac-complianced, we find the means of national, intellectual, and physical enjoyment awaiting our disposal.

In the midst of increasing prosperity and the almost universal pursuit of wealth by the sbortest possible road, it is gratifying to find that in the rage for improvement, the poor are not quite forgotten; that the most considerate attention is being paid to the drainage and ventilation of this and other large cities, and the dwellings of the poor are not altogether overlooked: the new Buildings Act will go far to mitigate the sufferings of the labouring classes by disposing them in healthy and commodious dwellings, and ere long the exer-tions of philanthropy will go much further in removing these moral plague-spots wherein poverty and crime are necessarily associated, carsed with a tainted atmosphere and the society of each other. St. Giles's, once the impenetrable sanctuary for the Alsatian, the highwayman, and the street brawler, noted for its filth and squalid wretchedness, is gradually disoppearing; but, unless timely means are taken, the evil is only removed to another quarter of the metropolis, not eradicated; it is therefore the bounden duty of the legislature to apply more effectual measures for enforcing cleanliness, ventilation, and drainage in all crowded places. Private benevolence may mitigate, but it cannot eradicate the evil. Baths and wash-houses will do much towards purifying these abodes of vice and wretchedness, education will do much more, but nothing permanent can be expected until the means of an honest living are placed at every man's disposal. Many means to attain ends so truly desirable are devised in the present day, but political quackery is too apt to usurp the sent of Christian benevolence, and the millions mast still suffer on until property, under its various forms, awakens to a sense of its duties; then, indeed, London will have reached the goal of its greatness and prosperity.

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IMPROVED DWELLINGS FOR THE WORK. ING CLASSES IN EDINBURGH.

THE public will be gratified to learn that The preliminary measures are in progress for calling a public meeting with the design of constituting a sanatory council, or association for the promotion of public health in our city. The state of the Old Town is now such that some vigorous effort is certainly necessary, in counce is correcting its more fitting residence for order t e render it a more fitting residence for inch of the middle and working classes as have their abode in it. There is a clamant need in particular for improved dwellings for the working classes, and, indeed, for an extension of the number of houses devoted to their accommodation, as it is found at present nearly impossible for a working man to obtain such a dwelling as he requires, and could well pay for. The first object now in view is to form a standing council of gentlemen competent to scertain and judge of measures desirable for the public health, which they shall endeavour the promote by all means within their power. Amongst their duties will be that of dealing with private parties, individually, or joint-escele companies, who may be disposed to build the they follow the proper rules as to the

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arrangement of their buildings, the local needful accommodations, drainage, sewerage, and other requisites. It is conceived that speculations of this kind may obtain favour amongst capitalists, as it can be shewn that the amongst capitalists, as it can be shewn that the required outlay may make a good return, even while tenants are better and more cheaply accommodated than at present, if only care be taken to keep up the character of the new buildings in moral and physical respects, which it is by no means beyond the power of prudent regulation to accomplish. The gentlemen, with whom this movement originates, con-template both the erection of buildings in open suburban situations, and the substitution of suburban situations, and the substitution of improved dwellings for masses of the older and more ruinous parts of the city. In every case there will be due care taken to provide open-air spaces for the recreation of children, apart from contaminating street influences; general accommodation for washing may also be furnished, if, upon due deliberation, thought advisable; ventilation, the supply of water, and arrangements for the removal of all kinds of refuse, will be special objects; in short, while no extravagant views of any kind are entertertained, it is believed, that, by good practical arrangements, and working upon a large instead of a narrow scale, the working classes may be supplied with domestic accommomay be supplied with domestic accommo-dations, comprehending a large amount of comfort, favourable to, instead of destructive of health; and lastly, but not least, promotive of their moral interests, seeing that a home which we can love and delight in is, by universal acknowledgment, the first requisite to the vietnes. Sectomen to the virtues .- Scotsman.

Obituary.

THE LATE ALFRED BARTHOLOMEW, ESQ., F.S.A.

IN accordance with the promise contained in our last number, we now proceed to lay before our readers some notice of the life and works of this gentleman, whose death took place on the 2nd day of the present month, in the midst of a career of usefulness, and at the very time that a life of untiring zeal, selfdenial, and study, had apparently placed within his grasp, at no distant period, complete success in this world; which, however, it has pleased the all-wise Arbiter of our fates he should never enjoy.

Mr. Bartholomew was born in London on the 28th of March, 1801, and although he had acquired at school only that moderate degree of education which usually falls to the lot of those amongst the middle ranks of society who are not destined for one of the learned professions, his early-developed devotion to geometry and science in general determined his father to bring him up to the profession of an architect, and he was therefore articled to Mr. J. H. Good, then of Hatton Garden (a former pupil of Sir John Soane), now the surveyor to some of her Majesty's palaces, and to the Commissioners for Building New Churches, &c. Mr. Bartholomew's destiny heing thus fixed

Mr. Bartholomew's destiny being thus fixed, he applied himself to the study of his profession, as well as to other congenial pursuits, with all the energy that was inseparable from his character: up early in the morning dur-ing his pupilage, he employed himself in carefully measuring and delineating, amongst other buildings, the most beautiful parts of the Bank of England, with a reverence for Soane, to whom, by his connection with Mr. Good, he seemed in some sort to claim kindred.

Perspective, whilst he was under articles, received, as it always should do, the careful study of the aspirant; and having in this respect acquired the requisite proficiency, he was called upon to communicate it to the younger branches of a noble family, where he received the first pecuniary gratification that resulted to him from the studies to which he had devoted himself.

Architecture, however, although apparently the all-absorbing subject, did not entirely en-gross him; amidst an attention to it which appeared to be undivided, he yet found time for the acquisition of several languages, and

This work, a labour of love, contains strains of the sweetest character, and occasionally the sublime pathos of the original appears through its English dress with a force and beauty but little diminished (and this is saying much) by the change into our own language; and although containing some inequalities, yet, on the whole, as far exceeds the general tameness of Nicholas Brady and Nahum Tate as their version stood above the antiquated dulness of Sternhold and Hopkins. Still, and though warmly praised by nearly the whole bench of bishops, in complimentary letters to the author,

bishops, in complimentary letters to the author, it has yet made no way in public use. After the publication of the Psalms, Mr. Bartholomew's literary labours appear to have been more peculiarly devoted to his profession, and particularly to recording from time to time the thoughts ultimately embodied by him in his "Specifications for Practical Architecture," which work displaying as it does some singuwhich work, displaying, as it does, some singu-larities and blemishes, perhaps the too common accompaniment of genius, may be studied with

accompaniment of genus, may be studied with advantage by every member of the profession, and is calculated to effect much good. It cannot fail to become a standard book. Besides the "Specifications," Mr. Bartho-lomew is the author of "Hints relative to the Construction of Fire-proof Buildings" (very favourably reviewed in the Gentleman's Maga-zine), and of various fugitive papers that have from time to time appeared before the public. from time to time appeared before the public, as well of a professional as of a non-professional character. He has left uncompleted nusional character. He has left uncompleted nu-merous sketches of a miscellaneous nature, full of ability, but not fitted for publication. His leading articles as editor of this journal during the past year are before the public, and have received favourable judgment, as evinced by the increased circulation of the periodical during his connection with it.

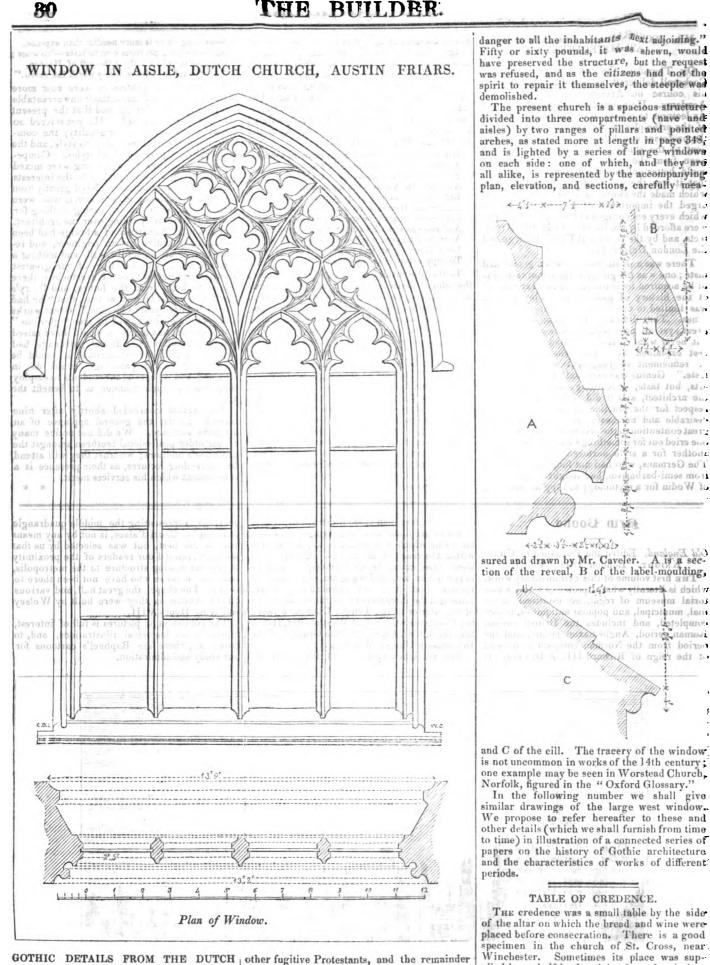
Amongst the most prominent objects of Mr. Bartholomew's thoughts was Gothic Architec-ture, in the study of which he was enthusiastic; and hence in a great measure (prompted by his veneration for those itinerant architects, to whose genius we owe the magnificence and beauty of our Gothic cathedrals) arose his zeal in favour of the society known as "Freemasons of the Church, for the re-covery, maintenance, and furtherance of the true principles and practice of architecture," which was commenced by him which was commenced by him.

Few men are better acquainted than he was with either the old or the new Building Act, and with regard to the latter, he had frequent correspondence with the Earl of Lincoln whilst it was being framed and carried through Parliament; his last work was to correct the proofs of his "Cyclopædia of the New Metropolitan Building Act," upon which he bestowed the utmost labour and attention. His canvass for the district surveyorship of Hornsey, to which he was elected by a very large majority only a few weeks ago, appears to have brought upon him an attack of rheumatic gout and fever, but through this his physicians fully expected him to struggle; taking cold, however, bronchitis resulted, which unhappily proved but too fatal.

His brother, Mr. Valentine Bartholomew, holds the appointment of Flower Painter to her Majesty, and is well known as a most able artist in his particular department.

NEW CHURCH AT SOUTH SHIELDS .--The foundation-stone of this church was laid by Robert Ingham, Esq., of Weston, on the 26th ult. It is arranged to receive a congregation ult. It is arranged to receive a congregation of 800, and the plans have been so skilfully designed by Mr. Salvin, the architect, and the execution of the work by Mr. Alderson is to be of so substantial a character, that accom-modation may be added for a larger number when required. The church is intended to be ready for diving service on the lat of lung ready for divine service on the 1st of June next.-Newcastle Journal.

KESWICK CHURCH .-- This church is about heswick Church.—Inis church is about to undergo a general alteration and repair at the estimated cost of upwards of 3,000/., which will be laid out for that purpose by a private gentleman, J. Stranger, Esq., of the Dovecot, Keswick. The same gentleman some time ago built a new school for the benefit of the town which cost upwards of 1,000%. In Keswick church yard lie the remains of the late Dr. Southey, poet-laureate. -Westmoreland Gazette.



CHURCH, AUSTIN FRIARS.

In the second volume of THE BUILDER, IN the second volume of THE DOLDER, at page 6 and page 348, there is a general account of the Dutch Church in Austin Friars, so far as relates to its history, with views of the west end and interior. It is a part of the ancient Priory of St. Augustine, the chief residence of the friars of that order in England, whence the name of the place. After the dissolution of the monastic orders. the Priory of St. Augustine fell into various hands: the west end of the conventual church was granted for the use of the Germans and

• Founded by Humfrey de Bohun, Earl of Hereford and Essex, 1252, and re-edified in the year 1351, by his descen-dant of the same name.

GOTHIC DETAILS FROM THE DUTCH | other fugitive Protestants, and the remainder was appropriated to meaner purposes. The steeple was standing in the year 1609, and seems to have been held in great esteem, if we may judge from the words of a memorial from the lord mayor and citizens, praying the Marquis of Winchester, the owner, to repair it.† The memorial said: "The fall of it, which without speedy prevention is near at hand, must needs bring with it not only a great deformitie to the whole city, it being for archi-tecture one of the beautifullest and rarest spectacles thereof, but also a fearful eminent

The previous Marquis of Winchester built a mansion the sits of the monastery called Winchester-place. In inchester-street there are still many of the overhanging uses with gables towards the road, which were at one time secal, but are now hardly to be found in London.

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the prægustator, to taste every dish before it was placed on the dinner-table, in order both

that the cookery might be tested, and all fear of puison removed from the guests. (See "Facciolati's Lexicon,"--I'rægustator.) He

who did this was said by the Italians *fite 'la credenza*, and thus credenza or credentia, came in time to mean the side table on which this

process was performed, and afterwards was

applied to any side table, such as were those on which the elements were placed previous to

their being carried to the altar. (See Ducange, ver. "Credentia.")

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It was once the office of a servant

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MR. COCKERELL'S LECTURES ON ARCHITECTURE.

Ox Thursday, the 9th instant, Professor Cockerell delivered the introductory lecture of his course on Architecture at the Royal Academy. He pointed out the insufficiency of six lectures to convey any adequate knowledge of the principles of architecture, and that all the professor could do was to give the proper bent to the studies of his hearers. Himself risen from the ranks of the profession, he could better enforce the dictum of Vitruvius, that it was the union of theory and practice which made the skilful architect. He strongly urged the importance of present studies, for which every encouragement and great facilities were afforded by the Institute of British Architects, and by the courses at King's College and the London University.

There was a distinction between genius and taste; one was the gift of Nature, but taste was to be acquired by learning and by examination of the history of past times. The lecturer was limited to uphold the authority of former times. The difficulty to define taste was great, yet all men would confess ignorance, but never want of taste. It had been perhaps best explained as "that sensitive rectitude or refinement of judgment which we call taste." Genius was essential to success in the arts, but taste, or learning, was demanded of the architect, and it did seem that a certain respect for the practice of former times was desirable and necessary in him. There was great contention in the present day about styles; one cried out for something suited to the climate, another for a style nurtured in the country. The Germans, who had not long ago emerged from semi-barbarism, had sought in the stories of Wodin for a mythology to supplant the old;

New Books.

Old England. Edited and Published by CHAS. KNIGHT. London, 1844. Vol. I. THE first volume of this extraordinary work,

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The first volume of this extraordinary work, which is literally what it professes to be, a pictorial museum of regal, ecclesiastical, baronial, municipal, and popular antiquities, is now completed, and includes the British period, Roman period, Anglo-Saxon period, and the period from the Norman conquest to the end of the reign of Richard III., A.D. 1485. It but the respect of ages was not yet to be set at naught, and the love of classic art would again prevail, let present opinion say what it would. In architecture, learning was essential, and the only safe course was, not by acting counter to, but in the spirit of those rules which ages had registered. The art was built on the accumulated evidence of former times; that calculated to satisfy the future must be founded upon the preceding. Pope had well said;

When first young Maro, in his boundless mind, A work to outlast immortal Rome design'd, Perhaps he seem'd above the critic's law, And but from Nature's fountains seomed to draws But when to examine every part he came, Nature and Homer were, he found, the same. Convinced, amazed, he checks the bold design, And rules as strict his labour'd work confine, As if the Stagyrite o'erlooked each line. Learn hence for ancient rules a just esteem, To copy nature is to copy them."

In the present day all styles were in request; the scholar desired to be reminded in his residence of the people the first in learning and in art; the titled possessor of broad lands erected the donjon keep in the pride of feudal times; each class had its particular association. The absurd turns which style had taken in our own recollection, were almost beyond our own powers of belief. The accident that made Sir Wm. Chambers a supercargo, first gave us the Chinese style; the work of Denon flooded us with the Egyptian; had Algiers or Mogador presented the least thing available, our neighbours, more susceptible than we are, would have taken it up. Fashion would have its day; it warped our taste; and the architect's only proper course was to have his buildings constructed upon permanent principles, recurring to history, and regardless of the fashion of the day. Pope said :—

contains no less than 1,390 illustrations, twelve of which are illuminated engravings, folio size, for a sum which is so small, as to put the book within the reach of all classes. Unlike what were called cheap books formerly, it may be depended on too, and we again say, conscientiously, that it is an extraordinary work. Amongst the illuminated illustrations are views of the interior of the Temple Church, Edward the Confessor's Chapel, at Westminster, Henry the Beauchamp Chapel, Warwick.

The subjoined specimen of the wood en-

Something there is more needful than expense, And something previous e'en to taste—'tis sense; Good sense, which only is the gift of Heaven, And, though no science, fairly worth the seven."

The efforts of professors were now more than ever necessary, as, without unwarrantable complaining, it must be said that the present state of taste was bad. He considered so from the absence of all originality, the complete indifference of the public to style, and the indiscriminate practice of all styles. Competition, in which the old and young were mixed up together, was also injurious to the interests of art. The art likewise suffered greatly from the undue influence of engineers, who were entirely utilitarian in art, caring nothing for taste, and absolutely riding over the architect. The beautiful balustrade of a bridge had been swept away entire by an engineer, and replaced with an unsightly wall, and without a remonstrance. The buildings of our greatest architeet did not escape. Nevertheless, there was all to hope from the future, and Barry's prediction might be held as true, that "he had lived a hundred years too soon." Great works had been impossible, and in one "glorious." war was spent as much as would have raised 800 public buildings. Royal patronage had done every thing for art abroad; it would be seen what public patronage could do in England, and it behoved the students to employ their time in such manner as to benefit the art.

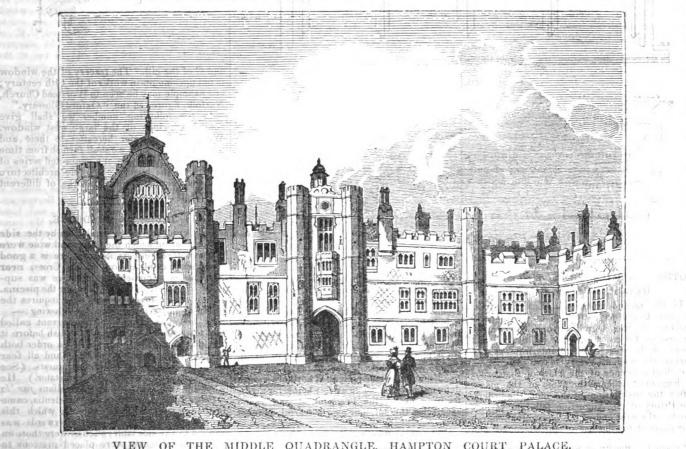
The lecture concluded shortly after nine o'clock, amidst the general applause of an attentive audience. We did not notice many of our older professional brethren amongst the professor's auditors; we trust they will attend his succeeding lectures, as their presence is a compliment which his services merit.

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gravings, representing the middle quadrangle of Hampton Court Palace, is not by any means one of the best, but was selected by us that we might remind our readers of the proximity of this interesting structure to the metropolis, and induce those who have not been there to visit it. The chapel, the greathall, and various offices, remain as they were built by Wolsey and King Henry VIII.

The collection of pictures is full of interest, especially as historical illustrations, and, to crown all, there are Raphael's cartoons for our study and admiration.

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VIEW OF THE MIDDLE QUADRANGLE, HAMPTON COURT PALACE.

DRY ROT.

DAMP is not only a cause of decay, but essential to it; while, on the other hand, absolute wet, especially at a low temperature, prevents it. This latter must be understood to imply more than the partial immersion to which log rafts are usually subject; for that is a practice unquestionably injurious to the timber. Piling and planking under damp foundations, not-withstanding the incontrovertible instances which can be adduced of their long endurance, are practices decidedly bad; for the decay of the timber is little less than certain: the sinking of the superstructure must obviously keep pace with it, and the settlement being irregular, must produce fractures in the edifice. Again we say, if the wet is perfect, the result is otherwise. Old refuse-wood that has been is otherwise. lying about in timber yards, imbibing mois-ture from the earth, makes bad bearers for logs; for it is more or less decayed, and therefore infectious. To bed timbers in mortar, which is liable to continue long in a humid state, is bad ; under such circumstances decay may be expected: to prevent this chance, it was en-acted by the 19th Car. 2, cap. 3, that bond and plates, the ends of girders, &c., should be bedded in loam instead of mortar; it may be here remarked that sawn timbers are, in their sides, more subject to the influence of moisture than such as have been split; for, as the saw cuts through the fibres, the moisture is afforded more ready access; for this reason cleft pales are the most durable. Hasty finishing on damp walls delays drying, and must induce premature decay where timbers are confined : drying therefore should, in favourable weather, be accelerated by a free admission of air, and in the night by fires, but not too strong, for that would cause the wood-work to shrink and crack.

The confinement of timbers under most circumstances is attended with the worst consequences; yet a partial ventilation tends, as an able writer has expressed it, to "fan the flame" of decay, and hasten rather than prevent it: floors in general do not afford good facilities for ventilation, and are therefore very liable to decay : the joints of even well-ventilated framing frequently afford illustration of this; for when the timber has not been thoroughly seasoned, the moisture which there seeks escape, and (from the parts being neither perfectly close nor yet sufficiently open to allow dampness to evaporate) is confined, invariably induces decay. Timbering to basement floors, induces decay. Timbering to basement floors, and in close cellars, is destroyed in a very short time

Damp combined with warmth is, as a destroying agent, still more active than simple damp alone—the heat being understood as damp alone—the heat being understood as insufficient to carry off the moisture by eva-poration; and the higher the temperature, with a corresponding degree of moisture, the more rapid the decay. The kind of composi-tion produced in this way is called rot, and is of two kinds distinguished court and and is of two kinds, distinguished as wet rot and dry rot: these proceed from the same primary causes, the difference between them being constituted by the disparity in the evaporation; where that is free, and disperses the gaseous products of the putrefaction, we have wet rot; where there is not a free circulation of pure atmospheric air, to absorb all the moisture and carry off these products, they combine in the formation of a parasitical fungus called *boletus lachrymans*, belonging to the botanical class cryptogamia, and thus we have dry rot: of this serious evil it is important to be well aware :-

Dry rot, externally, first makes its appearance as a mildew, or rather a delicate white vegetation, that looks like such. This stage of the disease, if not one more advanced, is almost invariably found to be arrived at in the American timber brought over to this country in the confined and heated holds of ships; its next step is a collecting together of the fibres of the vegetation into a more decided form, somewhat like hoar frost; after which it speedily assumes the leathery, compact cha-racter of the fungue, forming into leaves, spreading rapidly in all directions and over all attain when once it takes root and is left un-arrested, we shall collect some scattered cases.

In the memoirs of Pepys, who was secretary to the Admiralty during the reigns of Charles II. and James II., reference is made to a commission which was appointed to inquire into the state of the navy, and from which it ap-pears that thirty ships, called new ships, "for want of proper care and attention, had toadstools growing in their holds as big as one's fists, and were in so complete a state of decay, that some of the planks had dropped from their sides." In the European Magazine for Dec., 1811, it is stated that, "about 1798, there was, at Woolwich, a ship in so had a state, that the deck sunk with a man's weight, and the orange and brown-coloured fungi were hanging, in the shape of inverted cones, from deck to deck." In the Transactions of the Society of deck." In the Transactions of the Society of Arts, vol. xxi. p. 294, we find that "an oak barn floor, which had been laid twelve years, began to shake upon the joists, and, on examination, was found to be quite rotten in va-rious parts; the planks, 21 inches in thick-ness, were nearly eaten through, except the ness, were nearly eaten inrough, except the outside, which was glossy, and apparently with-out blemish. The rotten wood was partly in the state of an impalpable powder, of a snuff-colour, other parts were black, and the rest clearly fungus. No earth was near the wood."

In timber which has been only superficially seasoned, and the heartward sap of which has never been discharged, this disease is produced internally, and has been known to convert the entire substance of a beam, excepting only the external inch or two of thickness to which the seasoning had penetrated, into a fine, white, and thread like vegetation, uniting in a thick fungous coat at the ends, the semblance being that of a perfectly sound beam, thus serving as a mask to mislead the inexperienced. In this internal rot, a spongy or fungous substance is formed between the fibres.

The first symptoms of rottenness in timber are swelling, discoloration, and mouldiness, accompanied with a musty smell; in its greater advance the fibres are found to shrink lengthways and break, presenting many deep fosures across the wood; the fibres crumble readily to a fine snuff-like powder, but retain, when un-

disturbed, much of their natural appearance. The prevention of dry rot, or growth of fungus, has engaged the attention of scientific men for a very long period ; and much floundering has there been in their meritorious endeavours towards accomplishing this desirable object. Some of the means tried, while calculated to prevent vegetation, were found to introduce evils as great as those they were intended to obviate; even now, although much has been achieved, it is to be feared it remains, in a great measure, a vexuta quæstio. The most favourite theory has been that of impreg-nating the pores of the wood with some such substance as should arrest putrefaction, and materials have sometimes been introduced for this purpose which produced an effect just the opposite of what was anticipated. About 1670 a Mr. Jackson, with a view to the prevention of decay, obtained permission to prepare some timber to be used in the national yards, by immersing it in a solution of salt water, lime, muriate of soda, potash, Epsom salts, &c., the result of which dose was, that the vessels built with it were rendered more perishable than if they had been constructed of unprepared timber. Between 1768 and 1773, a practice prevailed of saturating the timbers of ships v common salt, but this was found to cause a rapid corrosion of the iron fastenings, and to fill the vessels between decks with a continual damp vapour. Subsequently, mundic, found in the mines in Devonshire, was employed, in a state of fusion, to eradicate present, and prevent future growth; but whether its efficacy was proved by time, we have not been able to ascertain.

Quick-lime, with damp, has been found to accelerate putrefaction ; but when dry, and in such large quantity as to absorb all moisture from the wood, the latter is hardened and ren-dered durable; vessels long in the lime-trade have afforded proof of this fact. White-wash or lime-water has been strongly recommended for use between the decks of ships, as being unfavourable to vegetation. Smoke-drying, oven-drying, scorching, and charring, have the effect of hardening wood, contributing to its durability, and preventing and destroying in-fection; but they may only be adopted with timber which has previously undergone a thorough seasoning. Steaming is also un-

derstood to prevent dry-rot. The piles sup-posed to have been driven by order of Julius Casar, when he forded the Thames at Cowey Stakes, near Shepperton, were charred; and when taken up some five-and-thirty years ago, were found in a complete state, free from decay. The incorruptibility of charcoal is well known, whether it be buried in the earth, exposed to the atmospheric action, or to that of water; the beams of the theatre of Herculaneum, which were reduced to that state by lava, were, after a period of nearly eighteen centuries, found to be perfect; the charred feet of posts which are put into the ground afford proof of its efficacy; the flag-ship, Royal William, at Spithead, built in 1719, the inner charce of the planks of which only were charred, was an example of great durability. A mongst other advantages, rats will not touch charcoal, neither will the white ants and cockroaches, so common in the Indies, commit their depredations where charring has been employed.

But the methods which have most engrossed the public attention of late years are those re-spectively distinguished as Kyan's, Payne's, Burnett's, patents, &c. In the years 1833 to 1836, at the Arsenal, Woolwich, experiments were instituted, having for their object the es-tablishing or otherwise the claims of that first mentioned, and the results of which were of a very satisfactory nature: the Kyanised spe-cimens generally, which were submitted to the fungus-pit, when taken out at the end of three years, being sound, while duplicate pieces, unprepared, were found in various stages of decay. Certain questions, however, presented themselves:—lst, Whether the impregnation to which the timber had been subjected might to which the timber had been subjected might not be removable by some cause, and perhaps generate an atmosphere poxious and inju-rious to health. 2nd, Whether the strength of the timber were impaired or otherwise. The first was satisfactorily determined by Dr. Faraday, who proved by experiment that the combination was not simply mechanical but chemi-cal, and that a permanently compound material was formed; the second was solved by experi-ments made by Capt. Alderson, C.E., upon ash and Christiania deal, and which shewed that the rigidity of the timber was enhanced. but its strength in some measure impaired ; its specific gravity being also somewhat diminished. Another question yet remains open :--- how far, since the impregnation has not been traced to a depth greater than half an inch, does this process meet our requirements? and, after the atisfactory conclusion arrived at, as above related, and the evidence of the facts upon which it was so reasonably founded, how are we to meet the assertion of Mr. Pritchard, C. E., of Shoreham, made in 1842?--- "The sleepers Kyanised five years ago, and in use at the W. I. Dock warehouses, have been discovered to decay rapidly; and the wooden tanks at the Anti-Dry-Rot Company's principal yard are decayed:" but more from this gentleman here-after. Mr. Kyan's infusion is corrosive subliafter. Mr. Kyan's infusion is corrosive sublimate, and the process consists in submersing the timber in tanks for about a week, then taking it out and drying: Sir Humphey Davy had previously recommended a weak solution of the same thing, to be used as a wash where rot had made its appearance. Dr. Birkbeck made a favourable exposition of the process as pursued by Mr. Kyan; Sir John Barrow and the Duke of Portland impugn it; and Lord Manners and Dr. Moore follow on the same side. The Paynising process, besides profess-ing to preserve timber from dry-rot and the ravages of insects, is said to render it unin-flammable, or at least to deprive it in a great flammable, or at reset to a measure of combustibility. JAMES WYLSON.

ALTAR-PIECE, ST. JAMES'S CHURCH, BER-MONDSEY .- About seventy sketches, it is said, were submitted to the committee in reply to their advertisement. The successful competitor is Mr. John Wood, of Charlotte-street, Fitzroy-square. After the picture is painted, however, the premium will not be paid, unless referees, to be appointed, shall pronounce it worth the sum offered, 500%. STATUE OF PRINCE ALGERT.—A committee of the most influential merchants of the city is

in course of formation to erect by subscription a full-length marble statue of Prince Albert, in the Royal Exchange, in commemoration of his having laid the first stone.

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THE BUILDER.

ON TIMBER SCAFFOLDING FOR BUILDINGS.

By THOMAS GRISSELL, Assoc. Inst., C.E.

From the Proceedings of the Institution of Civil

In adopting the principle of timber scaffold-fing for buildings, in preference to poles and ropes, Messrs. Grissell and Peto, the con-tractors, were influenced by considerations of saving both time and expense. They had long been impressed with the want of scientific principle exhibited in the ordinary scaffolding, and were more readily induced to turn their attention to that now referred to, which they believe to be an essential improvement, and calculated to be of considerable advantage to

contractors on large works. The author is well aware of the progress which has recently been made by the civil engineers and architects of this country, but he ventures to claim some share of merit for the practical builders, to whom is committed the execution of the works designed by the engineer and architect; and when a review is taken of the stupendous public works which have been executed within the last few years, it is evident, that without the exercise of great skill, and the introduction of new modes of reducing fabour, the amount of work could not have been executed within the time.

The necessity for this reduction of labour on large works had been long felt in the north, and methods had been adopted in consequence, to emulate which, this timber scaffolding was to emulate which, this timber scatfolding was introduced to London. The system had been employed, in rather a rude form, by Mr. Tomkinson of Liverpool, in his quarries and stone yards, for moving stones of large di-mensions. Scatfolding of a somewhat similar kind wiss used in the erection of the Arc de Triomphe, Barrière de l'Etoile, and at the Eglise de la Madeleine, at Paris.* The first time it was used by the author's

firm was for the erection of the Reform Club-house (Pall Mall), under Mr. Barry, in 1838; then at the large graving-dock at her Majesty's Dock yard, Woolwich, under Mr. Walker (Pres. Inst. C. E.), in 1839; and it is now employed very extensively at the New Houses employed very extensively at the New Houses of Parliament. In these constructions its general applicability was proved, and in the erection of the Nelson Column (commenced in 1840), where it was carried up to the height of 180 feet, its stability at a considerable elevation was fully tested. Its usefulness is manifested by the facilities which it affords to the work then on vertical action in buildings of chose the workmen, particularly in buildings of stone. By its aid, and with the travelling machine at its summit, one mason, or 'setter', can set as much work in one day, as was formerly done in three days; whilst at least six labourers are dispensed with, who, with the old mode of despensed with, who, with the old mode of scaffolding, were always required to be in attendance. It is also well known that scaffolding poles and cords are not only ex-pensive, but are subject to rapid decay, and after a few years' wear become useless; in fact, the scaffolding of a moderately extensive building costs a large arm who first are fact, the scanolaing of a moueratery extensive building costs a large sum when first pur-chased, but it is almost valueless after a comparatively short period of time. Such is not the case with the timber scaffolding, which may be said to be of no greater cost to the contractor than the expense of its erection, which will not exceed in any ordinary case three-pence per foot cube. It is not secured three-pence per toot cube. It is not secured together by either bolts or spikes, so that the waste is trifling; and after having performed its daty as a scaffold, it may be removed piecemeal into the building, at the level of each floor, and be used directly for constructing the most and the interval momentum of the the roof and the internal carpentry of the structure. The timber having become seasoned by its exposure to the weather, is consequently ter fitted for immediate use.

These advantages have been proved in the buildings which have been mentioned, and sfter an experience of more than five years, the author strongly recommends the adoption of the system. He also advises its use in

• The square timber scaffolding was employed by Domenic Festma, in 1566, for the erection of the Egyptian Obeliak in frast of Sc. Peter's at Rome. The means employed in that work are shown in detail, in engravings, dated 1586, in the procession of Mr. Allen, at the New Houses of Parliament, and they are described with many other methods of using square imber scaffolding for external and internal construc-tions in the "Contignationes, ac pontes Nicolai Zabaglia un cam quibusdam ingeniosis praxibus, ac descriptione transisis obelisti Vaticani, aliorunque, per Equitem Dominicum Fontana susceptes. Romse, 1743."

moving and working large stones, either for permanent erections, or in masons' yards. If used on a wharf the rent would soon be saved in labour, and by allowing the stage to project 8 feet or 10 feet over the river, the scaffolding would be found to answer the purpose of a erane.

crane. The scaffolding at the Nelson Column, designed by Mr. Allen, under whose direction the work was executed, was composed of sills, uprights, cross-heads, longitudinal timbers, braces, and struts, which were used whole, without sawing; the upright timbers were slightly tenoned into the horizontal timbers, and the junctions were secured by iron dogs driven into the timber diagonally across the joints. This mode was preferred to bolts or spikes, on account of the ease with which they could be withdrawn, and because the timber was not into the timber diagonal of the could be withdrawn. injured. The base of the scaffold was 96 feet square, exclusive of the raking-braces; the height of each stage varied from 48 feet to 21 feet, upwards; and the total height was about 180 feet. The total amount of timber in the scaffold was 154 loads, or 7,700 cubic feet, and the cost of its erection was 240%.

Its stability was secured, at the height to which it was carried, by using flying windbraces, supported upon cross transoms, running outwards about 6 feet beyond the perpendicular of the scaffold at each stage.

Mr. Nicholson remarked, that a scaffolding of a similar description was used in 1837 by Mesers. Cubitt (Gray's-inn-road), for erecting the entrance gateway of the London and Birmingham Railway (Euston-square).† It was composed of two arallel rows of whole timber uprights, 50 feet high and 17 feet apart, surrounding the building (Fig. 1); these were well stayed by diagonal braces, and a tramway was formed on the top of each was formed on the top of each row, by horizontal sill pieces, bolt-ed down and secured by plates. The building work was executed by the aid of travelling carriages upon the tranways, and when the masonry had reached the height of the first scaffold, a second series of uprights and sills was added, making the total height 90 feet, which enabled the work to be completed without an accident.

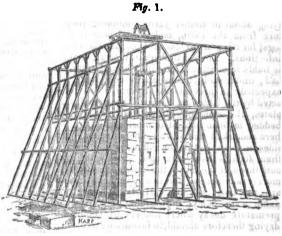
Mr. Harrison believed, that a scaffolding of a somewhat similar construction was used by Messrs. Rennie, at the Vic-tualling-yard at Plymouth, in 1826.

Mr. Rennie said, that the scaffolding employed for rais-ing the statue and other heavy parts of the work, at the Vicparts of the work, at the vic-tualling-yard, was on the der-rick principle, and was some-what similar to that used for erecting the Commemoration Column at Devonport (Fig. 2).

Mr. Grissell stated, that when writing the account of the scaffolding at the Nelson Column, that which had been used by Messrs. Cubitt, at the entrance of the London and Birmingham Railway, had en-tirely escaped his recollection; he now remembered it perfect-ly, and was happy to have the opportunity of acknowledging that fact. He could not speak too highly in praise of the system, and he thought its advantages had, as yet, been under-rated. The waste of timber was comparatively nothing; while serving as scaffolding it was becoming seasoned, and like that at the Nelson Column, could be immediately worked up, in situations demanding dry timber. The cost was one-half, and sometimes one-third, of the ordinary kind of scaffold, if the loss by the rotting and de-struction of poles and cords was taken into account. The saving of labour in raising the mate-rials was very great, particu-larly where weights of from 8 tons to 14 tons were required to be lifted. If steam power had been used at the Nelson Column, a still greater saving would have been effected.

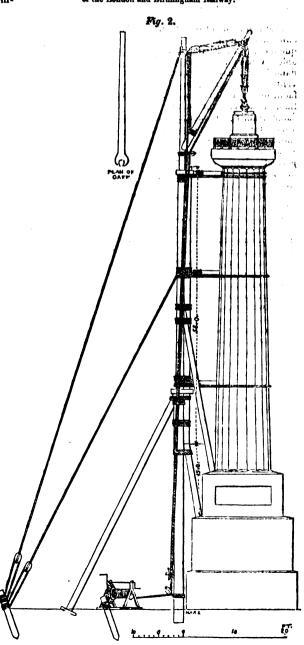
Another considerable advantage was the freedom from danger to the workmen; during five years, in all the works where he had used this kind of

† In the "Drawings of the London and Birmingham Railway, by J. C. Bourne" (Ackerman and Co.), two views are given of this scaffolding.



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Scaffolding used for building the entrance of the Euston Square Station of the London and Birmingham Reilway.



Derrick used for building the Commemoration Column at Devonport.

scaffolding; only one man had been killed. That accident occurred at the Woolwich Graving Duck, when a men was thrown from the travelling carriage by the handle of the winch striking him, from his having omitted to put on the break.

to put on the break. He believed, that this description of scaf-folding might be safely carried still higher than at the Nelson Column, for although be-fore the statue was hoisted, he had felt some-what anxious, and had thought of attaching guide chains, and using other precautions, the fabric had stood so well, that he should not now

fabric had stood so well, that he should not now hesitate to go to a greater height, relying upon the scaffolding alone. Mr. O. H. Smith had adopted the system of the travelling winch on a framing, with great advantage in his earving room, for moving the heavy blocks of stone, from which the capitals of the columns for the Royal Ex-change were cut. Without such mechanical assistance, he could never have executed his task within the required time, nor could the capitals have been raised and placed on the carriages, to be conveyed away, without much capitals nave over raised and placed on the carriages, to be conveyed away, without much danger of isjury. Mr. Giles said, that Corby Bridge, over the Eden, on the line of the Newcastle and

Ourliele Railway, was built by Mr. Denton, the contractor, by means of whole timber scaffickling put together in three stages. The bridge consisted of five arches, of 80 feet span each; 100 feet in height, and contained 400,000 feat of stone-work which was executed with feet of stone-work, which was executed with the greatest facility, chiefly owing to the con-venience afforded by the scaffolding, and with-out any accident, excepting to the foreman, who fell twice from a considerable height, but mately was not killed.

Mr. Fowler said, that the scaffolding at the Cathedral at Cologne was of whole timber; there was little doubt, that the system was very similar to that which was employed when the building was commenced, in 1248. The erane which was used in raising the naterials still remained on the summit of one of the towers ; it was once removed, but was speedily restored to its situation, as the superstitious fears of the inhabitants of Colegne were excited by the occurrence of a storm immediately consequent upon the re-moval of the grane. It had subsequently been constantly repaired as it decayed, so that at present little of the original remained, but the present little of the original remained, but the form was still the same. He believed, that the susteriads for the York Column (Carlton-terrace) were raised by a kind of travelling carriage, on the top of the scaffolding. Mr. Hawkins observed, that the scaffolds

med at Vienna, for the erection of any building of importance, were always constructed of whole timbers, secured together by ' dogs.' In 1837 he superintended the erection of an ex-tensive sugar-house at Vienna, where such scaffolding was used.

Mr. Colthurst stated, that at Devonport there was a column built of granite from Hol-man's Hill Quarry, near the Tamar. The shaft was 11 feet in diameter; its height, from the bottom of the shaft to the top of the capital was 65 feet 4 inches. The total height of the column, with its inferior and crowning pe-destals, was 101 feet 4 inches. Its height above the street, including the rock on which it stood; was 124 feet. The abacus of the capital was composed of four stones, each weighing between 3 and 4 tons.*

The stones of the column were raised and set, entirely without the use of scaffolding, by set, entirely without the use of scaffolding, by means of a series of tall spars joined together (Fig. 2); the lowest, being fixed into the ground and braced by diagonal picces, was lashed and strutted to the lower part of the shaft. A gaff, with a jnw at the lower end, was then elung in the throat by a strong rope or chain, so as to work round the upright spar, in the jaw prepared for this movement; from the end of the gaff, blocks and a fall were suspended, in such a manner as to command every part of the work, by raising or depressing the point of the gaff, to increase or dimi-uish its range. Crab winches sufficed to ruise the stones ; and it was stated that the work was executed in a very short time.

Mr. Rendel had seen this column while in course of construction; the derrick appeared to act well, and it was certainly a cheap mode of raising the materials.

Vide "The Public Buildings erected in the West agland ;" by John Foulston. 4to. 1638, pp. 57 and 59.

Mr. Smith said, that in a recent visit to Liverpool, he had observed an ingenious mode adopted by Mr. Tomkinson for raising building materials, which almost superseded the use of external scaffolding. It consisted of a very high double "derick" placed upon wheels running on a tramway laid parallel with the walls of the building; the head of the derick curved over towards the wall, and steam power was employed for raising the materials, which appeared to be accomplished with rapidity. The president remarked, that the institution always viewed with pleasure papers descriptive of the webbel de latet the series of weaks desired her significant the significant the significant the significant the series of weaks descriptive of the series of the series of the significant the significant terms of the series of the series of the significant terms of the series of the significant terms of the series of the series of the series of the series of the significant terms of the series of the significant terms of the series of

of the methods adopted by contractors in the execution of works designed by civil engineers or architects. The profession was much indebted to the practical skill and intelligence of the contractors, and it would be extremely interesting to find recorded in the "Minutes of Proceedings" of the institution the names of the inventors, and the dates of the introduction of such ingenious modes of accomplishing works of magnitude as had been described by Messrs. Grissell and Peto. This could only be arrived at by either the engineers or con tractors sending the necessary information, or by their giving it during the discussions at the meetings.

General Pasley described the method adopted by Mr. T. Slacks (Langholm), for building the obelisk which was erected on the Whitaw, Eskdale, to the memory of the late Major-General Sir John Malcolm, a native of that district.*

The obelisk, which was of white sand-stone, was carried up to the height of 100 feet above the foundation; it was built hollow, with thorough courses at intervals; through the centre of each of these courses was left a circular hole. In the lower of these holes was placed the foot of a pole 40 feet long and 10 inches diameter; the next hole above holes was placed the foot of a pole 40 feet long and 10 inches diameter; the next hole above served as a stay, whilst the upper one supported the whole weight, as around the poles was firmly fixed a collar of hard wood. Beneath this collar 17 metal balls, 31 inches in diameter, were introduced, which, running in corresponding circular grooves in the collar and the thorough course, enabled the pole to revolve easily. Across the top of the pole was mortised a beam 12 feet long and 12 inches square, in the form of the letter T, and it was strengthened by diagonal iron braces and straps. By means of a crab winch with a rope passing over pulleys in each end of the transverse beam, the stones, were raised to the requisite height, and by a traversing carriage on the beam, a small crab, and the pulleys, the stone was enabled to run inwards to the spot for laying it. The crane was raised as each bond or thorough course was fixed, and the time consumed in the oversetion of moving it did not exceed two hours.

crane was raised as each bond or thorough course was fixed, and the time consumed in the operation of moving it did not exceed two hours. This crane had been found very efficient, and had greatly reduced the cost of building the obelisk, which was completed in less than twelve months. For the ingenuity displayed in this simple modification of the balance crane used by Mr. Stevenson, at the Bell Rock Lighthouse, and for a clever banging scaffolding used for completing the pyramidal top of the obelisk, the gold Isis medal was voted to Mr. Slack, by the Society of Arts, in 1836-7. A model was exhi-bited of a moveshe

bited of a moveable derrick crane (Fig. 3), which had been pre-sented by Mr. How-kins. It was used by kins. It was used by Mr. Wightman at the works of the Granton Pier, Edinburgh, and was stated by him to be very superior to any other kind of crane. It consisted of a vertical post, supported by two timber backstays, and a long moveable jib, or derrick, which was hinged against the post, below the gearing; this jib was held by a chain, passing from a barrel over a pulley at the top of the post, in such a manner that the extreme end of the jib could be raised almost vertically, or be low-ered nearly to a horizontal position.

The chief advantage it possessed over the old gibbet crane, was, that it commanded concentric circles of from 10 feet to 60 feet radius, which was of great use in large works, as it could extend its sweep over a circle of 120 feet diameter, without being moved from its position; whereas, the old gibbetcrane command-

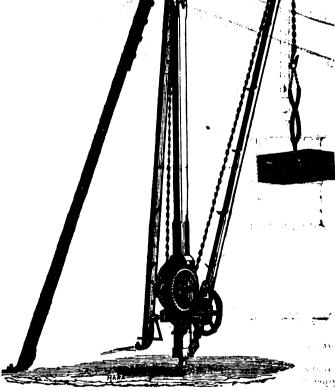


Fig. 3.

Derrick crane used at Granton Pier (Edinburgh).

ed only one circle of comparatively limited extent, and in moving it, as the works proceeded, there was a considerable loss of time.

there was a considerable loss of time. Mr. Brenner stated, that he had seen the crane at Granton Pier; it was a very useful machine, and the only fault he could find with it, was, that in an exposed situation, there was a risk of the wheel-work being destroyed. He believed, that the contractors had found much advantume from it was much advantage from its use.

Much advantage from its use. Mr. Bremner had used, at the works of Lossiemouth Harbour, a crane of a somewhat similar description. The jib was composed of two spars, with the hoisting-chain working between them; the radius of its sweep was 60

Vide Trans. Soc. Arts, 1836-7, vol. li., page 78.

feet, so that any spot, within a circle of 120 feet in diameter, was fully commanded by it, and that extent of work could be completed without moving the crane.

Mr. Gale presented two drawings of im-proved moveable jib-cranes, the alterations in which had been suggested by the serious accidents which had occurred from the failure of the ordinary cranes. On investigating the circumstances con-

nected with these accidents, he found that in general they had arisen from the snapping of the jib-chain. After numerous experiments, it occurred to him that this defect might be occurred to him that this defect might be obviated by attaching the jib-chain to the top of the post, instead of fixing it to the end of the jib: this alteration was productive of great

advantage; the strain was found to be less than one-half that of the single jib-crane, and it consequently required fewer men to work it.

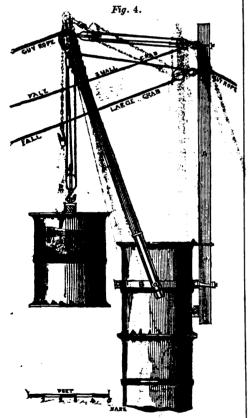
had also applied a rope instead of a He chain for working the jib, as it was preferred by some builders, and he had also made some minor improvements in the other parts of the cranes.

These kind of cranes were, he believed, in-troduced by Mr. W. York, at Glasgow, in the year 1833, and Mr. Gale had used the improved sort in 1842, at the erection of the New Court Houses, Glasgow. Since that time many builders had adopted them, and their adventages were becoming daily so evident, that he would send, early in the ensuing session, a paper descriptive of them.

Mr. Thomson believed, that cranes of this description were first used at Glasgow by builders. The contractor for the Grange-mouth Docks, under Sir John Macneil, em-ployed them in 1841 and 1842 with much advantage; he thought them the most useful kind of crange for general work kind of cranes for general work.

The President agreed in the opinion of the general utility of the cranes; he had been so pleased with them, that be requested Mr. Howkins to present to the Institution the model of that used at Granton Pier. With respect to the date of the introduction of the respect to the date of the introduction of the swinging-jib, or moveable derrick crane, it was used at Granton Pier by Mesars. Orrell, of Liverpool, in 1838, and he believed, that it had been commonly used by them for some time previously.

Wicksteed presented a drawing of kle used in elevating pipes of the Mr. the tackle used in elevating pipes of the "stand-pipe" of the East London Waterworks (Fig. 4). A piece of timber (A),



Tackle used in elevating the pipes of the "Stand-pipe" the East London Water-works.

9 inches square, was attached vertically to the upper flanch of the pipe, and held below by an iron girdle (B), which encircled the body an iron girdle (b), which each clear the body of the pipe; guy ropes were attached to the top of the upright, which served as the points of suspension for the snatch blocks, through which were passed the fall ropes from the large and the small crab winches. The iron girdle had at its opposite sides two pivots, which traversed the lower end of two timber jibs (C), connected at their upper ends by a cross piece (D), from the centre of which were suspended the blocks and tackle con-nected with the large crab, by which the pipes When each pipe had arrived at were raised. its height, the jib frame was drawn up verti-cally by the tackle from the small crab, and the pipe was lowered to its position ; the pins were put into the flanches, and the whole apparatus was raised and attached to it, in order to use it for raising the next pipe. This process was

repeated until the stand-pipe was finished at a height of upwards of 130 feet. It was stated to be a very simple and economical mode of proceeding.

Corresvondence.

TUBULAE CHIMNEY-FLUES. SIR,—Observing in THE BUILDER a con-troversy respecting tubular chimney-flues, I beg to acquaint you that tubular chimney-flues were introduced here at Abbotsford, by John and Thomas Smith, of Darnick, in the year 1822, and I never saw or heard of them before that time that time.

Their flues were in pieces of 12 inches high, and from 9 to 15 inches diameter in-They were made of a mixture of fine side. clay and common clay, about 14 inch thick. To form the inflections, they were made a little off the square on one end, so that when put together, they formed a curve.

Since that time these flues have been very much used in this neighbourhood .-- I am, Sir, your most obedient servant,

A CONSTANT READER. Melrose, 10th January, 1845.

THE WINDOW-TAX.

-I have just made a Venetian window of SIR, three lights, divided by two 14 inch mullions, for which the opening between the out-side brickwork of the whole window is 4 feet 9 inches. The boxings are placed in the usual way in the reveals, and the window frame is seen on the inside, and makes the window there, including the frame, more than 5 feet 6 inches wide. The height of the whole frame, including head and cill, is 7 feet 6 inches.

Is such a window liable to be charged as a double light under the Window tax Acts? And if so, why? — Your answer will oblige, A JOINER.

Oswestry, Jan. 13, 1845.

[Windows above 4 feet 9 inches in width between the reveals, are charged as double lights; except in shops, workshops, and ware-houses, or in the public room of any house licensed to sell liquors by retail or in farm-houses especially exempted from the duties on houses.—ED.]

BLISTERS IN LIME. SIR,-May I beg the favour of inserting the following in your excellent journal, BUILDER :-

servant. W. S. S.

[Is the lime in question properly prepared? Blisters usually result from the lime not being thoroughly slaked before it is used. Some limes crack in drying, when slaked with too much water. They cannot combine with the fluid, and when this is withdrawn by evaporation, shrinkage takes place .--- ED.]

MODEL (?) HOUSES, PENTONVILLE.

SIR,-The public is much indebted to you for your comments on the so-called model houses in the Bagnigge-wells-road. Pray do not relax in your efforts to effect an alteration in them. The present plan is perfectly preposterous.-Your obedient servant.

A MEMBER OF THE SOCIETY. We shall not fail to return to the subject shortly.-ED.]

ANOTHER FIRE FROM OVER-HEATED FLUE. -On Tuesday night, shortly after 10 o'clock, police constable Reeve, perceiving smoke issuing from the lower part of the extensive pre-mises in the occupation of W. Thomas and Brothers, 128 and 129, Cheapside, gave an immediate alarm to the engine station at Watling-street. Mr. Braidwood and two Watling-street. Mr. Braidwood and two engines from that establishment were soon upon the spot, and upon an entrance being effected, it was discovered that the flue of the apparatus for warming the premises had been over heated, and was communicating with the timbers of the flooring underneath the shop. The discovery was most opportune; as it is, however, considerable injury is done by smoke and water.

Miscellanea.

WAREHOUSING. --- There is now a warehouse in the course of erection in Manchester which seems deserving of especial notice on account of its extent, as well as its mode of construction. It is the property of Mesars. Philips, and Co., the oldest, wealthiest, and certainly the most respectable firm within the borough. Its site is in Church-street, and adjoining their present large establishment. Its basement story is equal to that of Measre, Watts, within a few superficial yards. The area of the various floors will be within a shade of a statute acre, whilst the entire concern would cover over two statute acres. The building is to be completely fire-proof; not building is to be completely fire-proof; not an inch of timber will, it is said, be used in its construction. It is built of the best stock dressed brick, and instead of plastering the inner walls, the inside brick-work will be faced with dressed stock-brick, similar to the outside, with this difference, however, that the inside facing will be laid in Roman consent, thus making the inner walls impervious to damp-a great desideratum in a *holmetherhork* damp-a great desideratum in a haberdaahory concern like this. It is somewhat singular It is somewhat singular that the Messrs. Philips should have been the first to introduce firs-proof cotton-mills-the first, too, to introduce gas into a cotton-mill; which was effected in 1801-2, to a large extent, -and also to be the first to build a fire-proof warehouse, for the first it will be in Man-chester, that has been erected for the sale of

goods only.—Doncaster Gazette. WILTON.—We understand that the internal decoration of the church building at Wilton, at the expense of the Hon. Sydney Herbert, M.P., is to be completed by Mr. Willement; in the style of the Temple church. We be-Register. MOVING BRIDK HOUSES. --- The Boatch

Daily Advertiser of the 20th alt says, # A very neat and successful operation was performed in Lincoln-street, in the removal of a block of two large three-story brick dwellings a distance of some 10 or 15 feet, for the widening of the street. The new foundation for the houses had street. The new foundation for the houses had been of course previously prepared, and the houses themselves were placed on a source of railway, preparatory to their removal. The movement was effected by measure of juck-screws, acting in a horizontal direction. The construction of the tracks or ways was novel and extremely simple. They consisted of double lines of cast-iron plates, inserted be-tween the foundations of each of the walls of tween the foundations of each of the walls of the building itself; and for wheels, or rollers, cannon balls of equal size were placed between the two lines of plates—the upper plates being inverted. As the foundations of these ways consisted of the original foundation of the building, there could of course be no hasard of yielding, as the whole building rested on walls of equal size: it was moved without any walls of equal size: it was moved without any dislocation or cracking of the walls in any part, or of the finishing. The operation of remov-ing the building was performed under the direction and superintendence of Mr. Preston, of the Board of Aldermen, and has been ad-complished with entire success. We under trad elec thet it has here done at a way stand, also, that it has been done at a very moderate expense, compared with the advantage gained of placing the whole edifice on its new foundation without the slightest injury, and without hazard of serious accident."

FIRE-PROOF CONSTRUCTION .--- At the con-clusion of the inquest on the bodies of the sufferers in the late fire in Guildford-street, and before the jury separated, Mr. Geary, the ar-chitect, exhibited the model of a house, which he said was so far fire-proof as to ensure the saving of life. Its chief merits consisted in brick partition-walls, instead of lath and plaster, and in having the panels of the doors of sheet-iron. This confined the fire in whatever room it occurred. He stated, that this mode of building was not more expensive than the lath and plaster one usually pursued in London.

IMPROVED SYSTEM OF DRAINAGE It is so currently reported and believed that Government, during the approaching session, intend to introduce a Bill for the improvement of the system of draining towns, that, in some in-stances, works, which otherwise would have been commenced, have been postponed,

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ARCHITECTURE AT KING'S COLLEGE. Professor Hosking will resume his course on the arts of construction on Friday, the 24th, at 4 o'clock, and will continue it at the same time on every succeeding Tuesday and Friday throughout the term. We hope to find it well attended.

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VACANT CHAIR AT UNIVERSITY COLLEGE. -The professorship of civil engineering at this college being vacant, candidates are requested to send in applications and testi-monials on or before Friday, the 14th of February.

PUBLIC PARKS .- The subscription in Manchester for public parks, &c., now amounts to nearly 30,000%.

THE IRON TRADE.—This important branch of our manufactures is in the most thriving condition which its best friends could wish. condition which its best friends could wish. We noticed an increase of 10s. per ton on manufactured iron in the early part of last month. On Friday, the usual preliminary meeting of iron masters was held at Dudley, in order to fix the prices of iron for the ensuing quarter-day, when a further increase of 10s. per ton was agreed upon. The Great North of England Railway Company's contract for 6,000 tons of rails has been taken by the Bishopwearmouth Iron Company, at Sunder-land, and Messrs. Blockow and Vaughan, of Middlesbro' Ironworks. at 7L 15s. per ton. Middlesbro' Ironworks, at 7L 15s. per ton, which is a considerable advance on the late quotations .- Bristol Journal, Jan. 4.

NOTICES OF CONTRACTS.

For the erection of a Wesleyan Chapel at Hythe. - Mr. T. Pilcher, Stationer, &c., Hythe. January 21.

For making a Sewar in the town of Cambridge. The sewer to be cylindrical, and 2 feet diameter in the clear, the length will be about 385 yards, and the average depth about 9 feet.—Frederick Randall, Town Hall, Cambridge. January 21.

Town Hall, Cambridge. January 21. For Warming and Ventilating the new Build-ings of the Suffolk Lunatic Asylum; and for fitting up the laundry with Drying Apparatus, upon the most approved plans.—John Henry Borton, Milton, Suffolk. January 21.

For the Erection of Stone Booking-offices at Ashton and Stalybridge Stations; and for the Erection of a Station at Sheffield for the Sheffield

and Manchester Railway Company. January 21. For supplying the East-India Company with Tin Plates. — J. D. Dickinson, Dep. Sec., East-India House. January 22.

For the erection of the Railway Works between Loeds and Bradford, including fencing, earthwork, masonry, roads, and permanent way.—William Clarke, Secretary, Hunslet-lane Station, Leeds. Japuary 27, 1845.

For the erection of a New Pauper Lunatic Asy-lum at Clifton, near York. — Messrs. Scott and Moffatt, Architects, 20, Spring Gardens, London; or Mr. J. Holtby, J.ow Ousegate, York. January 28.

For the execution of Works on the Chester and Holyhead Railway.—1st. A distance of eight miles, or thereabouts. 2nd. A distance of twenty-two miles, or thereabouts. 3rd. A Tunnel through the George King, Secretary, 62, Moorgate-street. January 29, 1845.

For the Execution of Works on that part of the Blackburn and Preston Railway extending from Blackburn to Pleasington, being about 34 miles in length.—Peter Sinclair, Secretary, Blackburn. January 29.

For the supply of Wrought Iron Rails and the requisite number of Chairs for about 15 miles of the Southport and Euxton Junction Railway. The weight of rails to be from 60lb. to 70lb. per lineal 2 yards and 15 feet lengths, equal to thom Job. per linear 1,800 tons of wrought iron, and about one-third of that quantity of cast iron.—Woodcock and Part, Solicitors, Wigan. January 31.

For erecting the Works of the third division of the Main Line of the Great Southern and Western Railway, being 11 miles, 6 furlongs, and 75 yards in length. Also for the first division of the Carlow branch, being 10 miles, 7 furlongs, and 160 yards; comprising excavation, embankments, bridges, cul-verts, &c.—William Taylor, Secretary, 3, College Green, Dublin. February 1.

For the formation of 4 Miles 561 Chains (single line) of the Ashton, Stalybridge, and Liverpool Junction Railway.—John Jellecorse, Secretary of the Manchester and Leeds Railway Company, Palatine Buildings, Hunt's Bank, Manchester. February 3.

For the erection of Alms' Houses in Foundationstreet, Ipswich. - Mr. J. M. Clark, Brook-street, Ipswich; or Mr. Notcutt, Solicitor, Ipswich. February 1.

For the erection of a Bridge, called White Bridge, at Grasmere, near Ambleside, Westmore-land. — Mr. George Robinson, Bridge Surveyor, Kendal; or Mr. Daniel Donaldson, Ambleside. February 4. For the construction of the several Stations and

Railway.-Mr. Andrews, Architect, York; or Mr. George Baker, Secretary, Railway Office, York.

February 5. For the erection of a Steam Boat Pier at the

For the erection of a Steam Boat Pier at the Quay on the north-east side of Blackfriars' Bridge, also for building a Decked Lighter or Dumby.— Town Clerk's Office, Guildhall. February 6. For erecting and completing the Lower Sluice and Sluice-Pit at the top of the Eau, Brink Cut, about 4 miles above Lynn.—Messrs. Walker and Burges, 23, Great George-street, Westminster; or Mr. George Game Day, Clerk to the Middle Level Drainage Commissioners. St. Ives. February 10.

Drainage Commissioners, St. Ives. February 10. For the erection of New Buildings in Pembroke College, Oxford. — Plans, &c., prepared by Mr. Haywood, Architect, may be seen at the Master's

House. February 11. For the supply of 11,000 feet of nine-inch cast-iron Pipes for a new line of Aqueduct to be laid in the Island of Malta.—Vin. Casolani, Collector of Land Revenue, Office of Land Revenue and Public Works, Valletta, Malta. March 31, 1845.

COMPETITIONS.

Plans and estimates are required for a Pauper Lunatic Asylum for the County of Somerset; the building to accommodate 300 patients, and to con-tain two Stories. The Committee of Visiting Magistrates wish it to be of a plain, cheerful character, but will not further fetter the architect by suggesting any particular arrangement as to the in-terior, its ventilation, warming, or otherwise. The ground selected contains 36 acres.—The Clerk of the Peace, Taunton. A Premium of 1001, will be adjudged for the best plan, and 501. for the next best. January 22 best. January 22.

The Committee for Building a Chapel at Hol-loway are desirous to receive Designs for their intended building. The style to be Gothic. The Committee pledge themselves to select for their Architect the gentleman whose design they shall prefer.—George Brooks, Esq., 1, Lansdowne-place, Holloway. January 31.

Plans and estimates are required for a Work-house, to contain about 1,180 persons. The whole to be done in a plain and substantial manner, with-out any expensive embellishments. The plans and architects' estimates to be sent to Robert Mercer, the Clerk of the Clifton Union, Pennywell Road, Bristol, on or before the 17th of February next, and the Board of Guardians will adjudicate on the 28th. The architect producing the best plan in the estimation of the Board will be employed at a sum not exceeding 5 per cent. on the outlay, and a gratuity of 25 guineas will be given to the architect producing the second best plan in the opinion of the Board.

APPROACHING SALES OF WOOD, &c.

BY AUCTION. January 22.—At Oakwood Farm, Radwinter, Essex; 175 Oak Trees, of good dimensions.—Mr. Martin Nockolds, Auctioneer, Saffron Walden, Essex.

January 24. — At the Methuen Arms Inn, Corsham, Wilts; 399 Oak, Ash, Elm, Beech, Walnut, and Apple Trees, most of them of unusual large dimensions, and clean, straight, and lofty growth. — Messrs. Giller and Son, auctioneers, Corsham.

February 25 .- At the King's Arms Inn, Hemel February 25.—At the King's Arms inn, Hemel Hempstead; a large Fall of capital Oak, Ash, Elm, and Beech Timber Trees, the greater portion of which are of very large dimensions and superior quality.—Mr. James Adams, auctioneer, Clarencestreet, Staines, Middlesex. *** The Sale at Elmer Farm, noticed in our

last number, is postponed for a short time. Due notice will be given of the day when it will take place.

TO CORRESPONDENTS.

"A Young Architect (Sheffield)."—The Wes-leyan Chapel at Battersea is hardly commenced. The architect is Mr. Andrew Trimen, the con-tractor Mr. John Sugden. "T. M. O." asks us which is the best office in which to effect an insurance against fire. There are so many good offices, it would be invidious to name one. The Alliance, the Phænix, the Sun, the arcs envalue respectable

Sc. are equally respectable. "C. P." is thanked for his drawing of the Doorway to Hedingham Castle. He will do better before long.

"W. C. P."—The height of the nave of the Church of SI. Vincent de Paul, as elated in our article headed "Church Architecture in Paris" (p. 3), is quite correct, great as it may seem, namely, 96 feet. The portico is lower than the body of the church. We have not the dimensions of it, but should estimate its extreme height at about 70 feet. The quotation alluded to is from a description of the church, published with the sanction of the architect, M. Hiltorff, "Au Bureau de l'Illus-tration," Rue Richelieu, Paris, 1844. "Mr. Rogers" is thanked; we were not able to

avail ourselves of the information.

"T. and W. Stirling."-Received. "Rusticus."-The Act cannot be obtained till

the opening of Parliament. "H.S." will appear. "Architectural Draughtsmon's Society."-The place of meeting is No. 33, Southampton-street Strand.

"F. C. M. S." asks which is the best "Builder's Price-book." We would recommend Laxton's.

ERRATUM.

St. Paul's Church, Herne Hill.—In our account of this church, p. 2, the sentence, "The building consists of a nave and side-aisles, or chancel," should be, "The building consists of a nave and side-aisles with chancel.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, January 20.—Statistical, 11, Regent-street, 8 p.m.; Chemical (Society of Arts), Adelphi, 8 p.m.; Medical, Bolt-court, Fleetstreet, 8 P.M. TUESDAY, 21. - Ciril Engineers, 25, Great

George-street, 8 P.M. (Anniversary); Linzan, Soho-square, 8 P.M.; Horticultural, 21, Regentstreet, 2 P.M.

WEDNESDAY, 22.-Society of Arts, Adelphi, 8

WEDNESDAY, 22.—Society of Arts, Adelphi, B P.M.; Geological, Somerset-house, 8] P.M.; Phar-maceutical, 17, Bloomsbury-square, 9 P.M. THURSDAY, 23.—Royal, Somerset House, 8] P.M.; Antiquarian, Somerset House, 8 P.M.; R.S. Literature, 4, St. Martin's-place, 4 P.M.; Medico-Botanical, 32, Sackville-street, 8 P.M.;

Medico-Botanical, 32, Sackville-street, 8 P.M.; Nunismatic, Somerset House, 7 P.M. FRIDAY, 24. — Royal Institution, Albemarke-street, 8 P.M.; Philological, 49, Pall Mall, 8 P.M. SATURDAY, 25.—Royal Botanic, Regent's-park, 4 P.M.; Westminster Medical, 32, Sackville-street, 8 P.M.; Inst. of Fine Arts (Society of Arts, Adelphi), 8 P.M.

ADVERTISEMENTS.

JOTICE. - INVENTORS desirous of NOTICE. — INVENTORS desirous of obtaining LOANS ON or of SELLING their IN-VENTIONS, or Patents, should apply to Mr. M. JOSCELIN COOKE, at the OFFICE for PATENTS, 20, Half Moon-street, London, where English and Foreign Patents are ob-tained, and Designs registered. An INDEX is kept for inspection of all Patents granted for the last century; also copies of every Patent of importance. Instructions to Inventors and a list of charges gratis on application.

EMBARRASSED CIRCUMSTANCES. EMBARRASSED CIRCUMSTANCES. —PERSONS IN DIFFICULTIES being desirous of availing themselves of the Beneth of LORD BROUGHAM'S HUMANE ACT, are requested to apply to MESSRS. GRAND & CO., of Moira Chambers, Ironmonger-lane, Cheapside, where every information may be obtained, FREE OF EXPENSE, or arrangements can be made with Creditors, by which means the painful necessity of resorting to BANKRUPTCY or INSOLVENCY may in many cases be avoided.—N.B. Partnership accounts adjusted.

OKER.-B. R. WRIGHT begs to inform DIALAN. D. R. WITCHIL Degs to IDIOTM Builders, Paperstainers, and the Trade in general, the prices for Native Oxford and Washed STONE OKERS, at his Oil and Colour-warehouse, 27, Castle-street East, Oxford-street:-Native Oxford Oker, 21s. per cwt, or 182, per ton; Washed Stone Oker, 14s. per ewt., or 127. per ton. A liberal discount to the trade. A Porter and Grinder wanted wanted.

MOREWOOD'S PATENT GALVAN-MOREWOOD'S PATENT GALVAN-IZED TINNED PLATES, PATRONIZED by the ADMIRALTY and the HONOURABLE BOARD OORNANCE, being extensively used in HER MA-JENTY'S DOCK-YARDS, at the TOWER, and etse-where, for every variety of ROOFING, and other pur-poses, where a strong, light, cheap, and durable material is required. It has been found by experience that this article is beyond all comparison superior to zinc, possessing, as it does, all the advantaces arising from the strength and if mmess of iron, combined with perfect immunity from rust; whilst it is free from the very scrious objection, which applies to zinc, viz. its contraction and expansion, consequent upon very change of temperature, and from which circumstance leakage must of course result. This material is not likely to be destroyed by fire, as is the case with zinc and lead, which and cassing it to burn more fierely. It is, therefore, ob-viously well adapted for all the purposes above named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chinmey-tops, gutters, spouting, and out-door work generally, possessing the strength of iron without its liability to corrosion. It is by far the most eco-of its strength, as it may be laid without boards, and upon the lightest rafters. This mode of preserving metal from rust does not only apply to sheet-iron but also to manu-factured iron in any form, as bolts, nuts, hinges, nails, &c. &c. S. HOLLAND, 34, GRACECHURCH-STREET.

POCKET EDITION OFTHE

NEW METROPOLITAN BUILDINGS ACT. Just ready, a nest Pocket Edition of

THE NEW METROPOLITAN BUILD-INGS ACT, together with a CYCLOPEDIA, in which all the details of the Statute are arranged alphabeti-cally, so as to be instantly found, and accompanied by extensive references and counter-references to the sections cally, so as to be instantly found, and extensive references and counter-reference of the Act itself and its minute provisions.

ex the Act itself and its minute provisions. By the late A. BARTHOLOMEW, Eq., F.S.A., Architect, Surveyor of the Hornsey District. To the above volume will be appended a Folio Table of the Metropolitan Districts (old and new), and a List of the Surveyors, with their Residences and Offices. Published at the Office of "The Builder," 2, York-street, Covent-garden.

CHARGE FOR ADVERTISEMENTS IN "THE BUILDER." 11 R (Q) Juilder.

No. CIII.

SATURDAY, JANUARY 25, 1845.



HE present moment is one of considerable importance to builders and owners of house-property within the limits of the Metropolitan Buildings Act, insomuch as

the amount of interference which may be expected on the part of district surveyors will probably be established by the first decisions of the official referees. The Act is unquestionably stringent; and, if acted on to the letter, and with a litigious spirit, will be deemed oppressive, and speedily become very unpopular. In the discharge of our duties, it will be incumbent on us to urge two things, to advocate, as it may seem, two opposing interests. While we shall have to say to builders and owners, comply strictly with the provisions of the Act, consider it, as it is, a measure for the general advantage which all are bound to assist in carrying out, we must urge on district surveyors the necessity for a lenient administration of it, and an attendance to the spirit of its provisions, rather than the word.

We are satisfied by decisions already given that the official referees desire this : it is to be hoped the surveyors will take the same wise view of the matter.

Section 13 provides that notice shall be given by the builder to the surveyor two days "before any party-wall, external-wall, chimney-stack, or flues, shall be begun to be built, pulled down, rebuilt, cut into, or altered,' with a view to his attendance, for which, of course, a fee is to be paid. Now this, strictly speaking, would seem to prevent a man from letting in an iron air brick, for example, to his front or back wall, or making a hole for a bellwire at the street door, without payment of a fee: but surely this is not the way in which the Act will be read, although we fear some of the surveyors think otherwise. The question of interference or not in matters of this sort will, however, be settled, as already remarked, by the first decisions of the official referees. Upon these, therefore, much will depend, and we shall endeavour as they occur to lay them before our readers for their guidance.

It becomes necessary for us to state, in

consequence of the numerous comments and inquiries which followed our last publication, that we shall carefully avoid exposing individuals to annovance by the mention of names in cases where no good can result from inserting them. Our main business is with the decisions themselves, and all must at once see that we are conferring a boon on our readers and the public by rendering them extensively known.

The referees have already made one important decision as regards what constitutes a commencement of a new building, so as to take it out of the Metropolitan Buildings Act. In answer to an application on this point made by Mr. Allen of the Rotherhithe district, they say, "We feel it necessary, having regard to the judicial capacity of the official referees who may be called upon to determine cases especially referred to them, not to signify our opinion as to the particular circumstances of any commencement without hearing the parties whose rights may be affected, but we may state briefly that we are of opinion that the commencement must be a boná fide one; and that our present impression is, that the erection of the footings with two or more courses of the walls themselves built in a workman-like manner. is such a commencement.

"As to the modes of erection which may be pursued with regard to buildings so commenced, we are of opinion that as to such buildings within the operation of the old Building Act (14 Geo. III. c. 78), they must be built according to the provisions of that Act, since these provisions, as to proceedings commenced or taken under that Act before the 1st of January, are not repealed; but we are of opinion that as to such buildings within the new districts, not within the operation of the old Act, the parties concerned are at liberty to pursue what course they please, so that the buildings are finished on the 1st of January, 1846."

Relative to streets, they have decided that " streets formed after the passing of the Act, must be built in conformity with the provisions of the Metropolitan Buildings Act-see sec. 52: and that the mere setting or laying out will not be sufficient to take them out of the Act.

" If parties are prejudiced by the enactment, they must seek relief under the 9th or 10th section."

Since the Act came into operation, the district surveyors have found much occupation for the referees and registrar, and will continue to do so for some time to come. It seems quite clear to us that the duties which devolve upon the official referees will be much more numerous and weighty than two gentlemen, however energetic and industrious they may be, will be able to discharge. If no notice be given by a builder, the referees are to be applied to; if any irregularity be committed, and is not remedied, the referees must interfere; all doubts, differences, and dissatisfaction must come before them; they are to settle all terms of qualification, and to say what is the meaning of good, sound, fire-proof, fit, proper, or sufficient. Buildings of a certain class they must themselves survey; they will be called on to settle the respective terms and interests of tenants and owners, to affix the rates and prices, according to which accounts for work and materials in party structures are to be made out; to survey in certain cases ruinous buildings, and do various other acts too numerous to mention now. They have issued a table of fees to be paid in respect of these services, which, at first sight, seem cal-

culated to increase rather than diminish the number of cases submitted to them. We have the pleasure to place a copy of this table before our readers, but reserve our remarks upon it for a future occasion. It involves a matter of considerable importance to the profession at large.

TABLE OF FEES

To be paid to the Registrar of Metropolitan Buildings, in respect of the services to be performed by the Official Referees and by the said Registrar, in order to defray the expenses of the office, incident to such services, and the salaries of clerks, &c.

| | Awards. | £. | 8. | đ. |
|----|---|----|-----|----|
| 1. | For every hearing- | | | |
| | By one Official Referee | 1 | 1 | 0 |
| | By one Official Referee and the Registrar | 1 | 11. | 6 |

By two Official Referees and the Registrar. 2 2 0 2. For every final award (according to the decision of the Official Referees in that behalf) from

£ i 0 to 21 0 0

Examinations or Taxing of Accounts of Charges referred.

- 3. For every account examined, 1 per cent. on the amount of the account.
- 4. For every measurement-
 - If the work amount to 100%. or less, 24 per And for all above 100/., 14 per cent.

Special Supervision of Buildings. For special supervision by the Official Referees of buildings subject to such supervision, and whether upon the original erection thereof, or upon any alteration involving structural arrangements, as follows :---

- If the building be of the extra first-rate 8 8 0 If the building be of the first-rate, of what-ever class, or of the second-rate 8 3 0 If the building be of the third or fourth-rate 2 2 0

[The foregoing fees to include travelling expenses in all cases of supervision.]

in all cases of supervision.] 6. For every licence to use a building before the certificate of satisfaction has been granted (according to the rate of the building from £0 5 0 to 1 1 0

Surveys.

- 1 1 0
- 8. For every survey by direction of the Official Referees.
 8. For every survey by direction of the Official Referees may authorise to be paid to the person employed to make the survey.

Plans or Drawings.

9. For preparing, making, verifying, tracing, or copying plane or drawings, such proper fee as may be charged by the person employed to make them, unless performed in the office, and then according to the schedule hereto annaxed.

Sanctions, Authorities, or Approvals as to Materials, &c., under the Rules of the Act.

| 10. For every application for a certificate of au- | | |
|--|---|--|
| thority, approval, or relaxation of any of the | , | |
| Rules of the Act, according to the provision | | |
| thereof (schedule C., parts 1, 4, 5; D., parts | | |
| 2, 4; E.; F.) | 0 | |

11. For every such certificate...... 1 1 0

Modifications of the Rules.

- For every application to modify rules by the authority of her Majesty's Commissioners of Works and Buildings (besides the expenses of any survey) (s. 11) £1 1 0 to 2 2 0
- For every order thereon by the Official Re-

Consents.

- 14. For every application for consent to be given on behalf of absent, unknown, or incapa-citated parties (s. 117) 0 5 0
- 1 1 0

Copying and Examining.

Searches and Extracts.

17. For every search-

18. For every extract or copy (per folio) (Besides fee for tracing or copying any plan.) 0 0 6

Travelling Expenses.

[Travelling expenses are chargeable upon all matters requiring the presence of the Official Re-ferces, or of the Registrar, or of any clerk, surveyor, or other person employed in or by the office.]

Examinations and Certificates of Qualification.

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SCHEDULE OF FEES PAYABLE FOR PLANS OR OTHER DRAWINGS INCIDENT TO THE SERVICES OF THE OFFICIAL REFEREES.—(See Table No. 9.)

| | DESCRIPTION OF PLANS AND OTHER DRAWINGS OF BUILDING | • | Extra First Rate. | | | First | | | First Rat | | t Parte | | First Parse Sec | | Rate | ond Third atc. Rate. | | | | ate | |
|----------|---|---------|-------------------------|--------------|--------|-------|----------|--------|-----------|--------------|---------|---|-----------------|--------|--------|-------------------------|-------------|--|--|-----|--|
| | 1. Tuking and laying down Plans of Buildings. | | | | | | | | | | | | | | | | | | | | |
| | For taking the dimensions and laying down a general or ground-plane a building, or any single section or cleration For every additional plan of the same building For every section or elevation in connection with and in addition to general or ground-plan | 3 | 1 | 11 | 6 | 1 | 5 | 0 | 1 | 2 1 10 | Ø | 0 | 15 | 0 | 0 | 10 | 6 | | | | |
| | 2. Verifying Plans of Buildings. | | | | | | | | | | | | | | | | | | | | |
| | For verifying the general or ground-plan of any building For verifying any other plan, section, or clevation in connection with a j For verifying any section or elevation not in connection with a plan | lan | ł | 1 | 0 | 0 | 15 | 0 | | 12 | 6 | 0 | 20 | 6 | ō | 5 | ō | | | | |
| | 3. Making Plans, &c. | | | | | | | | | | | | | | | | | | | | |
| , | For making any plan or other drawing of works required or permitte | 1} | 1 | 1 | 0 | 0 | 15 | 0 | 0 | 10 | 6 | 0 | 7 | 6 | 0 | 5 | C | | | | |
| 1 | by the Official Referees. For every copy of any plan or other drawing of a building, if to the same a Ditto ditto if to any other than the same s | ale | 0 0 | 10 15 | 6 0 | 0 | 10 15 | 6 0 | 0 | 7 10 | 6 | 0 | 5 7 | 0 6 | 0 | ¥ 5 | 6 | | | | |
| | 4. Sites, &c. | | | | | | | | . | | | | | | | ī, | | | | | |
| | For taking the dimensions and making a plan of any building-site con- nected with other buildings, if the area do not exceed 100 square For every additional 100 squares, or portion of a 100 squares | • J | | | | | ••• | | | •••• | | | · · · • | | 1 0 | 1 7 | 0 | | | | |
| • | if not exceeding one acre | | | ••• | | | ••• | | | •••• | | • | ••• | | 1 | 1 | 0 | | | | |
| 1 | for every additional acre, or part of an acre For making a copy of any plan of a building-site to the same scale Ditto ditto to any other than the same s | | | ••• | • | | •••• | • | | •••• | | . | · • ; • | | 0 | 7 7 10 | 0 0 0 | | | | |
| | 5, Verifying Sites, &c. | | | | | | | | | | | | | | | | | | | | |
| 67 89 | Ditto ditto No. 11 Ditto ditto No. 13 | ••• | | •••• | • | | | | 1 | •••• | | | •••• | | 0 | 15 7 15 7 | 9 | | | | |
| | 6. Levelling, &c. | | | | | | | | | | | | | | | | | | | | |
| | For measuring distances and taking levels, in connection with existin proposed drainage : | d } | | . <i>.</i> . | | | | | | •••• | | | | • | 1.1 | 10 1 | | | | | |
| | 7. Examining Duplicate Plans. | | | | | | | | | | | | | | | | | | | | |
| ć | For examining every plan or other drawing sent in duplicate | | 1 | | | | | | | | | 1 | | | 0 | 2 | | | | | |

MR. COCKERELL'S SECOND LECTURE ON ARCHITECTURE.

On Thursday, the 16th instant, Professor Cockerell delivered the Second Lecture of his course on Architecture, at the Royal Academy. He proposed, in the present lecture, to give which the greatest advantage was to be de-rived, in a careful consideration of its prin-ciples and details. These were to be regarded as applied to plan, section, elevation, and deco-ration. The subject of the succeeding lec-tures was one of the noblest which could occupy the mind of man. Political history was of comparatively small interest, and pic-tured, in the greater part, the evil passions of markind. The ordinary occupations and dis-appointments of life aroused melancholy emo-tions but in architecture ons, but in architecture, man found scope for his lofty aspirations and idealities, and for his physical energies. There he perceived that he had a soul: order, calculation, beauty, and immortality were opened to his contemplation, and he seemed to feel the power of extending his works beyond the bounds of nature, and of in reason! how infinite in faculties! in form and moving, how express and admirable! in action, how like an angel! in apprehension, how like a god!"—Architecture invoked the display of physical prowess, which was the natural desire of man. Anaxagoras had asserted that the supremacy of man was owing rather to the power's of his hand, than to his head, and Sir Charles Bell had made the hand the subject of one of the Bridgwater Trea-tises. In the infancy of man, he contended with the forces of nature; he carved the rock, and reared the obelisk; in accumulating the masses in the pyramid, he emulated the works of Nature herself,-and, exulting in his ac-quired skill, exclaimed with the Babylonians -"Go to, let us build a city and a tower, whose top may reach unto the heavens, and let us make us a name." And though we can afford to smile at such aimless labours, we must recollect that by them metallurgy, me-chanics, and all the skill necessary in nobler works were first brought into practice. It was the natural sequence that in the age of Alexander and the Romans, art should be exerted in substantial benefits, and superior to the masses of Egypt, or to the delusion of beauty alone in

Grecian architecture. Man at this period contended with the elements themselves. The ocean was curbed by his ports, and quays, and Pharos; marshes were drained; sewers, canals, aqueducts, and roads, displayed his mastery over Nature. Frontinus, whose work on aqueducts, written about the year 80, the professor had previously noticed, had a passage strongly illustrating the growth of this spirit. After giving an account of the nine aqueducts under his care, constructed at Rome at various periods, and amounting in length to about 142 miles, he said :--" With so many waters, and so many magnificent works necessary for their transport to this great city, will you compare the idle pyramids of Egypt, or even the inert works of the Greeks, however celebrated and glorious in history." In our day, architecture was contracted to absolute utilitarianism; all its powers being devoted to the perfection of the individual dwelling between party-walls, in which every citizen was in the enjoyment of luxuries and conveniences, unheard of in the days of the Pharoahs, the Medici, or the magniticent Louis the Fourteenth.

The professor now called the attention of the students to a number of plans of the most remarkable sacred edifices, constructed from the time of the Tabernacle in the Wilderness, to the Christian era. It might be considered that objects of daily practice should be illustrated, rather than what were of rare occurrence, and of such vast scale and costliness, but we should remember, that Vitruvius laid down, that the architect's studies should be pursued "maxime in ædibus Deorum, in quibus operum laudes et culpæ æternæ solent permanere."

In discussing the form and proportions of temples, we held in veneration those noblest motives of the heart, which we recognize alike in the Grecian, the Druid, the Hindoo, and the Christian temple, and so finely expressed in the Book of Psalms. In excavating the foundations of the temple at Ægina, the remains of hurnt woods and bones were discovered, mixed, doubtless, with tears and aspirations as warm as those of David ;—at Selinus, the steps of one of the temples were worn down almost to an inclined plane by the devout.

The temple of Jupiter Capitolians, which formerly stood upon the Capitoline Hill, was then noticed at length, and the fact pointed out, that during many successive ages, and reedifications, the original plan was strictly ad-

hered to; a remarkable instance of the forse of religious prejudice in an edifice baviag so many points of distinction from coeval works. It was remarked as a coincidence, that many of these large temples approach 180 feet in front, the building under notice being 200 feet by 185 feet.

by 185 feet. The plan was the most important con-sideration in a building; it gave evidence of the use and purpose of the structure atid was addressed to the understanding, while, the elevation addressed the eye. The atrangement of the plan, should in all cases have precedence, which was the reverse of the ordinary mode. The plan was made to fit an elevation previously designed, and much variety of effect, which the ever-changing considerations of purpose and convenience might have suggested, was lost. We were deficient in books on the ichnographic part of architecture, though we had many on the orthographic. Sacred architecture was not only an antiquarian study, but one of immediate application, as it was quite certain, that the architecture of the Greeks and Romans would be the architecture of the whole civilized world. From the time of the Tabernacle to that of the Temple of Venus and Rome, we were struck with the uniformity of the plan. The plan was in all cases determined by the ritual, as it must be in every age. Vitruvius, who had been in so much unmerited disgrace, had given us the plans of the ascient temples; his omission of the peribalus was, however, a very remarkable one. In examining the sections of ancient temples, we felt a difficulty as to the size of the opening in such as were hypethral: Mr. Cockerell'sown opinion was, that only a small portion was uncovered.

The Roman temples were covered by a large continuous vaukt. This a late traveller had considered to have been of wood p but whether it was of wood or pumice-stone, it would necessarily have to be extremely light. In the orthographic design, the use of large stones made an important feature. The mention of "great stones" in the Book of Kings, shews that the Hebrews employed them, and, in fact, their use embodied the fundamental principle of building down to the Christian era. Towards the decline of the ampire, when the vast resources of ancient Rome were no longer available, smaller stones were employed. itruvius had given us much information ОП the proportions of the orders, and bis obseure parts were being cleared up. There was no reason why we should not now make the axes of our columns incline towards the building in obedience to his rules : the effect of our baildings in pyramidal outline would be vastly improved. Steps were always considered Steps were always considered an integral part of the order by the Greeks; the podium or continous pedestal, was perhaps necessary in Rome, and in street achitecture generally. In the treatment of orders above orders, care should be taken that they should seem to grow one out of the other: in the portico of Buckingham-palace, a very bad effect resulted from the contrast between the rapid diminution of the Doric, and the more slender proportions of the Corinthian. The ornamental part of a building might be considered as general decoration, sculpture, and painting. We had heard much about the revival of polychromy, but he was of opinion; that although it might add great beauty to ancient buildings, which were seldom more than 60 or 80 feet in height, and which stood under a genial sky, the case was different in those which sometimes reached to several in those which sometimes reached to several hundreds. The ornaments of ancient temples were all within the scope of the eye, and the smaller temples must often be considered 28.8 cabinet-works; the sculptor being a more important person than the architect, who only furnished the framework for his brother artist. The lines of the sculpture contrasted with the right lines of the architecture, to the improved effect of each. In the pediments, the sculpture often projected beyond the mouldings, breaking their lines ; in the Parthenon, the horse's head hung over the cornice beneath. The effect of the figures in pediments was much improved by the smaller scale of those in the frieze. In concluding this section of his course, the professor paid a compliment to Mr. Pugin the successful manner in which he for had employed polychromy on the gate of Magdalen College, Oxford, which, he said, wanted only the effect of time to give it every thing to be desired. itized by Joogle

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THE PLAGUE OF WHITEWASH.

In this age of grasping at the future rather than contemplation of the past, the tardy, though highly meritorious offorts of modernanthe stress have done comparatively little to sheek that course of spoliation, which bids fuir speedily to overwhelm all our national antiquities. Every county in England is arowded with village churches at distances of one to two miles apart, and all of them contain matter of interest, whilst a very large pro-partion are full of the richest beauties of Gothic architecture.* But, to antiquary and to artist, how melancholy is the present aspect of each. The reformers and the puritans have inflicted less injury upon those noble works, than do the curiosity hunters, and the improving churchwardens of modern times. The re-formation despoiled the altars, and plundered the vestments, the revolution defaced the carvings and the tombs : the fine open beaches were raised and converted into pews, and the colours and gilding of the road-screen ob-scured with an unmeaning white; the stove chimney was made to meander through the columnos and arches of the church, and disappear through the ruthlessly broken tracery of a decorated window; the timbers of the roof were covered over with a flat ceiling, and the roof itself lowered from the original pitch. The squire erected his glazed room in the church, and made himself counfortable at "his own fireside," marring the exterior with an unsightly excrescence for a chimney. The sector stole the brasses, and an "antiquary" parchased them. The antiquary stocked his purchased them. The antiquary stocked his collection with stained-glass; the country equire worked up the panels from a rood-screen in his sideboard. All these and many more were the acts of robbery and spoliation common and uncured for once, and not enough noticed powr. But warm than the plunder and havoc of mistukes zealots, worse than ruin and the alterations of ignorant churchwardens, is the grapped, Briarcus-like, on cathedral and arish church in every hale and corner of the parish church in every unit and the set in t paselling, and obscorring unual paintings, colour, and gilding. The infection is not de-stroyed; and men will never be convinced that P it is better to let the tooth of time cat its way into corbel and boss-rather adding new beauties than consuming old-than to mar the contour of a monisting, or to clog up the indents of a test. The very extent of effort in those to whom the country allows the guardianship of war national monuments is the making them look clean, f e, white. The greens and browns from Nature's palette, are hidden beauties to those who deem the bucket and mop the true more who deem the bucket and mop the true instruments of taste, and a whitewashed cottage the brightest ornament in a land-scape. The noble interiors of Beverley Minster, of York, and of our other cathedrals, when compared with the nave of Westminster Abbey, whose columns retain their natural fints, hock much of the beauty which the latter possesses, despite the eye-sores on its walls. Rochester Cathedral was rich in mural decoration, yet it has been all obscured. At Chester, which we visited very few years since, we had, at usual, occasion to notice the ill effects of whitewash, and we ventured to express our opinion to one of the dignitaries of the cathedraf, who concurred with us; yet we sub-sequently discovered, that he himself had not borg previous given directions for an additional coat. The fine Norman doorway of the Temple Church was no sooner rid of its accumulated whitewash than it received another application. At St. Albans, St. Cuthbert's screen, rich in flowers and foliage, has all its beauty obliterated or destroyed. The clerk of the church, un intelligent man, and probably remémbered by many of our readers, has taken some pains to clear a portion of this screen, and the delicacy of the carving is there apparent. At St. Mary's Church, Stafford, we were present during a portion of the late restorations, and saw the workmen remove the whitewash from some capitals, and found, that shapeless lumps concealed foliage of elegant design, having traces of pointing. St. Peter's, Northampton,

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THE BUILDER.

till a few years ago, seemed destitute of ornament; the capitals of its columns were mere lumps, and the whole interior devoid of beauty; fortunately the state of the building attracted the attention of Miss Baker, the sister of the historian of Northamptonshire, who, at some expense, and, it is said, considerable personal labour, had the capitals freed from their covering, and they now form the most beautiful series in Anglo-Norman architecture. Haddon Hall, in Derbyshire, a perfect example of an old English residence, is preserved in its original state in all respects except the application of whitewash. The figures in relief, the ceilings, and ornaments formerly enriched with painting and gilding, periodically approach a step nearer to entire concealment. St. Paul's itself has not escaped, and the absence of the natural tints makes more than ever apparent the want of artificial colour, and revives our regret that so good an opportunity as was once available should have been lost. The colouring, in parts of Gothic churches, was a valuable in-strument in the hands of the artists of the middle ages; it was applied with judgment and effect, was mostly upon plain surface, and impaired the form of neither moulding nor ornament; but the first coat of whitewash shews, like the last of Banquo's line, a mirror in which we see a long succession following after. Individual buildings there may be that have suffered little, and others which, within the last few years, have been entirely freed from whitewash, and the beauty of these is great; but we are certain that were the whole of our churches divested of what shrouds them as completely as the lava of Vesuvius did Pompeii and Herculaneum, the splendour of Gothic architecture would at once strike upon the beholder with a witchery and a power hardly felt even in these days of restoration and research. Let us hope for the speedy establishment of a national commission for the preservation of works of art, and that one of its earliest endeavours will be in the direction pointed out. A tithe even of the small sum we devote to public works would serve to uphold what we now possess, valuable to an extent we have mever felt, and bourly crum-bling away beyond the hope of renewal.*

Е. Н.

COMPETITION OUTLINES FOR ART-UNION OF LONDON.

The nineteen sets of designs received by the committee in reply to their offered premium of 60%, were in illustration of the following subjects:--The life of Offa, king of the East Angles; Midsummer Night's Dream; Thalaba the Destroyer; Parables; Revelations of St. John; the Watchfulness of Providence; the Rape of the Lock; Keat's Hyperion; the Commandments; Harold the Dauntless; Anne of Gierstein; the History of Joseph; Raising of Jairus's Danghter; Scott's Betrothed; Judgment of God against Sin; John Gilpin; Byron's Mystery; Life of Brutus; and Cymbeline.

After long deliberation, the committee selected the set illustrative of the Revelations of St. John, afterwards found to be by Mr. George Elgar Hicks, Lymington, Hampshire, as most fully complying with the terms of their advertisement, and awarded the premium to the author of it. Considering that much talent was displayed by some of the competitors, and anxious to stimulate young artists to exertion, they awarded honorary premiums of 20% each to the authors of the three following sets: -Offa; the Watchfulness of Providence; and the Commandments; who werefound to be respectively Mr. G. E. Sintzenick, of 3, Princes-street, Fitzroy-square; Mr. William Cave Thomas,'of 39, London-street, Fitzroysquare; and Mr. G. Scharf, jun., of 14, Francisstreet, Bedford-square. Mr. Hicks obtained the Royal Academy medal at the last distribution of prizes; and Mr. Cave Thomas is one of the artists selected by the Fine Arts' Commissioners for the decoration of the new Houses of Parliament. Amongst the most meritorious of the other designs we may mention the series from the History of Joseph; Byron's Mystery; and Thalaba.

A CHAPTER ON MARBLE.

MARBLE, marbre French, marmor Latin, from the Greek μαρμαιρω, to shine or glitter, is a term used to define numerous varieties of compact and granular limestone, which are susceptible of a superior polish, and are denominated either from their colour, their age, their grain, their country or district, their degree of hardness, their weight or their defects. The general characters are,—large or small-grained, generally in distinct concretions, sometimes so fine-grained as to appear compact, and often only distinguishable by a glimmering lustre. Fracture, foliated ; fragments, amorphous, blunt; weight, granitose; lustre, from glimmering to shining, between pearly and vitreous, sometimes translucent, but the black only on the edges. It consists chiefly of 50 lime and 40 carbonic acid, whence it is called by chemists and mineralogists a carbonate of lime, to which class in all strictness it belongs.

Marbles are distinguished from gypsums by the application of diluted nitric or muriatic acid, which produces a strong effervescence, by expelling the carbonic acid; but otherwise, in external character, organic disposition, and capability of polish, there is a striking similitude between many varieties of each. They embrace every degree of hardness, and the specific gravity of marble varies with its density and crystalline structure. Some of them are of one simple colour, as white or black, othera streaked, or variegated with stains, clouds, veins, waves, &c., but almost all are opaque, excepting the white, which, when cut in thin slices, becomes transparent.

Of the endless varieties of marbles abounding in almost every region of the earth, vast formations, in like manner with the simple limestones, retain the evidences of organic character and composition, being crystalline masses of marine animals, and embracing, in some few instances, the bones of land animals and fresh-water shells; in almost all of them we see a certain advance towards decomposition; while in other and perhaps the more extensive beds, every trace of organization is extinguished. Geologists, on, this account, have classed them as primary and secondary rocks, presuming that the absence of organic delineation denotes the more advanced age; but most erroneously so, for the preservation or decay of organic masses of calcareous animals depends more upon climate and association than upon age, and very often the same formation presents the two characteristics of this class of rock. Again, geology infers that marble is formed

from masses cooling down under intense lateral pressure, but were this the case, every trace of animal organization must have been destroyed, and the crystalline appearance would have been uniform; but so far from there being any evidence of heat or fusion, or lateral pressure, much of the coralloide and shell-marble rests in its primary undisturbed state, the shells and corals exhibiting the uninjured outline, and so disposed as to exhibit an uninterrupted series of natural events, embracing in the one whole an epoch which has long since passed away. The existence of these organic masses in their pristine form, and disposed in spots where they formerly lived, propagated in their generations and died, and now their calcareous, concrete, and crystalline states, evidence the small amount of faith the student ought to place in modern classification and modern theories : a classification which pronounces all crystalline rocks volcanic; theories which assign various epochs to rocks and earths which are manifestly formed under the same existing causes, and at the same period of time. Among the most remarkable varieties of

Among the most remarkable varieties of marble may be mentioned the African, having a black ground diversified with moderately large spots, sometimes tinged a little reddish; Alabandum marmor, much used in building among the Romans, and distinguished by its remarkable glossy jet-black appearance; Auvergne marble, of a pale red mingled with violet, green, and yellow; Brocatello, of a fine bright yellow colour, thickly variegated with irregular veins and spots of purple, and spots or spaces of fine semi-pellucid crystalline spar —this is a truly beautiful marble, equal in polish to the finest agate; Carnangione marble, so called from its flesh colour, exhibiting shades of pale whitish and yellowish casts, and also of a rosy hue; Cippolino, the true Egyptian



[•] We intend to revert to the subject of village churches, and we shall be glad if our friends in the country will favour us with absorbes and measurements, or any information as to the present state of fabrics.-ED.

[•] We have long felt the need of a national commission for the preservation of monuments, and shall take every opportunity of advocating its establishment. We shall be kind to receive communications on the best mode of cleaning paintings in distempor.—ED,

marble, of a sea-green colour, mixed with large waves or clouds of white or pale green, the same with that which the ancients called Agustum and Tiberium marmor.

Coralloide marble; of this there are numerous varieties, and in great abundance in almost all countries; in this country we have principally two in use, one grayish black, the other jet black. The first is found in many parts of Derbyshire, and the corals it contains are of the porous kind, and of the most elegant species in the world ; they are lodged in it at all angles and in all directions, and are in general about one inch and a half long and three quarters of an inch broad; they are composed of longitudinal plates, very fine and thin, and of a snowwhite, ranged in distinct orders, and finely interspersed at small distances with their transverse plates, the whole internal part of the coral being thus divided into a sort of square cells. This net-like division runs through about three-fourths of the body, but the top has only the longitudinal plates without the transverse ones. It is a very beautiful substance, and abounds in Derbyshire and Wales. The other species is an equally beautiful com-

pact substance; fine, even texture, very hard, of a deep jet black, and capable of a very high polish. It is elegantly variegated with species similar to the above, but smaller, and of a less elegant texture; and among these has usually a great number of sea shells, both turburated and bivalve, the corals and shells being of a pure snow-white.

There is another marble common to Derbyshire, Dorsetshire, Sussex, and many other parts of England, of a green colour, and thick set with marine shells, and is what the pillars of many of our cathedrals are made of. We have in England vast quarries of marble abounding with marine shells.

The varieties of marble in England are numerous and exceedingly diversified, and many of them perfectly adapted for all the pur-poses of architecture. The green marble of Anglesea is much like the verde antico; its colours are greenish black, leek green, and sometimes dull purple, irregularly blended with white limestone, the green shades being owing to the presence of magnesia; it is an elegant marble, but apt to be internated by small cracks, and has a variable polish.

Derbyshire abounds with several fine varieties of marble, particularly such as is composed of concrete masses of marine shells and petrifactions; excellent black marble is found at Ashford, Matlock, and Monsaldah. In North Devon, marble is still more abundant and diver-sified; there are varietics of black and white from Bridestow, South Tawton, Drewsteignton. Some of the Chudley, Staverton, and Berry pomeroy marbles have a black ground, with large veins of calcareous spar traversing it in all directions. The variegated marbles are generally reddish, brownish, and grayish, variously veined with white and yellow, and the colours are often intimately blended; the Plymouth marble is principally of two sorts, one ash colour shaded with black veins, the other blackish gray and white, shaded in concen-

tric spots interspersed with irregular red spots. The cliffs near Marychurch, says Polwhele, exhibit marble not only of great extent, but of superior beauty to any other in Devonshire, superior beauty to any other in Devonshire, being for the most part either of a dove-coloured ground with reddish purple and yellow veins, or of a black ground mottled with purplish globules. In a valley below the cliff, about 400 yards wide, there are loose unconnected rocks of this marble, owing their situation probably to the falling down of the ground into the seat for there are very large ground into the sea; for there are very large rocks even on the beach. The huge fragments of rock scattered over the valley, by which we easily descend to the sea, give it a grotesque appearance, and have been whimsically called a petrified congregation; and the pleasantry of this fancy has been heightened by a rock, supposed to be about forty tons, in a very erect position, which has been ludicrously enough entitled "the Parson."

The Petworth marble was formerly most employed; it is a fossil concrete of marine and fresh-water shells, some of which are filled with spar, and add greatly to the beauty of the stone. The slender round pillars of the Abbey Church in Westminster, and of the Temple Church, are of this sort of marble: so likewise are those of the Cathedral Church at Salisbury.

France is very rich in marbles. The Romans availed themselves of this stone in their monuwere abandoned, and recourse was had to Spain, Italy, and the East. In the internal decorations of the Louvre and the Tuilleries, louis IV were had the dest. Louis XIV. availed himself of French marbles. They were little used after his time up to the present century; latterly, abundance of every variety and colour has been found, and suited to all purposes except statuary. The marble to all purposes except statuary. The marble of St. Beax, on the banks of the Garonne, is the best marble used in French sculpture, and this is a very indifferent one, being dirty white, and rapidly decaying on exposure atmosphere. to the

The variety called marbre de Languedoc, or de Sainte Baume, is of a fiery red, with white The and gray stones formed of madrepores. eight columns which adorn the triumphal arch in the Caronsel at Paris are of this marble, which was formerly only employed for the decoration of royal palaces. The neighbour-hood of Narbonne furnishes several valuable marbles, among others a shell marble of an intensely black colour, with white belemnites, and a purple marble with yellow spots, &c. One of the most esteemed varieties of French

marble is that called *griotte*; its colour is a deep brown, with blood-red oval spots, pro-duced by shells. Some of the ornaments of the triumphal arch of the Carousel are made of griotte, and it is extensively used in decorating public monuments and splendid furniture. Madraporic marble is common in the department of Jemappes. The beautiful bridge of Namours is constructed of an elegant marble termed *Chatean London*, of a very pale yellow, containing small, unconspicuous shells and white translucid veins.

The Rovigio marble, found at Padua, is used for architectural purposes. The occhio di pavone is formed of concrete masses of shells which form large orbicular spots, red, white, and blueish. According to Da Costa, the peacock's eye is of a bright cucumber colour, with spots and veins of milk-white spar; many of the spots, forming circles about the size of a sixpence, are filled with a red ground. Pietra stellaria, much employed in Italy, is entirely composed of star madrepores, converted into a grayish and white substance. Baron Bord in his "Sicilian Mineralogy," describes upwards of a hundred varieties; the most valuable of these is that denominated Sicilian jasper by English stone-catters; it is red with large stripes like ribbons, white, red, and sometimes green which here and there revolve, forming composed of star madrepores, converted into a green, which here and there revolve, forming etty acute angles.

Spain abounds with marbles of every variety. A mountain entirely composed of beautiful marbles exists at the distance of three leagues from San Felipe, and the l'agus takes its course through hills of marble, which also constitute The abundance of this material led its bed. to its extensive use even so far back as the time of the Romans; and the monuments of an-tiquity, those of the middle ages and of modern times, are profusely decorated with indigenous marbles. The vault of the beautiful theatre The mosque of Cordova, erected by Caliph Abdoulrahmin III., is ornamented with 1,200 columns, most of which are of Spanish marble. Among the ruins of ancient Merida, built 28 years B.c., fragments of the most beautiful marbles are still discovered. The beautiful marbles are still discovered.

beautiful marbles are still discovered. The beautiful marbles are still discovered. The The principal deposits of marble now wrought are those of High and Low Pyrenes, the High Garonne, the Arriége, the Ande, the Herault, the Vosges, and the Straits of Calais. M. Géruzet of Bagneres de Begore (High Pyrenecs) sent the most beautiful and varied marbles last year. The marbles of Aspan, the stalactite marbles, and the campana-rante marbles were those most admired. M. Géruzet has set up on the Adour a marble work which has 150 saws constantly at work, besides ten rough saws for cutting out the blocks, seven lathes, one circular saw, a straight moulding frame, four machines for making flat slabs, and one machine which makes twelve rosettes at one time : he has obtained all the prizes usually awarded and the Legion of Honour. A saw mill has been set up at Perpignan, by M. Fraisse. At Mayenne, Mr. Henry, of Laval, has a factory where 230 blades are at work on black and veined marbles. Messrs. Landeau, Noyers, and Co., of Sable (Sarthe), work black and vein marbles by machinery of their own construc-tion. The quantity of marble imported into France is 6,000 tons, valued at 20,000/, and coming principally from Tuscany, being white statuary marble, and from Belgium being amadreporic gray and whitemarble, known as St. Anne's marble, and used for furniture, slabs in coffee-houses, &c. The value of French marble 22,400,000/.; of this amount 1,600,000/. or 2,000,000/. is the regular produce of quarties in constant work. These quarries are 18,000 in number, employing 70,000 men. The value of slate quarried annually is estimated at 80,000/.

church of the Escurial, the principal churches in Madrid, the palace, &c., are all decorated with the most beautiful marbles.

The milk-white marble of Cordova is adapted for sculpture. One of the most celebrated marbles is the *broccatello*: its chief colour is claret red, variegated with numerous small spots and points of isabell-yellow, yellowish gray, and a translucent white. The marbles of Germany are very numerous.

Carinthia possesses the most beautiful of all shell-marbles, viz. that of Bleyberg, called fire marble, or opalescent lumachella. It abounds with the opalescent fragments of a species of nautilus, here and there disseminated in its mass, reflecting tints of red, green, and blue, of considerable intensity; it seldom exists in

layers. The statuary marble of the ancients w principally Parian marble, so called from its coming from the island of Paros in the Grecian Archipelago, although it is well ascertained that several other islands, as Neupos, Tenos, &c., in that sea, afford similar marble. Carrara marble was also used by the ancients, and is the choice material of modern sculptors. To the choice material of modern scalipors. To fit a marble for statuary, it should be highly crystalline, and yet with a fine grain; it should be perfectly white, entirely free from flaws and from foreign minerals, and should be very compact. The American Washington and New Milford marble answers very well to these qualities.

Statuary marble is exceedingly durable when favoured by climate or association, although far from being a hard stone. Hence, says Patrin, it is sought for, for the construction of the most sumptuous edifices, and of monuments which are intended to be at once magnificent and durable. Marble is one of the least destructible materials; of this we have a proof in those precious statues, which are the eternal monument of the genius of the artists of ancient Greece. They have supported the injuries of twenty centuries, while the scythe of Time has been made harmless by the brilliant polish of their surface.

H. G. MONTAGUE.

EPISCOPAL CHAPEL AT WRINGTON.

An Episcopal chapel has lately been erected at an expense of about 1,000%. at Redhill, in the parish of Wrington, Somerset; Mr.Wilson, of Bath, was the architect. It is built in the early English style, whose prominent features are simple, elegant, and light, and whose decorative members being comparatively few, admit of its more general adoption for small churches, where the funds necessary for their erection are limited. For the amount ex-pended, we have a quiet, unostentatious beauty in the arrangement of the interior of this building that could scarcely be expected. t receives light from graceful lancet windows, three of which, with stained glass, give a pleas-ing effect to the chancel. The roof is of wood, opened to the ridge-piece, and for its plain construction is particularly ornamental. At the entrance, on a platform of two steps, is an ably chiselled font of stone of appropriate character; and over the doorway is a tablet which records that "This chapel was erected in the year 1844. It contains 315 sittings, and in consequence of a grant of 80% from the In-corporated Society for Promoting the Enlargeand Chapels, and of a grant of 90% from the Bath and Wells Diocesan Church Building Bath and wens Diocesan Onuten Dentiting Association, 250 of that number are hereby declared to be free and unappropriated for ever." There is, with the exception of the corbel heads without the porch, so much good taste displayed in the uniformity and completeness of this unassuming structure, that we regretted to find what is called a "handsome" stove placed in the centre of the aisle, with a black flue rising vertically to some height, and then running horizontally to make its escape through one of the windows, which has been disfigured for that purpose. think, also,-but this is a subject which we must touch upon with the greatest diffidence that had the chancel, which is paved with imitative encaustic tiles, been elevated one step, in point of practical utility alone it would have been better, from imparting a greater distinctness and dignity to the clergyman; and as from the communion table he proclaims the holy Commandments of God, they would not

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be lessened in their solemnity, nor lose the force of their impressiveness, from his being raised above his congregation. We should deprecate any attempt to produce a renewal of obsolete forms, utterly inconsistent with the pure religion which, as Protestants, we profess, but even as a spiritual religion, it is requisite to maintain the principle of doing all things decently and in order, so that, by avoid-ing Puritanism on the one hand, and Popery on the other, we may enter into the deep tranquillity of the House of God with a sincere, zealous, and unquestioning faith, awake only to those gracious and sublime emotions of the soul which conduct us with good thoughts, kind thoughts, ennobling thoughts, to the observance of our highest and most benignant duties .- Bristol Mirror.

SUFFOLK CHURCHES.

TUDDENHAM ST. MARTIN.

FEW villages in Suffolk can boast of a more ictaresque situation than Tuddenham. Seated in the hollow of a deep and narrow valley, it is not perceived from the high table-land on which it is approached from Ipswich, until the traveller has reached the point of descent, when a fresh landscape breaks upon his view, and below, the intermingled red-brick, and more ancient timber-built houses, with their gardens, constitute the village of Tuddenham. Westward, the valley presents no remarkable at-tractions, but in the opposite direction are to be found some of the most pleasing views of Suffolk scenery.

The parish church, the first object of interest The parsh church, the first object of interest in most places, occupies a commanding station on the brow of the hill immediately over-looking the village. The large Norman docuway, on the north side of the nave, refers the earliest date of the present bailding to the tenth centary; and though no other fea-tures of that style of architecture are now visible, it is most probable that the walls of the nave are of the same era. Occasional repairs nave are of the same era. Occasional repairs have probably effaced some of the characteristics of the original design, which the introduction of larger windows more directly superseded. There are now four windows opening into this part of the eburch, but the tracery is of that meagre description which is commonly found to have been supplied to village churches in the fifteeoth century. The accustomed entrance is now on the south side, where the doorway is of the same date as the windows we have just mentioned. In the interior, the visitor cannot fail to be struck with the simple yet graceful appearance of the ancient open timber roof, which, with the exception of the mutilated forms of saints and angels, bereft of their heads by fanatic zeal, remain uninjured and in good preservation. The entrance to the chancel is through a rude arch, without shaft or impost. This part of the building is probably of later date, as succeeding builders generally lengthened the chancels of their Norman predecessors. The door and side windows appear to have been substitutions for former work, and are of poor design; the east window, which is of three lights, the tracery formed by crossing the mullions and without foliations, was, till lately, the only indication from which it could be inferred the present chancel might have existed in the 14th century. But the present incumbent, upon examining the walls of this part of the church, discovered, near the surface of the ground, the ancient piscina. Upon clearing away the rubbish with which it had been filled, it was found to consist of two arches, one on the face of the wall, the other occupying part of the racess of the side window. The design of the recess of the side window. The design is bold and striking, the central shaft appearing to support the weight of the whole superin-cumbent wall. The position of these arches so near the ground, as well as the form of the east window, suggest the notion that the floor of the was originally lower than that of the chancel nave, a circumstance extremely rare, but which is here to be accounted for from the slope of the hill upon which the church is built. tower is square, consisting of three stages, with-out buttresses. All the windows have the tracery defaced, and this destruction in the belfry story, which is so common a feature in our churches, we can refer to no other cause than the mischievous carelessness of those workmen who have inserted the timber frames

for the bells. It is really much to be regretted that such a negligence has ever been suffered, which so often gives a fine tower a very unsightly appearance. The bells are five in number, and, from the inscriptions, were cast in 1655 by John Darby, whose name is similarly preserved in a very large number of the Suffolk churches.

The history of the ersction of our parish churches is generally involved in obscurity; seldom have documents been preserved to shew through whose munificence they were erected, or enlarged, or ornamented. Armorial bearings are frequently the only traces which are left wherewith to identify the families whose names may be associated with the parochial history of former days. Such is probably the case with respect to Tuddenham. But on examining the western entrance, we trace the arms of the family of D'Avilliers, a shield charged with three escutcheons, a name well known to those who have interested themselves in Suffolk genealogy. These appear in the right hand spandril of the western doorway; on the left is a shield, bearing a plain cross, charged with five escha-lops, but we know not to whom it may be referred

The monumental inscriptions in the church Keeble in 1653, and several members of his family. This Mr. Keeble was a lawyer of some eminence, and his 'Reports' are at this day considered as a valuable contribution to the legal records of the country. Another is dedicated to the memory of John Sicklemore, Gent., Lord of the Manor of this parish, who died 1644, and was here buried with several of his family. The only other is an affectionate tribute to the memory of Isabella Wrattislaw, who died at the early age of 20. No date is given.

We are unwilling to refer to the state in which the interior of the building lately ap-peared, but we notice with great pleasure the improvement which has taken place. The north doorway, which had been contracted from its original dimensione by a poor insertion of a later date, has been restored, and a new and substantial door provided; the win-dows of the nave have been put in order, and their tracery repaired; and the fine open roof thoroughly cleaned. The unsightly and en-croaching pews have been removed, and the

ancient seats (of which a considerable portion remained in the church) have been rein-stated. As more seats were required, the carving of new ones was entrusted to Mr. Ringham, of this town, who has executed them in admirable style, and in exact confor-mity with the rest. The rails for the communion-table have been executed by the same hand, with the same excellence of workmanship. Across the chancel arch stand the basement panels of the old rood-loft screen, the access the access to which was by a doorway now remaining in the south wall. The pulpit stands at the north-east corner of the nave, and is a very remarkable specimen. It exhibits a pattern of the decorative art of the middle ages, immediately before its extinction, when fantastic forms superseded the designs of a more chastened and correct taste. Indeed, there are indications of the approaching change in the workmanship of this pulpit, which, while in the workmanship of this pulpit, which, while they interest the curious, do not appear to offend the eye. This pulpit has also been restored by Mr. Ringham. A small gallery has been placed in the tower, in the room of those unsightly projections which are very often found in our churches, but neither com-pensate for their ugliness by any additional accommodation. The font stands on the right hand side of the south entrance, and is elabo-rately carved, and notwithstanding the defacements by the puritanical hatchet, is one of the best specimens of mediæval art in this neighbourhood. From the fragment of an inscrip-tion in the horizontal surface of the basement, it appears to have been the gift of Richard Sil-

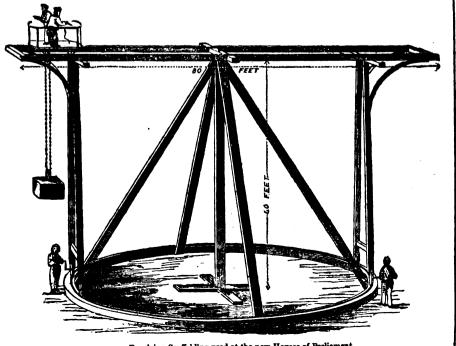
styr and his wife Agnes, about the year 1480. The recent alterations in the interior have excited much interest amongst the parishioners, who have cordially seconded the views of their worthy pastor, by voluntary contributions towards the reparation of the church; and though some seceders from the Church of England have refused their aid, a better spirit has influenced others, and one, a landed pro-prietor, has been a very liberal contributor. Something yet remains to be done towards the renewal of the chancel, which, we hope, will not be neglected by the impropriator, and the church, thus completed, will unite the requisites of comfort, convenience, and neatness, with strict architectural propriety.-...Ipswich Chroniole.

REVOLVING SCAFFOLDING USED AT THE NEW HOUSES OF PARLIAMENT.

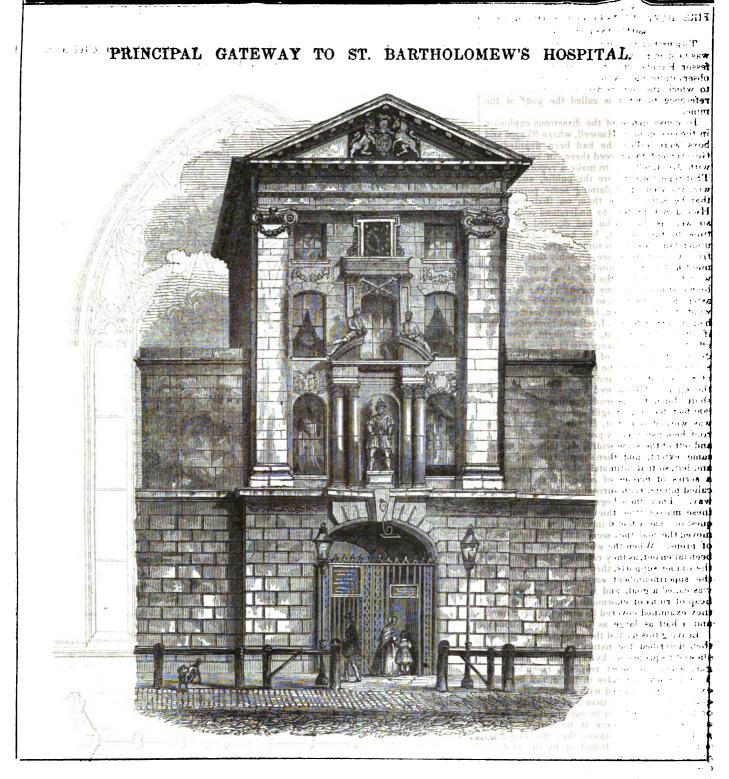
In continuation of the article on timber scaffolding which appeared in our last Number, we are enabled, by the kindness of Mr. Grissell, to give our readers an engraving of the circular travelling crane, now in use for erecting the central, or ventilating tower, at the new Houses of Parliament.

It consists of a circular base curb, at the top of which is fixed a toothed rack. In the

contro is fixed a vertical post, with diagonal control is intered a vertical post, with diagonal braces, carrying a centre point, around which the travelling crane works, with its hoisting crab on the top. At the foot of each leg is inserted a toothed wheel, working into the rack, so that by means of winch handles the whole can be made to revolve. It is stated, that the saving in labour is very considerable, but that the saving as compared with the cost of constructing scaffolding is very much greater.



Revolving Scaffolding used at the new Houses of Parliament.



ST. BARTHOLOMEW'S HOSPITAL.

ST. BARTHOLOMEW'S Hospital is one of the most ancient, as well as the most important, of the numerous charities which distinguish England from all other countries in the world. Rahere, by whom it was founded, lived in the reign of Henry I. A curious document among the Cottonian MSS. (quoted at length by Malcolm in his Londinium Redivivum) describes the life of Rahere, and the circumstances which led him to build the priory of St. Bartholomew and the hospital near it. In his youth he is described as haunting "the howsholdys of noblemen and the palices of prynces; where under everye elbowe of them, he spread ther coshyngs with iapys and flatteryngs delectably anoynting the eevyes, by this mean to drawe to hym ther frendschippis," and took the lead at all plays "and other courtly mokk'ys." Becoming impressed with a feeling of the wickedness of his life, he journeyed to Rome as a penance. Here he was overtaken by sickness, and being at the point of death, made a vow, that if he recovered, he would build

"an hospitale in receation of poure men, and to them so ther gadered necessaries mynyster after his power." He was afterwards commanded by St. Bartholomew, in a dream, according to the legend, to build a church in his name in Smithfield; and recovering, returned to England to fulfil his vow, and comply with the command. Having obtained the king's favour, he first built the church, and then "an hospital house a litell lenger of from the chirche by hymself he began to edifie."

The hospital remained attached to the priory till after the dissolution; when Henry VIII., in the last year of his reign, granted it a new charter of incorporation, and endowed it with a certain sum on condition that the citizens of London should contribute an equal amount. At the present time its revenue is very large, the good it effects incalculable.

The buildings escaped the Fire of London; but becoming ruinous, were for the most part taken down in 1729. Subscriptions were

* Rahere's tomb is in the church of St. Bartheloanew the Great close by; an interesting building, once part of the of priory. raised to rebuild it, and in 1730, the present structure was commenced from the design of James Gibbs, but was not completed before 1770.

The principal gateway, very accurately represented by the accompanying engraving, is of earlier date than the hospital, having been rebuilt in 1702, when Sir W. Prichard, Kt., was president, and John Nicoll, Esq., treasurer-The whole is of stone, and is in a good state of repair,-much better than the hospital itself. The figure in the niche is intended for Henry VIII., those on the broken pediment above it. are designed to represent Lameness and Disease. Originally this gateway was connected with buildings on either side, and did not profess to have any thing more than a street front. Lately its character has been altered by removing these buildings, and the result is not advantageous to the design.

In the ensuing number we shall give views of the quadrangle and the Giltspur-strees gateway, and shall then be able to speak more at length of the architectural peculiarities of the hospital.

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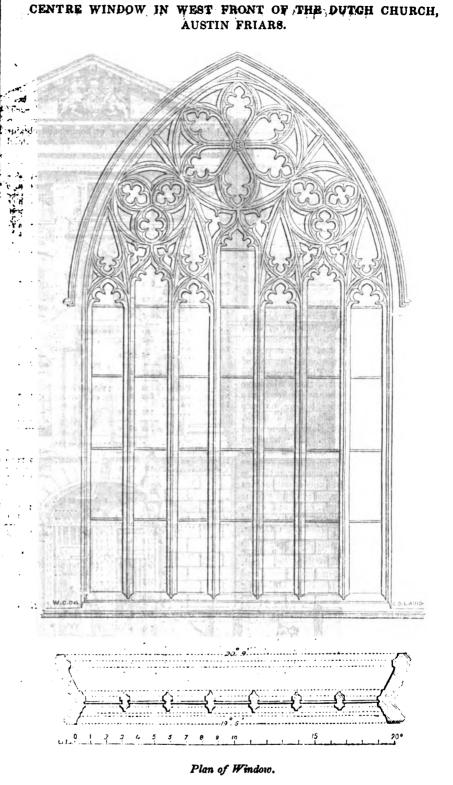
FIRE DAMP-VENTILATION OF MINES.

Two first evening meeting in the present year was held on Friday, the Untristant, when Professor Faraday laid before the members some observations on coal mines, and the accidents to which the miners are liable, with especial reference to what is called the goaf of the mine.

. In consequence of the disastrous explosion in the coal mine at Haswell, where 95 men and boys were killed, he had been deputed by Government to proceed there, in conjunction with Mr. Lyell, and to make a report upon it. That report was before the public, and it was with the view of explaining some points in it That report was before the public, and it was with the view of explaining some points in it that he came before them on that occasion. He did not profess to understand coal mines so well as those who had devoted all their time to the subject, but he did profess to understand Nature in some degree, and it was from this circumstance probably that Gowern-ment had selected him for the inquiry. He would premise that the inquest shewed that no blame attached to any person in the late disblame attached to any person in the late dis-mater; all precaution, so far as their knowledge went, had been taken, but certain observations had occurred to Mr. Lyell and himself which, nster ; all precaution, so far as their knowledge went, had been taken, but certain observations had occurred to Mr. Lyell and himself which, if attended to, might, he thought, have the effect of lessening danger in future. He then described, by means of their, cloth stretched against the wall of the their were appearance of a seam of coal, and the noise of working the mine. He shewed were the present case 900 feet deep), a straight means of their present case 900 feet deep), a straight means of their present case 900 feet deep), a straight means of their present case 900 feet deep), a straight means of their present case 900 feet deep, a straight means of their present of and left, so that ultimates the mine presented a series of masses of coal 24 yards square, called pillars, each surremined by a passage or way. They then began means that four one in question was 4 feet 6 in the root by means of props. When the world of one pillar had been taken out, as they command the root by means of props. When the world of one pillar had been taken out, as they command the root by means of props. When the world of one pillar had been taken out, as they command the root by means of props. When the world of one pillar had been taken out, as they command the root and the superincumbent earth, the presented a heap of ruins of enormous extent. The goaf they examined covered light the professor men described the nature of time damps and shewed its properties by experiments with coal-gas, which, in most respect, resembled it. The gas which exudes in the mines becomes explosive when mixed with atmospheric air in quantities of not less than 5 of air to for gas; or more than 14 of air to one of gas; with less air or more air there is no denger. The professor was of opinion that the coal-dust active about was licked up by the rush of air produced, in which case the combustion (as he shewed by experiment) was very dif-ferent. Fire-damp is exceedingly light, and necessarily ascends to the highest parts. This be wished to enforce—na be exemplified by various experiments, as upon this property was based the proposition he wished to enforce—namely, that the goaf is a receptacle for fire-damp, and by a variety of circumstances may be made to discharge part of its contents into the mine—for example, by

ef its contents into the mine-for example, by change in the density of the atmosphere. The ventilation of mines was effected by two shafts, in one of which was a furnace; through the rarefaction produced, currents were established which drew off the gas. To shew the size of the furnace at the mine where the accident occurred, he mentioned that a ton of coals was always in combustion. The professor then shewed by experiments with pipes communicating with a fire, how rapidly smoke was carried off in this manner, and urged, as the main object of his lecture, that all goafs should be ventilated as high as was practicable by means of pipes communicating with the furnace. This might

be done in most cases at an expense of 50. There is no lecturer who can invest a simple subject with an much interest as Mr. Faraday, or more completely simplify an abtruse one. His illustrations too, never fail, and are always ready. His audience are not kept waiting while this bottle is filled, or that jar exhausted; preparation and explanation go on together, and the result is perfect.



GOTHIC DETAILS FROM THE DUTCH CHURCH, AUSTIN FRIARS.*

THE centre window in the west front, represented by the accompanying engraving, is a very good example of a window in what is termed the decorated style, which, as a general rule, may be called the architecture of the 14th century. The arch of windows of this style is usually equilateral (not always), and the tracery consists in the earlier specimens, of geometrical forms, circles, trefoils, &c.; and in the later examples is formed by wavy, flowing lines. In the Perpendicular style, which succeeded it, the multions ran through the head in perpendicular lines, and the tracery took the same character; the arch became flatter, and altimately lost the pointed form altogether. The perpendicular style in the same general way, as above stated, may be considered to belong to the fifteenth century. In windows of the early English style, which preceded the decorated, the arch, especially in

* See p. 30

the earliest specimens, is acute, and the opening long and narrow. This style belongs to the thirteenth cen-



tury. Tbe window that forms the subject of our illustration is considerably larger than the siele window figured in the last number of our journal, (as is shewn by the dimensions annexed), but is drawn to a smaller scale. The moulding of the eill is the same is this as in the aisle window; the section of the reveal, with its dimensione, is shewn by the annexed cut.

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SOCIETY OF ARTS.

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WEDNESDAY EVENING, JAN. 22-W. H. Bodkin, Esq., M.P., V.P., &c. in the chair. Bennett Woodcroft and J. Havers, Esqs., were elected members.

The secretary read a paper by M. Claudet, "On the progress of the various branches of

"On the progress of the various branches of Photography." The author treated of the improvements which the art of Talbotype and Daguerreotype have undergone during the past year. Also, mentioning many new processes, and describ-ing a discovery of his own connected with the optical part of the subject, by means of which great and hitherto unattainable facility is given great and nitherto unattained of the second for obtaining a sharp and defined picture. The most interesting part of the paper, however, was that which treated of the new process of engraving the Daguerreotype image, so that it may produce a great number of copies, in the same manner as a plate engraved by the usual method. The process consists in biting away (by certain means described by the author) the dark parts of the picture, so that they may retain ink, and admit of being printed by the ordinary process of copper-plate printing.

FLOOR-TILES.

WE have been favoured with a specimen of glazed flooring tiles from Scinde, of such superior quality and beauty to any procurable in Bombay, that the subject of their importation seems well worthy of the consideration of the mercantile community. The aspect of the tiles must be familiar to most of those who have tiles must be familiar to most of those who have been on the Indus—specimens, indeed, are plentiful in Bombay. Those before us are 6½ inches square, and 3 of an inch thick, admirably well-baked, and glazed blue and white, like old Dutch ware. One hundred will furnish 3½ yards of pavement for 2½ Rs. of price. The glaze is a true vitreous one, as perfectlymade and applied apparently, as that on European earthenware. Thefloors of our lobbies and verandahs are here at present generally comand verandahs are here at present generally composed of blocks of trap, rough, cold, and com-fortless looking, though sufficiently strong and substantial, or of tiles imported from China. The stone is at once unseemly and expensive, and would rarely be employed could a more elegant and economical substitute be found. The Chinese tiles are 14 inches square, and cost from 15 Rs. to 25 Rs. per 100. Or taking 20 Rs. as the average price, and assuming that something less are required to the square yard than seven tiles, at a cost of about Rs. 1: 12 than seven tiles, at a cost of about Rs. 1: 12 annas a yard—more than double the price of the Scindian tiles, which can, it is said, be imported here for betwixt 2 and 3 Rs. a hundred—equivalent to 3½ yards of flooring, which will, on an average, cost less than 13 annas a yard. A verandah, or lobby, 15 feet by 30, could be paved with them for about 70 Rs., chunam, pavior work, and all. They would exceed the Chinese tiles as well in strength as in cleanliness and heauty.— Bombau strength as in cleanliness and beauty .- Bombay Times, Nov. 23.

BUILDING SOCIETIES, LOAN COMPANIES, AND SAVINGS' BANKS.

BY WILLOUGHBY WILTON.

(Concluding Letter.)

Smag. "You never can bring in a wall. What say you, Bottom ?" Bottom. "Some one must present wall." MIDBUMMER NIGHT'S DREAM.

THE Editor of THE BUILDER has received a letter from "H. S." on the subject of our remarks in previous letters respecting build-ing societies. As our object is truth, not victory, we most willingly receive any light which can be thrown on this abstruse subject. Acting on this principle, we will con-sider it our duty calmly and independently to admit and criticise such attacks as may be made upon our position, until we shall be shifted from it by numbers—not of assailants, but of truth-telling figures. But to cut this preamble short, the letter of "H.S." reads thus:—

TO THE EDITOR OF THE BUILDER. SIR,—I have read the letters of Mr. Wilton in your periodical on building societies, and although he has stated sufficient to act as a caution to the he has stated sufficient to act as a caution to the public, yet, as it appears to me, he has fallen into public, yet, as it appears to me, he has taken into some errors, which needlessly make those societies appear worse than they would really seem to be, and consequently of greater disadvantage to the borrowers. Having no connection with any of

these societies, I know nothing of their plan of unese societies, I know nothing of their plan of operation, beyond what one may glean from their rather ambiguous prospectus; far from thinking, however, with your correspondent that a period of seventeen years is required, I am inclined to believe that a society may finally terminate in ten years, and also yield a large return of profit to those members who become in fact lender of money members, who become, in fact, lenders of money.

members, who become, in fact, lenders of money. Let us suppose a society holding 100 shares. The terms are that 10s. per month per share shall be paid, and in addition 4s. per month for interest on those shares upon which money has been advanced. The shares being nominally 120*l*. each, we will further suppose that the borrower agrees to a deduction of 63*l*. by way of bonus, and obtains 57*l*. for his share. The account will then stand thus :--*

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| | Interest on 32 | | | | Balance | 43 4 | 0 |
| F | shares | 76 | 16 | 0 | | £727 4 | 0 |
| | | 2727 | 4 | 0 | | | - |
| | | | | _ | | | |
| | 5th year, Balance | 43 | 4 | 0 | 13 shares at 571. | 741 0 | 0 |
| . 1 | Subscriptions Interest on 44 | 600 | 0 | 0 | each Balance | | ŏ |
| 2 | shares | 105 | 12 | 0 | Datance | | - |
| ? | | | | _ | | £748 16 | 0 |
| 1 | | £748 | 16 | 0 | | | - |
| 1 | 6th year, Balance | 7 | 16 | 0 | 13 shares at 571. | | |
| | Subscriptions | 600 | ŏ | ŏ | cach | | 0 |
| 8 | Interest on 57 | | | | Balance | 3 12 | 0 |
| 2 | shares | 136 | 16 | | | £744 18 | 0 |
| 3 | | £744 | 12 | 0 | | | _ |
| | | | | | | | |
| | 7th year, Balance | 500 | | 0 | | 456 0 | 0 |
| ł | Subscriptions Interest ou 70 | 600 | 0 | 0 | each Balance | | ŏ |
| - | shares | 168 | 0 | 0 | | | - |
| • | | | | | | £771 12 | 0 |
| , | · · | £771 | 12 | 0 | | | - |
| e | 8th year, Balance | 315 | 12 | 0 | 22 shares at | | |
| • | Subscriptions | 600 | | | 1211. 138. 9d. | | ģ |
| d | Interest on 78 | 10- | | ~ | Balance | 0 1 | 6 |
| r | shares 9th year, Subscrip- | 187 | - 4 | 0 | 100 shares. | | |
| t | tions | 600 | 0 | 0 | | | _ |
| d | Interest on 78 | | | | 1. | £2677 4 | 0 |
| 2 | shares | 187 | 4 | 0 | | | |
| f | 10th year, Sub- scriptions | 600 | 0 | 0 | | | |
| e | Interest on 78 | | | - | | | |
| | shares | 187 | - 4 | 0 | 1 | | |
| | | 82677 | 4 | . 0 | | | |
| 3 | | | | | · . | | |
| | 10 manage mult | | | | ACCOUNT. 78 sh. at 571. eac | h #44.60 | • |
| t | 10 years sub 9 do. int. on 10 sh. | £ 000 21 | 6 | 0 0 | 22 do. 1211.13s.9 | d. 2677 2 | 6 |
| t | 8 do. do. 11 do. | 21 | 1 | 4 0 | Balance | . 01 | 6 |
| у | 7 do. do. 11 do. | 18 | 4 1 | |) | | _ |
| 'n | 6 do. do. 12 do. 5 do. do. 13 do. | | | 6 (0 (| 100 | £7123 4 | 0 |
| y | 4 do. do. 13 do. | | | 6 (| | | |
| - | 3 do. do. 8 do. | | | 2 (| | | |
| | - | 07.1 | | | | | |
| | 78 | £712 | 3 | 4 (| И | | |
| 5, | | | | | | | - |

* The calculation here instituted has not the merit of novely, though it may be original to its author. The same species of Dr. and Cr. account will be found in some of the pamphlets which have been published on building societies ; and particularly in the "Proceedings of the Court of Common Sense," but with this difference 'that the author of that brochure gives it the title—"Calculation to show what would be the duration of a society, if the shares were fixed at 1501, each, the monthly payments twenty shillings per share; the borrowers to pay five per cent, interest, or 122. 6d. per share, and to receive the full value of their shares without any deduction for premiums or discount;" and proceeds as follows:— DE. FIRST YEAR. Cr.

as tollows :--DR. FIRST YEAR. Cr. To Subscription, 500 0 shares at 12/.... 6000 0 To Interest, 41 shares average 75s. ... 153 15

266153 15 The writer "H. S.'' suppose in all this that the bor-rower is liable only for 571.; but from all we can learn—and we have asked the question besides in our letters, and it has not been answered in the negative—the borrowers are bound to pay, in full of all demands, 1201. per share; and it is this which constitutes the difference between the apparent and real duration of these societies, between 10 and 17 years. ‡ We would recommend "H. S.," who is quite compe-tent to the task, to work out the several cases with these data:—

 $160 \times 120 = : \pounds 12,000 \mid 100 \times 63$

E12,000 These 6,300% of bonus are, what? Are they the premium which has become a shadow of James Blackman, chairman of directors of the Lambeth Building Society? We again pause for a reply. And then let "H. S." say whether we have needlessly made these societies appear worse than he himself does.

| 10 shares pay each sub. a Interest for 9 years | 21 21 | 0 | 0 | £ 81 | 12 | : 0 | and o loan a tion o | t et | pho |
|---|----------|----|---|-------------|----|-----|---------------------------|------|-------|
| 11 shares, pay each sub. | 60 | 0 | 0 | | | | | | |
| Interest for 8 years | 19 | | Ó | 70 | 4 | ٥ | do. | 2 | do. |
| 11 shares, pay each sub. | 60 | 0 | 0 | | - | | | r. | |
| Interest for 7 years | | | | 76 | 16 | | do. | 3 | |
| 12 shares, pay each sub. | 60 | 0 | 0 | | | - | | | |
| Interest for 6 years | | | Ò | 74 | | | do. | 4 | do. |
| 13 shares, pay each sub. | 60 | 0 | 0 | | | | | | |
| Interest for 5 years | | | Ò | 78 | 0 | 0 | do. | 5 | do. 1 |
| 13 shares, pay each sub. | 60 | 0 | | • | | | | | , |
| Interest for 4 years | 9 | 12 | 0 | 60 | 19 | 0 | đo. | 6 | đo. ' |
| 8 shares, pay each sub. | 60 | 0 | 0 | | | | | | |
| Interest for 3 years | 7 | | 0 | R- | | • | đo | 7 | do. |

22 shares, pay each sub. 60 0 0 and double their capital in 10 years.9

In their prospectus they say that the member only pays an interest of 4 per cent. on the loan. Were the member to receive 60%. upon his share, Were the member to receive 60% upon his share, doubtless the interest at 4 per cent. would be exactly what the society charge him, viz. 4s. per month, or 2%. 8s. per annum; but this is a one-sided account, and without reckoning the value of his annual subscription of 6% for 10 years, which at 4 per cent. amounts to 72%, leaving him 12%, after paying his debt of 60% and interest at 4 per cent. I Let us take, for example, the first and last cases in our calculation. In the first case, a member joing the society, and pays an annual sublast cases in our calculation. In the lifet case, a member joins the society, and pays an annual sub-scription of 6l; he has appropriated to him at the end of the first year 571, for which he has to pay annually 22. 8s. in addition to his subscription. At annually 21. 8s. in addition to his subscription. the expiration of

10 years, he will have paid £81 12 0 And have received from the society 57 0 0

Paid for loan of 571. for 9 years #24 12 0 If he had borrowed 571. for 9 years at 4 per cent,

| A Interest, ins account would have been | | | | . 1 |
|--|----------------------------|--------------------|---------------------|-----------|
| 1at years' investment' 9 years do. at 8/. 8s. each Compound interest 4 per cent. on above | 75 | 0 12 16 | 00 | ,. . , |
| Sum borrowed | 79 | 8 | 9 | |
| | - | 10 18 | - | •• |
| Or, in other words, he has paid for interest. The difference between | 894 | | • | |
| Is the balance of interest at 4 per cent. | | | | |
| Paying beyond 4 per cent | 219 | 18 | 4 | • |
| In the last case a member has appro- him 57 <i>l</i> . at the end of 7 years; at the ex- l0 years he will have paid 67 <i>l</i> . 4s., and from the society 57 <i>l</i> .—paid for the loan of 3 years, 10 <i>l</i> . 4s. If he had borrowed at t tion of 7 years, 57 <i>l</i> . for 3 years at 4 per invested his yearly payments at the same | pira i r of b cer | ece 571. exp | n c ive foirs | PTX 43 |

| iterest, his account would have been- | це | Iav | | |
|---|-----|-----|---|--|
| 7 years' investment at 61 | 643 | 0 | 0 | |
| 8 do do 81.80 | 25 | 4 | 0 | |
| Compound interest at 4 per cent. on above | 12 | 6 | 6 | |
| | 79 | 10 | 6 | |
| Sum borrowed £57 0 0 3 years' compound int. at 4 p. cent. 6 16 9 | | | | |
| 3 years compound int. at a p. ceat. | 63 | 16 | 9 | |
| | | | | |

in in

interest as the lenders are receiving, and this we find by calculation to be about 15 per cent., and doubling their capital in 10 years by monthly instalments. -I am, Sir, your obedient servant.

H. S.

The monthly subscriptions, fines, and forfeiture of shares, tend to increase the profits above

15 per cent. We have deemed it our duty not to disturk the calculations of "H. S." in any manner, but to leave them as he has conducted them, believing that without being checked, on his own premises, the computations of the in-terest are perfectly correct. "H. S." and all men capable of conducting a calculation of

9 The whole of this claborate but ingenious process is detailed with great fidelity by "H. S.," but what end does it serve? It does not come near the amount we have shown to be contributed by the unfortunate borrower. I There is much of truth in this remark, but the whole calculation, which disregards the operation of the bonus or premium, and its terrific re-action on the borrower at the inclusion, which disregards the operation of the bonus or premium, and its terrific re-action on the borrower at the one of 10 years, or for a duration of 17 years, must be erroneous in the extreme. We have already so fully expounded the operation of these monthly instalments in our previous letters, that see pointles, and lave the question as therein stated. We are not in any way interested in these societies, and have enterprised to set the matter right, " that the public may be able to place confidence in them," and shat the borrowers may be equitably dealt with.

magnitude similar to that we have presented from his pen must know that if we had in our previous letters followed the same course, our readers would have been confounded by the very appearance of the figures marshalled to bring out our results. But in all these cases the figures resemble the ingeniously con-structed scaffolding which surrounded the Nelson Column, the Royal Exchange, or that which now surrounds the New Houses of Par-liament. We removed the whole of our apparatus, and left the object single and entire to view. This, to drop the simile, is to take up the whole question in one proposition, which we word thus :-

To what sum would an annuity of 81.8s.a year for ten years amount, when paid or re-ceived, and laid up at interest in monthly por-tions of 14s. 8d. each, the interest at the rate of 51. per cent. being con treelve times in the year? cent. being converted into principal

THE ANSWER IN BOUND NUMBERS IS ONE HUNDRED AND SIX POUNDS TEN SHILLINGS.+ Thus the whole of the calculation of "H.S." falls to the ground, if one share pays ansually 64 of contribution and 24. 8s. of interest; or 8 guincas a year by twelve payments of 14s. 8d. each; and with this stringent con-dition in our calculation on the lenders, that the borrower has had 60*l*., which he repays in ten years, with interest at the rate of 4 per cent

If therefore this contribution will not make 1201. in ten years, what annual, or from thence, monthly sum will make 1201.?

We answer : Nine pounds nine shillings and we answer: I time points nine similaritys and seven pence a year; or fifteenn shillings and ten pence a month; improving the contribu-tions at 5 per cent. compound interest; in all of which the borrower has no participation, as we have shewn already from the rules of these constitue. Therefore, we conclude the her societies. Therefore, we conclude the bor-rower must make good the bonus, and become free some years after his financial bondage of

we had promised in a previous letter to notice also in our inquiries the operations of the small loan societies. But we desire not to be misunderstood here. We do not asso-ciate building societies with the nefarious schemes we are now about to handle.

The small loan societies differ essentially from all other modes of advancing money upon interest in Britain: they are sui generis - they make the food they feed on-they are esta-blished professedly to lend sums of 5l., 10l., &c., at 5 per cent. interest, to be repaid by weekly instalments proportioned to the sum borrowed.

Suppose some five idle men choose to get up one of these societies, one is manager, another treasurer, three are trustees, who become divi-sible also into clerk, messenger, and "Newman Noggs,"-the man who makes inquisition into and reports on the character cum woridus bonis of the borrowers' sureties. But these "five senses" have no money, nor do they require any; they are started by a "Ralph Nickleby," and his man "Noggs" is put in to look after the other fellows. Ϋ́οτ cannot now-a-days contemplate any one of these wretched concerns without finding at kast one spy, one eaves dropper — and in the third corner a sourd et muet placed there by the chief :---

" Of spirits, likest to himself in guile

To be at hand, and at his beck appear If cause were to unfold some active scene

Of various persons, each to know his part."

Well, then, the directors-oh! the prostitation of language !-- meet at eight o'clock at night, in a decently-furnished house, or it be otherwise, as we shall presently see, Dav and in an innermost snuggery sits the chief, the counterpart of your *Ralph Nickleby*. All persons wishing to become members pay the hist week's contribution, and tender the names and residences of the parties they propose as surveises, and sho the fees for Mr. Nogga making inquisition into their respectability, which fees go by the mileage scale of one mile, is.; not exceeding two miles, ls. 6d.; and for every additional mile, the further charge of 6d. And then the chairman informs the applicant that notice will, in due course

of time, be sent to him whether the sureties are approved of.

First applicant wants 51. on loan, and pays for being allowed to ask for it 2s., or the first week's contribution; and for the journey of Mr. Noggs from Paddington to Stepney, 3s., ls. for the book of rules, ls. towards a de-ficiency found, and 2d. for office-rent, making in all 7s. 2d.

This is a tolerable entrance-fee before the man knows whether his respectable friends will be accepted as sureties, and the loan obtained.

Pray, gentle reader, is this according to law, and conformable with the Act of Parliament? However these may be, the man buttons on his great-coat, makes his bow, retires, and walks home, the Devil whispering in his ear all the way :-

" Therefore, if at great things thou wouldst arrive, Get riches first, get wealth, and treasure heap, Not difficult "----

and the visions of "wealth amain" piled on the board-table, flickering brighter than the gas-lights to his eyes, and his ears listening as to the chairman's voice, as in broken accents it says of the society :-

"Riches are mine, fortune is in my hand."

Enter No. 2 for a loan of 10/ .-. "Four shillings, Sir, first week's contribution (says the chairman); 9s. for the inquiries into your survives, one being at Hoxton, another in Kennington, a third all the way to Notting-hill—in all 15s. 2d." The man pays: "small consolation" to be now told, as the former, that he will hear in due course from the secretary.

The third party for a loan of 151. now appears, and the same forms are gone through, and he feels

" That fellowship in pain divides not smart,

Nor lightens aught each man's peculiar load ;" for he pays 6s. as the first week's subscription, and all the et cæteras of No. 2. Or at the option of the member, to which option he receives a gentle hint from a touter in the person of Mr. Noggs, No. 1 for 5*l*. puts down his 4s.; No. 2 for 10*l*. takes 10s. out of his purse, and hands it to the secretary; and No. 3—"envy they say excites"—whisks 12s. on the table.

Next evening the cases are discussed; and some accepted, some postponed, and some rejected. In due course the parties and their "promissory notes" are drawn, signed, ac-cepted, and endorsed; and each gets a book, in which is entered, or to be entered, all the transactions of the loan, and the results of his wandering promissory notes. Suffice it to say, the parties are charged interest at the rate of 5 per cent. per annum, from and for the time the money is advanced; charged too in the amount, and deducted from the money when advanced.

Now, though "Ralph Nickleby" appears the lender to the hundred borrowers, his coadjutors could manage the matter very well without him, for 50 subscribers would enable a society in four weeks to lend 10/., since the society is not the lender, but merely the manager of the fund lent. This is the great secret, the moving spring in the operations of these widely-spread and ruinous societies, for the managers are paid so much for doing improperly what the contributors themselves could do economically and equitably.

Upon the principle of receiving, as from 50 members, their weekly quotas, these societies, if they have no backer as "Ralph Nickleby," are enabled to make loans of 101. ad infinitum, the difference between what the borrower receives and what he pays being quite enough to pay expenses of management, and allow the "direc-tors," as the needy scheemers style themselves to pocket a handsome sum annually. We speak advisedly when we affirm, that for managing every loan of 10%, which the borrowers contribute one to another, the directors pocket far more than people generally imagine; but we shall see. Besides, the interest is here illegally charged—we mean that the lenders charge the borrowers interest in place of dis-count, which makes an immense difference in these transactions. For example, if a poor man contracts for a loan of 10% by weekly instalments of 4s. a week for 50 weeks, the loan is at first simply equivalent to the sum of five pounds two shillings for that time, or to two hundred and fifty five pounds for one week;

and the true charge for interest would be about four shillings and eleven pence, whereas the lenders exact about seventeen shillings and sixpence by their process more than ought to be taken.

But we must now have done with both Building and Loan Societies.

Yet one word in defence of the savings banks before we lay down our pen. In recommending building societies to the public, the secretary to the Tring Benefit Building Association, ventures a bold remark, to the effect, that "Persons desirous of joining a building society, have nothing to fear in regard to the safety of their money. These societies," he affirms, " offer a better security than savings' banks, or any investment of the sort. The security of savings' banks is only visionary at best; but building societies have real security for money advanced." That is to say, a rity for money auvanceu. I have to comp, -small joint stock club at Tring, in Hereford-shire, is broader-backed, stronger, and more shire, is broader-backed, stronger, and more secure than a savinge' bank over which the most independent, wealthy, and influential men of a county, parish, or district preside whose funds are periodically invested with the Commissioners for the reduction of the Na-tional Debt. The ravings of this Bedlamite would deserve no consideration, did he not labour under the mesmeric influences which impresees members of building sociaties with impresses members of building societies with the belief that, as to their freeholds-

" Underneath are diamond-rocks,

Topaz-boulders, ruby-blocks,"

and past their doors run onward still

" Golden rivers, silver streams, Richer sights than visit dreams."

We beg leave to recommend savings' banks,

as banks of safety. The miserable victims of the small loan societics, so hurtful and pernicious to the morals of the industrious classes, not only find no relief in the calamities to which they expose them, but by association with them prepare themselves for future unknown vicissitudes; while the humble man, who goes weekly to the which had enabled him in the beginning to call himself a "saving-man."

Correspondence.

METROPOLITAN BUILDINGS ACT.

SIR,-It is much to be regretted that complexity or ambiguity should exist in such an important Act of Parliament as the above; but that it does exist, and in several of its regulations, cannot be denied. This was regulations, cannot be denied. This was repeatedly pointed out during its progress through its several stages; and to improve the Bill, a postponement was suggested until the ensuing session; * but having lingered so long, and having undergone so many altera-tions, it was supposed by those having its management to be perfect in all its parts, and it was determined at once (late in the session) to pass it into a law.

In your last publication, in a note to your notice of some of the proceedings under its provisions, you state that " many of the builders and zinc-workers have been astonished at the interference of the district surveyor when erecting a funnel or smoke-pipe on a chimney-shaft! nevertheless, he (the surveyor) would seem to be justified. If it be 4 feet above the brickwork, notice must be given of such work, and the FRE paid, or the penalty may be incurred. See s. 13, and schedule F, art. chimney-pots, tubes, &c.

I must confess I was as much astonished at reading this note as the builders and zincworkers must have been at a visit by the district surveyor, especially with the demand for a FER.

Having carefully read over sect. 13, I find. no mention whatever of chimney-pots, smokepipes, or funnels, but the section clearly enough particularizes chimney-shafts and flues; by referring to schedule F, you will find that chimney-shafts and flues are to be of brick or stone-work, and at least four inches thick ; this, therefore, cannot mean, even by implication, a metal or any other chimney-pot or smoke

• In the reports made upon the Bill by the committee of master carpenters, published from time to time in THE BUILDER.

[•] The borrowers are charged 4 per cent.; we assume that the lenders can improve their contributions at 5 per cent. • If we had computed the improvement of the money at • per cent. the amount would have been somewhat different.

tube, bet a little further in advance in the enne schedule you will find the following regulations for "Chimney-pots, tubes, &c." "A As to earthen or metal chimney-pots, tubes, funnels, or cowls, of any description whiststever, if such pot, tube, funnel, or cowl be higher than 4 feet above the brick or those work of the flue on which the same is placed, then it must be fixed 2 feet at the least built the brick of a stonework of the flue. on preced, then it must be index a you in the internation of the first or stone-work of the flue, on which it shall be placed."

which is shan or placed." There can be no doubt but this is a very proper regulation in the affixing these tubes, had match to be preferred to the old and blamsy method usually adopted in piling brick-work upon a flange, and round the pot or tube; work apon a flange, and round the pot or tube; but that the Act requires any notice to the district surveyor for such a trifling work can-not be admitted; and less so that any FEE is payable therein. It is true that if a "at chimney pol, &c. higher than 4 feet, is not fixed," "at least 2 feet into the chimney-shaft and fixe," that then (but not if properly constructed) the Hat and 18th secs. may be put into operation 'Isth and 15th sees. may be put into operation against the party committing the irregularity; "both these sects, provide for the payment of "all costs and charges to which the district "surveyor may be put in rectifying irregu-larity; but he is certainly not to be paid 'regular or irregular by a FEE. I am borne out in this opinion upon reference to the "mended Bill in the committee of the House of Commons, previous to the "amendments and alterations" proposed to the Committee of and alterations, proposed to the Committee of "the House, and assented to by them. In that "the frome, and assented to by them. In that "Bill, among a great many other objectionable frees, was a fee specially set forth of 10s. for "fupecting chimney-pois, shafts, funnels, &c. "above a certain height. "This and several other fees for trivial f matters were opposed by the society I had the

matters were opposed by the society I had the binour to represent, and I may venture to "sissert," that "the result was an alteration and "expunding of these unnecessary and objection-"bine inflictions." It is therefore to be exceed-"bine inflictions." It is the effort to be exceed-"bine inflictions." It is the effort of the exceed-the exceed-the exceed-"bine inflictions." It is the exceed-the exceed-the exceed-"bine inflictions." It is the exceed-"bine inflictions." It is the exceed-the exceed-"bine inflictions." It is the exceed-"bine inflictions." It is the exceed-the exceed-"bine inflictions." It is the exceed-"bine inflictions." It is "making in many instances to inflict upon the "minimity a fee not justified by any part of the "Act; and further, there is no question that "the surveyor or surveyors exacting a fee for "the inner, pots, smoke pipes, tubes, &c., will "minimity bring himself or themselves under "the operation of the 79th sec, of the Bill. In .a word, the legitimate fees demandable will be "found to be quite remunerative for any of the ordinary duties to be performed; for any or the ordinary duties to be performed; for any spe-cial services provision is made to meet all such services by special fees. This being the case, and any costs or charges, expenses or loss of ¹¹ time," in compelling or putting in force its re-¹² gulations and enactments, being also folly and ¹³ amply provided for, and which charges are set ¹⁴ forth in schedule L, in the Bill, it is to be hoped ¹⁵ that charges will not be made upon the public ¹⁶ hot authorized by the legislature. ¹⁷ Dorset Place. H. BIERS.

The above letter did not arrive in time for . •/. ús is to offer any observations upon it in the present number. We shall do so hereafter; the subject of it, as will be seen by our leading article, has already occupied our thoughts.— ED.]

MISTAKES IN ESTIMATES.

Sin, — The steady course you have always pursued with respect to professional disputes and grievances, and the decided stand you have always made sgainst crooked dealings connected therewith, induce me to make known to you the particulars of a transaction in which I have been recently engaged, and regarding which I conceive that I have a just cause of complaint. In so doing, I trust that others may benefit by my want of caution, and by my loss. In the remarks upon St. Paul's Church, Herne Hill, which appeared in your publication of the 4th instant, it is stated that the amount of the estimate for the building was 4,500L, and details are given to prove that the actual outlay did not exceed that sum. This agreement between the estimate and expenditure is generally a theme for well-merited praise, and deservedly so when the conditions of the cona rtract are fairly carried out; but cases may trise; and in the one I am about to trouble you with, has arisen, when very different deserts to those of praise should be awarded. ft was my lot to be the unfortunate sub-contractor for the musons' work of the church

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in question: Wy calculations were that from quantities supplied by Mr. Brobmfield; after which an agreement was handed to me by the chief contractors, Messes. Howard and Son, which, in an unguarded moment, supposing all was right, I signed. By this I undertook to be thereast correspondence and specificado the work agreeably to plans and specifica-tions furnished by the architect, and which I distinctly anderstood were the same or similar to those made use of by Mr. Broomfield. As to those made use of by Mr. Broomheid. As I progressed with the work, I soon discovered that the quantities supplied by Mr. Broomfield were very deficient when compared with the plans and specifications supplied by the ar-chitect. I remonstrated with each party, but to no effect; Ms. Broomfield said that he did not take out the currentiles himself, but conied not take out the quantities himself, but copied them from the architect's book of dimensions. The architect said that he had nothing to do with it, and referred me to Mr. Bruomfield. Messrs. Howard and Son said that I had the same quantities that were supplied to them, and that I must abide by my written agree ment. Without troubling you with the full particulars of the loss which I contend has been most unjustly forced upon me, I will mention that one item in the quantities supplied by Mr. Broomfield was 322 feet of stone in quoins to buttresses taken at 7 inches by 5 inches, while in the plans and specifications supplied by Mr. Alexander, all the quoins were to be 9 inches by 54 inches. I can prove that upwards of 1,000 cubic feet of stone have been used more than my calculations were made for, and this, together with the labour upon it, I shall amounts to a very considerable sum. I shall feel obliged by your giving insertion to this communication in your columns; it is a trans-action that ought to be generally known in the I am, Sir, your obedient servant, WHLIAM SUGDEN.

Gravel-lane, January 18, 1845.

[The circumstances stated do not seem to reflect in any degree on the architect. Mr. Sugden's remedy is against the party who took out the quantities.—ED.]

REPAIRS COMMENCED BEFORE JANUARY IST. SIR, -I commenced some rather extensive alterations in a house in one of the metropolitan suburbs (removing old pots, rebuilding part of chimney, stuccoing the front, &c.) about the 15th of December last, and had finished the chimney before the scaffolding for the front was erected, which was this week.

I am applied to by the district surveyor for "a notice," which, as we commenced opera-tions before the new Act came into force, I do

Not think proper to send. You will oblige me by giving your opinion on this subject to your numerous readers, among whom is yours, &c., January 17, 1845. ALPHA.

[This is an important question, and one which, as we desire our opinions to be re-garded, we cannot definitely answer without the fullest information. One alteration or addition commenced before the 1st of January, and therefore not within the control of the Act, would not exempt from its provisions another alteration or addition commenced after the 1st, although in the same building. If the whole were included in one specification, and contracted for before the 1st of January, the matter would perhaps be open to question.—ED.]

SIR,-I am a journeyman carpenter, and want to make myself acquainsted with archi-tecture, drawing, &c.; but from the numerous works published, I do not know which to buy that would be most useful to me; and after reading your leader of THE BUILDER, January 4th, I resolved to seek your advice. Your opinion would oblige and serve

ONA OF YOUR SUBSCRIBERS.

32, Shaftsbury-street, City-road, January 20, 1845.

fOur correspondent's inquiry is a more difficult question to answer fully in a few words than it may appear to be; but we recommend him to read Mr. Hosking's two treatises on Architecture and Building, pub-lished by Longman. He can perhaps borrow them, rather than boy. As to drawing, he would find facilities for learning the rudiments cheaply at one of the literary institutions-the Mechanics', for example, in Southampton buildings.-ED.]

SLABS AND HRARTHS UNDER THE NEW ACT.

SIR,-In the new Building Act, schedule F, it is required, that the hearth of every chimney must be laid and bedded wholly on brick or stone, or other incombustible substance, which must be solid for a thickness of 9 inches at least beneath the surface of any such hearth.

Our correspondent mistakes hearth for slab. The Act directs, as he correctly states, that the hearth (on which the stone stands, within the opening) shall be bedded on incombus-tible substance at least 9 inches thick : but regarding the slab, in *front* of the opening, it simply provides that it shall be laid on stone or iron bearsrs, or brick trimmers, without mentioning any thickness.....ED.]

Atiscellanea.

CLERKENWELL IMPROVEMENTS. — At a meeting of the Middlesex magistrates held last week at the Sessions House, Clerkenwell, the report of "the committee appointed to ascertais if any and what alterations and repairs are necessary to be made in the Sessions House," was read. It set forth that the present building was entirely inadequate for the purposes of the county, especially for the business of the sessions, whether in regard to the secommodation of the prisoners, to the offices for the clerk of the peace, to the comfort of the judges, the jury, the bar, the press, or the public. Mr. Wilson, in moving that the report be printed and eiroulwes amongst the magistrates, begged that they would all come and examine the present build-ing, and, if they were to do so, be, was IMPROVEMENTS. - At a CLERKENWELL ing, and, if they were to do so, he was satisfied they would instantly approve of the suggestions which the committee had made in the report as to a remedy for the evil. Mr. Botch said the county would be much benefited by the adoption of one of the suggestions, which was that the present building should be pulled down and the site let upon building leases for the new street in continuation of Farringdon-street; and that a new Sessions House should be built on some waste ground belonging to the county, nearly opposite to the House of Correction. The motion was agreed

GROWTH OF TOWNS NHAB RAILWAY STATIONS.--A village of 200 houses and a population of 1,000 souls, has sprung up at the Wolverton station on the London Wolverton station on the London and Bir-mingham Railway. A church and parsonage house have been built at an expense of 4,000/. We learn from the Railway Record that the railway company have given a room for the use of the Wesleyan methodists, and have established day and sunday schools, where 250 children are educated under the charge of the clergyman. A reading room and library, savings' bank, and musical club, have been established and are working satisfactorily.

PROPOSED RAILWAYS. — The Board of Trade are throwing overboard the new schemes by wholesale, but it remains to be seen whether or not their decisions will be allowed to pass unquestioned. It seems dangerous to entrust such powers as this Board seems to wield to a small number of individuals.

THE CATHEDBAL OF ST. CANICE .- This, THE CATHEDBAL OF ST. CANICE.—This, perhaps the most perfect and beautiful of the ancient cathedrals in Ireland, was lately threatened with destruction by fire, caused by the overheating of one of the flues. Mrs. O'Brien, the bishop's lady, first observed that flames were bursting from the roof of the cathedral and grave the alarm. A four observed an hour's active exertion on the part of the military and the inhabitants, it was completely extinguished, without further injury having been sustained than the partial burning of a few rafters and the stripping off of some of the slates and lead.

SOURCES TO FELLOWS OF ROYAL SOCIET Y. -Lord Northampton has issued his invitations for Saturday, February 22nd; March 8th and 15th; and April 5th.

GREENWICH HOSPITAL. The buildings composing Greenwich Hospital. — Ine buildings composing Greenwich Hospital, which have hitherto been unprotected from the ravages of the electric fluid, are about to be supplied with Harris's lightning conductors.

THE BUILDER.

The House or Commons -A great many workmen are employed in constructing the temporary buildings intended as committee temporary buildings intensed as committee rooms for the approaching session of parlis-ment. They are being built in what is termed the Speaker's Court of the eld houses, and are about ten in number. These rooms have become necessary from the alterations made in the lobby of the House of Commons, which has been contained at least one half, and which has been curtailed at least one-half, and the preparations now being made in the Speaker's drawing-room and adjoining rooms, which were used as committee rooms int year, those apartments, as well as the fine old diwing-room, having to be prepared for the extension of the building of the new Houses of Perliament. The new committee rooms are so placed as to afford every facility of communication, especially to members at the house, by a passage through Westminster Hall and the Cloisters, feading from the lobby. Some months back it was stated that Bellamy's refreshment rooms were required to be removed to make the necessary alterations. They now occupy nearly the same site as before the fire which destroyed the Houses of Parliament. In the Cloisters presses are being formed for the papers of the Journal Office, as a temporary depository. The two large rooms in New Palace-yard are intended as coarts for the Vice-Chancellors Knight and Brace. The ancient spartment known as the Speaker's dining-room, is to be restored to its original which the econocting buildings are being cleared sway for the building of St. Stephen's Hall. The beautiful "Gothio Cloisters are also to be renovated, and are to form a portion of the new houses .--Morning Paper

"NXwonth Castric.—We are glad to learn that Naworth Castric.—We are glad to learn that Naworth Castle is to be restored forthwith, in the style of the olden time, and that to Mr. Salvin, F.S.A., is confided the task. During the past week a quantity of magnificent oak timber, from Lowther-park, has been laid down for the purpose of being used in the work of restoration, and already are workmen busily engaged in preparing materials, and in repairing and strengthening various parts of the external walls. The great hall, which formed perhaps the most imposing feature of the old castle—in which, of yore, had feasted the retainers of "the noble Lords Dacre, who dwelt on the Border," and where, in later and more peaceful times, the tenantry of the barony were entertained—is to be furnished by a highly decorated ceiling of carted oak, somewhat after the fashion of that of Eltham Hall, in place of the "grim and antique portraitures" with which it was formerly crowned. A strong arch of freestone has been built for support, under the hanging eastern tower, the apartment in which, comprising the tapestries, bed-chamber, oratory, and library of " Belted Will," have suffered but little injury, and will still serve to afford future visitors an idea of what Naworth Castle was previous to the late lamentable fire.—*Carlisle Patriot*.

COMPETITION FOR BATHS AND WASH-HOUSES.—The committee have passed a resolution to the effect that no person is to be admitted to see the plans, or even to be informed of the number sent in, until the decision be made. They find difficulty in obtaining proper sites at a fair price; landowners have manifested their desire to follow precept and "take in the stranger." At a meeting of the committee, held lust Wednesday at the London Tavern, among several plans submitted was one which met with approval, having for its object the making various divisions in the washing department, so as to preclude any party from being overlooked by a neighbour, and thereby prevent unpleasant observations or feelings with respect to the nature, quality, or quantity of the articles brought to be washed.

FINE ARTS IN BATH. — The second exhibition of the Society for the encouragement of the Fine Arts in Bath, will be opened early next month. It is the intention of the committee to award a premium of 201. for the best picture exhibited.

STRASBURG CATHEDRAL.—The Courter du Bas Rhin contradicts the report of a deviation from its perpendicular in the Tower of Strasburg Cathedral, and affirms that it rests as securely on its foundations as it did two centuries ago.

TESTIMOWIAL TO MR. BRUNEL, C.E. An elegant service of plats, said to be worth 2,000k, was presented vesterday work to Mr. Branel by 257 subscribers connected with various railways, to commemorate their successful completion. The entertainment took place at the Albion in Aldersgate-strest. Mr. C. Russell, M.P., chairman of the Great Western railway; presided, and was supported by upwards of one hundred of the subscribers. Mr. Saunders, the secretary, in the course of the evening supported that the differences between the Great Western railways had been amicably adjusted.

CORRUCATED INON ROOTS AT PRESERVE DOOKNARD. — Messis, Fox, Henderson, and Co., are now creating nine iran roofs over as many slips in Pembreke Dockyard. They are remarkably light in appearance. The iron principals are of the same shape as the carpentry introduced by the late Sir Robert Seppings, in the construction of his wood roofs. The covering will be corrugated iron. If these roofs answer, of which there is little doubt, it is reported that other slips of larger dimensions will be similarly covered. Within the last year the dock-yard has been increased about 14 acres, making an area of nearly 80 acres. In the new part, two large building slips have been formed. There is also an extensive pond for the immersion of elm timber, and it is generally thought that much durability would be given to English oak by a similar process, before it is put into a ship, a system adopted by the late Sir R. Seppings. The foregoing works have been executed by Henderson and Co. Large additions are making to the smithery. A building for Nasmyta's steam-lift heamer, &c. These buildings are in the hands of the contractors for the iron roofs. A great many sheds, for the preservation of timber, plank, deals, &c., have been built.

THE NATURAL SYSTEM OF ARCHITEC-TURE. AS OPPOSED TO THE ARTIFICIAL SYSTEM OF THE PRESENT DAY.—Mr. W. P. Griffith, F.S.A., has issued a prospectus of a work under this title, the object of which is to set forth the principles which guided the formation of the Grecian Temples (the circumstances which regulated their proportions), and to shew the connection between ancient architecture and music.

New CHURCHES.—At a meeting of the society for promoting the enlargement, building, and repairing of churches, held last Monday, grants were voted in aid of the erection of new churches for the districts of Wyke, in the parish of Birstal, near Halifax, North Rode, near Congleton; Salford, near Manchester; East-end Finchley, Middlesex; Byley, near Middleton, Cheshire; St. James, Congleton, and Neut Head, near Penrith.

IMPROVED DWELLINGS FOR AGRICULTURAL LABOURERS.—Forty-two acres of excellent freehold land, most conveniently situated between the Wilford and London roads, have been bought by the members of the Ruddington Land Allotnent and Provident Fund Society, the purchase to be completed and the land entered upon at Lady-day next. It is intended to erect 160 five-room cottages for the members, two and two, upon each half-acre. The moneys from the sick clubs, and those small sums belonging to private individuals will be withdrawn from the savings' banks, to be invested in the purchase, bearing an interest of 41. per cent. per annum. Any person is allowed to subscribe, in shares of 51. each, but none permitted to have more than 20 shares. In this way, the working men will have the use and profit of their own money, in addition to the interest. Each cottage will have a back door, garden, office, pigstye, and covered cesspool, for the reception of all drainage and refuse of the family, so that nothing unseemly, offensive to the senses, or injurious to health will be met with here.—Derby Mercury.

FIRE BRICKS IN STORES.—The stores in Lloyd's rooms at the New Royal Exchange are said to give great heat with much economy. The economy arises from the use of firelumps, which are placed at the back of the grate. These fire-lumps are slow conductors of heat, which is very powerfully radiated over the apartment by them, and they retain the heat much longer than metallic bodies, and to such a degree, that they impart a considerable warmth to the rooms many hours after the fires have been extinguished.

THE FATAL AGOIDENT AT THE PHONEX-PARK-The fatal accident which layely, ogg curved in the park caused the greatest sengsation in the neighbourhood. It is, a matter of surprise that more damage was not done both to life and property, considering the position the houses are in, and the apdden burst of the accumulated waters on them. The following is the finding of the coroner's inquestand J. Coyne were accidentally drowned, by means of an evabankment at the pond in, the Furry-hill, Phoenix-park, giving way, when the water rushed into the room where they wars, and did then and there drown them. And the jury further say that said embalkment, built or caused to be built by the Commissionera of Woods and Forests, was built in an insecure and insufficient manner, and wholly incapable, of supporting the body of water therein confined; and that such insecurity and insufficiency was the cause of the accident; and the jurors beg to call the attention of the Commissioners of woods and Forests to the great injury and loss of property sustained by Woods and Forests, "-Globe. New Pier AND BASIN AT DRYORFORTS"

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NEW PIER AND BASIN AT DEVORTORY. The foundation-stone of this immense work was laid on the 14th of May, 1844, since which time 52,000 cubic feet of stone have been set, and a great extension of dam has been effected for the purpose of building the invert for the caisson at the basin entrance. The foundation of these works over a considerable space is at a greater depth from the coping than was ever known in a work of a similar nature, it being no less than 68 feet, 6 inches, which is 8 feet deeper than the lowest foundation of London-bridge, consequently the greater is the risk of the security of the collige-The strate of the foundation is hard star pock. On the east side of the basin, and leading into it, two large docks will be found, capable of receiving the largest class ahip. These will be made partly from the docks. Nos., I and 3, intended to be brokes up. The, dock. No., I, which will be thus converted, is the olderation the dockyard. From a copy of an old drawing, it appears that it was made about the com-

It appears that it was made about the gommencement of the 18th century; the rise show THE SMOKE NULSANCE IN MARCHESTER. —It is yet too early to speak with any accuracy of the amelioration of this long-enduged nuisance; but so far as we have been about the streets of Manchester and Salford, in both of which boroughs the statutory provisions against smoky chimneys came into pperation on Wednesday week, we are inclined to thick that there is a considerable improvement. Indeed, we know that various apparatus for consuming smoke have recently been fitted to the furnaces of a number of manufactoring establishments in both towns, and it would be a libel on these to suppose that no good effect had resulted from them, or from the increased watchfulness and care rendered obligatory by the local acts. The nuisance committee of the Manchester Council have given three months' grace to parties offending, and will begin to enfore the penal provisions of the Police Act "from and after the lat of March next,"— Manchester Guardian.

HESSLE CHURCH.—Some further improvements in this church have just been completed. The noble arch connecting the tower with the nave was some time since opened, thereby extending the church to the extreme west, and affording better and increased accommodation in free seats to the parishioners. And during the last week a very handsome window of stained glass has been put into the west side of the tower. The window, which is partly after the design of some in the Temple Church, London, has been very ably and satisfactorily executed by Mr. Barnett, of College-street, York. Few parishes can now boast of having a neater or more comfortable church than Hessle, nor bave any, during the last few years, undergone more alterations that have tended so much both to improve the sacred edifice, and also to accommodate those worshiping therein.—Hull Packet.

INSTITUTION OF CIVIL ENGINEREST-At the anniversary meeting, held last. Tuesday evening, Mr. Walker was re-elected president for the ensuing year. A change had been contemplated.

REMOVAL OF ST. MARGARET'S CHURCH, WESTMINSTER .- Towards the close of the last session of Parliament a report was ordered to be printed, made by the select committee to whom the petition of the rector, church-wardens, and vestrymen of St. Margaret's, Westminster, for aid towards repairing the church, was referred. The report is an inter-esting document, and contains a recommendation for the removal of St. Margaret's Church from its present site. The incongruity of the church (the committee declare) in its style of caurch (the committee declare) in its style of architecture and its proximity to Westminster Abbey, have been frequently noticed and la-mented. They express their unanimous re-commendation "that the church of St. Mar-garet's should be removed from its present site, and they have reason to think that a new churchurch or committee in some last new eburchyard or cemetery in some less populous situation might be purchased at a very mo-derate expense; and that it might be possible to obtain a portion of land not far distant from the present site, where the church could be rebuilt in a great measure from the present materials.-[Churches should not be pulled down without the gravest consideration, and for most cogent reasons.-ED.]

IMMENSE STONE .--- The Peckforton Quarries have for some time been in full work, and we understand that the stone for all purposes we understand that the stone for all purposes is of the very best quality. Some little time ago an immense stone was raised in the quarry belonging to Mr. Tollemache; it was 54 feet long, 18 feet 6 inches wide, and 5 feet dcep. It was cut up in blocks for the baronial castle now in course of erection by Mr. Tollemache, at Beeston. We are informed that the stone was fairly lifted out of its bed. — Chester Chronicle.

TYPHUS FRVER .- We have said that this pestilence has many favourite lurking places as well known to our learned physicians of the Fever Hospital as their own names. Where are they? In the aristocratic vicinity of Bel-grave or Grosvenor Squares? Alas! no. grave or Grosvenor Squares? Alas! no. Would to heaven the fever would follow the fashion and migrate westward, if only for a single season.—Imagine but one fashionable street or square in the predicament of a fever district in Whitechapel, with not a house, nor a single room in a single house without its fever patient. What a sensation it would profever patient. What a sensation it would pro-duce ! What learned consultations as to the cause, what paragraphs in the newspapers, what searching inquiries into the state of the drain-age, what indignant denunciations of the Commissioners of Sewers, what abuse of the land-lords! The patriots of both houses would lose no time in bringing the matter forward, and we should have a second edition of the qui tam actions. The witty divine who wished to im-molute a member of the Episcopal bench to stop a railroad abuse, would be delighted with such a practical application of his principle. But, unfortunately for the cause of social improvement, the fever has vulgar tastes and loves obscure localities, such as Rosemary Lane, and other low parts of Bethnal Green and White-chapel. "The streets, courts, alleys, and houses, in which fever first breaks out, and in which it becomes most prevalent and fatal, are invariably those in the immediate neighbour-hood of uncovered sewers, stagnant ditches, and ponds, gutters always full of putrefying matter, nightmen's yards, and privies, the soil of which lies exposed, and is seldom or never removed. It is not possible for any language to convey an adequate conception of the poison-ous condition in which large portions of both these districts always remain, winter and summer, in dry and rainy seasons, from the masses of putrefying matter which are allowed to ac-cumulate." This description, though written some few years since, still remains true to the letter. Again: "In every district in which fever returns frequently, and prevails exten-sively, there is uniformly bad sewerage, a bad supply of water, a bad supply of scavengers, and a consequent accumulation of filth; and I have observed this to be so uniformly and generally the case, that I have been accustomed to express the fact in this way. If you trace down the fever districts on a map, and then compare that map with the map of the Com-missioners of Sewers, you will find that, whereever the Commissioners of Sewers have not been, there fever is prevalent; and, on the contrary, wherever they have been, there fever mparatively absents"—Medical Times.

- The immense ANCIENT RESERVOIRS. orks which were made by the ancient kings of Egypt, for receiving the waters of the Nile when it overflowed, are well known. But there never was a more stupendous work of this kind than the reservoir of Saba, or Merab, in Arabia Felix. It was a vast lake formed by the collection of the waters of a torrent in a valley, where, at a narrow pass between the mountains, a very high mole or dam was built. The water of the lake so formed had near 20 fathoms depth; and there were three sluices at different heights by which the plains below might be watered. The city of Saba, or Merab, was situated immediately below the ceat dam: a great flood came and raised the ake above its usual height; the dam gave way in the middle of the night; the waters burst forth and overwhelmed the whole city, with the neighbouring towns and people. The remains of the eight tribes were forced to valley became a morass and desert. This fatal accident happened before the time of See Mahomet, who mentions it in the Koran. also "Sale, Prelim. sect. 1, and Niehbuhr, Descript. d l'Arabic, p. 240."-From Lowth's Notes on Isaiah, ch. 1. HAWKSHEAD CHURCH.—This fine ancient

edifice is about to be greatly beautified in the forthcoming spring. An altar-window is to be put in at the cost of nearly 100%, and a new and powerful organ to be erected. A covering for powerful organ to be erected. A covering for the altar was lately received by the rev. vicar as a present from some ladies who visited the church last summer. It is a very splendid and costly affair, richly embroidered with gold .---Westmoreland Gazette.

Cenders.

TENDERS delivered for Re-pewing Leverington Church, Wisbeach.

| | To be | execu | ited | in | | | | | | | |
|---------------|--------------|-------|------|----|------|-------|----|--|--|--|--|
| | | Fir. | | | Wa | insco | t. | | | | |
| Thomson | € 215 | 0 | 0 | •• | £268 | 0 | 0 | | | | |
| Bennett & Son | 279 | 10 | 0 | •• | 318 | 0 | 0 | | | | |
| Ellis | 275 | 0 | 0 | •• | 360 | 0 | 0 | | | | |
| Batersham | 349 | 0 | 0 | •• | 398 | 16 | 2 | | | | |
| Richmond | 355 | 0 | 0 | | 456 | 0 | 0 | | | | |
| Freeman | 314 | 0 | 0 | | 474 | 0 | 0 | | | | |
| | | | | | | | | | | | |

Another tender was received too late, the amount of which did not transpire.

NOTICES OF CONTRACTS.

For the erection of the Railway Works between Leeds and Bradford, including fencing, earthwork, masonry, roads, and permanent way.—William Clarke, Secretary, Hunslet-lane Station, Leeds. January 27.

For the erection of a New Pauper Lunatic Asy-lum at Clifton, near York. — Messrs. Scott and Moffatt, Architects, 20, Spring Gardens, London; or Mr. J. Holtby, Low Ousegate, York. January 28.

For the execution of Works on the Chester and Holyhead Railway.—1st. A distance of eight miles, or thereabouts. 2nd. A distance of twenty-two miles, or thereabouts. 3rd. A Tunnel through the promontory of Penmaen Back, near Conway.---George King, Secretary, 62, Moorgate-street. January 29.

For the Execution of Works on that part of the For the Execution of Works on that part of the Blackburn and Preston Railway extending from Blackburn to Pleasington, being about 3½ miles in length.—Peter Sinclair, Secretary, Blackburn. January 29. For the Compo and Plasterers' Works, both external and internal, of four houses now erecting in Brandon-terrace, Yarmouth. — Mr. Farrant, Victoria Hotel Varmouth. — Ianuary 29.

Victoria Hotel, Yarmouth. January 29.

Victoria Hotel, Yarmouth. January 29. For the supply of Wrought Iron Rails and the requisite number of Chairs for about 15 miles of the Southport and Euxton Junction Railway. The weight of rails to be from 60lb. to 70lb. per lincal 2 yards and 15 feet lengths, equal to 11 om 1,500 to 1,800 tons of wrought iron, and about one-third of that quantity of cast iron.—Woodcock and Part, Solicitors, Wigan. January 31. For erecting the Works of the third division of the Main Line of the Great Southern and Western

Railway, being 11 miles, 6 furlongs, and 75 yards in length. Also for the first division of the Carlow branch, being 10 miles, 7 furlongs, and 160 yards; comprising excavation, embankments, bridges, cul-verts, &c.—William Taylor, Secretary, 3, College

comprising countername Taylor, Secretary, 3, Conego Green, Dublin. February 1. For the erection of Alms' Houses in Foundation-street, Ipswich.—Mr. J. M. Clark, Brook-street, Ipswich; or Mr. Notcutt, Solicitor, Ipswich. Feb-

For the formation of 4 Miles 561 Chains (single line) of the Ashton, Stalybridge, and Liverpool

Junction Railway.—John Jellecorse, Secretary of the Manchester and Leeds Railway Company, Palatine Buildings, Hunt's Bank, Manchester.

Palatine Buildings, Hunt's Bank, Manchester. February 3. For the works required in erecting certain Farm Buildings at Badley Hall, Esser, and for alterations and additions to the dwelling-house.—Mr. George Sergeant, 27, Queen-street, Colchester; or Mr. John Eagle, Badley Hall. February 3. For the erection of a Bridge, called White Bridge, at Grasmere, near Ambleside, Westmore-land. — Mr. George Robinson, Bridge Surveyor, Kendal; or Mr. Daniel Donaldson, Ambleside. February 4. For the construction of the several Stations and

other Buildings on the York and Scarborough Railway.—Mr. Andrews, Architect, York; or Mr. George Baker, Secretary, Railway Office, York. February 5.

For the erection of a Steam Boat Pier at the Quay on the north-east side of Blackfriars' Bridge,

Quay on the north-east side of Diackfriars Diage, also for building a Decked Lighter or Dumby.— Town Clerk's Office, Guildhall. February 6. For one Pleasure Carriage, four Milk Tracks, and fifty Box Waggons, with drawing and buffer springs, for the Manchester and Birmingham Rail-way.—Mr. John Latham, Secretary, London-road, Manchester Reburger 6. Manchester. February 6.

Manchester. February 6. For erecting and completing the Lower Sluice and Sluice-Pit at the top of the Eau, Brink Cut, about 4 miles above Lynn.—Messrs. Walker and Burges, 23, Great George-street, Westminster; or Mr. George Game Day, Clerk to the Middle Level Drainage Commissioners, St. Ives. February 10. For the erection of New Buildings in Pembroke Collage Oxford — Plane & & menared by Mr.

College, Oxford. --- Plans, &c., prepared by Mr. Haywood, Architect, may be seen at the Master's February 11. House.

For the erection of two Fever Wards in the workhouse at Slough.—C. P. Barrett, Clerk of the

Union, Eton. February 11. For a supply of Railway Fastenings for the Great Southern and Western Railway, Ireland.--Mr. William Taylor, Secretary, 3, College-green,

Mr. William Taylor, Secretary, 5, Conege-green, Dublin. February 17. For the supply of 11,000 feet of nine-inch cast-iron Pipes for a new line of Aqueduct to be laid in the Island of Malta.—Vin. Casolani, Collector of Land Revenue, Office of Land Revenue and Public Works, Valletta, Malta. March 31.

COMPETITIONS.

The Committee for Building a Chapel at Holloway are desirous to receive Designs for their in-tended building. The style to be Gothic. The Committee pledge themselves to select for their Architect the gentleman whose design they shall

Architect the gentleman whose design they and prefer.—George Brooks, Esq., 1, Lansdowne-place, Holloway. January 31. Plans and estimates are required for a Work-house, to contain about 1,180 persons. The whole to be done in a plain and substantial manner, with-The plans and out any expensive embellishments. architects' estimates to be sent to Robert Mercer, the Clerk of the Clifton Union, Pennywell Road, Bristol, on or before the 17th of February next, and the Board of Guardians will adjudicate on the 28th. the Board of Guardians will adjuncate on the 25th. The architect producing the best plan in the estima-tion of the Board will be employed at a sum not exceeding 5 per cent. on the outlay, and a gratuity of 25 guineas will be given to the architect produc-25 guineas will be given to the architect producing the second best plan in the opinion of the Board.

NOTE.

We shall be glad to receive information from Publishers of all New Books on the subjects whereof we treat.

TO CORRESPONDENTS.

"James Pulham," and " One of your Readers," receired.

An Architect and Subscriber's " letter about Chimney-pieces in Keene's Cement, is too palpable

an advertisement for insertion. "R.K." objects, in a sensible letter, to our brief remarks on Mr. Nixon's statue of William IV. He may rest satisfied that we give no opinion without due consideration. We shall probably accede to his wish, and "eramine the work in about a fortnight hence, when it will be com-plete."

"Charles Newnham" is thanked for his good opinion. The advantages of railway travelling not "to the select few," but the community at large, are now so fully understood, that no such

targe, are now so fully understood, that no such obstacles as he would impose would be permitted. "W. J. D." and "Mr. Gliddon."—Any irre-gularity in the return of communications which has occurred must be altributed to the death of the late editor. Inquiry shall be made.

"Scrutator." - Next week. "Bernan's History and Art of Warming and Ventilating" received.



SATURDAY, FEBRUARY 1, 1845.



URING the past week we have attended a series of experiments on the strength of iron girders made by Mr. Thomas Cubitt, at his place of business at Thames Bank.

The object was to try the absolute and comparative strength of different forms of section, partly to assist Mr. Cubitt and Sir Henry Delabeche in their inquiry into the cause of the accident at Oldham (on which their report is anxiously looked for), and partly beuse it is the custom at that establishment to leave no means untried to prove every thing that they are about to use, and arrive at the most certain information on all that relates to construction. The greatest care was exercised to obtain an exact result. Force was applied by means of the hydrostatic press to the centre of girders with 15 ft. bearing. The deflection caused by each successive ton weight (or that which represented weight) was measured, as was also the ast permanently acquired by the girder at each stage of the proceeding, and the exact weight by which at last they were severally broken was recorded. These details, with the form of section, we propose to lay before our readers in an early number of the journal. In making these experiments the difficulty of obtaining a perfectly sound casting, and the consequent danger of using cast-iron girders without proving them, was strikingly apparent.

Wrought-iron girders at reasonable cost are a desideratam; and there is no difficulty in the way which could not be overcome. Mr. Cubitt suggested that a few premiums offered by Government for the best wrought iron beams above a certain size would probably lead to such an improvement in the machinery used, that they might be drawn of large dimensions at little more cost than cast beams. It is to be hoped that he will urge this on the Government in the forthcoming report, and that it may be acted on. A series of experiments on cast and wrought beams should likewise be undertaken by Government forthwith, as, from the expense attending them, individuals cannot be expected to work out the question fully. When the amazing difference in strength produced simply by a different disposition of the as quantity of metal is seen, the importance of a full and minute inquiry to ascertain the hest disposition of the metal-the best form of section in other words-must at once be evident

Mr. Cubitt's establishment offers many subjects of great interest for consideration, and it is of these we propose to speak briefly in the present article. A minute description of it, shewing its extent, comprehensiveness, and completeness—the modes of economising labour, and the new processes employed, would be equally instructive and interesting. As, however, this would excite curiosity, and lead to applications, which the proprietor would be compelled to refuse on account of the interruption they would cause, we will speak rather of the results, and the motives which are seen to prevail, than of the works themselves.

Amongst the most important of the latter, apparent at every step, is a desire to raise the THE BUILDER.

condition of his workmen; a desire so wise and so good, that we cannot praise it loudly enough, or set it forth for imitation too forcibly. The men literally work in drawing-rooms, large and lofty (the carpenters' shop is above 200 feet long), equably heated and well ventilated. Attached to each shop is an apartment for cooking, with oven, boiler, and hotplate, where they may dress their dinner, or prepare their tea. And here, high up under the roof, are rails, where they may dry their coats after a wet walk to their work. In order to prevent the men, as far as possible, from acquiring the habit of drinking spirits in the morning, facilities are given, so that, on their arrival at six o'clock, they may have a cup of hot coffee, or cocoa, by arrangement amongst themselves, on payment of one halfpenny ! The consumption being large and certain, one halfpenny pays the expense of a cup of coffee, a fact that speaks volumes, and points the way for an amazing increase of the personal comforts of the operative classes. Hot water is used to heat the shops, and the range of water-closets belonging to each department is ventilated by superfluous warm air.

In the smith's-shop, in the mason's-shop, one usually so smoky, the other so wet,—all is clean, dry, and warm, and here, as the shops themselves are hardly suited for eating in, there is a dining-room, with tables and benches, connected with the cooking apparatus. When to all this we add that there is a lending library comprising some of the best scientific and elementary books, and a room supplied with the daily papers to which the foremen have access at particular hours, it will be seen how much the comfort of the men is studied.

The result, it is gratifying to know, is exactly what might be expected. The best workmen are anxious to be employed there: a drunken man is unknown in the establishment,—a man who cannot trust himself hardly ventures to ask to be employed.

The arrangements to prevent accidents by fire, so important and often so little regarded, are very complete. The most important parts of the building are fire-proof, and in other places where this was not so practicable, portions are made fire-proof, in order to cut off the connection, and stop the spread of the flames. Along the side of the carpenters' shop are cisterns supplied with water to extinguish *instanter* any outbreak, and around the building are mains constantly charged, and hose ready for emergency. The stables are wholly fireproof and complete in all respects.*

The plasterers and modellers' shops will afford many lessons in design, and here may be observed one of the numerous arrangements for economising labour and obtaining a satisfactory result, which occur throughout the establishment. High up, above where the modellers sit, is a large looking-glass framed and so regulated by pullies and cords, that the modeller has but to turn his head to see the appearance which would be presented by the work on which he is engaged if raised to any particular height.

Steam plays a very important part in the establishment; it is sawing timber, polishing marble, pumping water, preparing food for the horses, and clipping bars of iron irresistibly. As we have already said, however, we may not go into details, and with the remark that there are excellent arrangements for preparing the timber and deals for use, we will close our present notice of this extraordinary result of one man's energy and power.

The chimney-shaft attached to this establishment presents several peculiarities, to which we shall refer in a separate article.

MR. COCKERELL'S THIRD LECTURE ON ARCHITECTURE.

PROFESSOR COOKERELL gave the third lecture of his course at the Royal Academy, on Thursday, the 24th ultimo, and was listened to throughout with great attention. He proposed on that occasion to direct their notice to the give a production of the

He proposed on that occasion to direct their notice to the civil architecture of the ancients, to the gymnasium, the forum, and the baths. The form of the temple, a parallelogram, admitted very little variety except as to the order used, and its size : nothing was left to the architect. The refinements which were gradually introduced in templar architecture had been recorded, fortunately for us, by the faithful Vitruvius, whose accuracy was confirmed by recent investigations. He mentioned particularly Vitruvius's description of the pyramidal tendency of the temples, obtained by inclining the axes of the columns until the inner line of the columns was perpendicular, and of the elevation given to the centre of long horizontal lines such as the entablature and ridge, in order to overcome an optical illusion by which a long level line was made to appear inflected. The precise rule for this elevation had been deduced from the Parthenon. The professor illustrated the present state of Athenian antiquities by Mr. Knowles's drawings, already mentioned in our journal. Civil architecture, he went on to say, afforded much more acope to the architect. It

flourished during 500 years, namely from the reign of Alexander to that of Constantine, and its principles became as fixed as those which guided the erection of temples. In the time of Alexander canons were laid down which guided the erection of temples. which are as applicable now as they were thenthey have endured through all the changes of fashion and caprice, and are clear to all who have respect for them in their hearts, and will study them with a proper feeling. The study study them with a proper feeling. The study of Vitruvius had been recommended by the greatest masters: the execution of his book had been forced on Vitruvius by Augustus. Palladio said, from his youth upwards Vitruvius had been his study: Vignola, Serlio, and others said the same thing. All modern archiothers said the same thing. All modern archi-tecture had sprung from ancient art. Ancient buildings had been fully explained to us in modern times, especially by Canina, whose work was worthy of the glorious country of which it treated. British architects had an opportunity to reproduce every style in its proper climate: the sun never went down on the British dominions, and our colonizing the British dominions, and our colonizing architects should study the works of all countries. Cast-iron would lend itself usefully to a columnar system, and many modern appliances might be used, but for design we must still go to the ancients. The arch afforded us facilities : it was doubtless used in Greece, but the Romans had first united it to a columnar system and employed it every where. We had no excuse for neglecting the study of ancient works; modern travellers and writers had afforded us increased facilities. The merits of Vitruvius he had long maintained against fashionable detractors, and would continue to

do so. The professor then alluded to ancient cities, and described their arrangement. The great streets crossed each other at right angles with colonnades through the heart of the city; these were sometimes deflected slightly, so that their extent was never seen. There was an example of this at Palmyra. Chester might be restored to afford a very fair approximation to a Roman town. He recommended for study the article "*Cité*" in Quatremère de Quincy's important for those who went to the colonies; mistakes made in a new settlement, in the first instance, were usually perpetuated and injured all that was done after. He then described with the aid of drawings, the principal buildings in an ancient city. The agora of the Greeks, and the forum of the Romans, had been well illuatrated by Vitruvius. The former was used for gladiatorial shows before amphitheatres were

[•] Each horse is supplied with a lump of rock salt placed in a compartment of the manger. The paxement of the stable (granite pitching laid in asphalte on concrete foundation with alayer of broken glass in centre of concrete to keep back the rats), is aprinkled periodically with plaster of Paris asturated with sulphuric acid, to absorb deleterious masters.

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built. The confined streets of Rome made such a meeting place as the forum necessary. Relative to these streets, he could not tell how a population of four millions could have moved in them. Adorned by such buildings, Rome became the graudest city in the world; it required a strong imagination to recal the appearance she must have presented in her per-fect state. The forum of Trajan was the most magnificent; it covered twelve acres of ground. The basilica was 540 feet by 168 feet. The forum itself, was a quarter larger than the court of Somerset House and was surrounded by a portico 32 feet deep with two ranges of by a portico 32 feet deep with two ranges of columns. The plan of the new Exchange placed by the side of a plan of this forum drawn to same scale, shewed strikingly the great size of the latter. Much could be learnt by studying the plan of this forum. The professor then went on to speak of the best position for a monu-ment, to produce an effect on the beholder. He was satisfied, that by placing it in a con-fined space, its appearance was increased. An insulated column placed in the centre of a large area, lost much of its effect. If the insulated column placed in the centre of a large area, lost much of its effect. If the buildings were removed from around St. Paul's Cathedral, the effect of the building would be lessened. Vanburgh excelled in placing his buildings are as to produce good effect. The buildings so as to produce good effect. The gymnasium, the schools, and baths, formed a compact building of great size. In the side of compact building of great size. In the side of the school there was an apse or semi-circular recess—this had not been forgotten by Wren when he rebuilt the Westminster School. Buildings in our country were deficient in character. In ancient models each had a dis-tinct character. To describe these buildings required a volume; he simply alluded to them to induce students to give their attention to to induce students to give their attention to the study of them. He was aware that their everyday business, the duties of the various others in which they were engaged, must oc-cupy the greater part of their time, but he nevertheless trusted they would make opportu-nities and become well acquainted with these glorious works of a glorious country.

THE BUINED CITIES OF AMERICA.

ATTEACTED by the subject, we attended a lecture under this title, delivered in Miss Kelly's theatre, Dean-street, Soho, on Saturday last, boping to be able to place before our readers some new information on these extraordinary and mysterious ruins. It seems that a society has been established, or is in progress, chiefly through the exertions of Mr. W. H. Shippard, of Turnham-green, under the designation of "The Museum of History," or, as it originally stood, "My Museum." The object of which, as set forth in a prospectus, is—" to illustrate the history of man by means of popular lectures, aided and enforced by scenery, maps, and costumes, adding every scenic attraction to the higher views of instruction, and combining art, history, travels, aud geography. "The classic lecturer shall thus convey his

"The classic lecturer shall thus convey his observations in the Roman forum restored, or awaken the spectator's reflections smidst its very ruins."

very ruins." The lecture on the present occasion was given by Mr. Shippard, and had all the aids proposed in the prospectus—transparent maps, as large as the stage would admit, and some views of the ruins equally extensive, by Mr. C. Marshall so beautifully executed, as really to carry the spectator to the place itself.

Unfortunately, however, Mr. Shippard mistook bis vocation when he turned lecturer. He seems enthusiastic in his endeavours to carry out what is really a fine idea, and, therefore, we would not willingly say any thing discourteous; hut wasting, as he does, the power of condensation, and the facility for connecting subjects, necessary for a lecturer, we are satisfied he will fail in rendering the institution popular, unless he yield the lecturer's wand to more practised hands. If properly carried out, the "Museum of History" may become a very important educational institution.

The ruined cities of America afford much interesting matter for consideration; fortifications, mounds, pyramids, town-wulls, and temples, are scattered over a large extent of country, overgrown by enormous trees, and covered, in some instances, by 9 feet of mould. Mr. Stephens, in his interesting account of these remnants of past time, speaks of no less than forty-four cities in one district alone, long buried and unknown. Some of these were described by the Spaniards 300 years ago, and their accounts shew that the ruins were in the same state then as now. These statements were at that time considered fabulous, but are now verified. The date of their erection, and the people by whom they were executed, are still disputed points. The pyramids agree in many particulars with those of Egypt (they face the cardinal points for example), but it does not seem certain that there was any connection between the two countries.

ARCHITECTURAL THEOLOGY.

THE reporter for The Times at Exeter described in a recent communication St. Paul's Church, in Penzance, which was built in 1842 by private subscription. He says that it is in "the Norman Gothic style" and is fitted up in the interior almost precisely as a Roman Catholic Chapel. "This church is divided entirely by a distinct chancel, with sedilia for the priests. They

are thus separated during the whole service from the people. The access to the pulpit, which is of stone, is within this chancel. The lecturnum is placed on the base of the chancel; so that, except when the priest descends to the faldstool, where he kneels with his face to the communion-table and his back to the people, he is separated from the congregation. That which in other churches is a railing round the communion-table, is here a stone screen built across the church, and separating this portion of it entirely for the use of the priests, and constituting it a kind of holy of holies. The faldstool is placed on the steps fronting and erected up to this screen. Within this chancel are two enormous candlesticks on each side the communion-table ; and on the table two other of smaller dimensions. Erected over the table is a large gilt cross; and the mode of conducting the service, together with the ceremonics which have been introduced, render it a close copy of the Roman Catholic mode of worship. As may be supposed, this new church has excited much comment, and its mode of service has been much objected to. The Rev. C. V. Le Grice, for a great number of years minister of Penzance, in several very able letters, signed 'Civis,' eloquently and strongly denounced these innovations as dangerous to the church, as an introduction of —

church, as an introduction of — "Every thing ceremonial and nothing spiritual—every thing to make the priest proud, but not to make the people pious—in short, to strengthen Puseyism, which is an attempt to bring every thing connected with religion within the material walls of the church, within the exclusively distributive power of the Sacraments, and within the sole, mystic, arbitrary, dispensing meditation of the priesthood."

ON THE MANUFACTURE OF SCAGLIOLA, OR ARTIFICIAL MARBLE AND GRANITE.

Sin,—In your useful journal, of the 21st of December last, a paragraph appeared concerning a factory about to be established at Berlin, for the manufacture of artificial marble (commonly called scegliola) from plaster of Paris and solutions of alum, said to be equal to the finest marble, from which it might appear to those who are unacquainted with it that scagliola was not made in England. And I see in your journal of January 11th there is another paragraph entilled "Scagliola, or the Art of Imitating Marble," which only tells us a few of the materials used, and is not altogether correct. I think the writer, ("H. G. M.") cannot understand it, for the art of making scagliola would fill a volume, and is kept secret by the trade. I do not know that it was ever published in a correct form, although attempts have been made. He says, "in England it is comparatively unknown, having sunk into disuse, in consequence of the perishable nature of the material." Now there are several establishments in London, and one at Hoddesdon, Herts: and it is very much in uee by English artists, and has been for many years in our public buildings and noblemen's mansions. Indeed, there is scarcely a building of note of the present day but is more or less embellished with this most beautiful material. That done at Buckingham Palace, Pantheon Oxford-street, and Everington's, of which "H. G. M." speaks well, was executed by English artists; indeed, I know only one or two places where it has been done by Italians or foreigners—namely, the chapel at Greenwich, and at Stoke Park, under Mir. Wyatt, the architect, many years ago. An English carpenter, named Alcott, who was employed to make the skeletons, and plane the work to its proper shape after the vener, or outer cost, was laid on (as is the method in general), was sent to Stoke Park, having an insight of the process, to work at it; and he obtained a piece of real marble, and, contrary to directions, imitated it so well, as to please the architect more than what had been done by the Italians. I may mention that an offer was made to my foreman, a few years ago, who has been in the trade upwards of twenty-six years, to go to Fvance, to do some work, as his specimens were superior to those of the French artists. It has attained such perfection in England, that, to make use of the words of Stuart, in his Dictionary of Architecture, "it proves so complete a deception, that nothing but a fracture of its substance can discover the difference." I will mention a few places where I know it has been done, and the date, where I am acquainted with it, viz.:—

At all these places it is in excellent condition, except where it has been injured by accident; even bases, which are very subject to blows, where fixed on flows, remain unipured.

There are several works pow in hand, which, if compared with old work, will shew that improvement has been made. I have now in hand a first-rate staincase and a hall, the scagliola work of which consists of a great number of columns, pilasters, and pedestals in imitation of various marbles, with white mouldings, and imitations of statuary caps, bases, cornices, &c.; most of which are being done at Hoddesdon, and will be conveyed to Kilnwich Percy, in Yorkshire. Scagliolais of the same material throughout its thickness, except that the vencer or outer coat has the colour mixed with it, and is of rather less density of the two, and less brittle than some of the marbles. I think I have said enough to establish the fact of its durability, and that English artists are superior to the Italians; in fact, I will produce specimens of scagliola, which will prove it. The vile imitations, which are made by persons with very slight knowledge of the process, tend to bring it into disuee. With respect to its insecurity when employed as columns having to bear a superincumbent weight, it is seldom used to support a heavy weight, except in appearance, and where strength is required to support girders, entablatures, &c., an iron column or core is fixed to take the weight; and the skeleton or cradle is made on it. This skeleton I will describe; it has a large

This skeleton I will describe: it has a large piece of timber of 3 to 6 inches square, according to the size of column required, and circular pieces of wood are fixed to it; then strips of to wood cut from a half-inch board are nailed round, which form a very strong skeleton, and it is made 2 or 3 inches less than the finished work, to allow for thickness of composition. Some of the inferior work has been done on very bad skeletons, formed of common laths, and the first coatcomposed of lime and hair. "H.G.M." says the manufacturer is subject to great loss by the plaster setting too quickly; this is an error, for the solutions prevent that for five or six hours when necessary, and no manufacturer will keep it so long as to become useless, nor expose it to the damp atmosphere, which will spoil it. There is no material so easily mended without being seen, and as to expense, it is veri triffing in a building of magnitude, and scagliol gives an air of beauty, richness, and grandeun which could not be attained without, as th expense of marble is so great. It has been used for a floor in the Hall of the Duke d Northumbland's for many years, and it stands well, and is new used in the shape of columns for tamps, of which I have sent 300 and upwards, and coatinue making them, and it is also used for slabs, chimney-pieces, tables, vases, and many other purposes. "H. G. M.'s "statement, if not corrected, will tend to injure the trade, seeing it in a first-rate practical work, and also to discourage mative industry. Foreign artists are toe often encouraged without merit, and I think, Mr. Editor, your journal will cultivate native talent, especially as the art of scagliola is brought to such perfection by Eaglish artists. I will, if you think proper, lodge some specimens of acagliols at the Office of The BUIDERS, and I, as well as the trade in general, will feel glad to see this inserted in your valuable journal. Hoddesdon. JANES PULHAM.

I shall return to the subject of plastic compositions, cements, artificial stone, &c., in a future number.

ROYAL INSTITUTE OF ARCHITECTS.

As ordinary meeting of the Institute was held on Monday, January 27th, Mr. H. E. Kendall, vice president, in the chair, when Herr Ludwig Gruner, of Rome, and Il Conte Cavaliere Orti di Manara, Podestà di Verona, were elected corresponding members; Mr. John Tarring, fellow; and Messrs. F. Clark, Nevins Compton, Frederick Lett, Samuel Peyton, Robert C. Saunders, and Thomas Fuller, associates. Among the donations annoanced was "Views of Ancient Monuments in Central America, Chiapas, and Yacatam," by F. Catherwood, presented by the author, for which Mr. Godwin moved a special vote of thanks, and took occasion to speak of the interesting hatere of the work.

A paper was then read "On the Domestic Architecture of France during the Middle Ages," by Mr. Ambrose Poynter, wherein the gradual changes which occurred between the gradual changes which occurred between the 13th and 17th centuries, were traced. The data were chiefly taken from Ronen, where at were oneny taken from fromen, where he did not find any specimen earlier than the first-named date. Beauvais contains some stone houses of the same date. The roofs at this time were equilateral, but had afterwards much greater elevation: The dormer windows became an important feature, and were in some ex-amples highly decorated. In the 14th century he found few stone houses in France, and in the 15th they were chiefly of timber with derbanging fronts, one story projecting over the other. Bricks then became used in constory. In the 15th century the stairs were often formed in a towrelle projecting from the angle of the house, especially when at the corner of a street. At Dijon there was an interesting ex-ample of this, where the top of the newell was soulptured to represent a man with flowers on his head, which branched out and formed the roof. At Paris these tourelles are numerous : they are to be found also in Scotch architec they are to be found also in Scotch architec-ture. Passing on to the time of the Re-naissance, he showed the change in style which took place, and alluded to some fine specimens now at the Palace of the Beaux Are, in Paris. The paper then gave a view of the improvements made in the internal arrangement of houses in France, and some patience of the situ of the situ means notices of the state of the city in early times. Philip Augustus paved for the first time four of the principal streets. In the 14th century the state of the streets was dreadful, nor did they become much better for a hundred years after. Mr. Poynter took an opportunity to mention that the French government had presented, through M. Guisot, to our School of Design, casts from the celebrated bronze does of the Baptistry at Florence, executed by Ghiberti, after the designs of Arnolfo; Mr. Wilson, the director of the school of design, who was present, invited all members of the Institute to examine them.

Mr. I'anson, relative to Mr. Poynter's paper, considered that the roofs of high pitch were earlier than agricultural roofs. He mentioned that the works of the transition period in France, weremuch better than the Elizabethan werks of this country, and attributed it to the circumstance that France had a more intimate connection with Italy than we had.

The council have not yet reported on the prize essays.

A FEW WORDS ON COMPETITIONS.

MUCH as the subject of architectural competitions has been discussed, we still seem to stand a long way distant from improvement. The general ignorance of the public in any thing beyond the mere book illustration part of architecture, the apathy of the influential members of the profession towards the imme-diate interests of their younger bretbren, and the want of energetic remonstrance vigorous co-operation amongst architects in general, are obstacles in the way of change which need to be at once stoutly assailed and demolished. We assume that, were competi-tion only a little better managed, it might powerfully aid the progress of art, that it might call out the latent energies of the young, and infuse something of the ardour of youth into the exertions of the more advanced, keep the public mind alive to the use and value of architecture, and open to all a legitimate road to success in an art in which the avenues to fame and recompense are confessedly few, and difficult of discernment. We deem that the attempt to prove that all competition is adverse to progress in art fails, and is entirely inconsistent with experience in buildings erected or in progress; the errors that have resulted were clear and remediable, and could not recur with the changes about which there is no difference of opinion amongst us. Such are, for example, explicit instructions, public exhibition before the decision, and competent judgment. The barrier drawn between architects and the notice of the *public* needs every examination, and speedy removal; but under the influence of a better removal; of a better system in competitions we are confident that the profession would rise in the estimation of the world, which is at present positively ignorant of its distinctive existence; that the appliances of the art would be ex-tended to buildings to which it has been sup-posed inimical rather than subservient; that the accredited professor would supply the place of the empiric; and finally, that architects, in-stead of consuming those days when hope and exertion are at the highest in working out the ideas of others on an inadequate stipend, or in filling the duties of some appointment in which art has no place, would find the pleasing and healthful reward for years of toil and outlay, in the practice of an art which speaks the history of mankind, and yields to all its votaries the "purest well" of intellectual delight. We can hardly call to mind an instance

We can hardly call to mind an instance in which competition has been conducted with fairness towards the several competitors, or for the benefit of the public. Indeed, it can hardly fail to be otherwise in the present state of matters. The interest which architecture excites is so small compared with its importance, that its finest works are allowed to be destroyed without the slightest notice. So that the usual education and habits of men are calculated to fit them even less for judges of architecture than for architects, and other considerations are allowed to operate with undue influence.

It seems strange that in a free country, we should permit ourselves to be ruled in matters of taste, possessing an importance in the highest degree national, by those who have never de-voted a single day of their lives to the study of the subjects on which they sit in judgment. Were our own character as a nation not involved in the question, it would still be unjust to suffer the dishonest proceedings complained of by architects; and were they the only par-ties interested, which they are not, their claims should be considered in a country where jus-tion have been elimine country where justice has been always considered the brightest jewel in the sceptre of a government. We hesitate not to say, that were an individual to act as, with few exceptions, committees have acted, his society would be shunned by all who rank themselves as men of honour and integrity. We need not deny that in some cases committees have desired to act with perfect good faith, but in general their ignorance of every thing that to form competent critics they should know, presents an insuperable barrier to a correct decision. Composed, for the most part, of men who consider the education of an architect limited to the knowledge of the five orders, they decide upon matters affecting the prosperity of twenty, fifty, or a hundred rising artists, and the progress or decline of art. One who applied in a case of typhus fever to a baker, or in an abstruse point of law to a winemerchant, would be considered as a fit subject for a commission of lunacy; yet we could mention cases in which the pursuits of adjudicators have been as little akin to the subjects on which they have sat to decide,

On one occasion a committee, for the erection of a pump-room at Harrowgate, was composed of seventeen individuals, among whom were five innkecpers, two wine-merchants, a porter-dealer, a baker, a coach-builder, a druggist, a plumber, a milkman, and a grocer. Now we wish to set no limits to the investigations of man in architecture, or in any other study, but are taese the individuals in whose custody we should choose, from their previous study and research, to leave the arts of a country? Doubless they were all honourable men, but some of them, if not all, were deceived by the trickeries so commonly employed, and which could not one moment escape the notice of an architect. Probably few of them were accustomed to the examination of geometrical drawings, the understanding of which requires long previous study and attention. Each one, we think, on being shewn the elevation of a building, would at once form an opinion as to its effect, instead of placing the plan and elevation side by side, and judging from the two, the only way in which architectural draw-ings are intended to be examined, as through the medium of several the same effect is conveyed which otherwise would be expressed conveyed which otherwise would be expressed by one perspective view. An inspection of the plan might shew that certain parts receded or advauced from the front; these in the elevation would appear upon the same plane, so that a tower shewn above the roof, and as if it were upon the plane of the front, might, in reality, stand in the centre of the block, and not appear when erected except from a point far removed from the building. If it requires great experience in the architect If it requires great experience in the architect If it requires great experience in the architect to unravel the mysteries of plan and section— and if, in addition, he must possess a knowledge of the strength of timber, of requisite supports and counterforts, of sizes of openings necessary to admit a proper quantity of light—if, to the experience of the practical man, he must add the acquirements of the man-of science, and the taste and fancy of the artist, he has surely a right to expert corresponding qualifications a right to expect corresponding qualifications and careful attention from those who adjudicate. and careful attention from those who adjudicate. Ordinarily, the committee are compelled to throw aside the instructions which were ri-gidly to be observed, so that the competitor who has acted with most good faith, in en-deavouring to make his design correspond in all particulars, is the first to feel the effects of his mistaken confidence. The committee will his mistaken confidence. The committee will often state that the building must be of a style to which they attach an unintelligible name; that it shall be built of certain materials; and shall afford accommodation sufficient to double the sum the architect has to work upon; and that the drawings shall be delivered on a day so near at hand, that he has barely time to execute the actual drawing, much less to mature the design. How many instances have there been in which the whole of the competition draw-ings have been laid aside, the work being given to some more fortunate architect who given to some more fortunate architect, who has had a larger sum for expenditure, and the whole of the competition drawings at whatever being granted to the competitors. How often after the drawings have been submitted, has one of the competitors received instructions to prepare another design, more in accordance with the altered views of the committee, to which the premium has been awarded. The architects who at present compete are, for the most part, those to whom competition presents the only chance of success they are compelled to embark in it with all evils, and though, through trickery and its ignorance, their chance is small, it is their only one. But we cannot notice all the disantages of the present system, and the adv dishonesty and want of principle which it en-genders-one of its effects we witness in some of our national edifices; and it is not too much to say, that were a change effected, compe-tition might oftener be appeuled to, and we might hope to feel the result in a higher chaacter in all our structures. The only course which, in the opinion of the writer, committees can pursue to induce men of established reputation to compete, with perfect fairness to the competitors, and to prevent the annoying attacks to which they are now exposed, will

be, in all cases, to call in the aid of architects themselves, and to exhibit the designs publicly *before* the decision.

The instructions, in the first instance, should be carefully framed, with complete practical particulars as to the objects and destination of the intended building, leaving to the architect the consideration of the mode in which those objects may be obtained. Full information should be afforded as to foundations, levels, and drainage; a plan of the land should be given, and some account of the site. The amount at the disposal of the committee should be stated, with the description and cost of building materials in the neighbourhood of the intended edifice. In deciding upon the merits of the designs, the committee should either refer them to architects of eminence, unconnected with the competition, or to the competitors themselves, who should record their votes openly, no one voting for his own design. The former course was pursued in the competition for the Royal Exchange, and, first by the report of the appointed architects, it appeared that many of the designs possessed errors of construction which would certainly have escaped the attention of any but pro-fessional men. We urge upon the atten-tion of building committees the considera-tion of the important subject we have noticed. The plan is by no means new, and in some minor details; might need considera-tion, but we are assured that no system could be worse than the present want of it, fraught, as it is, with injustice to the architect, discredit to the promoters, and with irreparable injury to the arts, and consequent standing of the country in the scale of pations. E. H. the

country in the scale of nations. E. H. [If the history of competitions were written, its details would shew an extent of rascality astounding to architects themselves. We shall not fail to publish particulars of such mal-practices as come to our knowledge. The remedy unfortunately is not evident or easy.—ED.]

ON BATH STONE. BY C. H. SMITH.

BY C. H. SMITH. BATH stone has been used almost universally, BATH stone has been used almost during in the city as a mineral substance for building, in the city Dath during a long period. The Abbey of Bath, during a long period. The Abbey Church, which was not finished till after the Reformation, has been in great part restored within the last thirty or forty years. The west front has been richly ornamented, especially with a representation of Jacob's ladder on each tower, reaching from top to bottom, on which many angels were carved in bold on which many angels were carved in bold relief; these have now mouldered away, till only a few faint traces remain, just sufficient to indicate where they originally were. This building I am inclined to believe is the oldest in existence of Bath stone, and beyond doubt not a very favourable specimen of its durability. The oldest of the modern buildings of similar material in that city is, I imagine, Queen-square, erected in the beginning of the last century; the houses are ornamented with projecting mouldings, Corinthian capitals, &c.; and certainly they are not much decomposed, considering the time since they were erected.

It has been remarked that Bath stone ap pears to stand the weather better in the neighbourhood of the quarries than it does if removed to a distance, or in London; and, judging from the present condition of the oldest houses at Bath in comparison with Bath stone buildings of more modern date erected in London, a casual observer might indulge his imagina-tion with the idea of something being more congenial to the stone in its native atmosphere than if removed to waste and perish in what may be termed a foreign climate. I am ready and willing to admit that there may be a very material difference between the air of Lombard-street or the Royal Exchange, and that of the land of the cuckoo and the nightingale, or any other spot far from the busy world's unceasing sound. But I cannot conceive it probable, that a stone which would last for a century or more in the city of Bath or its environs, would decompose in a quarter of that time were it placed in the Regent's-park. The plain matter of fact is, that the stone used in the construction of the oldest buildings at Bath was procured from the Box quarries, which is in the more important qualities very superior to, and far more durable than, such as is now generally used. The Box quarry stone is still used occasionally in and about Bath, but the stone merchants in London have long since

discovered that the masons will not buy it on account of its being a little coarser and harder, and thereby more expensive to work. Coombe Down Bath stone was next intro-

Coombe Down Bath stone was next introduced; it is finer grained, softer, and less durable than the Box stone; but both these have been almost entirely superseded by the grand favourite from Monckton Farleigh, or by what is usually called "Farleigh Down Bath stone." This material possesses all the qualities required by a hasty mason or contractor; it may be sawed dry, like wood, with a common pegtoothed saw, more expeditiously than any other stone; an industrious workman may do almost as much work as he pleases in it, consequently a building may be executed in this stone in a shorter space of time than in any other; and, lastly, it decomposes in a shorter space of time than any other stone, hence some people are inclined to think it "makes good for trade."

The restorations of Henry the Seventh's Chapel, at Westminster, were executed in Coombe Down Bath stone, between the years 1808 and 1821, at an expense to the nation of about forty thousand pounds. A large pro-portion of this amount was for the Bath stone, which has always been about as expensive in London as those of a more durable nature. If an additional ten thousand pounds had been bestowed on labour, in all probability a mate-rial might have been selected which would have lasted several centuries longer without being in so decomposing a condition. But whilst the lover of elegant architecture is admiring the extreme attention that has been bestowed in preserving the true spirit of the original design, he will be annoyed at discovering abundant evidences of premature decay. Many projecting parts of that beautiful fabric are conspicuously mouldering away, in less than thirty years since they were restored. casual observer may, by one glance at the southeastern towers, convince himself of the truth of these statements; but on more attentive examination, a considerable portion of the masonry throughout the entire structure, especially the more exposed parts, will present multitudes of slight undulations or swellings, somewhat resembling in their progress gather ings or tumours under the skin; these increase in size and number until they meet each other, when they burst, and the surface falls off. This cankering process will be repeated as often as a fresh surface is exposed, until all architectural features are obliterated. Such is the lamentable condition and prospective state of Henry the Seventh's Chapel at this time, that there is every probability of its being in the same dilapidated condition within thirty or forty years that it was in before the repairs were commenced in the year 1808.*

That there are many stones in the building which at present shew no symptons of decomposition is readily admitted; and those persons who advocate the use of Bath stone for such highly decorative purposes frequently imagine that sufficient care has not been taken to place the stones on their natural bed. The importance of such precaution is generally very considerably overrated; I do not consider it signifies which way a stone is fixed, unless it presents a laminated structure, which scarcely ever occurs amongst the oolites. A stone of an open, powdery, and slightly cemented texture, will, if exposed to the weather, decompose in a comparatively short space of time, in whatever direction it may be fixed, or whichever surface may be parallel to the horizon.

Another generally received fallacy is the opinion that soft stone will become hard and durable by exposure. Although this notion is true to a certain extent, it is not of sufficient importance to warrant its appreciation in architectural works. All kinds of stone while in the rock, or when recently quarried, are somewhat softer and more easily worked than after they have been exposed to the atmosphere a few months, owing to the stone in its original situation being more thoroughly saturated with moisture than can ever be accomplished after

* The north front of Westminster Hall was restored with imilar material immediately after Henry the Seventh's Chapel was completed; it is now progressing in the same state towards decay. During the spring of the year 1840, the stonework about the principal entrance was washed by means of an engine; this operation mutilated the projections in a slight degree, the force of the jet of water separating many small portions of stone from the prominent parts that were already in a decomposing state. The restorations of Westminster Abbey, north side, are proceeding slowly with Bath stone, apparently from Farleigh Down quarries; it is to be regretted that a more durable stone is not used, since there is unequivocal proof of its perishable quality in the adjoining edifice.

it has been once allowed to get dry. This is principle well known to masons, for it is a general practice amongst workmen to fraquently wet a stone, especially if it be rather of a hard quality, during their operation of working it into mouldings or ornaments, to make it work, as they term it, "more kindly." If the stone be remarkably soft, it is advisable not to let it dry too fast after it has been taken from the quarry, for fear of its cracking, in consequence of the moisture being removed from the outside before the interior of the block can have had time to evaporate; hence, while the central part remains of its original size and extremely damp, the surface will dry, shrink, and thereby cause many invisible cracks, the effect of which will be conspicuous after is sharp frost.

All free-working limestones and oolites become in some degree harder on their surface by exposure to weather. This arises from a very slight decomposition taking place, which will remove most of the softer particles, and leave the hardest and most durable to act as a protection to the remainder. In addition to which, the pores and interstices of the surface get filled with dust and dirt, washed in by rain assisted by powerful winds; all which eircomastances help to secure the least protected grains from external violence. If the stone be naturally compact and durable, a surface of this description will materially assist its duration; but, on the other hand, such material as the Heddington stone, near Oxford, or the most perishable Bath stone, will in due time similarly attain a Bath stone, will in due time similarly sature u hard crust, which, from the general body of the stone being loose and powdery, is not suffi-ciently compact to hold on; water will sork in behind the crust, cause a swelling and disruption on the surface, which ultimately breaks. The crust thus opened gradually bends for-ward more and more, until finally the weight of the disintegrated portion causes it to fall off. In some instances, as in Bath stone, these defective places rarely exceed an inch or two of surface before the decomposed part falls off; whereas the crust of the buildings at Oxford is so remarkably tenacious that it peels off and hangs like rags, often as much as a foot super-ficial, before it entirely separates. Upon the whole, I do not consider it a recommendation to a soft stone to say that it gradually becomes harder on the surface.

As Bath stone is decidedly one of the most fragile mineral substances ever used for building, a few observations on its cohesive strength may be offered, less on account of their utility, than because most persons who have investigated the subject of stone for building have expatiated considerably on this head. In all cases which have come within head. In all cases which have come within my notice, the stone possessing the least cohe-sive strength, or that which will crush with less pressure than any other, is nevertheless strong enough, when once fixed, for almost all practical purposes. No architectural members have to sustain greater pressure in proportion to their size than mullions of large Gothic windows. The tracery in the great north window of Westminster Hall is now executed in Bath stone, which is remarkable for having the least cohesive strength of all the specimens experimented upon and described in the Report on the Stone for the new Houses of Parliament. Some of the mullions of that window are less than 9 inches wide, and more than feet high, sustaining not only their own weight, but also the whole of the tracery beneath the arch. The eastern window of Carlisle Cathedral, built of a friable, red sandstone, is 50 feet high; the mullions are smaller and the tracery much heavier than in that at Westminster; yet in neither of these examples are there any symptoms of crushing. The cohesive strength of stones is never more severely tested than during their conversion by workmen from the rough state to being fixed in their final situation in a building. During these operations iron levers, jacks, lewises, and various other implements are applied, quently without judgment, and with but little regard to the mechanical violence which a stone will bear; therefore, it may be considered a useful practical rule, that however soft a stone may be, if it resist the liability of damage 6e until out of the mason's hands, there can little doubt of its possessing sufficient cohesive strength for any kind of architectural work .-Lithology, or Observations on Stone used for Building.—Trans. British Architects.

THE IRON TRADE OF SCOTLAND.

Seeing that the iron trade of this country now employs a large amount of wealth and enterprise, and that, in many districts, the mineral resources are yet only beginning to attract attention, it may not be uninteresting to take a brief glance at the history of this im portant branch of national industry. We have not sufficient data to trace its earliest commencement in this northern part of the kingdom, but it is believed that attempts were made at a remote period to extract iron from ore in spen fires, of which evidences are supposed to exist in some of the higher mineral districts. About a century ago, the first application of pit coal for smelting iron was made in the south, previous to which we find that there were fifty-nine furnaces in England and Wales, producing at a very great cost, by means of wood fuel, about 17,000 tons of iron per ansum, or about 290 tons from each furnace. Sabsequently to the introduction of pit coal for trei, furnaces were crected at Carron and Wilsontown, in Scotland, and, towards the close of hast century, at Clyde, Muirkirk, Devon, and Omoa. It has only been, however, during the hast twenty-five years that the trade assumed any importance in this quarter, and we shall confine our remarks to the progress which it

the following list of the selling prices of the best quality of foundry pig-iron per ton in the Glasgow market for the month of January in each year:---

| 1821-27 1826-2101 1829-0 1827-7 | 1831- £ 5 | 1836-£5 | 1841-£32 |
|------------------------------------|------------------|----------|----------------------------------|
| 1823- 0 1827- 7 | 1889- 41 | 1837- 5 | 1842- 3 |
| 1828- 51 1828- 6 | 1833- 43 | 1838- 5 | 1843- 24 |
| 1824- 6 1829- 63 | 1834- 49 | 1839- 41 | 1844- 21 |
| 1815-12 1830- 5 | 1895- 44 | 1840- 3 | 1843— 24 1844— 24 1845— 34 |
| | - | | |

At the commencement of the above period, the number of furnaces in operation in Scotland was fifteen, and the average make of iron about 575 tons per week, or 25,650 tons per annum. In 1826, when an impulse had been given to the trade by the higher prices of the two preceding years, the number of furnaces increased to twenty-two, the weekly make to 780 tons, and the annual average to 36,900 tons. About this period an effectual struggle was made to obtain a reduction of duty on cust and wrought-iron imported from foreign countries, and we find Mr. Crawshay, one of the largest ironmasters in Wales, in his evidence before a committee of the House of Commens, in 1825, stating that the annual make of iron in Great Britain was 600,000 tons, of which one-third was exported to foreign countries. The above produce may be apportioned as follows :--

| South Wales | 83 | fornaces | | 231,000 | tons. |
|---------------|-------------|----------|------|-----------------|-------|
| North Wales | - 8 | •• | | 14,000 | ,, |
| Staffordshire | 81 | | •••• | 178,000 | |
| Shropshire | 36 | | | 90,000 | ,,, |
| Yorkshire | 32 | | | \$7,000 | |
| Derbyshire | 14 | | | 20,000 | |
| Scotland | 17 | | •••• | 29,000 | |
| Total | 96 3 | - n | | 000,00 0 | " |

In 1826 the imports of Welsh pig-iron into the Clyde were 1,600 tons, and the general exports of Scotch about 8,500 tons, being, in both cases, a slight increase on the preceding year. The trade remained somewhat stationary, with gradually declining prices, until the effects of Mr. J. B. Neilson's hot-blast came into operation. The patent was obtained in 1829, but several years elapsed before its practical application with raw coal was accomplished. This opened an entirely new era in the iron trade of Scotland; the quantity produced from the same furnaces became at once more than doubled, while the consumption of coal, to each ton of pig iron, was reduced to about one-fourth-hence an immense stimulus was given to the trade. Existing works were greatly extended, and new works were esta-blished in districts where, a few years before, the minerals were considered next to valueless Thus it is, that, during the last fifteen years, the number of furnaces have become nearly quadrupled; and with recent improvements in the construction, the yield from each, on an average, may now be reckoned about troble the quantity which was formerly made with cold sir and charred coal. At first there were complaints of the inferiority of the iron made by the new system, arising chiefly from the problem generation of the market of the system of the system has been satisfactorily ascertained, from nu-merous experiments by practical men, that, with proper care in the selection, castings

produced from hot-blast iron are equally strong, and of as sound texture, as those made from cold-blast. It must, therefore, be evident that the application of heated air in smelting iron has been an incalculable benefit to the country, to the iron trade generally, and to the landed interest. It has cheapened the cost and increased the variety and usefulness of articles manufactured from iron; it has vastly augmented the consumption; aud, but for this improvement, large tracts of land in the west of Scotland, now yielding a handsome return, would have remained at the former low value of surface rent. The extension of railway communication will open up other rich and extensive mineral fields, so that we may expect to see the iron trade of Scotland progressively increasing for many years to come. The average number of furnaces in operation last year was 65, and the weekly produce 6,600 tons, giving an annual make of 330,000 tons, or cousiderably above one-half of the entire make for Great Britain in 1825.

The following are the exports of Scotch pig-iron (in tons), as derived from anthentic sources, for the last two years, exclusively of what was shipped by way of Liverpool, which, to America alone, must have amounted to a very considerable quantity :---

| | Continent | | America. | | Indies, &c. |
|------|-----------|-------|----------|---------------|-------------|
| 1843 | \$7,970 | ••••• | 7,851 | • • • • • • • | 863 |
| 1844 | 30,715 | ••••• | 11,719 | • • • • • • | 613 |

In the former of these years the lowness of the price, and the prospect of increased duty in Germany, induced an extensive trade in pigiron, a material portion of which was for conversion into malleable iron. In the event of any modification of the American tariff there will be a large demand for Scotch pig-iron for that quarter.

But there is another feature which speaks well for the future prosperity of the iron trade in Scotland. The peculiar character, the ahundance, and the richness of the minerals, admit of iron being produced at less cost than in any district of either England or Wales; consequently, instead of importing from thence, as formerly, large quantities of Scotch iron are nowsent to these districts—this, no doubt, arises chiefly from the cheaper cost, but another cause may be assigned. Scotch pig-iron is particularly adapted for making malleable iron, and as the present unparalleled demand for railways, ship-building, and other puposes, has outstripped the produce of pig-iron in some of the southern localities, it may be expected that recourse will be had to Scotland for increased supplies to meet the growing deficiency.

supplies to meet the growing deficiency. We may remark, that the manufacture of malleable iron is yet but in its infancy in Scotland, although making rapid strides towards an important position : there are five establishments, and the present make may be computed about 900 tons per week, or 45,000 tons per annum. For superior finish, toughness, and uniformity, it will stand comparison with either English or Welsh iroe. — Scottish Guardian.

BRISTOL ACADEMY FOR THE PROMOTION OF THE FINE ARTS .- We recently alluded to the intention which existed of founding a Fine Arts' Academy in Bristol, and are rejoiced to find that it has now assumed a tangible shape, and has come before the public with a list of donors and subscribers whose munificent contributions shew them to be not only earnest in carrying out the scheme, but determined to evince their zeal in the most effective and palpable form. The lady, whose princely donation, 2,000/, houds the list descent of the lady. .000%, heads the list, deserves the highest praise for her public spirit and liberality. All honou is likewise due to Mr. P. W. S. Miles, M.P. All honour who originated this important movement, and to the gentleman associated with him, for comto remove the stigma which rests upon bining Bristol in regard to the arts. The objects of the society are the advancement of the arts of painting in oil, fresco, and water-colours; of drawing in chalk ; of the study of sculpture and to architecture : and of the other branches of the The academy will be free to all fine arts. artists residing within ten miles of Bristol for the previous twelve months, on their subscribing to its rules, and on certain condi-tions; and its arrangements will comprehend a school of painting and sculpture; pecuniary and honorary rewards to artists and students; exhibitions of pictures, &c., &c.; and an art union.

PROBABLE QUANTITY OF IRON REQUIRED FOR THE NEW RAILWAYS.

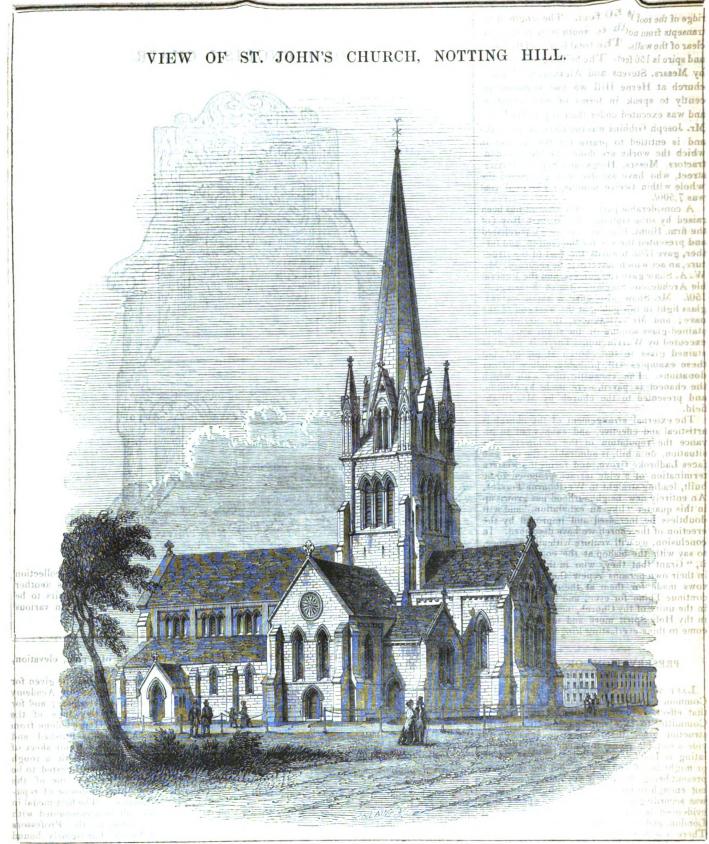
IT has been estimated, that out of the numerous railway bills coming before Parliament next month, there will be forty-five carried, or about one-fifth of the present applica-tions. Taking these lines at an average length of forty miles each, there will be 1800 miles of railway to be formed, commencing from the autumn of this year, and extending over 1846; for, though these will not be all completed at that period, the deficiency may be more than made up by the lines which were passed during last session, and which are now being formed. A yard of railway requires 280 lbs. of rails, 98 lbs. of cast-iron chairs, and about 70 lbs. of iron girders—making 4 cwts. per yard, or 352 tons per mile. In addition to this, it is pretty clearly ascertained, that an equal amount of iron is required for each mile, in waggons, carriages, stations, engines, and locomotive es-tablishments, &c.—making 700 tons of iron for each mile, or 1,260,000 tons for 1800 miles of railways about to be constructed in this country, or, as nearly as possible, the whole make of iron in Great Britain for one year. This is independent of the contractors' rails, which are immense; and, if to this tremendous consumption be added what will be required for the new water and gas companies, the docks and other great public works, as well as the extra demand arising out of the prosperous trade of the country, it can hardly be con-ceived that our capabilities for the production of iron, great as they are, will be sufficient to supply what will be required. This is also entirely independent of our foreign trade, and as railways are likely to be constructed in almost every country, the exports of iron must also be greatly increased. Under these ciralso be greatly increased. cumstances, there can hardly be a question that iron must shortly be much enhanced in value. -Mining Journal.

COMPETITION PLANS FOR BATHS AND WASH-HOUSES.

NOTWITHSTANDING the large number of applications for particulars, only twenty-two competitors have sent in plans, and it is said that as many as four-fifths of these have not complied with the published conditions. It is to be regretted that, with the exception of two or three sets, no attention whatever has been paid to ventilation in any of the designs. The number of drawings in the whole is 147.

A correspondent of *The Times* says, "There are many places in London well adapted for the position of such establishments, a poor or thickly-populated neighbourhood of course being likely to prove the most advantageous and convenient to the class of people for whose use they are intended. London, from its local position, is fortunate in having wells, which produce most excellent water, and some of them are known to be more or less medicinal. Would it not be an advantage, therefore, for bathing purposes, to select a site where such a well is known to exist, so as to combine a common bath with a medicinal one, for such as may require it, on account of health, or for other reasons?" He suggests that a spring at No. 3, Old Belton-street, in the line of the intended new street between Holborn and the Strand, said to have been the resort of Queen Anne, might be made available.

ROOFING HOUSES WITH TIN. — John Woolley, Springfield, of Massachusetts, gives the following description of his plan for rooting houses with tin :—"What I claim as my invention is, constructing metallic roofs without boarding, by means of strips fastened to the rafters by cleats, to which the sheets of tin forming the roof are attached. I also claim the shield-plate under the eaves, constructed and arranged in the manner and for the purpose described."—The strips of tin are fastened on the top of each rafter, and extend from end to end, with the two edges turned up, and to these edges the sheets of tin forming the roof are connected, by lapping over these edges, and then turning down; and the shield-plate, referred to in the second section of the claim, is for catching and conducting into the gutter all the moisture that condenses under the roof. For this purpose, a plate extends from the gutter under the roof, there being sufficient space between this plate and the lower edge of the roof, for the water thus collected to pass out.



ST. JOHN'S CHURCH, NOTTING-HILL.

On Wednesday last the new church of St. John, in Kensington-park, was consecrated by the Lord Bishop of London. The above engraving represents the structure as it appears when viewed from the south-east, and shews it to be cruciform in plan, and to have a tower and spire at the intersection of the cross. There is an entrance porch at the west end of each side of the building and other entrances in the transepts. The exterior is wholly of stone : the plain faces are of Kentish rag hammer-dressed, the quoins, dressings of doors and windows, ornamental parts, and the spire, are of Bath stone. The style throughout is early English, the style of the thirteenth century, but presents variations which are to of found rather in works in Normandy of that

I than in this country.

The interior of the church consists of a nave and two aisles, one on either side, transepts, and chancel. On each side of the latter, but extending only part of its length, as shewn in the engraving, an aisle is formed; that on the north side is used as the robingroom, and contains the organ in the upper part, that on the south side contaius pews, and is separated by a high open screen from the chancel. The nave is separated from the aisles by plain cylindrical columns bearing pointed arches, and has a clerestory. The tower is supported on four clustered columns and arches at the junction of the nave and transepts. The coilings are wholly of wood stained and varnished, and the timbers of the roof are exposed, and are slightly adorned with painted symbols of the evangelists, and scripture sentences rubricated. In an ensuing number we shall present to our

readers a general view of the interior of the building, as seen from the west end, which will convey a clearer idea of its appearance than description alone can do.

There is a gallery at the west end, and one in each transept, but none in the body of the church. The pews are low, formed of deal, simply varnished, and afford sittings for 1,500 persons, of which 400 are free. It was originally intended to separate the chancel from the nave by an un-protestant rood-screen, but this was wisely abandoned at the request, we believe, of the Bishop of London.

The whole length of the building, in the clear of the walls, is 125 feet 9 inches; the width of the nave between the columns is 19 feet 10 inches, and of each aisle 13 feet 6 inches, making in the clear of the walls, with the thickness of the columns, 51 feet. The height of the church from the floor line to the $\mathbf{\mathfrak{S}}$

ridge of the roof is 50 feet. The length of the transepts from north to south is 91 feet, in the clear of the walls. The total height of the tower and spire is 156 feet. The building was designed by Messrs. Stevens and Alexander, of whose church at Herne Hill we had occasion recently to speak in terms of commendation, and was executed under their superintendence. Mr. Joseph Gibbins was the clerk of the works and is entitled to praise for the manner in which the works are done: as are the contractors, Messrs. Higgs and Son, of Daviesstreet, who have satisfactorily completed the whole within twelve months. The total cost was 7,500/.

A considerable part of this amount has been raised by subscription. Mr. Robert Roy (of the firm Blunt, Roy, and Johnson), purchased and presented the site for the church, and further, gave 150. towards the cost of the structure, an act which deserves to be recorded. Mr. W. A. Shaw gave 150 guineas, and the Venerable Archdeacon Sinclair, vicar of Kensington, 150. Mr. Shaw also gave a small stainedgluss light in the gable, at the west end of the nave; and Mr. Alexander, the architect, a stained-glass window in the south aisle, both executed by Warrington. There is no other stained glass in the church at present, but these examples will, probably, induce further donations. The encaustic tiles with which the chancel is paved, were made by Minton, and presented to the church by Mr. Blashfield.

The external arrangement of the church is artistical and effective, and cannot fail to advance the reputation of the architects. Its situation, on a hill, is admirable; the east end faces Ladbroke Grove, and forms the western termination of a wide terrace proposed to be built, leading straight to Westbourne Terrace. An entirely new neighbourhood has grown up in this quarter "like an exhalation," and will doubtless be increased and improved by the erection of the church we have described. In conclusion, we will venture with all reverence, to say with the bishop at the consecration of it, "Grant that they, who in this place shall in their own persons renew the promises and vows made for them at their baptism, may continue Thine for ever; and being preserved in the unity of thy Church, may daily increase in thy Holy Spirit more and more, until they come to thine everlasting kingdom."

PRESERVATION OF LONDON ANTIQUITIES.

LAST week Mr. Lott, F.S.A., moved at a Common Council, in pursuance of a notice to that effect, a recommendation to the Library Committee to take into consideration an in struction given them some time ago, to provide a suitable place for such antiquities relating to London as were in their possession or might be offered to them, but the members present being counted, it was found there were not enough to form a court, and the meeting was accordingly adjourned! The apathy thus evidenced is really disgraceful to the city of London, and cannot be sufficiently reprobated. There are few towns in England in which some public repository of local antiquities can-not be found: yet in London, a city built on a city,-where curious remnants of the past are furned up every day, there is nobody appointed for their preservation, there is not even a place which they may be gathered together: they are at once sold to individuals and so dispersed east, west, north, and south, or worse still, and in too many instances, are unnoticed and destroyed. A museum of national antiquities is greatly to be desired, and might be made par-tially complete in very little time, and with very little trouble. If we remember rightly the Society of Antiquaries have in their cellars a large collection of architectural antiquities, for which they have no proper place. Many individuals too, possess relics of little value by Many themselves but very important in a series, and would gladly place them in some general collection, where they would form links in a chain, and be accessible to all. It is surely the duty of the corporation of London to bestir themselves in this matter : at the least let them provide a proper receptacle for the relics they possess, and take means to prevent the dispersion of such as may hereafter be discovered.

PREMIUMS OFFERED BY THE ROYAL ACADEMY OF ARTS.

THE council of the Royal Academy have issued the following announcement relative to the prizes for the present year :---

Royal Academy, Trafalgar-square, Jan. 20. The president and council give notice to the students in the Royal Academy, thut the following premiums will be distributed on the 10th day of December next, viz :--

A gold mcdal, and the Discourses of the Presidents Reynolds and West, for the best historical picture in oil colours; the subject to be—" Finding the Body of Harold." To consist of at least three figures; the size of the cloth to be a common half-length, viz. 4 feet 2 inches, by 3 feet 4 inches; the principal figure to measure not less than 2 fect in height.

A gold medal, and the Discourses of the Presidents Reynolds and West, for the best composition in sculpture; the subject to be— "The Hours leading out the Horses of the Sun." Basso-relievo—imbost not to exceed 2 inches; the figures not to be less than 2 feet, nor more than 3 feet high; the principal figure to measure not less than 2 feet in height.

N.B. The candidates to present their models either baked or cast in plaster.

A gold medal, and the Discourses of the Presidents Reynolds and West, for the bestfinished designs in architecture; the subject to be—"A Design for a National Record Office, including a Cosneil-room and Offices; a Keeper's-house, with Courts and appropriate Entrances; the whole to cover three acres." The whole comprised in one general and regular composition; the designs to be as large as an entire sheet of double elephant

will admit, and to consist of a plan, elevation, section, and perspective view.

A number of silver medals will be given for the best Drawings and Models of Academy Figures, done in the Royal Academy; and for the best accurate-figured Drawings of the Strand Front of Somerset House; done from actual measurements, carefully finished and washed; to be as large as a whole sheet of double elephant will admit; with a rough outline, giving the dimensions, attested to be their own performance by any one of the academicians, or any other professor of reputation resident in London. The first medal in each of the classes will be accompanied with a copy of the Lectures of the Professors Barry, Opie, and Fuseli, handsomely bound and inscribed.

Three silver medals will also be given for the best drawings, and three silver medals for the best models, of a statue or group in the Antique Academy, to be selected and set out by the keeper for that purpose on the 1st day of October next, for one month. The first medal in each of these classes will be accompanied with a copy of Fuseli's and Opie's Lectures, handsomely bound and inscribed.

Two silver medals, for the best copies made in the School of Painting, between the time of its opening after the exhibition and the lst of November. The first medal to be accompanied by the Lectures of the Professors Barry, Opie, and Fuseli; unless the student to whom the premium may be adjudged shall have previously acquired them in the Academy.

Academy. A silver medal will also be given for the best medal die, to be cut in steel, from the head of the Belvedere Apollo, in the Royal Academy. The size to be not less thun one inch and a quarter in diameter, to be accomnanied with an impression in way.

panied with an impression in wax. Digitized by

ACADEMY OF ARTS.



IN Vol. II. of THE BUILDER, page 630, | Mr. C. J. Richardson, is from the collection

we gave representations of two chairs belonging to Thomas Charles, Esq., of Chillington example of a numerous class of chairs to be House, Maidstone, Kent. The above glyphograph by Palmer, from a drawing by parts of England.

OLD ENGLISH CHAIR.

55

RIGHT OF TAKING UP PAVEMENTS.

A FEW day since Mr. Bingham was occupied for several hours at Worship-street in hearing an information on the part of Commissioners of Pavements of the Whitechapel district, against a man named George Bird, for having, as the admitted agent of the Commissioners of Excise, broken up a certain pavement within their jurisdiction to the extent of 1,820 feet, whereby he had incurred penalties to an enormous aggregate amount. Mr. Ballantine attended for the com-

penalties to an enormous aggregate amount. Mr. Ballantine attended for the complainants, and Mr. Carr, the solicitor to the Board of Excise, conducted the defence.

The substance of the case will be best un-derstood from Mr. Ballantine's statement of it, which was to the effect, that the present proceedings had been instituted by the Paving Commissioners, under the act 57 George, III., c. 29, s. 53, which enacted that any person who shall take or break up any pavement in any street or place within the jurisdiction of the commissioners, without their authority, or the commissioners, without their surveyor, shall forfeit and pay any that of their surveyor, shall forfeit and pay any 10%. nor less than 5%, for each and every square foot so broken up. After briefly referring to the several acts under which the commissioners were appointed, and by which they themselves were liable to in-dictment for the non-fulfilment of the trust reposed in them, the learned council went on to state the peculiar circumstances which led to the present proceedings. In the month of October last certain persons, employed by the Board of Excise, thought fit to break up the pavement immediately contiguous to the ex-tensive distillery of Messrs. Smith, White-chapel, for the purpose of discovering certain secret pipes which were supposed to be concealed under the ground, and to communicate with Messrs. Smith's distillery and rectifying-house; and, although the Paving Commis-sioners felt greatly annoyed at such vexations proceedings, no intimation whereof had been previously made to them, and the ground had been left in a state which was highly annoying and dangerous to the public, they did not at that time feel it necessary to interfere, as they were being aware of the authority possessed by the Excise Board under their laws to remove pavements contiguous to any distillery with regard to which they entertained reasonable grounds of suspicion that illegal proceedings were carried on there. Not satisfied, how-ever, with the steps they had already adopted, and in which perhaps they might have been then justified, the present defendant, acting under the express orders of the Excise authorities, had again commenced on the lst of January breaking up the pavement on the opposite side of a square, nearly 150 yards distant from Messrs. Smith's distillery, where there could not be the slightest pretence for supposing that any secret communication for supposing that any secret communication with the premises in question had been esta-blished. They, the Excise Board, had received timely notice of the illegality of their con-duct, but, notwithstanding that, they continued on the two succeeding days to break up the ground over an extensive surface, although they must have been well save they could have no must have been well aware they could have no justification for such a proceeding. He should proceed to establish his case by evidence, and felt the fullest confidence that the magistrate would consider the defendant had brought himself within the terms of the Act, and rendered himself liable to the heavy penalties incurred under its provisions.

Richard Burgess, surveyor of pavements for the district, proved that on the 1st 2nd and 3rd of January, a gang of men, acting under the orders of the defendant, were engaged intaking up the pavement along the line in question, which embraced three streets, named respectively Little North-street, Court-street, and Buck's-row, and that neither the witness nor any person acting under the authority of the Paving Commissioners had given his sanction to such a proceeding. The place where they on this occasion commenced breaking up the ground was situate about 200 feet from the gates of Messrs. Smith's distillery. In his cross-examination by the solicitor of the Excise, the witness stated that the defendant Bird, on being remonstrated with, at once acknowledged that he was acting under the express directions of the Excise authorities.

Joseph Little, another surveyor, deposed to having been ordered to measure the ground in question which had been taken up, and that in the whole it amounted to 1,829 square feet.

Mr. Jennings, clerk to the Paving Commissioners, stated that on his attention being directed to the subject he immediately waited upon Mr. Carr, the Excise solicitor, and cautioned him that they were acting illegally in removing the pavement without first applying for the consent of the Paving Board, which had not been done; and that though Mr. Carr assented to every thing he said with the utmost politeness, no arrangement or explanation had been come to.

been come to. Mr. Carr then, in defence, contended that the proceedings the Board of Excise had felt themselves called upon to adopt in this instance were perfectly justified by the terms of the sta-tute under which they had acted, namely, the 6th of Geo. IV., cap. 80, sec. 43, which en-acted that it should be lawful for any officers of excise, or persons acting in their aid and assistance, either by night or by day, to break up any ground in any distillery or enter pre-mises of a distiller or rectifier, or any ground near or adjoining such distillery, in search of any pipe or private conveyance or utensil, and on finding such pipe or conveyance, to break up any ground through which it shall lead; and be should clearly prove that they had reasonable grounds of expectation that an examination of this ground would result in the dis-covery of some pipes of this description. Before adopting this course, however, they had obtained the sanction of the East London Water-works Company, who supplied Messrs. Smith's distillery; and it was his strong im-pression that in the interview which he subse-cuently had with the complement? own elect quently had with the complainants' own clerk the complainants had given a qualified assent to the steps afterwards taken, on the understanding that their own servants should relav the pavement which it might be found necessary to remove. He had an ample justification for the proceedings the Excise had taken. but he was precluded from entering on as satisfactory an explanation as he should wish, or he must thereby anticipate the action now pend-ing against Messrs. Smith in the Exchequer, which would shortly come on for trial.

Thomas Frankish, an Excise officer, was then called, and proved being directed by the Board of Excise to trace the course of certain mentioned pipes suspected to communicate between Messrs. Smith's distillery and their rectifying house, that he discovered pipes of which he had reason to complain, and that the object of his finding them formed part of the grounds of action against the Messrs. Smith in the Court of Exchequer. Witness stated that every foot of pipe he uncovered led directly from the pipe at the entrance gates of Messrs. Smith's premises in the direction of the brokenup ground in question, and that the examination of a pipe leading into North-street was brought to conclusion by the discovery that it terminated in a dead end with a flange on it.

Mr. Ballantine then pressed for a conviction and the enforcement of a heavy penalty against the defendant, as the expense of carrying on the proceedings and re-establishing the roads in their former condition would amount to a considerable sum, and he considered it would be extremely unjust to impose the burden of its liquidation upon the rate-paying inhabitants of the district, when the cost had been solely incurred by the conduct of the Excise authorities.

Mr. Carr expressed his readiness to enter into any reasonable arrangement for defraying these expenses that might be suggested, but strongly deprecated the infliction of any of the penalties sought to be recovered. Mr. Bingham said the case was one of great

Mr. Bingham said the case was one of great difficulty and nicety, but, whatever decision he might come to, he certainly did not consider it one for the imposition of more than a merely nominal penalty; and with regard to costs in the way of compensation for expenses, he possessed no power to award their payment. He would, therefore, suggest that the whole amount of actual expenses should be ascertained and laid before the Excise Commissioners, and he felt assured that no obstacle would be thrown in the way of an amicable ajustment.

Both parties assenting to this arrangement, the case was adjourned for three weeks, to allow opportunity for its being carried into effect.—*Times*.

THE RUINS OF NINEVEH.

LETTERS from Constantinople announce that M. Botta has nearly completed his disco-veries in the subterranean palace of the ancient; Nineveh. He was then on the point of clearing, the grand southern façade. The vast entrance. the grand southern façade. The vast entrance of this front is entirely cleared: six colossal bulls, with the heads of men, and two human statues, also colossal, strangling lions in their arms, form its principal ornaments. These sculptures are said to be of great beauty, and as fresh as if executed yesterday. The two. bulls in the centre, as seen from the front, form the entrance pillars. The animals have inscriptions between their feet, some of which have, however, been cut away by the chisel, so as to leave only their traces, a circumstance which would seem to indicate that a new dynasty, or a new monarch, taking possession of the palace, had removed the inscriptions of his predecessors. M. Botta is anxious to transport these figures to Paris; but the physical difficul-ties are very great. Still, he hopes to remove them, on wooden rollers, to the Tigris, which is five leagues from Khorsabad,-whence they might go, by the first flood, to Bassora, and there be received on board a ship of war for France. This discovery of M. Botta's is one of the most valuable which has been made for many years in the field of archæology,---sapplying an important link, hitherto wanting, and believed to be irrecoverable, in the history of the arts amongst the earliest civilizations of the world. It deserves, therefore, some worls of further notice, which we collect from the French papers in general, and the *Revue de Paris* in particular. The Greek historians and Paris in particular. The Greek historians and the books of the Old Testament, furnish the very vaguest hints as to the condition of art amongst the Medes, Assyrians, and Baby-lonians; and hitberto no monuments were known to exist by which they were more fully represented. Unlike the cities of anoient Egypt, which have transmitted to our times, almost in their integrity, the arts of their Susa, Ecbatana, Babylon, Nineven - have perished from the face of the earth, leaving, in the language of ancient prophecy, scarcely one stone upon another. Dreary mounds of rubbish, traversed by deep and narrow ravines that indicate the lines of the streets, alone mark the sites of these mighty cities. Nineveh, the city of fifteen hundred towers, whose walls were a hundred feet in height, and hud space on their summit for three chariots abreast, seemed more utterly ruined than even Babylon; yet from beneath its dust has the long-buried art of the Assyrians been recovered, and an impulse been communicated which may end in bringing, through future excavations, our knowledge of the former to something of a knowledge of the former to someting of a level with our understanding of Egyptian art. M. Botta, as our readers know, is a distin-guished archeologist, who was consul for the French at Mosul; and there, his neighbour-hood to the ancient Nineveh inspired him with an earnest desire to try some excavations in the soil of the lost city. His first attempt was on the most conspicuous mass (for the ruins of the various gigantic edifices of old present now the appearance of separate barren hills), near the village of Nininoah, supposed by tradition to be the tomb of Ninus. Here, how-ever, finding only broken bricks and insigni-ficant fragments, he opened his trenches in the sides of another hillock, on whose summit is built the village of Khorsabad,—where bricks had been frequently found covered with inscriptions in the cuneiform or arrow-headed letter. It was principally the hope of finding other inscriptions, which might help, by comparison, to decipher the cuneiform writings, hitherto unreadable, that had tempted M. Botta to these explorations. Something of the success our readers know. An Assyrian edifice has been readers know. An Assyrian compreservation. On this discovery the French Government supplied M. Botta with the means of continuing his researches, and sent out M. Flandin to make drawings of whataver could not be removed. A tolerable whatever could not be removed. A tolerable judgment may now, from what is laid open, be formed of the extent and importance of these ancient constructions. Fifteen halls of this vast palace, with their corresponding espla-nades, have been cleared. The rest of the monument, it is made quite certain, has been destroyed,—intentionally, however, the stones

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having been carried off to serve for other buildings. A fortunate accident-that would seem an evil one at the time-has preserved for us what remains. This portion of the parace has been ravaged by fire, which has estirely destroyed only the timbers of the reafs:---bat as the other calcined materials were rendered useless for new constructions, they have been left where they were: and thus, one-third of the edifice remains, to testify of the rest. We have, from time to described the sculptures and inscriptions time, found within its walls; and we announced to our readers the work, which embodying M. Flandin's drawings, will furnish the details of this curious discovery. We may add that the fragments thought worthy of being collected and transmitted to France, are umerous and important enough to load a ship. - Aihenaum.

Dem Books.

An Act for regulating the construction and the we of Buildings in the Metropolis and its neighbourhood, with a CYCLOPEDIA arranged Alphabetically, and accompanied by estimative references and counter-references to the sections of the Act itself. By A. BAR-THOLOMEW, Eeq., F.S.A., Architect. Pub-lished at 2, York Street, Covent Garden.

THE Cyclopædia which accompanies this edition of the New Metropolitan Buildings Act was first published in "THE BUILDER." Its value was at once recognised so fully by the public and the profession, that the author was induced to revise the whole, enlarge it was noused to revise the whole, childrge it considerably, and arrange it in the pocket form, in which it is now issued. Together with the Act in full, it is no larger than an ordinary pocket-book, and cannot fail to be acceptable to all the numerous classes connected with heuse property. By a reference to it, all the parts of the Act which bear on a particular question are at once seen, accuracy is secured, and much time saved. Appended to it is a fall list of the district surveyors and their offices.

The History and Art of Warming and Venhe History and Art of Warming and Ven-tilating Rooms and Buildings; with Notices of the Progress of personal and fire-side Com-forts, and of the Management of Fuel. By WALTER BERNAN, Civil Engineer. 2 vols. London: 1845. George Bell.

In seventeen essays, illustrated by 240 diagrams; these two volumes present a very interesting history of the contrivances adopted for warming and ventilating rooms and buildings, such as open fires, hypocausts, German, Dutch, Russian, and Swedish stoves, steam, hot-water, heated air, and others, arranged, in most cases, in the order in which they ap-peared. It is very clearly written, and dis-plays considerable research. The subject is of paramount importance, and demands one consideration.

As the author observes in his preface, "Though much has been done by ingenious men in the art of distributing heat for household uses, it must be confessed, that in one or two instances only have they been able to make a permanent impression or bring their contrivances into that general use as to constitute them 'machines of society;' while in the eco-nomy of fuel for manufacturing purposes invention has already produced marked benefits; yet however great the saving that may ul-timately be effected in furnaces, still, from the nature of things, it must ever be of small importance when compared with that which woold arise were better methods of heating and ventilating dwelling houses generally fol-lowed ;-of the fifteen-and-a-hulf millions of tons of coals raised yearly from the mines, not more than three-and-a-half millions are consumed by steam-engines and in manufacturing operations,—leaving cleven or twelve millions of tons of fuel to be mismanaged in kitchens and sitting-rooms throughout the country. The register plate was described at the close of the fifteenth century by Alberti, the ancient Florentine architect, and by others who wrote afterwards. Were this simple and cheap smoke value introduced into every cottage chimney, it would save the heat of five or six millions of tons of coals that is now annually wasted and thrown away."

From the essay on heating by means of

steam, we extract the following table collected from cases given by various parties, which "exhibits the practical effect of a given surface of steam-pipe in keeping a certain cubic area of building at a certain temperature, when the external air was under the freezing point of water :---

| | Cubic feet | |
|---|-------------------------|----------------------------|
| Description | of space | Tempera- |
| Description. | heated by one square | ture of in- ternal air. |
| | foot of pipe. | ternal air. |
| A sharely making along | | 60° |
| A chapel; cast-iron pipes A meeting-house; cast-iron pipes | . 400 | |
| A church; massive walls and ston | . 370 | |
| pillars, inside stone, no plastering | 6 | |
| or wainscot, except for seats, cast | | |
| iron pipes | | 48° |
| Dining-room; cast-iron pipes | . 190 | 640 |
| Ditto, containing 8,400 cubic feet of | . 100 | |
| space, 15 feet from floor to ceiling | 209 | 62° |
| Public-room ; cast-iron pipes | . 300 | 540 |
| Cotton-mill; tin-plate pipes, ho | | •• |
| painted | . 200 | |
| Six cotton-mills, each containing o | | |
| an average 205,006 cubic feet of | | |
| space, cast-iron pipes | . 175 | 80 ⁰ |
| Staircase, average of five, with | ,. | |
| lantern lights | . 165 | 56° |
| Average of four others with window | , | |
| in wall | | 580 |
| Rooms in an inn | 200 | ••• |
| Counting-house, lighted from th | A | |
| ceiling | | 61° |
| Average of three do. lighted from | n | |
| side | . 243 | 64° |
| Average of seven rooms in a publi | | |
| building, heated by an ernaments | ă – | |
| cast-iron vase in each, 2 ine | | |
| thick ; greatest effect | | 50° |
| One of the rooms, fitted with | | |
| double window, could be kept at | | 64° |
| Calico-printers' work-room | . 99 | 80° |
| Ditto. press-room | . 144 | 80° |
| Forcing-house | . 80 | 90° |
| Drying-house; cast-iron pipe | | 100 ° |
| Ditto ; tin-plate pipes | . 40 | 90 ° |
| Ditto ; walls and window | 8 | |
| defective | . 99 | 900 |
| Forcing-house, glass very defective | e 25 | 73° |
| Printing-office ; four floors average. | . 266.5 | 6 8° |
| | | |

"The quantity of steam-heated surface required to produce a certain average tempe-rature may be readily approximated by dividing the cubic contents in feet of the building to be heated by the number placed in the first column opposite the description of a similar building. Thus, for a factory containing 100,000 feet of space, this number divided by 175 in the table will give 574.2, which is the number of square feet of pipe surface that will keep it at a temperature of 80° in the coldest weather. If the cubic area of a dining-room be 5,000 feet, this divided by 140, one of the numbers in the table, will give about 35.7 square feet of steam-pipe surface required to warm it to a summer heat, with the air outside at the freezing point. These, it is obvious, although rough, are safe practical estimates that may be applied and depended on in numerous analogous cases.

"The required quantity of steam-pipe is sometimes estimated in another way. If, for example, 200 cubic feet of air are to be supplied in a minute to a room which is to be kept at a the arms of 60° , when the external air is at the freezing point, and the average heat of the surface of the steam-pipe is to be 200° , then, if the difference between the temperature the room is to have and the external air be multiplied by the number of cubic feet of air required per minute, and the product divided by 2.1 times the difference between 200 and the temperature of the room, the quotient will give the number of square feet of heating surface required, thus :-

$(60-32) \times 200 = 5600 + 2.1 (200 - 60^{\circ}) = 10$

which is the square feet of heating surface to be used.

"An estimate formed from the table omits the consideration of any definite amount of ventilation; and formed from the rule above, omits any reference to the cubic space to be heated. For instance, a room containing the same number of persons and windows, but of twice the cubic capacity, or one with double the superficial area of radiating wall, ceiling, and floor, would be supplied with the same quantity of pipe! The rough approximation to be had from the table will therefore be found a useful check on the still rougher guesses made by means of the rule.

" In Dr. Arnott's method of finding the amount of heating surface, one of the omissions in Mr. Tredgold's rule is supplied, 'to main-tain,' says the doctor, 'in an ordinary apartment the agreeable and healthful temperature of 60°, there must be of surface of steam-pipe, or other steam-vessel heated to 200° (which is the average surface temperature of vessels

filled with steam at 212°), about one foot square for every six feet of single glass window of usual thickness; as much for every 120 feet of wall, roof, and ceiling of ordinary material and thickness; and as much for every six cubic feet of hot air escaping per minute as ventilation, and replaced by cold air. A window with the usual accuracy of fitting is held to allow about eight feet of air to pass by it in a minute; and there should be for ventilation at least three feet of air a minute for each person in the room. According to this approximation, a room 16 feet square by 12 feet high, with two windows each 7 feet by 3, and with ventilation by them or otherwise, at the rate of 16 cubic feet a minute, would require 20 feet of pipe 4 inches diameter, or any other iron vessel having the same extent of surface.'

"If pipes 3 inches diameter externally are "If pipes 3 inches diameter externally are to be used, then the amount in square feet of heating surface multiplied by 1.09 will give the number of feet in length of 3-inch pipes re-quired; or of 4-inch pipes, if multiplied by 82; of 5-inch pipes, by .66; and 6-inch pipes, by .55. Thus in the above example, 23.7 \times 0.82 = 19.4, which will represent the number of fost of 4-inch pipe required to heat 200 unbig feet of 4-inch pipe required to heat 200 cubic feet of air in a minute from the temperature of 30° to 60°.

"The allowance made for the expansion of cast-iron pipes is in practice $\frac{1}{2}$ inch in 10 feet, or $\frac{1}{2}$ of their length. When heated from 32° to 212° , cast-iron expands $\frac{1}{2}$ of its length, bar-iron $\frac{1}{2}$, copper $\frac{1}{2}$, brass $\frac{1}{2}$, tin $\frac{1}{2}$, $\frac{1}{2}$ lead _{sit}, sinc _{vir}. "The size of the boiler is regulated by the

capacity of the heating pipes. As much space is left for the ateam in the boiler as is equal to all the steam in the pipes; and the space for the water may be about one-eighth less. The water-line should always be kept above the highest part of the flue." We shall probably return to this work, and in the meantime recommend it to our reuders

in the meantime recommend it to our readers.

CORRESPONDENCE ON METROPOLITAN BUILDINGS ACT.

WHO HAS POWER TO DECIDE WHAT IS A COMMENCEMENT?

SIB,-Finding it necessary to obtain for my own guidance counsel's opinion upon two points of the Metropolitan Buildings Act, I inclose you a copy thereof, thinking it may be of service to your readers, should you think proper to give it insertion in your valuable publication

Your obedient servant, A CONSTANT READER. Clapham, Jan. 29, 1845.

(Copy.) Having carefully perused and considered the Metropolitan Buildings Act with reference to the two points submitted to me-namely, "What is a commencement of a building within the meaning of the Act?" and, "Who has the power to decide what is a sufficient commencement?"

1 am of opinion that any acts which amount to a bond fide beginning, upon which it is in-tended to raise a superstructure, are sufficient to meet the object of the legislature; otherwise it would of course be very difficult to determine where the line is to be drawn, and say what acts just amount to a commencement and what are below the mark; I therefore have no hesi-tation in concluding that if foundations are commenced and a few courses of bricks laid (so as to denote absolutely an intention to build), it is "commenced" in terms of the Act.

On the second point, -The 82nd section gives power to the official referees to determine disputes as to the effect of the provisions of the Act in any case. This power must pertain solely to cases which are admitted to be within the operation of the Act, therefore they have no the operation of the Act, therefore they have no jurisdiction over such as are "commenced be-fore Jan. 1, 1845," provided they are "covered in and rendered fit for use within twelve months thereafter;" but should they assume such ju-risdiction, the remedy would be by action, or an application to the Court according to the act of interference.

Temple, Jan. 27, 1845.

[We have not the name of the party who gave this opinion, and can hardly believe that it proceeds from one "learned in the law." The 80th section, which provides for the ap-Digitized by GOOSIC

pointment of the referees, shews that they are to superintend the execution of the Act, " and also to determine sundry matters in question incident thereto:" and the 81st section enacts, incident thereto:" and the Slat section enacts, that they are "to perform the several matters to them respectively assigned by the provisions of this Act, and to determine all questions re-ferred to them, whether expressly by this Act or at the instance of any one or more of the parties concerned."—Eo.] . . .

METROPOLITAN BUILDINGS ACT-DEFINITION OF TERMS.

-Parties concerned in the operation SIR,-Sin,---.Fariles.concerned in the operation of the Metropolitan Buildings Act having applied to me for my opinion of the construc-tion of the words "commenced before" and "commenced after" in the sense applied to them by the seid Act, I beg to hand, through your medium, my consideration of the words in the sense they are evidently intended to bear in reference to this question.

It is necessary to keep in mind that the eneral tenour and spirit of the Act is, amongst other objects, "to prevent the great diversity of practice exercised by the various officers ap-pointed under the 14th Geo. 3, c. 78, whereby pointed under the 14th Geo. 3, c. 78, whereby the operations of persons engaged in building is retarded, and expenses are increased "(*Vide* Preamble); and "that the following terms and expressions are intended to have the meanings assigned to them respectively." (*Vide*

Construction of Terms.) Now the terms of the Act are "already built," and "hereafter to be built," and the words "commenced before," or "commenced after," are merely constructive words to shew the intended force of the terms used.

The term " alroady built " being in the past tense, would, in its ordinary signification, imply a building completed and finished; but the term " already built," in the sense applied to it by this Act, is evidently intended to include all buildings or demonstrations of buildings which are "commenced" by any operative which are "commenced" by any operative building demonstration being performed prior to the 1st January, 1845; and vice verse "here-spher to be built," is intended to apply to such as have no operative demonstration whatever prior to that date, and such as having an ope-rative demonstration of a huilding being about to be raised prior to the 1st of January, 1845, rendered fit for use within twelve months there-after."

Had the Act intended to renounce some commencements, and to have acknowledged certain other commencements, it would have been reasonable that in "the construction of terms used," such distinction of commencements would have been expressed; instead of which, the most open and unequivocal term is adopted, thereby acknowledging every demonstration of what kind soever, whereby a building is in visible progress of erection, shall be deemed to be "*already built*" within the meaning of this Act, provided it is "covered in and rendered fit for use within twelve months thereafter.'

Had we heretofore been without any Act to regulate our metropolitan buildings, probably the limits and operations of the 7th & 8th Vict., now under consideration, might have been of a more stringent and arbitrary nature; but hav-ing been regulated chiefly by the 14th Geo. 3, c. 78, ever since the year 1774, which has been considered efficient hitherto, it is evidently the object of the legislature, in producing the pre-sent Act, to do so with as little inconvenience to building operations as consists with the nature of the subject-matter itself.

Trusting to your devoting space for these remarks in your next publication, with the hope they may be useful to parties concerned, ~I am, Sir, your obedient servant,

CONSILIARIUS. London, 22nd January, 1845.

RAISING OLD BUILDINGS.

SIR, -I have a five roomed house and shop, cocupied (the walls of which are less than 18 in. thick), which I wish to raise another story, as also a kitchen adjoining at the back. Wílí any of your building friends inform me whe-ther such can be done irrespective of the new Buildings Act. But should the new Act prohibit such addition being made, permit me to inquire further, whether I can raise the front

by a parapet, without the interference of any surveyor appointed under the said Act. Α.

I am, &c. The new Act provides that buildings already built may be raised to an additional beight, not exceeding 10 feet, although the walls of such buildings be not of the thicknesses prescribed by the Act, if, in the opinion of the district sur-veyor, such walls be sufficiently secure to allow of the raising thereof.-ED.]

WHAT CONSTITUTES A SHOP-FRONT?

Sir,-Can you define the difference between a window in the front wall of a shop and a shop-front? as the frames of doors and windows must be fixed at a distance of 4 inches at least from the face of the external wall, and shopfronts come under a special clause of the New Buildings Act. By giving the definition, you will oblige ONE OF YOUR READERS. January 21st, 1845.

Such a definition in general terms cannot safely be given. Each case must be judged by itself.-ED.]

Correspondence.

ARCHITECTURAL COMPETITION. " My cars will not be charmed with sounding words, Or pompous phrase, the pageantry of sounds."

SIR,—It may be necessary to inform your correspondent "T" that the length of time which has elapsed since the date of his letter to that of the present reply, is owing to a cir-cumstance over which I had no control, and which is not yet satisfactorily accounted for; I shall, however, make no further apology for again alluding to the subject of competition, considering its paramount importance will prove a sufficiently ample one for making a few remarks on the letter of "T," at p. 622, vol. ii. of THE BUILDER.

I certainly think it savours of partiality in him to misrepresent that part of my former letter relating to Sir R. Smirke. If he possesses much candour, he must allow it to be extremely unfair of him to bring forward that gentleman as an *individual* illustration, when I distinctly mention him as a general one only: that is, that the same argument will hold good in the case of any other architect in a similar position. Nor has he by this quibble--for an I must consider it—answered any of my objec-tions, but has, on the contrary, evaded a direct reply to them. The enigma he should have solved is, how in all cases an *impartial* architect can be procured, one whose unbiassed opinion will alike be satisfactory and just, whether the competition be for a poor-house or a palace? Does it not seem very absurd for a writer to bring forward as an argument for the superiority of a certain system, a competition for the chapels connected with a cemetery? Of what flimsy texture must the reputation of such an architect be who would fear such insignificant buildings-even if treated with the most artistic skill-interfering with that reputation, when he has designed and raised much larger and more important edifices. Is he so inexperienced as to suppose, that if in a competition for a town-hall, a club house, or other large building, in which that architect was appointed umpire, he was to observe the name of a talented rival on a design the merit of which might seem calculated to dim the lustre of his own reputation elsewhere, that envy would not suggest a certain line of conduct? which I consider the principal ob-jection to this system: or does "T" really suppose that a paltry fee would reconcile him to its loss? Common sense and past experience unfortunately prove the contrary.

We will, to prove the inferiority of "T's" system to others, notice a few of the objections to which it is liable, and then compare it with the proposed one, in which the competing architects constitute the judges, and one which, I contend, is the most fair, satisfactory, and just.

In certain designs a professional umpire is very apt to form previous ideas in his own mind as to what particular style, plan, or arrangement he would adopt; this certainly gives an unfair advantage to certain compe-titors. Also it is a very difficult and wearying task to inspace minutely a number of designs task to inspect minutely a number of designs for a complex building; so much so, that it is very questionable whether the architect takes

that trouble, generally fixing in a very super-ficial manner on a few which most accord with his own ideas on the subject, and totally neglecting the others. This appears to be the instances in which the designs were sent in on Saturday and the result known on the Tuesday following! a length of time in which the designs could not all have received minute attention. Again, it is impossible for an umpire, however experienced, fully to comprehend the peculiar difficulties the site or plan may suggest; and, lastly, the opportunity for that hydra headed monster-jobbing-still remains. The before-mentioned objections, it will at

once be seen, would not exist under the pro-posed system. The competitors being of all all persons most intimately acquainted with the suggest, would ensure a correct decision ; their number would neutralize any peculiar prejudices, and would most effectually preclude

"T" cannot see why I can object to writing the name and address on the plans, and is further strengthened in his opinion by your own approval of the practice. Leaving the suspi-cion in the case I instanced, entirely out of the question, to be brief, I object to it for two reasons: the first of which is, that a person observing the name of any talented or popular architect written on a design would naturally regard those plans with more than ordinary attention, which would frequently operate fatally against the claims of one perhaps equally great, minus the reputation; and the second, that by having the names of the com-petitors publicly before him, an unpire could with the mantet are called with the greatest ease satisfy his revenge on any particular one,—and thus, by a wrong use of power, more effectually suppress talent than or power, more effectually suppress talent than even the—often unwitting—blunders of an un-professional committee. I admit that in many cases (where the architect is privately chosen beforehand) it is perfectly immaterial whether the names are written on the plans or not; yet at the same time it must be allowed that these objections do not exist when a private mark is used. I therefore decidedly object to the practice; in no instance will it prevent jobbing, while it frequently opens the door for the admission of evils far more flagrant and dishonest.

I have only to express a wish that architects generally will follow the example of your correspondent "R," inserted a few weeks back respondent "I," inserted a few weeks back, and expose every competition the result of which is not perfectly just and satisfactory; and not only object by their pens to the whole system, but practically prove their appreciation of the insult offered by the paltry one premium of ten guineas! of ten guineas !

It has been objected by some to this, that if an architect refuses to send in designs to ordinary competitions, the only means for pro-motion in the profession at once vanishes. To those who argue thus, I would merely hint at those who argue thus, I would merely hint at the inconsistence of crying down "the present system" at every opportunity that offers, at the same time they form the principal practical supporters of it, recommending them to study a treatise on "Probabilities," and carefully to note down the number of competitions they have here anormal in as well as the momentum have been engaged in, as well as the necessary expenses (exclusive of their time) incurred; and if the amount of current coin of the realm paid in hard cash does not twenty-fold exceed the amount of premiums received or comunission arising from that source, I shall have the only alternative of considering that mr-chitect a far greater rogue than an artist. To conclude this portion of my letter, I would mention, that the only ill-wish I wish towards "T" is that he may near find himself at for-"T" is, that he may never find himself at fault when he places so much reliance on the im-partiality of an architect.

In your note to my last letter, you very plainly charge me with ignorance of the laws of architectural optics: now, to use a very expressive, but withal, perhaps rather vulgar proverb, "You have hold of the bull by the horns, and I by the tail." I contend only that flutes to columns give them a richer and more delicate appearance than when otherwise, thus removing the bare appearance an un-fluted column in certain positions has. The question is not whether a fluted column appears thicker than when unfluted? What is heaviness and bareness, but mis-placed solidity and simplicity? That I do not

stand quite alone in my opinion is evident; for if you turn to page 385, vol. ii. of THE BUILDER, you will perceive that your corre-spondent, "G.R.F.," quotes Mr. Hosking and another authority in support of the views I hold on the subject hold on the subject.

To these of your readers who are in the habit of perusing the pages of a certain journal, it will be remembered that some remarks have been made by a writer on the propriety or correctness of a comparison made by me in a former letter, between the windows of the Royal Exchange and picture-frames, and who is pleased to attribute the "questionable" comparison, to the " lively sallies of a funny imagination which some endeavour to palm upon us for knock down argument." What precise meaning the writer attaches to the term "kmock down argument" I am ather at a loss to imagine; I would intimate, however, that I neither had the intention of knocking down the windows of the Exchange, nor to commit a breach of the peace on the persons of those who might differ from me. Is the writer serious, when he tells us, that if dressings similar to those of the windows of the E change were to surround a picture, they would still be termed window-dressings? Or supposing the same kind were to surround or ornament a niche, will be contend that they would still be called window dressings? The writer still be called *winkow* dressings r is be writer very evidently, in attempting to prove too much, has over-abot the mark; and I have no doubt that the generality of your readers rightly judged, that the comparison was never intended to be translated literally---to the very letter-but, for the especial benefit of the writer, and I am sorry his dulness of comprehension should require it. I would state, that the beaviness and grossness in detail—the overcharged ornsment-fully merit the comparison I made, if only for exaggeration and triviality. Though I cannot return the compliment to the writer that he has paid me, that of using the writer that he has paid me, that of using knock down argument, he despatches the windows of the Exchange in such a strain as the following:....",Compared with the frigid things just alluded to," meaning the ordinary samples of window-dressings, "the windows of the Exchange are what the luxuriant vegetation of the tropical climes is to the eternal tation of the polar regions. They bespeak ful-ness and spontaneity of ideas, gusto and con amore relish with pains taking - no, there we are wrong, not pains taking, but pleasure-taking excretates in the task." I am in doubt whether the luxuriance of imagination ought to be attributed most to the architect or writer. It is a great pity that the fulness of the architect's ideas were spent solely on the upstairs' win-dows; it is thought by persons possessed of very little luxuriance of imagination, that the shopo-cracy would have been benefited by a share, and if a little more "pleasure-taking earnest-ness" had been expended on them, the building would have been improved ; at the present time they look any thing but pleasing when compared with the vegetation above.

I would merely add, that the Exchange as a whole presents not a single trace of genuine artistic feeling. If the purpose of architecture is to produce emotions of the sublime, the distribution of the mass is the aim of the mastermind. Detail alone can never produce grandeur; and it speaks not a little for the in-trinsic merit of the Exchange that critics have generally been silent on the main point-con-faing their attention chiefly to the windows

and sculpture. It is this harmonious and effective distribution of masses, that has raised Barry to the proud emineace he deservedly occupies; at the same time it must be allowed be studies elegance of detail. What an opportunity was lost for *effect* in the view, from the quadrangle of the Exchange, of the tower, and what a positive blemish it is under the present aspect. Critics have now got into the babit of each

Critics have now got into a habit of continually harping upon originality; in my opinion, it would be better were they first to point out the distinction between originality and caprice, and to fix the line of demarca-tion between them. Originality has taken the place of simplicity. A few years back the cry was simplicity; now the public want some-thing new, and this has been changed for originality. I admit, however, that architects have been far more inclined to copy than to stady. study

I fear these remarks will not possess much

interest to some of your readers; there are many, however, who will no doubt expect some kind of explanation. Not daring at the present time to trespass further on your valuable space, I beg leave still to sign myself, though many may be inclined to argue my right to the name of,

London, Jan. 14, 1845. SCRUTATOR.

[Relative to the first part of "Scrutator's" letter we are glad to say that our experience of mankind in general, and of architects in particular, leads us to entertain a very different opinion from his. In recent cases where ar-chitects have been called in to make the selection, the result has been entirely satisfactory.-BD.]

VERBAL CONTRACTS.

Sin,-A country builder has made his own plans and specifications for some baildings he has erected, with which his employer, now they are finished, is not satisfied, although the plans were deviated from to suit his wishes, and additions made. There was a vorbal agreement that they were to be erected for a certain sum, which his employer now says is too much money, yet he will not agree to let a surveyor value the same, but says he will keep half the sum so agreed for, for twelve months, as also the amount of the extra work. I wish you would inform me in your next which is the best and most expeditious way of settling such an unpleasant affair, and you will oblige yours, Jan. 28, 1845. X. Y. Z.

[Place the matter in the hands of a respectable solicitor .- ED.]

COMPETITION

Sir,—In October last, I advertised for de-signs for laying out a plot of ground adspted for building in this borough, and in consequence of such advertisement an anonymous correspondent copied and sent me a letter, signed "Scrutator," which had appeared in your journal of the 31st of August last, recommending the adoption of a new mode of decision on the merits of the designs, by making the competing architects the judges.

There appeared to me to be so much of good sense as well as justice to those who were wil-ling to compete and have their merit tested by so many competent judges, by the adoption of this mode, that I at once determined to try the experiment, and I have the pleasure to tell you that I am well satisfied with the result.

I had upwards of forty designs sent to me,

| Competitors who voted in favour of its being entitled to 1st Premium. | Competitors who voted in favour of its being entitled to and Premium. | Total No. |
|--|---|---|
| J. C. Gilbert, Nottingham | J. Cade, London | 6 |
| A. Artis, London | W. A. Papworth, London | 4 |
| J. Cade, London | D. S. Shearman, London } | |
| Messrs. Mair & Westmacott, London J. E. Gill, Southam pton | | .3 |
| J. W. Papworth, London | W. F. Poulton, Reading | 3 |
| W Rauna Wetford | J. E. Gill, Southampton } | 3 |
| W. F. Poulton, Reading { | J. C. Gilbert, Nottingham } | 3 |
| l l l l l l l l l l l l l l l l l l l | W. B. May, London | 3 |
| 1 | A. C. Bean, Hammersmith | 3 |
| D. S. Shearman, London | | 2 |
| S. Noble, Greenwich | A. B. Wilcox, London | 2 |
| | H. Drake, Reading | 2 |
| | T. KURDIE, Kondung | 3 |
| A. C. Bean. Hammersmith. | | 1 |
| | being entitled to 1st Premium. F. Cooper, Bath Billing, Reading C. Goper, Reading C. Gilbert, Nettingbam J. Barnett, London B. Hys, London C. Gill, Southampton E. Gill, Southampton Austin, Bedford W. Brown Reading W. Brown Reading W. Brown Reading S. Shearman, London S. Noble, Greenwich H. Drake, Reading S. Nay, London S. Noble, Greenwich | being entitled to let Premium. of its being entitled to 3nd F. Cooper, Bath Premium. J. Billing, Reading J. Cade, London J. C. Gilbert, Nottingham J. Cade, London J. Rumble, Reading J. Cade, London J. Cade, London J. Coloper, Reading J. Cade, London J. C. Coper, Reading J. Cade, London J. O. Cooper, Reading J. Cade, London J. O. Cooper, Reading J. Cade, London J. O. Cooper, Reading J. W. Payworth, London J. O. Cooper, Reading W. Brown Reading J. E. Gill, Southampton J. W. Payworth, London J. E. Gill, Southampton W. F. Poulton, Reading J. E. Gill, Southampton J. W. Payworth, London J. W. Payworth, London W. F. Poulton, Reading J. W. Payworth, London W. F. Poulton, Reading J. W. Payworth, London W. Brown, Reading J. W. Payworth, London W. Bandera, London F. Cooper, Bath M. Drake, Reading F. Buabke, Reading < |

-We understand that the di-MB. TITE .rectors of the Havre and Rouen Railway have appointed Mr. Tite (the architect of the Royal Exchange) to superintend the erection of the Havre station, and that many of the other stations on the same line have been built under his direction.

THE ELUCTRIC TELEGRAPH from London to Portsmouth, by the South-Western Reilway, is just completed. On Saturday last it heped its first sentence. A shareholder at Nine Elms asked the keeper at Portsmouth — "Hew's the wind ?" He was answered on the instant,—"South by west!"

MISTAKES IN ESTIMATES.

SIR.-As I am referred to in Mr. Sugden's letter of last week respecting the quantities of Herne Hill Church, I shall feel obliged if you will insert the following statement relative thereto. At the time the drawings and specifications were open for the inspection of the builders, Mr. Alexander, the architect, was out of town, and I went to his office for the purpose of taking the quantities for some clients of mine. I commenced doing so, and took off the bricklayer's and slater's works only. On my return, the following day, Mr. A. had arrived, when I told him it was impossible to have the when I told him it was impossible to nave me estimates delivered at the time stated in the advertisement, and wished him to postpone it for a week; with this request he said he could not comply, but stated, he had himself taken out the quantities, and they were correct. Of course I communicated this to my employers, and they agreed to accept the quantities taken out by Mr. A. I then made copies of them for the several parties, but I never took a single dimension except for the bricklayer's and slater's works. I am not able to state whether Mr. Sugden is correct as to the deficiency of stone, but he is as to the scantling of the buttresses. There were other builders who tendered for the church beside those for whom I was concerned, and they adopted the same course, viz., copied Mr. A.'s quantities. I have only to add, that I was not paid for taking the quantities, but i was not paid to: the copies. I am, &c. W. M. BROONFIELD.

118, Waterloo Road, Lambeth, Jan. 27, 1845.

and many of them displayed very considerable talent, and I confess, that on opening them, it appeared to me that so many were nearly equally balanced in point of merit, that it must be indeed difficult for one or two judges to arrive at a correct decision ; and the result of the votes has fully confirmed me in this opinion.

With a view of shewing this, and also of satisfying the competitors who attended to give their votes, that such votes have been correctly recorded. I beg to send you the motios to those designs which obtained votes, with the names of the competitors who voted for each, that you may, if you think proper, publish this in your next journal.— I am, Sir, your most obedient servant,

J. J. BLENDY.

• •

Land, King's Road, Reading, · 1 Jan. 29th, 1845.

Miscellanea.

A PRIMITIVE DWRLLING PLACE .--- In the A PRIMITIVE DWRLLING PLACE.—In the township of Westhope, about eight miles from Ludlow, there is a man named Edward Howells, supposed to be about fifty years of age, who, for the last sixteen years, has had no other dwelling place than a hole or small cave scooped out of the rock; there is neither door por any other coverning attached to it has nor any other convenience attached to it; he has not even a stool to sit upon; in fact, all this cave contains is a little moss and straw. Perhaps the most remarkable circumstance attending this eccentric being is, that every night, when he retires to his lair, he regularly undresses himself, as though about to enter ever so comfortable a bed. Howells is con-sidered perfectly honest and inoffensive-be never begs, but stands daily a short distance from some farm-house gate, and thankfully receives whatever broken victuals. &c., may be compassionately given him. No one can ascer-tain his parish, or from whence he originally came.— Ten Towns Messenger.

NEW CHUBCH IN CAMDEN TOWN .--- The newspapers state that it is intended to erect a new church in the Camden Town district of St. Pancras, the population of which is 16,000, with church accommodation for only 1,600. For this purpose a plot of ground has been given, free of all costs, by the Marquis of Camden and the Rev. Thomas Randolph. In addition to this gift, the Marquis has subscribed 500% towards the erection of the church, and the Rev. Thomas Randolph a like sum. Amongst the other contributors are the Rev. Dr. Moore, vicar of St. Pancras; Lord Calthorpe, Captain Theaker, the Rev. Mr. Lang-dale, Colonel Moore, &c. The Bishop of London has signified his approval of the place, and the works will be commenced as soon as the necessary arrangements can be made.

STATISTICS OF THE TIMBER TRADE OF CANADA FOR 1844. — We learn from the Annual Circular of Messrs. Forsyth and Bell that there has been a great increase in our consumption of Canadian timber during the last year. By the supervisor's return, the quantity re-ceived at Liverpool, is as follows :--White ceived at Liverpool, is as follows:--White pine, 12,150,964 feet; red pine, 4,164,317 feet; oak, 709,540 feet; elm, 660,964 feet; ash, 128,458 feet; birch, 73,142 feet; maple, 821 feet; butternut, 3,040 feet; basswood, 7,919 feet; tamarack, 19,925 feet; round maple, 255 feet; hemlock, 1,001 feet; poplar, 45 feet; walnut, 3,489 feet. Taking into con-sideration a small quantity of timber, wintering over last year without being measured and over last year without being measured, and which of course is not included in the above return, our exports of square timber and that used in our shipyards will not vary much from the following :- White pine, 11,950,438 feet; red pine, 4,669,149 feet; oak, 1,213,110 feet; elm, 1,208,988 feet; ash, 122,346 feet; birch, 61,309 feet. The returns of deals and staves are not yet made up in the supervisor's office, but will be hereafter reported. The number of arrivals for the last four seasons have been as follows: --1844, 1,214 vessels, 458,971 tons; 1843, 1,185 vessels, 429,741 tons; 1842, 863 vessels, 307,448 tons.

STOCK OF LUMBER IN THE PORT OF QUEBEC, DECEMBER 1, 1844, WITH A COMPARATIVE STATEMENT FOR THE LAST FIVE YEARS.

| | Oak Timber. | Elm Timber. | Ash Timber. | Birch Tim- ber. | | Bed Pine Timber. |
|--------------|----------------|----------------|----------------|-----------------------|-----------|------------------------|
| 1844 | 857,721 | 559,840 | | | | 2,969,668 |
| 1843 1842 | 1,733,186 | 1,416,522 | 148,446 | 57,877 | 7,151,459 | 3,474,500 |
| 1841 1840 | | 1,167,975 | 149,185 | 22,899 | 2,271,983 | 1,292,350 1,522,448 |
| 1839 | 604,285 | 200,395 | 40,131 | 1,584 | 1,779,003 | 2,343,690 |

Note.-The above includes shippable and unshippable lumber.

THE KING OF THE FRENCH .- The King of the French has given the sum of 201. towards the funds of the new Roman Catholic Church now erecting in Lambeth.

FRESCO PAINTING .- We are sorry to hear that the experiments in fresco-painting recently made in the summer-house at Buckingham Palace have, with one exception, proved failures, owing to the artist's want of ex-perience in the manipulative treatment of this style of painting. We have much yet to learn and to do before we can decorate our Houses of Parliament on the scale proposed.—Poly-technic Review.—[We must inquire into this. —ED.]

NEW EXPLANATION OF A BOILER EX-PLOSION .- Dr. Lardner having been appointed to investigate the cause of the explosion of a locomotive-engine on a railway in Pennsyl-vania, by which several lives were lost, has re-ferred its cause to lightning, which, "passing on the boiler, raised some part of it to a high temperature; that the water taking up the heat was rapidly evaporated, as it would have been by contact with highly-heated or incandescent metal; that steam of great volume and very extreme pressure being thus suddenly produced, the boiler yielded to the force, and the catas-trophe took place."-Mining Journal.

INSTITUTION OF CIVIL ENGINEERS.-We announced last week the re-election of Mr, -We Walker to the presidency of this institution, and at the same time stated that a change had been contemplated. It appears that, in accord-ance with a feeling very generally entertained in the council, that the office of president should not be held in perpetuity by any one gentleman, Mr. Walker declined to act, and Sir John Rennie has been unanimously elected in his stead.

CONVERSAZIONE AT SOCIETY OF ARTS .-The vice-presidents of this institution issued 800 or 1,000 cards for Tuesday evening last, and, in consequence, received a very numerous party. Drawings, bronzes, models, music, and conversation, formed the staple of a very pleasant evening, and kept many there till midnight. We are glad to find that this old and most valuable society is now again firmly established, and will continue its course of usefulness. Much praise is due to Mr. Wishaw, the secretary, for the zeal and energy he displays in his office

NOTICES OF CONTRACTS.

For the formation of 4 Miles 564 Chains (single For the formation of 4 Miles 305 Chains (single line) of the Ashton, Stalybridge, and Liverpool Junction Bailway,—John Jellecorse, Secretary of the Manchester and Leeds Railway Company, Palatine Buildings, Hunt's Bank, Manchester. February S.

For the works required in erecting certain Farm

For the works required in erecting certain rarm Buildings at Badley Hall, Essex, and for alterations and additions to the dwelling-house.—Mr. George Sergeant, 27, Queen-street, Colchester; or Mr. John Eagle, Badley Hall. February 3. For the erection of a Bridge, called White Bridge, at Grasmere, near Ambleside, Westmore-land. — Mr. George Bobinson, Bridge Surveyor, Kendal; or Mr. Daniel Donaldson, Ambleside. February 4. February 4.

For the construction of the several Stations and other Buildings on the York and Scarborough Railway.--Mr. Andrews, Architect, York; or Mr. George Baker, Secretary, Railway Office, York. February 5.

For the erection of a Steam Boat Pier at the Quay on the north-east side of Blackfriars' Bridge,

also for building a Decked Lighter or Dumby.-Town Clerk's Office, Guildhall. February 6. For one Pleasure Carriage, four Milk Trucks, and fifty Box Waggons, with drawing and buffer springs, for the Manchester and Birmingham Rail-Way.- Mr. John Latham, Secretary, London-road, Manchester. February 6.

For erecting and completing the Lower Sluice and Sluice-Pit at the top of the Eau, Brink Cut, about 4 miles above Lynn. — Measrs. Walker and Barges, 23, Great George-street, Westminster; or Mr. George Game Day, Clerk to the Middle Level Drainage Commissioners, St. Ives. February 10. For the erection of New Buildings in Pembroke

College, Oxford. — Plans, &c., prepared by Mr. Haywood, Architect, may be seen at the Master's House. February 11.

House. February 11.
 For the erection of two Fever Wards in the workhouse at Slough.—C. P. Barrett, Clerk of the Union, Eton. February 11.
 For the erection of a Cast-iron Tank, 52 feet dia-

For the erection of a Cast-iron Tank, 52 feet dia-meter and 16 feet deep; and for a double or Teles-copic Gasholder, to work in the same. Also for a double or Telescopic Gasholder, 70 feet diameter, to work in a tank 18 fest deep.—Mr. John Rofe, Engineer, Gas Works, Preston. February 12. For a supply of Railway Fastenings for the Great Southern and Western Railway, Ireland.— Mr. William Taylor, Secretary, 3, College-green, Dublin. February 17. For the Mason's and Pavior's Works, supply of Guerneey Granit Chinnings and Yorkshire Paving.

For the Mason's and Pavior's Works, supply of Guernsey Granite Chippings and Yorkshire Paving, for one Year, from the 25th of March next, for the parish of St. George, Hanover-square. Mr. R. Lees, Clerk to the Paving Committee. March 4. For the supply of 11,000 feet of nine-inch cast-iron Pipes for a new line of Aqueduct to be laid in the Island of Malta.—Vin. Casolani, Collector of

Land Revenue, Office of Land Revenue and Public Works, Valletta, Malta. March 31.

COMPETITION.

Plans and estimates are required for a Workhouse, to contain about 1,180 persons. The whole to be done in a plain and substantial manner, without any expensive embellishments. The plans and out any expensive embellishments. The plans and architects' estimates to be sent to Robert Mercer, the Clerk of the Clifton Union, Pennywell Road, Bristol, on or before the 17th of February next, and the Board of Guardians will adjudicate on the 28th. The architect producing the best plan in the estima-tion of the Board will be employed at a sum not exceeding 5 per cent. on the outlay, and a gratuity of 25 guineas will be given to the architect produc-ing the second best plan in the opinion of the Board.

APPROACHING SALE OF WOOD, &c.

BY AUCTION. February 25.—At the King's Arms Inn, Hemel February 25.—At the King's Arms Inn, Hemel Hempstead; a large Fall of capital Oak, Ash, Elm, and Beech Timber Trees, the greater portion of which are of very large dimensions and superior quality.—Mr. James Adams, auctioneer, Clarence-street, Staines, Middlesex.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, February 3.—Entomological, 17, Old Bond-street, 8 P.M.; Chemical (Society of Arta, Adelphi), 8 P.M.; Medical, Bolt-court, Fleet-street, 8 p.m.

TUESDAY, 4.-Linngan, Sobo-square, 8 P.M.; Civil Engineers, 25, Great George street, 8 P.M. WEDNESDAY, 5.—Society of Arts, Adelphi, 8

WEDNESDAY, 5.—Society of Aris, Aucipil, 6 P.M.; Geological, Somerset House, 8½ P.M. THUBSDAY, 6.—Zoological, Hanover-square, 3 P.M.; Royal, Somerset House, 8½ P.M.; Anlique-rian, Somerset House, 8 P.M.; Metropolitan Im-provement Society, 20, Bedford-street, Covent-

garden, 8 P.M. FRIDAY, 7. — Royal Institution, Albemarie-street, 8 P.M.; Botanical, 20, Bedford-street, Co-

vent-garden, 8 p.M. SATURDAY, 8. — Royal Botanic, Regent's-park, 4 p.M.; Westminster Medical, 32, Sackvilla-statet, 8 P.M.

NOTE.

We shall be glad to receive information from Publishers of all New Books on the subjects whereof we treat.

TO CORRESPONDENTS.

"A. B. (Northampton)," wishes to know how the cells of the model prison at Pentonville are warmed, and by whom.

"A Handrailist " has made a mistake in his calculation: a plank 4 ft. 6 in. × 10 in. × 4 j in., contains 1 ft. 3 in. cube, not 15 ft. "H. S." We do not desire to pursue the sub-

ject further. "Mr. Hood."—Mr. Guthrie's address is 3.

Downie-place, Edinburgh. "J. W. (Ipswich)" must see that if we gave opi-nions on things we had not examined, our opinion

would soon be disregarded.

"The Builders' Price Book, for 1845, by W. axton," received. "R. K," and "Decorative Art Society" have Laxton,

reached us.

"A Journeyman Carpenter" wishes us to fur-nish a list of all builders who live in or around the metropolis. This may be found in any Directory,

metropolis. I has may be found in my second second

upon it. "J. T. L." next week.

ADVERTISEMENTS.

A NASTATIC PRINTING.—THE ART UNION, Part 77, published this day. contains Speci-mens of Letterpress, Woodcuts, and Drawings printed by this process—a process which threatens to completely revo-lutionize Literature and Art. The letter-press consists of a minute description of the manner in which the process is effected; the woodcuts are of various dates; and the drawings have been executed on purpose for publication in these pages. The examples supply indubitable evidence that a new power has been obtained which must inevitably lead to wonderful results. results. Published by Chapman and Hall, 186, Strand.



DR. GUYS TRANSPARENT DISPERSING VENTILATOR. THIS invention combines cheapness, trans-parency, and ornament, with the complete presention of DRAUGHT, and may be used in the Bed-rooms of the most delicate invalid at all times and in all seasons with perfect safety. Sole Manufacturers, COTTAM and HAL-LEN, 2, Winsley-street, London-Estimates furnished for the Ventilage and Warming of Hospitals, Schools, Churches, and all Public Buildings.



SATURDAY, FEBRUARY 8, 1845.



R O M the large number of letters that we continue to receive on the subject of the Metropolitan Buildings Act, and the eagerness with which all we say on

it is canvassed, we find it necessary to return to that subject. As might have been expected, opinions differ as to the precise meaning to be attached to certain parts of the Act, and there seems to be this difficulty, that doubts cannot be resolved without expense. The point most discussed at the present moment, is the meaning of the word "commenced." We inserted two letters upon it in the last number of the journal, and have received many more since, the writers of which insist, that if an intention to build has been operatively demonstrated before the time specified in the Act, the building is commenced, and does not come under the control of the district surveyor. The following, which is signed "An Old Surveyor," may serve as an exponent of those who, regarding the word in its widest sense, hold this opinion :-

"Sin,-Above all controversies of the present day, disturbing the metropolitan building community, the most vexatious and absurd is the present unnecessary discussion upon the construction of a word which of all others is perhaps the least susceptible of quibble or evasion. Can any ambiguity attach to the term 'commenced before,' in contradiction to the term 'commenced after,' a certain date? Are they not the most comprehensive and definitive terms that can be employed to describe two opposite conditions? And these words, be it remembered, are employed in 'the con-struction of terms used' in the above Act to define these two opposite conditions. Nevertheless, upon these words a very absurd dis-putation has been raised by parties desirous of opposing the operations of builders; and some of the district surveyors have been called upon to assume the power of giving these words weight and force, or of divesting them thereof, according to the locality in which such build-ings are 'commenced before 1st January, ings are 1845;' th thus requiring a construction to suit the interest or inclination of persons who call for the interference of those gentlemen. But what is more strange and unaccountable is that this extra-official duty has been regarded by some of the old-fashioned district surveyors a proper point for dispute, and consequently 24 for heaping additional labours unnecessarily on the official referces appointed by the new Act. "In order to avoid the delays and uncer-

taioties attendant on all new systems before they are thoroughly understood, many persons desirous of proceeding with their building, had commenced before the 1st January, 1845,' secording to the provisions of the Act under such circumstances; but, in some cases, im-pediments having arisen to prevent the entire footings of *some part* of their building being laid down before the lst January (though perhaps ten times more brick-work had, in realize been built then would have been done reality, been built than would have been done the whole of the footings inclosing area of the proposed building been had the completed), yet, notwithstanding such a sub-stantial demonstration of a building being in progress, so that he who runs may see that a building is 'commenced,' some of the surveyors have been pleased to cause the suspension of such buildings, and thus to set at nought the intention of the Act of Parliament, the terms whereof are so definitively settled by 'the construction of terms and expressions used in which construction is evidently the Act:' intended to reacue from all interested feelings whatever both the time and property of builders,

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who might otherwise have been exposed to the mercy or caprice of any party."

Another correspondent writes, "It is a settled axiom that words employed in the construction of terms used in any Act to define the intention and meaning of such terms, are always to be read in the most comprehensive and general signification, as all Acts of Parliament are intended to be understood by those whom they purport to regulate, and not to become clap-traps for any body. This is more particlap-traps for any body. cularly the case in all penal statutes, which the Buildings Act, sec. 18, most unquestionably is, and no person has power to put any other construction on the terms of any Act contrary to or differing from the construction of terms forming part of such Act, and in no case are the words used to construe the terms of any Act, to be subject to any variation of reading or to any construction whatever, other than the general and universal sense and bearing of the words employed to construe the terms of such Act.

"In proof of the position here taken, you will observe that the terms used to describe the reverse of 'already built,' namely, 'hereafter to be built' are to apply to all Buildings to be built or commenced after,' &c.; consequently, whatever is 'commenced' in any way 'before,' cannot be left to share the fate with those Buildings which are 'to be commenced after,' &c.; there really is no ambiguity about it.

"The more these words are looked at, the more comprehensive and absolute they become in the eyes of, Sir, your obedient servant, "SENEX."

Now, the referees have given as their general opinion that "the erection of the footings, with two or more courses of the walls themselves, built in a workmanlike manner," is a *bond fide* commencement.* Having regard to their judicial capacity, however, they consider it necessary that each case should be judged of under its particular circumstances; and it is much to be desired that a certain number of cases should at once be submitted to them and decided, by the result of which district surveyors and the public might be guided.

Shooting a load of bats on the proposed site of a building, or digging a few trenches, or even laying a few bricks, cannot surely constitute the commencement required by the Act; yet either of these is an "operative building demonstration," said by our correspondent, "Consiliarius," last week, to be all that is necessary to avoid the control of the surveyor. A hod of mortar made up, and a couple of bricks laid, might be termed so with equal truth, and called the commencement of a church, a theatre, a villa, or a union workhouse, yet no one would venture to assert that this was sufficient.

Something more is required, then, than an "operative building demonstration" to constitute the commencement required by the Act, and the question is, how much? The answer really seems obvious; THE FIRST COMPLETE STEP MUST BE TAKEN; we must be able to see that a *house* is commenced, not merely that a wall is built: and this is the view we have little doubt that the official referees take of the matter.

In many cases where builders have exemption, we do not hesitate to say, they would do wisely were they to throw it up, and proceed under the Act, rather than complete structures badly begun. Buyers will be found more easily for houses constructed under its provisions, than for those which have been built in evasion of them. Knowing human nature, however, we hardly hope to persuade many to adopt this course.

We mentioned at the commencement that the construction to be put on doubtful points in the Act could not be decided without expense.

* See letter on this point from Mr. Greenway Robins.

This is unquestionably an evil, and will tend to prevent the due administration of the law. In the first instance the official referees were willing to answer generally such questions as were put to them by the surveyors, but having regard to their judicial capacity, before alluded to, and knowing that these general replies might act injuriously, they asserted the necessity of hearing in each case the parties whose rights might be affected, before deciding; so that, if we are correct, in order to obtain a decision on any point, the surveyor must run the risk of having the costs of the inquiry to pay out of his own pocket. This, when the Act is understood, and the exact meaning of its various clauses has become established, may work satisfactorily; but it does not seem to do so at the present moment. An intermediate party appears to be required, and perhaps the best step the district surveyors could take under the circumstances would be the appointment of some person to act in all cases on their behalf, who might acquire the views of the official referees, and so save much trouble and expense.

Before leaving the subject, we would contradict a statement which has appeared in some of the newspapers to the effect that numerous families have been already ejected, under the provisions of the Buildings Act, from cellars and under-ground rooms not constructed in accordance with its provisions. The Act does not operate in this respect till the lst of July, 1846.

ARCHITECTURE FOR THE POOR. BY GEORGE GODWIN, F.R.S.

PUBLIC attention is at last aroused to the necessity of inquiring into and alleviating the condition of the poor, and men of all classes and in all counties are *talking* of improving the dwellings of the labouring classes and in-creasing their enjoyments. Whether or not they will do more than talk remains to be seen, for at present there is little of the "positive" to be appealed to as the result of the movement. Certain, however, it is that so much on the subject has never been said continuously before, nor so extensive a machinery organized to effect it. There is a society for improving the condition of the labouring classes, there is a metropolitan association for improving the dwellings of the industrious classes, a proposal to open public nurseries for their children, an association for promoting the health of towns, country labourers' improve-ment societies, and committees for obtaining baths and wash-houses, parks and public gardens. Her Majesty the Queen calls on Parliament to promote the comfort of the poorer classes : all the newspapers are advocating the same noble cause; every landowner who expresses sentiments in favour of such improvements may rely on having his speech quoted, and every chairman of a committee whose report contains allusions to the dreadful state of the hovels occupied by the agricultural labourers, or the cellars and garrets crowded with the families of operatives in great towns, is certain of public sympathy and public applause. Let us look at the cottages about us, and see how we can repair them, and make them comfortable at little expense," said his Grace of Norfolk at the late Arundel Christmas Show. " Let us make their cold cottages warmer than they are; let us look to their windows and their doors, and see if they keep out this des-perate cold wind that is blowing, and even if we do no more, we shall add to their comforts. Put the poor man's cottage in order, and as quickly as you can, and he will bless you, and we shall all be united together; and the more we are united, the stronger we shall be, and the more able to meet our difficulties." And

* "The health of the inhabitants of large towns and populous districts in this part of the United Kinedom has been the subject of recent inquiry before a Commission, the Report of which shall be immediately laid before you. "It will be highly gratifying to me if the information and suggestions contained in that Report shall enable you to devise the means of promoting the health and confort of the poorer classes of my subjects."—Queen's Speech, Feb. 4th.

^approving crowds repeated, and still repeat, ' put the poor man's cottage in order.' That it needs to be put in order all admit. What Sir Henry Bunbury said in his recent report to the Labourers' Improvement Society of one county will apply to the others :-- " Under the head of cottages the reports are in general painful. In a few parishes, where opulent landowners are resident, the cottages are re-presented to be good. But, speaking of the great majority, it appears that there are few parishes in which the cottages are even sufficient in number; and generally they are stated to be small, crowded, in bad repair, ill drained, and unfit for the decent accommodation of the families which inhabit them. Those which are the property of landowners appear to be the best; but almost everywhere, speculators have acquired small patches of land on which they have built what our ancestors called solly cottages,' with little or nothing in the thev shape of a garden attached to them; and these they let at rents which are ruinous to the labourers."

And then again,—" the reports on cottages exhibit generally the melancholy picture of a population ill-lodged, exposed to influences which engender diseases, and crowded to a degree which is not only likely to produce filthy habits, but gross indecency and vice. But this unhappily is a branch of our inquiries on which we are nearly powerless. All that we can do is to endeavour to open the eyes of landowners as to the insufficiency of the dwellings intended for the labourers on their estates, and the evil effects, both physical and moral, which result from the want of decent and wholesome accommodation. At the same time we may draw attention to the injurious consequences which spring from speculation in cottage building. The heavy rents exacted by these griping speculators contribute largely to depress the condition of the labourers, who are left without an option, if the owners of estates neglect to provide sufficient dwellings for the families of those by whom their estates are to be cultivated."

All that he said has been known long and long ago, through sanatary reports, which present an account of distress, disease, and demoralization, resulting from inattention to the dwellings of the poor, that cannot be contemplated without horror; but the wealthier part of society were not then so alive to its importance as they are now, and therefore it excited less attention. A kindlier feeling than was formerly exhibited towards the poor is springing up in the hearts of their superiors, and all classes will unquestionably benefit by the exercise of it.

Feeling and saving, however, are not enough, there must be *doing*, efficient doing; and it is to be hoped that the willingness which exists, and the large sums of money that in various shapes have been subscribed, will be applied in the best manner.

The importance of providing healthful and well-arranged dwellings can hardly be over-estimated. As the writer observed some years estimated. ago, when urging the same point :--- " Order will not engender disorder, nor disorder, order: but its like; and the man who passes his time amidst inconvenient and tasteless arrangements, exposed to continual discom-forts, and utterly unable to maintain an appearance of respectability, will gradually lose any desire to do so which he formerly felt, and find the external disorder result in a moral disorganization, lamentable in its conse-quences, if not fatal. 'Slaves, through alavery, lose even the desire to be free :' so men, be coming accustomed to badly-constructed, inconvenient, and ill-arranged habitations, lose their perception of excellence and goodness; and are lowered, not morely in their physical state, but mentally. Watch the progress of many a respectable and industrious young couple, placed in one of the miserable hovels dignified with the title of a labourer's still residence in some parts of the kingdom — damp, ill-drained, ill-ventilated, pervious to the rain, and void of every thing which could make and void of every thing which could make home happy. For a time, strenuous efforts are used to remedy the evils; but, as they are gradually found to be unconquerable, the wife, abandoning the task, becomes inevitably a slattern herself; habits even of decency are diregarded by the children ; and the husband, finding no enjoyment in his own house, seeks it in the beershop, and becomes a drunkard

and a desperado. On the other hand—a tidy, well-arranged dwelling leads to observances of better manners and feelings of self-respect, induces neatness and industry, and elevates in tone the character of all its occupants."

BUILDER.

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In all cases perfect ventilation is of the first importance. The deadly effects of breathing an impure medium would seem to be too generally admitted to require observation, and one would expect to find in all new dwellings the best arrangements for obtaining a free current of pure air. Unfortunately, ignorance and cupidity still operate to prevent this. At Liverpool lately, the writer observed with regret in one district more than a dozen narrow courts in progress, *closed at one end*, and lined with ill-ventilated houses; and took occasion publicly to point out the evils of such an arrangement in the strongest language he could command. The policy which prompts it is as short-sighted as it is unchristianlike. A fever, when generated, is no respecter of persons; and the landowner far removed from the immediate seat of contagion, might none the less surely fall one of its victims. The injurious effects of closed courts have been proved by numerous competent parties, and the new Buildings Act very properly forbids the erection of such within its limits. How distressing it is, then, to find that the first houses built by the "Society for Improving the Condition of the Labouring Classes," model-houses to be recommended for adoption, are actually made to form a court closed at one end, and less than 23 feet wide !* It is dif-ficult to guess what could have led the committee into this unfortunate mistake, which is a practical contradiction of what many of its members have often urged, and will probably prevent for several years to come, the abandon-ment of this most defective and injurious mode of laying out ground in localities not within the control of the Act. It is seriously to be desired that the committee may be induced to modify their present plan, and so avoid the reproach which the consummation of it would unquestionably bring to them.

At the present moment houses for the lower classes are especially needed in the metropolis. The recent formation of new streets has driven out hundreds of poor families without furnishing another place of retreat; and, by the operation of the Buildings Act, still greater numbers of persons will be ejected next year from kitchens and cellars (damp, unwholesome holes) not constructed in accordance with its provisions. Now is the time, therefore, to provide them with well ventilated, substantial, and healthful dwellings, and to teach them the importance of cleanliness, and the value of order.

ELECTION OF SURVEYOR TO THE HORN-SEY DISTRICT IN THE ROOM OF THE LATE ALFRED BARTHOLOMEW, ESQ. (January 30th, 1845.) No. of Votes.

| Elected-Rawlinson Parkinson | 41 |
|-----------------------------|----|
| Henry John Hammon | 30 |
| Thomas Bird | 23 |
| Witherden Young | 5 |
| James Harrison | 4 |
| William Frederick East | 0 |
| | |

PURCHASE OF THE FLEET PRISON .- A report from the City Lands Committee on the subject of the reference made to them to open a communication with the Commissioners of Woods and Forests to ascertain upon what terms the Fleet Prison could be purchased, has recently been presented to the Court of Com-mon Council. The report states that the committee had offered 23,000%, but that the Committee had onered 25,0007., but that the con-missioners of Woods and Forests had declined to accept less than 25,0007., the sum at which the property had been valued by three eminent surveyors. The commissioners had given the corporation an option of making the purchase at that sum until the 28th ultimo, and the committee, by their report, unanimously recommended that the purchase should be effected. Mr. Dixon, in moving the Court to agree with the committee in their report, bore testimony to the courteous manner in which the deputation had been received by the Earl of Lincoln, who came to town expressly to meet them. The motion was agreed to.

• In the Bagnigge Wells-road, as already pointed out in this journal. See p. 1 of present volume.



EVERY school-boy knows that heat expands bodies. A rod of metal made to fit an opening when cold, will not enter the opening if it be heated; and a glass vessel cracks if hot water be poured into it, because, as all are aware, the portion in contact with the heated fluid is expanded, while the other parts remain at rest. This property of heat was made available years ago in forcing upright the walls of a gallery which leaned outwards at the top. Bars of metal were passed across the gallery through the two walls, and were secured outside by a plate screwed on to each end of the bar tightly against the wall. The bars were then heated, and, being expanded by the operation, protruded slightly through the walls, and allowed of the plates being screwed farther on, the effect of which of course was that when the bars, being cooled, collapsed, the walls were drawn together, and by repetitions of the operation were ultimately made perfectly upright. The force exerted is immense.

All this we say is well known, and opportunities occur every day to observe the effect of heat on such substances as are here alluded to. Some bodies, however, expand much less than others, and the effect can seldom be observed, and *alumina*, or argillaceous earth, is an exception to the general rule, and *contracts* when heated. Brickwork it would seem is nevertheless expanded by heat, and it is to an instance where the expansion is to be seen and can be measured, that we direct the attention of our readers.

At Mr. Thomas Cubitt's fine establishment at Thames Bank, mentioned in the last number of our journal, the chimney-shaft for the steamengine is constructed in a peculiar manner. The chimney, which is circular, 5 feet in clear diameter all the way up, and 105 feet high, is built of very thin brickwork; that is to say, it is 14 inches thick at the bottom, and 6 inches at the top, the bricks having been moulded for the purpose; and it stands in the centre of a tower, 17 feet square on the outside, formed of 14 inch walls all the way up with hoopiron bond in the centre of this bond is 15 feet from the ground; the other tiers are put closer together as they approach the top. Around the shaft, but in no case touching it, are stone steps leading to the top with landings at certain intervals.

The chief reason for adopting this mode of construction was, to obtain a more striking object for appearance' sake than a chimneyshaft, and Mr. Cubitt is of opinion that its ultimate cost will be less than that of the latter: it economises the fuel to a considerable extent, and, moreover, the shaft must have been formed much more expensively if there had been no tower around it.

Now this shaft, standing independent of the surrounding building with themeans of access to it at any part, afforded the most perfect facilities for ascertaining the effect of heat upon this height of brickwork, and an index having been set up on the topmost landing under cover, which is 80 feet from the ground, it is found that this length of shaft becomes $\frac{1}{2}$ the of an inch longer when the fire is lighted than it is when cold. The construction of this shaft offers facilities for several other interesting and important inquiries, which will doubtless be pursued by the excellent and able owner of it.

FALL OF A HOUSE IN WESTMINSTER.— On the 16th of last month, a house at the corner of Old Pye-street, Westminster, fell down, but fortunately without injuring any person. The occurrence having excited much comment, we thought it our duty to inquire into the occurrence. It seems that Mr. Howell, the district surveyor, having received intimation that the building was in a dangerous state, repaired to the spot, and finding that it was so, gave orders that it should be shored up, and then dispatched information to the official referees. Before any thing could be done, however, the house fell. It seems that Mr. Howell had overstepped his duty in ordering it to be shored up, but if he had not done so, lives might have been sacriticed.

MR. COCKERELL'S FOURTH LECTURE ON ARCHITECTURE.

THE professor commenced his lecture on Thursday, the 30th ult., by stating that he proposed on that occasion to make some proposed further observations on the subject of the last lecture, namely, the civil architecture of the ancients. He should treat of plans; concealment and intricacy, adopted with the view of increasing the effect of a structure; palaces; curvilinear fronts; architectural character; and the angle of vision; and terminate by exhi-biting, for the first time in this country, drawings of a temple at Xanthus discovered by the late expedition. To penetrate the merit of ancient works, and understand the principles on which they were formed, was the great business of the student: to establish these principles was the great business of the master. This was a difficult task, and could hardly be achieved: it was best done by discussion, examination, and comparison of opinions. A consciousness of delight from the examination of fine works was necessary before taste could be acquired: those persons who had not this consciousness never would acquire taste. Being delighted, we should at last be able to discover the cause of delight. One course was, to accept the dogma of the master blindly : advantage always resulted. A builder with whom he was acquainted once produced an exceedingly fine portico, so much so that the professor inquired of him how he had designed it. "Why," said the man, "I opened Sir William Chambers' book, and copied it exactly." If the job had been his, the professor's, he would have been led probably to do something of his own, or to have altered parts, and so have injured it. The builder, he felt, was the wiser. He once, when designing a portico of a church, had doubts as to two things taught him by Vitruvius, to place the main door to the building in the centre of it, and to use the attic base. He hesitated, but a friend shewing him a number of drawings from actual examples corroborating the doctrine, he followed Vitruvius, and never regretted. He again urged the necessity of implicit faith in the ster on the part of the student. To establish principles, numerous examples must be compared: this was the course also pursued by the lawyer and the historian. He then erew particular attention to Canina's work mentioned in the last lecture. It contained 500 plates, and presented the whole body of architecture recovered, and in many cases re-stored with wonderful erudition. We were able, by means of that work, to penetrate the principles which the ancients followed, and discover the secret of their success.

Relative to concealment; he said we found temples surrounded by a peribolus, the temple partly seen, and were struck by the effect only obtained. The Parthenon was partially concealed by the Propyleum and the walls. The best distance from which to view a building was one equal to about three times the height of the When we get within the inclosure, elevation. we find this best position. The imagination is excited by partial concealment. If, according to the modern practice, the building be stuck ostentatiously before us, we see at once the whole of it, and are tired before we approach. There is nothing to be imagined or discovered. This partial concealment, then, he considered of high importance. It prevailed in Gothic architecture equally. The introduction of the organ at the east end of the nave, sometimes complained of in our cathedrals was, he thought, advantageous to the effect.

Architecture regarded with these considerations is the fine art. The successful architect must be a painter. The most efficient masters of effect were scene-painters, for example, Vanburgh and Servandoni, who designed St. Sulpice, the most effective modern building in Paris. Perspective was much studied at the time of these masters, until indeed it became almost a vice. We must study it if we would produce effective buildings, or even if we wish to comprehend drawings of ancient buildings. No one could form an idea of the baths of Diocletian, for example, stretching out equal to the whole length of Pall Mall, or comprehend the effect of the magnificent *Exhedra*, which occur in the plan, 60 feet high, with a semi-dome, 84 feet in span, without this knowledge. Some idea of the effect produced by the vistas in this extraordinary pile may be

obtained at Greenwich Hospital, Chelsea Hospital, and Blenheim. An architect should endeavour to excite a succession of new ideas. It was expensive—a painter might do it more cheaply, but less permanently. Extraordinary merit was displayed at Blenheim in this respect.

It was condemnatory of a building to say, as you were obliged to say of St. Peter's in Rome, that it appeared smaller than it was; yet some had considered this a merit. He would as soon think of applauding a general for gaining a small victory with a large army, as of praising a building for such a reason. It was a great reproach to the architect.

The professor suid he always dwelt with pleasure on the plan of the baths then before them as one of the finest buildings ever erected for the public advantage. Our country was remarkable for its hospitals and places of refuge, but had neglected means of affording elevating gratification to the masses. A better spirit was manifesting itself, and he was delighted to hear of public gardens at Manchester, and elsewhere. By denying the poorer classes such luxuries, they had been led to throw themselves into grossness. We might hope to see gardens, statues, and fine works of art provided for the general gratification. Considering these signs of the times, we should devise plans for arranging such.

The professor then spoke at some length on the necessity for calculating the point of view in which buildings were seen. Vignola always repaired to the spot, and drew imaginary lines to arrive at the best position. He proceeded to speak of palaces, and described that of Augustus. The disposition of the plan was source of all character. Character for a the building was the most difficult thing to be obtained, and the most essential. Palladio studied it especially; no one could mistake the purpose of his buildings. George Dance had great merit in this respect. No one could mistake the purpose of the front of Newgate; and Guildhall, although any thing hut Gothic, was, nevertheless, evidently municipal. In Canina's work palaces were largely discussed. In decoration and magnificence they should stand next to temples; and it would be well if they were accessible to the people. Our French and German neighbours set us a good example. The palace of Augustus had a curvilinear front, a form which gives many varieties of light and shade. Bramante, Vignola, and Palladio employed it. In modern times it had been used with good effect at Bath. Speaking of the Adams', the professor said they were deservedly the first architects of their day; they drew their examples chiefly from Dioclesian's baths and Dioclesian's palace. Sion House and Lord Bute's were the best specimens of their skill.

He would now have the pleasure of exhibiting for the first time a restoration of a tomb at Xanthus, drawn by Mr. Hawkins. Whether Xanthus, drawn by Mr. Hawkins. considered historically or artistically, it must be regarded as a most interesting structure. It was a monument of the Lycians, of whose country Xanthus was the capital, and shewed a high state of civilization at a very early time. There was every reason to believe that it was erected in the year 546 before our æra, a century earlier than the Parthenon. The temple was not large, 52 feet by 30 feet, and consisted of an Ionic peristyle inclosing a cella, on a lofty basement. The frieze of the order occupied the place of frieze and architrave, and sculptured with four separate groups. The first represented a fight; the second, Greeks bearing offerings; the third, Persians bearing fruits; and the fourth, a wild-boar hunt. There was another frieze under the base of the columns sculptured to represent the capture of Between each of the columns at Xanthus. the sides of the temple was a female statue standing on emblems. The pediments were adorned with sculpture, and the roof covered with Parian tiles. It was interesting to find in this ancient building, 2,390 years old, the progenitor of the Erectheum, all the refinements of art. The intercolumniation, however, it was worth while noting was aræostyle ;• the more beautiful system of incolumniation, the euslyle, was not used till later, probably just before the time of Vitruvius. In the next lecture Mr. Cockerell will treat of interior arrangements.

* That is, the columns were placed widely asunder.

STONE ALTARS AND CREDENCE TABLES.

THE long pending case between the incumbent of the parish of the Holy Sepulchre, at Cambridge, and the Cambridge Camden Society, relative to the right of the latter, in the name of the churchwardens, to erect a stone altar and credence table] in the wellknown round church of that parish, was de-cided against the latter in the Arches' Court, by Sir Herbert Jenner Fust, on Friday, 31st of January. Under a faculty obtained in the names of the churchwardens "to repair the church, and, as to such parts thereof as had been rendered unsightly by injudicious repairs, to restore the same as near as may be according to the original design, and according to a design and plan deposited in the registry of the court," the stone altar and credence table were erected without the knowledge of the incum-bent. When aware of what had been done, he objected to allowing them to remain, and when a second faculty was applied for in the Consistorial Court to ratify the proceedings, he opposed it. The chancellor of that diocese, however, issued the faculty, and it was on an appeal against this that Sir Herbert J. Fust

delivered his sentence, and has reversed it. Relative to the altar he said, "It appears that this stone structure consists of a slab, supported by three upright slabs, all of stone, resting upon a lower slab, also of stone, and that the weight is about two tons; that the lower part is imbedded in mortar or concrete, about an inch below the floor of the chancel which is built up to the table, and covered with encaustic tiles; and that the table was also made to adhere to the east wall of the chancel. This structure, Mr. Faulkner contends, is a stone altar, or altar table, such as is erected and used with the credence table for idolatrons and heretical purposes in Popish countries; that the rubrics and canons require that the communion-table should be of wood and moveable. On the other hand, the church-wardens deny that it is an altar, or such as is used in Popish countries for idolatrous and heretical purposes; and that it is essential to the preservation of uniformity in the internal arrangements of the church."

In order to arrive at the true meaning of the expression "table," he referred to the alterations made in the rubrics at the time of the Reformation, and from that time down to the passing of the present Actof Uniformity in 1662, and found that the word "altar" has been changed to "table." We all know, said the induce, that We all know, said the judge, that after the Reformation one of the doctrines of the church of Rome which was renounced by the church of England was the doctrine of transubstantiation; and it will be found that the material and the form of the altar in the Romish church are connected with this doc-trine of transubstantiation, and with the eucharist as a sacrifice. It was contended that by the rubrics of the Roman Catholic, church altars must be built of stone, and must be immoveable, and various canons from the body of the canon-law were cited to shew that the altar must be of stone, and fixed; and, if not, it must be re-consecrated. The Court does not think it necessary to go through all these authorities on this part of the case, because it is not incumbent upon the Court to pronounce whether this is or is not an altar At the same time, it may not be inexpedient to consider what was the origin of the altars as used in the Roman Catholic churches, of what material they were constructed, and of what form, in order to arrive more readily at the meaning and intention of those who directed the removal of stone altars and the substitution of tables. From the authorities cited by Cardinal Bona, in his work De Rebus Liturgicis, we learn that the altars used in the early ages of Christianity were made of wood, and in the form of a table; that about the year 509 they began to be of stone, although the wooden tables were not altogether abolished. The form altered with the material. Sometimes the altar or table was supported by one pillar, sometimes by four or two, and latterly they assumed the form of a tomb, as of the Sepulchre of the Martyrs, whence they derive their name; and there is no doubt that at the time of the Reformation the altars in the English churches were of stone, fixed and immoveable.

At the time of the separation of the church of England from that of Rome, amongst the Digitized by

many points of difference between them, one of the most important was that respecting the doctrine of transubstantiation in the supper of the Lord, which, as is declared by the 28th article of our church, "cannot be proved by holy writ, but is repugnant to the plain words of Scripture." In the reign of Henry VIII. the feeling against this doctrine was not so decided as it afterwards became ; nor did any material change take place in the early part of the reign of Edward VI., for we find in his first Prayerbook, 1549, that the mass was still to be celebrated book, 1549, that the mass was still to be celebrated in the order for the Supper of the Lord, "com-monly called the Mass;" and the word "altar" was used in different parts of the service as set forth in that book. But in his second Prayer-book, 1552, the terms "mass" and "altar" were altogether omitted. The order was for the administration of "the Lord's Supper or Holy Communion." The table was to stand in the body of the church, or in the chancel, where morning and evening or in the chancel, where morning and evening service were appointed to be read; and the priest, instead of standing in the midst of the altar, was to stand at the north side of the "table," and so on through the service. But in the interval between the publication of the first Prayer-book in 1549 and the publication of the second in 1552, certain events had taken place, and certain orders and injunctions had been issued, to which it is necessary to refer. In 1547 an order had been issued to take away and destroy all tables, images, and other monuments of feigned miracles, pilgrimages, idolatries, and superstitions; and in 1550, Ridley, Bishop of London, issued an injunc-tion to the same effect. These injunctions were of course confined in the first instance to the diocese of London and to the form of an exhortation. But there was an Order in Council issued to Bishop Ridley strictly charging and commanding him, for avoiding strife and contention, to take down altars and place communion tables in their stead. And it appears from Burnet's History of the Re-formation that is the low of the Reformation, that on the 19th of November, 1550, letters were sent to every bishop throughout England to "pluck down altars" for the avowed purpose of "moving and turning the simple from the old superstitions of the Popish mass." The change intended, therefore, must have been something more than nominal; it must have been substantial. In the short reign of Mary, which followed, one of her first acts was the repeal of all the statutes passed in that of Edward VI. respecting religion, and things reverted to the same state as they were at the end of Henry VIII.'s reign; altars were to be re-erected in the churches, and penalties were imposed upon those who, of their own accord, pulled down or destroyed them, and mass was again celebrated. But in the year 1558, Queen Elizabeth ascended the throne, and when she repealed the statutes of Queen Mary the statutes of Edward VI. were revived. In 1559 orders were issued by Queen Elizabeth for substituting the communion of the sacra-ment for the high mass, and for placing tables in the churches, to the same effect as those issued by Edward VI. From this order it is manifest that the tables here meant were something very different from the altars, and that were moveable; for the direction, that it they was to be placed where it stood before could not apply to an immoevable stone altar. In 1564 it appears that Queen Elizabeth issued advertisements directing, amongst other things, that parishes should provide "a decent table that parishes should provide "a decent table standing on a frame" for the communion; an expression applicable rather to a wooden table, than one made of stone. In 1569 Archbishop Parker's visitation inquiries go to the same fact as to the communion-tables and taking down of altars. In 1571 Archbishop Grin-dall's injunctions are remarkable for their expressions :--- "All altars to be pulled down to the ground and the altar stones defaced, and bestowed to some common use; the prayers and other service appointed for the mini tration of the holy communion to be said and done at the communion-table." Nothing can more clearly demonstrate the determined manner in which the measures for the utter subversion of the superstitions connected with the Popish mass were carried on than these orders and injunctions, the great object being the annihilation of the fixed, immoveable stone altars, and the substitution of wood moveable tables in

their place. We now approach a most important period,

when the contest raged between high and low church in the reign of Charles I. Its origin may be found in Lord Clarendon's History of the Rebellion. It has been shewn that the stone altars were removed, and tables of wood set up ; the questions then agitated were as to the place in which the table should stand, and its position. The Puritans contended that the proper place for the table when the communion was administered was in the body of the church before the chancel-door; and afterwards in the chancel, but placed tablewise, and not alter-wise, that is, that one of the ends of the table was to be placed towards the east. so that one of the larger sides might be to the north, the priest being directed to stand at the north side, and not at the north end of the table. The high churchmen, on the contrary, contended that as the injunctions ordered that the tables when not in use should stand where the altar used to stand, it should consequently be placed as the altar was. These apparently unimportant matters were the source of violent contentions. (The learned judge then proceeded to consider the case of Archbishop Laud, who became involved in these unfortunate disputes, by introducing many of what were at that time called "innovations," an unfortunate term, as Lord Clarendon called it, and which formed part of the articles of impeachment against him.) We now come to the time of the Resrubric were framed, when the term "table" was introduced, and the communion-table remained in the same situation as from the time of Elizabeth; that is, that it was of wood, not stone; and moveable, not fixed. The next question is, has any alteration been since made? In the rubrics of the present Book of Common Prayer the term "table" is repeatedly introduced, and in several places consistent only with the idea of an ordinary table of wood, which is moveable.

He was of opinion that the article set up in the present case, was not a communion-table within the intent and meaning of the rubric, and therefore reversed the sentence pronounced by the Chancellor of Ely.

As to the credence table, the Judge said, "I do not find any sufficient information to enable me to judge when this article was first introduced into the Romish church or into our English churches. It is clear that they were in use at the time of Archbishop Laud and before his time. It is admitted by the learned counsel on both sides that the term is derived from the Italian language; but in Adelung's German Dictionary we have the following de-finition of the word :-- '*Oredenzen*, verb. reg. act., from the Italian '*credenzare*,' to taste beforehand the meats and drink before they were offered to be enjoyed by another : an ancient court practice, which was performed by the cupbearers and carvers, who for this reason were also called 'credenzer.' Hence, also, the credenz teller -- credence plate-- on which the cup-bearers credenced the wine; and, in general, a plate on which a person offers any thing to another: credenz tische, credence table, a sideboard, an artificial cupboard with a table for the purpose of arranging in order and keeping the drinking apparatus therein.[•] In the Greek and Latin churches, something of the same kind was in use under another name, as I find from two of the tracts to which I before alluded. The word used to describe it is προθεσις,' that is, table, or preparation, or proposition, as on it were placed the elements before they were placed on the high altar for consecration. I am of opinion, therefore, that the credence table must fall under the same principle as the other, as it is immediately connected with the other structure, and does not appear to be required or sanctioned by any law, canon, or constitution. I shall, therefore, not include that in the faculty."

The delivery of this judgment, which gives evidence of most patient deliberation and careful research, occupied five hours: the question is one of extreme importance.

VICTORIA PARK.—Park palings, to upwards of a mile in length, have been laid down as the boundary of the park, in Wick-lane and Grovestreet, Hackney and Old Ford. Workmen are busily engaged in the formation of new roads, and making preparations for planting.

* See THE BUILDES, p. 30.

DECORATIVE ART SOCIETY.

At a meeting held on Wednesday, the 29th ult., at 11, Davise-street, Berkeley-square, a paper was read by Mr. Crabb, containing a general notice of colour and its application to decorative purposes. After a concise exposition of the laws of colour, he ex-plained the principles which regulated Persian art, restricting it to the use of the three primary colours, gilding supplying the place of secondaries, and that the Persian temples might be considered fine specimens of decorative colouring. The character of Grecian art was remarked upon, and the excess of colour adopted by the Romans leading to the abuse and decadence of art. The new era under Constantine was next noticed, and the grand specimens remaining to us of fine Italian art in the works of Raffaelle in the Vatican, where the use of rich dark blues round the windows presented, he thought, evidence of his consummate skill in decorative effects. In the Casina of the Ducal Palace at Mantua, by Giulio Romano, the utmost perfection of classic beauty was exhibited, the exquisite execution of which rendered his fame pre-eminent. A recommendation of a study of the old masters followed; the Caracci for graver purposes, and Titian and the Venetian school for beautiful examples of sumptuous and harmonious co-louring. These remarks were illustrated by coloured copies of the works of Gruner, Owen Jones, Pugin, &c.

A discussion took place on the suitableness of our extended use of rich colouring in this country.

country. In May next, Mr. Crabb, in continuation of the subject, will read a paper "On the application of colour to manufactures."

And on Wednesday, 12th February, a paper will be read, "On the Physiology of Timber Trees considered with reference to manufacturing purposes." L.

[The object of the Decorative Art Society is to diffuse among those engaged in the design, superintendence, or execution of interior decoration, a knowledge of the true principles of taste, and to lead them to investigate the nature of the various arts and manufactures connected with the subject.—ED.]

CHURCH NEWS.

THE parish church of Woodford, near Salisbury, is about to be almost wholly taken down and rebuilt on an extended scale, the present edifice being in a dilapidated state, and not sufficiently commodious for the parishioners. ——At New-passage, Devonport, it is proposed to erect a new church. An application is to be made to the Admiralty for assistance. —A new chapel for the use of the Unita-rians in *Leeds*, is about being erected on the site of the present one, properly known as "Mill Hill Chapel." We understand that the proposed new chapel is to be built on a considerably enlarged scale, and to have extensive school-rooms attached, in a modern style of architecture. The subscriptions for this purpose already received, amount to several thousand pounds. — The restoration of the thousand pounds. — The restoration of the interior of Chesterfield Church has been completed by two very important alterations. The old reading desk, which formed so unsightly a contrast with every other part, has been removed, and a new one substituted, the sides of which are open, and correspond with the fronts of the galleries. The other alterathe fronts of the galleries. The other altera-tion is in the chancel, where a railing of added.—Extensive reparations are now in progress in the parish church of Stratton St. Margaret, near Swindon, Wilts; the edifice having been found, upon the survey of an ex-perienced architect, in an insecure state. A church is in progress at Little Dawley, in Salop. The Queen Dowager has contributed Mademoiselle D'Este has given a 201. piece of ground adjoining some premises for-merly occupied by her at Ramsgate, as a site for a new church, which will be completed in a short time. The funds necessary for the erection have been derived from voluntary subscriptions, and include the sum of 100%. from the donor of the ground. — Prince Albert, in his capacity of a Knight of St. Patrick, has given 100% in addition to the gift of 200% by her Majesty, towards the reairs and restoration of St. Patrick's Cathedral,

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ARCHITECTURAL PROCEEDINGS

ABROAD. IN BELGIUM, during the last two or three years, great efforts have been made to restore ancient buildings. The west front of the church of St. Gudule, at Brussels, which has been in the mason's hands for some time, is now completed. The niches have been re-filled with statues, and all the decayed parts of the stone-work renewed. The spire of the Town-hall at Brussels has likewise been repaired, as also have the town-halls of Ghent, Bruges, and Louvain, and several churches in various parts of the country. The cathedral of TOURNAY, at the western ex-

tremity of Belgium, has been restored through-out, under the direction of M. Renard, and is approaching completion. This is one of the most interesting buildings in Belgium, and is well worth a journey to view it. In form it is a Latin cross, with five towers; namely, two at the end of each transept, and one at the centre of the cross. The transept is terminated at each end by a semi-circular absis. A very remote date has been claimed for Tournay Cathedral by local bistorians, but it seems to us that the earliest remaining parts belong to the lith century. At COLOGNE, the works at the cathedral are

proceeding steadily, but not so much so as to enable us to prophesy an early completion. We are told that the model of the pulpit intended for this cathedral is exhibiting at Berlin, and astonishing the public by its magni-ficence. The pedestal is a bundle of columns, about two feet in height, imitating in their clustering the pillars which sustain the building. These are terminated by a capital of acanthus leaves and scrolls artistically dis-posed, out of which spring a system of ribs that embrace the pulpit, developing themselves in exact resemblance to those which climb towards the key-stones of the vault. Basreliefs, and niches containing the figures of the benefactors of the cathedral, or saints, con-stitute the principal decoration of the monu-At its base is Conrad of Hochstaden, ment. and higher up, surrounding the pulpit, the twelve Apostles, and our Saviour bearing the banner of the redemption, and blessing his disciples. The canopics, beneath which these figures stand, form so many little steeples of florid workmanship, in whose upper portions are sculptured the arms of the principal German cities. The pulpit is covered by a sound-ing-board, on which sit the four Evangelists, with their recognized attributes. Over them, in a carved niche, is the Holy Virgin: and the cupola is closed in by a crown of flowers, on which sculpture has lavished its resources. The pulpit is ascended by a spiral staircase, winding round the pillar before mentioned. We cannot say that we have formed a high opinion of its fitness from this description.

At TREVES, we learn from the Art-Union for the present month (an admirable number, full of information), a grand work is in con-templation, which will be one of the most magnificent architectural monuments of modern times; we mean the Roman structure of the so-called Constantine Palace, which, according to the unanimous opinion of the connoisseurs, is the remainder of an ancient colossal basilica. One side-front and a grand round structure of the tribunal of the whole, which, till now, has been made use of for various purposes present a barracks-are still existing. Of no ancient basilica are there extant so important and considerable portions, so easily to be restored. From an authentic report it appears that these remains, by an order of the King of Prussia, will be restored in their original condition, and are intended for a church of the united Protestant civil and military commune. This church will vie with the grandest and most beautiful of those which bave once been possessed by the primitive Christians, to whom, as we know, basilicas, originally forming courts of justice, were assigned as churches, and which have ever been used as models. The fabric will, after its completion, form a single colossal nave, 180 for them been used for the second of for 180 feet long by 88 broad, and about 100 feet high, with a semi-circular tribunal of 62 feet diameter, separated from the nave by an arch of 59 feet span, with walls 9 feet in thickness, of which the still remaining ones are built of the best Roman bricks; and with a double row of windows, each 12 feet broad. Likewise, by order of the king, the ancient church of

Maximinius, at present forming a barracks, will be restored, and is intended for the temporary use of the Catholic military congregation.

At BEBLIN, the inauguration of the new Opera-house, on the 7th of December, has been an event of great moment in the annals of our city. Meyerbeer's inauguration opera-an excellent composition-was received in the splendidly decorated house with much applause and interest by the royal family and an The whole immenselv crowded audience. structure is said to have cost 600,000 dollars (87,500). The architect was M. Langhans, counsellor of the Board of Architects, a son of the architect who built the celebrated Brandenburger Thor (Brandenburg Gate). Breslaw theatre is one of his buildings, which is little inferior to that of Dresden. The Berlin Opera-house, however, is superior to both, and one of the most magnificent buildings of that description in the world. The lobbies are less splendid; but halls of that kind are generally little made use of in Germany, and deprive the indispensable loca-lities of a theatre of the necessary extent.

At GOTTINGEN a new art-museum has been established and inaugurated, in commemoration of the celebrated Winklemann. The localities of this museum are on the ground-floor of the university, containing a grand collection of gypsum models, which the late Professor gypsum Muller used to employ for the illustration of his lectures on the classical antiquities, together with those which formerly were placed The in the rooms of the university library. university owes most of these treasures to British munificence. Besides these are to be mentioned the Vienna sarcophagus and several relievos, of which the famous "Sacrifice of the Citharoedes" is the most eminent.

At HAMBURGH an exhibition of the plans for the re-erection of St. Nicholas' Church has taken place. Thirty-nine architects, German and foreign, have sent for this purpose their works, several of which are re-ported to be first-rate plans. Nos. 7, 32, 39— the first with the motto, "The success of the work, not its estimation, is its real value;" the second with the motto, "The work, not the architect or master;" the third with the the architect or master, the third architect or master, the the most eminent. The most valuable is as the most eminent. The said to be by an Englishman.

The ravages which were committed by the terrible conflagration in May, 1842, are now fast disappearing; and the great improvements which are taking place in consequence of that calamity will, in a few years, obtain for Hamburgh a degree of architectural celebrity it would else have hardly aspired to, as it now does, all at once. Many splendid hotels and shops, fitted up in a style of elegance, bespeak a degree of luxury hitherto unthought of at Hamburgh. The same may also be said with regard to newly erected private houses, a considerable proportion of which are upon such a scale and of such character as to be suitable only for wealthy families, who can afford to maintain an establishment in ac-cordance with them. Dr. Abendroth's mansion, erected by M. de Chateauneuf, who has given the designs for it in his "Architectura Domestica" (published a year or two ago in this country), fortunately escaped destruction, although so near the scene of devastation.

STATUE TO MR. GEORGE STEPHENSON. The directors of the Liverpool and Manchester Railway, acting in concert with the Grand Junction Board, have determined upon erect-ing a marble statue in honour of the above gentleman. It is proposed, that the statue shall be erected in St. George's Hall, Liverpool, now building in front of the Railway Station. The eminent sculptor, Gibson, has been engaged to execute the work, and the price, delivered

and set up, is not to exceed 1,800. THE FOUNTAINS IN TRAFALGAR-SQUARE. —These long-expected ornaments will soon be put into operation. The boring is complete, and a very good supply of water has been obtained. For several days past the two engines have been employed in raising water, which has been found quite equal to the supply required, and a jet of water has been forced to a height of about 30 feet in one of the basins. During the past week, workmen have been erecting poles, &c., to raise the stones composing the eastern fountain.

DISASTROUS EFFECTS OF THE LATE

STORM. Тик papers during the past week have been teeming with accidents which occurred during the storm of the 25th ultimo.

At Blackburn an entirely new and unfinished mill was blown completely down, the crash of which is stated to have been heard throughout the town as of the sudden discharge of distant artillery. The mill was what is called an artillery. "eight bay" mill, the area of the spinning part of the premises being 60 feet by 80 feet tached to the spinning-mill was an engine house, next to that a large boiler room, and more an extensive foundry shed. The first floor of the mill was completed, the boards of the other floors were not down, all the windows were in, and the mill roofed over. The engine house was arched over, and the boiler room covered in. In these two latter places the buildings were partly iron; great iron beams from 15 to 18 inches across, were erected in the engine-house ; the roof, &c., of the boiler room was supported by iron pillars, stout iron bars, &c.

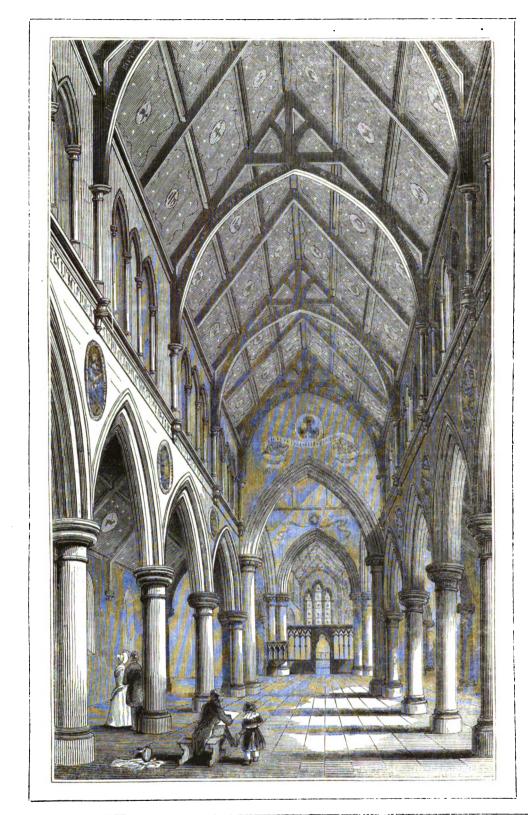
It appears that at about a quarter-past nine o'clock, some men employed upon the pre-mises, and living close by, observed one of the walls of the mill to bulge out; and they were discussing the readiest means of propping it up, when the gable end wall of the mill, against which the full force of the wind bore, was seen to bend inwards, and becoming thus loosened from the roof, the latter was lifted up by the wind, and falling back again with great violence, went to pieces, and carried down to only of some of the walls remaining. roof, first floor, beams, supporters, and the walls that fell with the roof were all smashed to pieces. The roofs of the engine-house and boiler room were destroyed, the thick iron beam ends being broken like glass. Part of the roof of the foundry shed was destroyed, as the root of the foundry sneu was desiroyed, as also part of some premises adjoining another side of the mill. The damage done cannot be calculated at less than 2,000*l*. Upwards of 3001. worth of glass was destroyed. It is said that the whole building was not to be surpassed for strength and compactness in Blackburn. In a short time the three upper floors would have been put in, and then this disastrous ac-

cident could hardly have happened. At Derby various buildings sustained con-siderable injury, the Messrs. Holmes, coachmakers, had just completed the erection of a makers, had just completed the erection of a large chimney on their premises, for the pur-pose of having steam applied to a part of their extensive establishment, the building of which had been intrusted to Mr. Edwin Thompson. This chimney was 60 feet high, and was only waiting for the iron capping. It was sur-rounded by a very heavy and substantial scaffolding, a circumstance which there is every reason to believe to a considerable extent conreason to believe to a considerable extent contributed to produce the accident which we have to record. On the night mentioned above, fears were entertained that the chimney so largely encompassed with scaffolding (and which had been round it for some time past, awaiting the finishing of the chimney from the cause al-luded to, that of the cast-iron capping), was in danger of falling from the severity of the gale, and as early as between 5 and 6 o'clock on Sunday morning, Mr. E. Thompson went to ascetain how far this really was the case. When there the tremendous squalls of wind waved the ponderous mass of woodwork to and fro in a very alarming manner; so much so as to induce those persons who resided in the house immediately connected with Messrs. Holmes's premises, to leave them immediately, though the chimney itself appeared entirely unmoved. Fortunate, indeed, was it the residents did quit them, for at a quarter-past 8 o'clock 40 feet of the 60 feet chimney fell with a terrific crash on one side of the roofs of the five houses, literally cutting them in two, and demolishing them to the very foundations, and destroying every piece of furniture they contained.

At Chesterfield three or four pinnacles were blown down from the tower of St. Thomas's Church, and burst through the roof, destroying the gallery, and doing considerable injury to the church. Fortunately, divine service had not commenced, otherwise a fearful loss of life must have ensued, as the children of the Sunday school occupy that part of the edifice

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INTERIOR VIEW OF ST. JOHN'S CHURCH, NOTTING HILL.

ST. JOHN'S CHURCH, NOTTING-HILL.

In the last number of our journal we entered into a description of this church, and gave an engraving of the exterior as seen from the south-east. In compliance with our promise, we now present a view of the interior from a drawing made by the architects. By thus giving a perfect notion of the appearance of the building and the extent of decoration, the size, materials of which it is constructed, and ultimate cost, we consider we are supplying very important data for all who are concerned in church-building operations.

The engraving represents the church as viewed from the west end, and shews the rood screen at first proposed to be creeted, but which was very properly abandoned, as were also the coloured decorations in the spandrils of the arches which appear in the engraving. The pewing is omitted in the view for the sake of clearness.

BRONZE GATES FROM THE BAPTISTRY AT FLORENCE.

WE mentioned last week, that through the kind offices of M. Guizot, casts from the celebrated bronze gates of the Baptistry of St. John at Florence, had been presented to the School of Design at Somerset House. Some of the newspapers said there was no room there large enough to receive them, but this was an error. They are about 17 feet high and nearly 10 feet wide, and are fixed upright in the figure room, where we recommend such of our readers as delight in fine works of art to repair some Monday morning, when the school is open to the public, and examine them for themselves.

They are the work of Lorenzo Ghiberti, who competed for the commission with six other artists, including Donatello and Brunelleschi, and consist of ten panels filled with compositions from the Old Testament, and surrounded by a framework of great beauty,

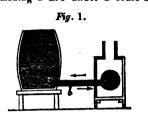
adorned with figures under niches, flowers, and fruit. The Creation, Noah leaving the Ark, Joseph and his brethren, and David's victory over Goliah, form some of the subjects. Those who have seen the originals say that these casts do not give a full notion of their great beauty, and it is evident to the least practised eye that the mould from which they were taken was either badly made or worn out. Michael Angelo, it is asserted, said they were worthy to inclose Paradise; if the author of them had been alive at the jime, he would probably have been less eulogistic. Ghiberti died about 1455. He first studied as a painter, and seems to have had some skill as an architect, for he was associated with Brunelleschi in the construction of the cupola of a church at Florence.

Relative to works in bronze, it is to be hoped that opportunities will be afforded for the use of this material in the new Houses of Parliament and elsewhere. The art of working it has been sadly neglected in England.

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THE HISTORY OF HEATING BY HOT WATER.

SIR HUGH PLATT, who was the first to point out steam as a medium for heating the sir of a room, suggested that hot water might be used to avoid the danger then run, in one of the processes of the manufacture of gunpowder. "To drie this substance without ganpowder. "To drie this substance without all danger of fire, you may cause," says Sir Hugh, "a vessel of lead, pewter, latten, or copper, to be made, having a double bottome, between which bottomes you may convey scalding water at a pipe, which water may be also heated at another roome, and then you may lay your powder upon the uppermost bottome till it be drie, and when the water beginneth to cool, you may let it out at a cock beginneth to cool, you may let it out at a cock in the bottome of the vessel, and soe give passage for more scalding water by another cock." And in another part he says, "a vessel may be made to brew or boil in, by making a fire under a brass boiler, a, fig. 1,

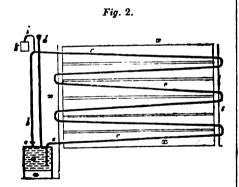


and conveying the steam water into or a wooden tub or recepta-cle, b." Rudolph Glauber, also, pro-posed heating a brewer's vat by a brass ball

filled with water and placed in a fire, a pipe from which was carried into the vat. "A from which was carried into the vat. "A contrivance," says Hooke, "which if prose-cuted, might be very beneficial to those who require great quantities of hot water, by enabl-ing them to use wooden casks instead of copper boilers.

Sir Martin Triewald, a Swede, who lived for many years at Newcastle-on-Tyne, before he finally settled in his native country, about 1716, described a scheme for warming a greenhouse by het water, instead of hy fermenting regetable substances. The water was boiled outside of the building, and then conducted by a pipe into chambers formed under the plants

Prior to the French Revolution, an ingeni-Prior to the French Revolution, an ingeni-ous application of the same medium for diffus-ing heat was made by M. Bonnemain, in an apparatus to hatch chickens, to supply the Paris market. In this water-stove, a transverse section of which is shewn in fig. 2, ; *a*, boiler,



a on its furnace, furnished with an expansion a on its turnace, turnshed with an *expansion*-rod to regulate the opening and shutting of the ash-pit door; *d*, a pipe for supplying water to the boiler, and keeping the pipes always filled with water; *o*, stop-cock, for regulating the quantity of the ascending hot water; *b*, pipe of communication between the boiler and beating-pipes, c, which traverses the boiler and beating-pipes, c, which traverses the hatching-chamber, x, with a slope towards the boiler, into which it is inserted, and its lower end carried nearly to the bottom of the vessel. The air disengaged from the water by boiling, and which would accumulate in the tubes and ob-struct the circulation of the hot water, escapes

struct the circulation of the hot water, escapes by the pipe, i, and the water that rises along with it from the tube falls in the receiver, k. As the water in the boiler gets warm, and becomes specifically lighter, it rises upwards in the pipe b, and its place is occupied by the colder and heavier water, which flows from the pipe, c, and enters the boiler at its lower currentiate the output of from the pipe b. ac pipe, c, and enters the other at its lower extremity, c. A current is thus established from the boiler upwards, through the pipe, b, and then downwards, through the range of pipes, cc, into the boiler, with a velocity depending on the difference between the temperature of the water in the boiler, and that in the descending or heating-pipe at its insertion into the boiler. By this means a very equable tem-perature was kept up in the series of compartments in which the eggs were placed to be hatched.

For many years after this period, M. Bonne-main was in the habit of describing his apparatus to others, and a few years later a good account of it, explained by figures, was given

in a French publication. About 1812, hot water was used at St. Petersburg in the manner practised by Triewald; and shortly afterwards, in the same capital, by Count Zubow, in a similar but more roundabout method. The water made to occupy the space commonly filled by the ferraised in a boiler place on the outside of the conservatory. It is not clear whether this was before or after Mr. Braithwaite, at Kendal, warmed his counting-house by a small rectangular boiler, having its furnace included in a rectangular cast-iron case, which had the ap-pearance of a chest placed against the wall. From the boiler a small pipe proceeded to the condenser, which was a copper vessel, 18 inches in diameter, placed under a double writing-desk. The condenser was formed on writing-desk. The condenser was formed on the plan of the improved cylindrical refrigeallowed to escape at the top, which was how-ever condensed against the lid, so that none of it escaped into the room. The steam gave out its heat to the water in the condenser; which was found, when once warmed, to retain the heat for many hours.

The Marquis de Chabannes, in 1816, introduced M. Bonnemain's method into this country; and in drawing the public attention to the hot-water system he claimed the merit of being its inventor. "The most perfect de-finition I can give of it," says the Marquis, " is by comparing a boiler to the human heart, and the effect of caloric on liquids to the circula-tion of blood in our veins. The fire is the power which gives motion to the water, as the admission of oxygen into our lungs causes the circulation of our blood. A pipe is placed at the top which may have any length or winding, but must finally return to the bottom of the The caloric which rises into the boiler. upper pipe, and communicates itself to the liquid in it, which loses that heat as it flows through the pores of the metal, or any reservoirs which may be placed in its passage for the purpose of extracting it, becomes gradually colder, and in that state pressing on the rare-fied pipe which issues from the top of the boiler, re-enters at the bottom in proportion to what goes out above-thus causing a continual circulation; and the liquid coming in contact with the fire at a colder temperature, and besides with friction extracts a still greater portion of caloric." In reducing his speculation to practice, he proposed to fix a small boiler behind the

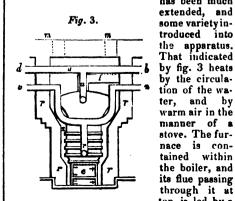
kitchen fire, and connect it by two pipes with a cylinder, containing twenty or thirty or more small pipes, open at both ends, and surrounded with hot water. This cylinder he placed under the stairs. The rarefaction in the small open pipes produced a current of warm air iu staircase, and the water which was cooled in the cylinder falling into the boiler, forced the warmer water upwards into the cylinder with continuous circulation.

and

bv

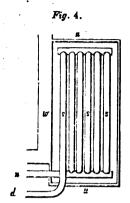
it at

Since his time, warming by hot water has been much



top, is led by a 9-inch pipe, *i*, into the smoke flue in the wall. The cylindrical boiler, c, is surrounded by a brick wall, r, leaving a space of four inches round it, which is covered in at top, and forms a small air-chamber. Into this inclosed space the air is admitted from a culvert, v, which communicates with the atmosphere under the porch in front of the building, and rising in the circular cavity, is heated by contact with the external faces of the boiler, and finally flows through the valved openings, or regusters, m, into the hall.

The hot water for warming the passages and staircases is conveyed from the boiler by the pipe, a, fixed under the ceiling of the

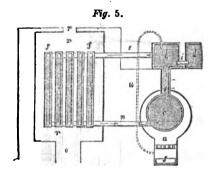


basement-floor, with branches, b d, carried to each end of the building, which terminate in a series of beating-pipes, ss, or neating-pipes, ss, arranged as shewn in fig. 4. These pipes are inclined from their point of junction, with the branch pipes to the exit by the descend-ing nine and the ing pipe, and the whole are inclosed in a case, *u*, that has the bottom per-forated with holes, to allow the cold air

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to rise and come in contact with the hot pipes, and then to percolate, when heated, through the holes made in the top of the case into the passages in the floor above, on, the descending pipe from each heating-case connected with the return-pipe, and inserted in the bottom of the boiler. Small cocks, u, placed at the highest points, to emit the air that is extricated from the water. the water. The mean temperature of the enclosed pipes Mr. Bramah stated to be 185°, when the temperature of the water in the boiler was 270°.

Mr. Manby's apparatus is a good example of flat parallel, heating surfaces, arranged as a hot air-stove. It is shewn in fig. 5, c, a cylin-

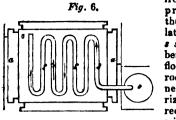


dric boiler placed over a furnace, a, a pipe rises from the upper part, and terminates in a square inclosed vessel, from which a pipe, e, anches to the upper end of a series of flat bollow vessels, ff, that communicate with each other; another pipe, n, on their lower end, forms a communication with the bottom of the boiler. The flat hollow vessels are inclosed in a chamber, x, into which the cold air is admitted through an opening in its floor, and the heated air is conveyed through an opening, r, in its roof into channels, which distribute it at the points where it is wanted. The water is upplied to the boiler from a recursion d and supplied to the boiler from a reservoir, d, and the water, which may be expelled by the expansion from heat, is conveyed by the small pipe, *u*, into a vessel, *s*, which forms the bottom of the ash-pit, to assist by its evaporation, as Mr. Manby thought it would, the combustion

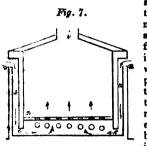
of the fuel placed on the grate over it. The operation of this apparatus is very simple. The water heated in c, flows through simple. The water heated in c, flows through e, into the air-heaters, f, where it is cooled by the current of cold air rising through the opening, u, and fails to the lower part of the heaters into a pipe, n, which conducts it to the lower part of the boiler, and by this means a continued stream of hot water flows from the boiler into the heating yessels, and preserves their surfaces at a certain temperature.

There is no practical objection to this neat and compact apparatus, except the greater difficulty of keeping the joints in order, when compared to a similar arrangement, where pipes are substituted for the flat vessels. The preceding methods shew the ventilating and warming processes to be kept separate,

which are combined in the apparatus indicated in the diagrams, fig. 6 and fig. 7, c, a boiler, from which



neral inclination from the highest point towards



proceeds ibe circulating pipe, s s, placed beneath the floor of the room in a nearly ho-rizontal direction.but with a ge-

The fresh air is admitted at n, and descends in the boiler, c.

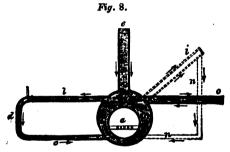
the vertical channel, a, into the space beneath the floor, and com-ing in contact with the heated pipes, is emitted through holes in the floor into the room, and the effete air escapes by the opening, i,

This is a very favourable disposition of the heating surface, and one that is often adopted in drying-houses: one of which is shewn in the figure. It is apparent that a similar series of pipes

may be placed in a basement chamber, from which channels may branch to the rooms which are to be heated in the floors above.

In all the apparatus which have been de-scribed, the circulation of the water is promoted by what is technically called a return or de-scending pipe. But in many cases, in which the difference of level is small, the effect does be compared to have been impressed by this not appear to have been improved by this arrangement.

In the diagram, fig. 8, a, is a furnace in the inside of the boiler, s, with various pipes pro-ceeding from it. If we suppose the pipe, e,



only to be attached to it, and filled with water as that in the boiler was heated, a circulation would commence and continue by the hottest water rising to the upper part of the pipe, and the water rooled by contact with its surface falling into the boiler. It is clear the same effect will be produced if the pipe *i* were substituted for the pipe *e*; and it is also clear that the circulation would be less impeded than if the hottest water rose to i, and descended when cooled through the pipe, n n, to the bottom of the boiler, s, supposing in both cases an equal quantity of heat to be dissipated. If the heating pipe, o, was nearly horizontal, the same effect would take place from the molecular action, the water in the pipe would be somewhat warmer than if it flowed along b, descended by d, and returned by c into the boiler, as less of the velocity due to the temperature would be lost from friction in the straight pipe than in the return-pipe. In most cases, the return-pipe might be altogether omitted, with manifest advantage to the simplification and consequent certainty of the circulating process, the lightest water will always find the highest level, and the less it is impeded the circulation will be the more perfect, and the heating effect will be greater. The arrangement, for instance, would have been as effective had there been no returnpipe; each floor or room might have been heated by a separate pipe proceeding from the boiler, and the expense been considerably less

by the simpler method. There are two ingenious devices for continuing a circulation in cases where there is a small difference of level-the rotary float of Mr. Eckstein, and the syphon apparatus of Mr. Kewley. In some instances they are

effective; but perhaps the cases where their use is necessary are not those in which hot-water heating is the most proper; they require more attention than can at all times be had from domestic servants, and are easily deranged. The high-pressure method, contrived by

Mr. Perkins, is shewn in the diagram, fig. 9. A coil of wrought-iron pipe of small diameter Fia. 9. placed in a furnace, a, is continued and conđ ducted through the building, and the ne-cessary quantity of sur-face is given by form-ing coils, n, of the pipe which are placed in the process to be ated

the rooms to be heated, and the pipe is finally returned, as at s, into the furnace, where it is joined to the coiled

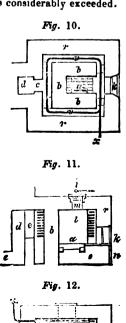
pipe, a, and thus forms an endless pipe. At the highest point of the heating pipe, f, in another pipe, d, of a larger diameter, placed either in a vertical or horizontal position, and which has a capacity from $\frac{1}{10}$ to $\frac{1}{10}$ of all the water in the eucless pipe. This is called the expansion-pipe, and into which the water rises asit expands in heating to prevent the apparatus bursting. The filling pipe, o, rises to the level, and no higher, of the lower part of the ex-

pansion or safety-pipe. The tubes being thus arranged, the whole series, except the expansion-pipe, is filled with water by means of a force-pump applied to the filling-pipe, o; and as it is of importance to niling-pipe, o; and as it is of importance to free the endless-pipe thoroughly from air, the water is pumped several times through the tube until it is accomplished. The endless-pipe being thus filled with water, and the ex-pansion-pipe empty, every part of the apparatus pansion-pipe empty, every part of the apparatus is then strongly and hermetically closed. The endless-pipe, having a bore of about $\frac{1}{2}$ an inch, and being $\frac{1}{2}$ of an inch thick, the apparatus is capable of sustaining a very great pressure.

Its action is the same as that of the chicken-stove of M. Bonnemain. The water heated in the furnace-coil rises into the upright pipe, In the furnace-con rises into the upright pipe, and then flows on a declination towards the coils placed in the apartments, and gradually giving out its wurmth to the air of the spaces it flows through, returns, greatly reduced in temperature, through the pipe, s, into the lower part of the furnace-coil, to be heated and rise upward again continually; the difference in temperature between the ascending and de-scending columns producing a continuous circulation throughout the apparatus.

From the manner in which the pipes are closed from the air and placed in the furnace, the water they contain may be reased to a very high temperature. Mr. Perkins states the average at about 350°, but in practice it has been observed this is considerably exceeded.

The three following diagrams will give some idea of the way in which the furnace was constructed to heat a portion of the British Mu-seum: fig. 10 is a plan of the furnace taken above the grate; fig. 11 a longitudinal section taken through the centre of the furnace; and fig. 12 a section, suppos-ing the front wall of the furnace to be removed; r r, a wall of common bricks, 9 inches thick, which in-closes the furnace on its four sides; b b, a wall 9 inches thick, formed of Welch fire-lumps, that inclose the fire - chamber on three sides. From the face and ends of this wall firebricks project, to



support the coiled pipe, O, placed in the flue. The intention of this wall is to prevent the too rapid abstraction, by the coil, of the heat from the fire which thus comes in contact with it at the opening in front only, where the hot gases turn into the back and side flues in which three-fourths of the furnace or boilerin which three-fourths of the furnace or boiler-coil is placed. The roof of the furnace is formed of Welshlumps, in which is an opening, m, fitted with a moveable cover, for supplying the furnace with fuel (coke or anthracite coal being preferred). Theash-pit, o, is inclosed with a door, n, in which there is a register, k, double fire-door to an opening in the wall, for clearing the fire-place and furnace-bars from dust and scoria. This has a dead plate to separate the ash-pit from the heating flues; x, heating-pipe, rising from the boiler-coil, which passes round the internal wall in the flue, v, and is thus defended from the radiant heat of the fuel on all sides but one. This heating-pipe is continued from but one. This heating-pipe is continued from the upper part of the fire-chamber into the building; z, the return-pipe which enters the lower part of the furnace, and passes through the bearing bars of the fire-grating, to prevent their overheating. The dust and soot fall to their overheating. The dust and soot fall to the bottom of the heating flue, and prevent the coil being clogged.

The furnace is placed in a vault in the base-The furnace is placed in a vault in the base-ment-story, and the pipes, x z, are carried up to a height of 40 feet in a flue to two coils of pipe; one containing about 300 feet of pipe, and the other 400; about 140 feet being used for the ascending and descending pipe in the flue, and 150 in the furnace for the coil-boiler. The room containing 360 feet of pipe is 43 feet long and 30 wide, and lighted by large sky-lights in the ceiling, is raised in winter to 65°. lights in the ceiling, is raised in winter to 65° which is a high temperature to be maintained in a room on this construction, even with this liberal allowance of heating surface.

Mr. Perkins made several skilful arrangements of his pipes in adapting his apparatus to different situations. In one example he sub-stituted a series of pipes for a cockle, with excellent effect. The pipes were arranged in an inclosed chamber, from the roof of which channels branched to the several points that required heating, and cold air-was admitted into this chamber through perforations in its floor (similar to that shewn in fig. 6), which was thus brought in contact with the hot pipes, and rose in a warm stream into the building; a disposition perhaps the most favourable that could be practised with such highly-heated surfaces, as the hot air could be properly attempered by the cold air drawn from an underground culvert about 300 yards long, before its admission into the building.— Bernan's History and Art of Warming and Ventilating Rooms and Buildings.

SAILSBURY AND WINCHESTER CATHE-DRALS .-- The points which rivet our attention when surveying the cathedrals of Salisbury and Winchester are so essentially different, that we are induced to place them in juxta-position. At the first glance at the exterior of the former, we are delighted with its elegant lightness, the appropriateness of its ornaments, and its perfect uniformity of design, whilst we gaze with mixed feelings of awe and adoration on its " heaven-directed spire ;" hut when we view-steadily view- the exterior of the latter, though it command not all those plea-surable emotions, we are struck by its solemn grandeur, its vastness of extent, and its im-movable solidity. When we enter the nave of Salisbury, we are still pleased with its elegance and grace, and wonder how the slender shafts of its columns sustain its massive roof; but of its columns sustain its massive root; but the flood of light poured in destroys those sen-sations of sublimity which the darker nave of Winchester, with its ponderous pillars, ad-mirably sustain. Salisbury Cathedral must be taken as a whole: Winchester Cathedral must be available its available of the off be examined in its several parts. If the exterior of the one delights and charms us, the interior of the other commands our admiration and reverence. Salisbury appears as if it had sprung into existence at the touch of the wand of some mighty magician, as perfect and as beautiful as it now appears to an enraptured eye; Winchester, on the contrary, bears on its brow the marks of age, and presents to the Its orow the marks of age, and presents to the antiquarian the most perfect specimens of the growth of the pointed style, from the period of unadorned simplicity, till at last it became en-cumbered, nay buried, beneath heaps of orna-ments.—Willshire Independent.

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INSTITUTION OF CIVIL ENGINEERS.

On Tuesday last, Sir John Rennie, the new president, on taking the chair for the first time since his election, addressed the meeting at some length. After thanking the members for the honour conferred upon him, and regretting that their choice had not rather fallen upon one of the numerous able men by whom he was surrounded, he alluded briefly to the causes of the recent changes, and the progress of assimilation towards the constitu-tion of other flourishing societies. A wellmerited compliment was then paid to the able manner in which Mr. Walker had filled the chair, and by which he had rendered himself so popular. This rendered the task of imso popular. This rendered the task of im-mediately succeeding him very arduous; but Sir John hoped, that with the support of the council, the countenance of the members, and an ardent devotion to the welfare of the profession, he should be enabled to advance the objects of the institution, and to promote its prosperity. He then proceeded, "when we look around us, and see the vast strides which our profession is making on every side, and the deservedly high place it holds in public estimation, we cannot but feel justly proud, for without the slighest disparegement to the pursuits of duties of other prosions, I may confidently ask where can we find nobler or more elevated pursuits than our own; whether it be to interpose a barrier against the raging ocean, and provide an asylum for our fleets; or to form a railway, and by means of that wonderful machine. the locomotive engine, to bring nations to-gether, annihilating, as it were, both space and time, or to construct the mighty steam vessel, which, alike regardless of winds or waves, urges onward its resistless course; or to curb and bring within proper bounds the impetuous torrents, converting its other-wise destructive waves to our use and benefit, whether for navigation, trade, or domeetic comfort. Again, the drainage of the un-wholesome marsh, and converting it into fields of waving corn; or, illuminating our cities with gas, changing, as it were, night into day; or the fabrication of machinery of endless form and ingenuity, by means of which every article which can tend to man's comfort can be produced in the greatest perfection at the smallest cost; or to recover from the bowels of the earth, nature's exhaustless treasures, and convert them to our use. In fact, we may almost say that there is nothing in the whole range of the material world which does not come under our observation, or where the skill and science of the engineer is not required in a greater or less degree to render the bounties of Providence subservient to the good of mankind. With such splendid prospects before us we have every inducement to stimulate our zeal, and to press forward in the career of improvement. He then impressed upon the members the necessity of not only communicating good papers themselves, but of engaging the junior members of the profession in their employment to keep journals of the proceedings, and to use the materials so obtained as the basis for papers which would be of a most interesting character. The members of all classes were earnestly urged to banish all other feelings except those of unanimity, harmony, and kindness; and to make the institution a rallying point, where individuals, as well as the pro-fession generally, should meet with sympathy and support on all occasions."

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REPEAL OF THE WINDOW-TAX.

Some of the largest and most influential of Some of the largest and most influential of the metropolitan parishes have determined upon petitioning Parliament to abolish this most pernicious impost. At St. James's, Westminster (the royal parish), resolutions were passed strongly condemning the tax, principally on the ground of its inter-fering with light and ventilation, and consequently with the health and happiness of the great mass of the population. At the Mary-lebone vestry last Saturday, the subject was brought under discussion; the Rev. Dr. Spry presided. Sir C. Napier said, that although the Government had a surplus revenue, and although he would support a total and immediate repeal of the window-duties, still he despaired of success—at least, he despaired that they should get a removal of the impost further than so far as it affected the poorer classes. The claims upon the Government, now that there was a surplus revenue, were pressing in the extreme, and there was one to his attention had been called which rhich affected the poorer classes, namely, a repeal of the duty on soap. The reason he was afraid that the Government would refuse to grant a total repeal of the window-duties was the vast amount they brought to the revenue-he believed no less than 1,200,000%.

On Tuesday last, a very numerous and respectably-attended vestry-meeting was held in St. Anne's parish, Westminster, Mr. W. B. Bird, churchwarden, in the chair. Resolutions in favour of a total repeal of the tax were adopted, and a petition to Parliament, founded on the resolutions, was also agreed to.

Mr. Matthew Humberton, of Clifton, near Bristol, has lately drawn up a memorial to the Premier, in which the objectionable nature of the tax is forcibly pointed out. He says, "Many and various are the claims for relief which are now being pressed upon the attention of the legislature, but of none of them, except-ing the window-tax, can it be said that ' this is an absurdity in principle,'---this is an anomaly in taxation which defies the power of human ingenuity to reduce to reason-it is like some unreal thing which we cannot understand, for although it is a tax upon windows, it is not primarily a window-tax, neither is it a house-tax, nor a property-tax, nor a landlord's-tax, a tenant's-tax, nor a tax upon wealth, nor not a tax upon poverty; but it is a compound of all these, and something more—it is essentially a tax upon LIGHT, and that not an artificial one, but the LIGHT OF NATURE, the enlivening, the pure, the holy light—an article beyond the reach of human commerce-an article beyond all price—an article as essential to our ex-istence as the air we breathe, and, by consequence, it is also a tax upon AIR, upon VENTILATION, and upon HEALTH."

-Recently, IMPORTANT TO ARBITRATORS. in the Court of Queen's Bench, Mr. Pashley shewed cause against a rule which had been obtained by Mr. Godson to set aside an award that had been made in the case Plews against Middleton. The objection to the award was that the two arbitrators, who were lay gentlemen (a builder and an architect), had received some evidence not taken in the presence of the two contending parties. They had gone to certain persons whom they knew to be in-formed on the subject of the arbitration, and had received their statements without giving the contending parties any information of their intention to examine those persons. The learned counsel contended at some length that the arbitrators here had merely been guilty of an irregularity in their procedure; that there was no pretence for charging them with fraud and corruption; and that their error in proceeding was not a good ground on which to set aside their award. The Court, without calling on Mr. Godson to support the rule, said that it must be absolute. This was not a said that it must be absolute. This was not a mere irregularity in procedure; it was some-thing against the first principles of justice. Nothing could be clearer than that a man was always entitled to hear all the evidence on which his rights and liabilities were to be decided. and where they were decided without his having that opportunity, the decision must be treated as invalid. The award must be set aside.

FIRES FROM THE OVER-HEATING OF FLUES.

THE inhabitants of Edinburgh were thrown into great consternation last Sunday week by its being discovered that the Old Gray Friars Church was in flames. The whole of the interior was destroyed, and the flames communicated with the New Gray Friars Church, adjoining, which shared the same fate, nothing but the walls of the two edifices remain. The fire was caused by the over-beating the flues of the old church. Among the property destroyed was a table once in the possession of the Reformer John Knox.

An extensive fire broke out last Saturday week in a steam flour-mill, situate in Gallowgate, Newcastle-upon-Tyne. The premises were nearly new, and had been fitted up at great expense with all the recent improvements, the model being supplied by one recently erected in the United States. The fire originated in the upper part of the building, it is supposed from the heating of the flues, whence it had communicated with some of the beams in the vicinity. The damage done is estimated at 2,000*l*.

Last Sunday morning before the commencement of service an alarm was created at Chiswick, by the outbreak of a fire in the parish church. The beadle, while repairing one of the bell-ropes, had his attention arrested by a piece of burning wood falling upon his head from the spire of the church. Upon making his way into the belfry he found the spire, which was composed principally of wood and lead, in a blaze. Having procured assistance, the parish engine was drawn out and set to work, and the fire was confined to that portion of the steeple where it originated; but it was not entirely extinguished until considerable damage had been effected, the spire being much burnt and injured by the molten lead flowing down. The ceilings are also damaged. The cause of the fire is supposed to be the over-heating of one of the flues.

From a similar cause, St. Paul's Church, Covent-garden, was in great danger of being destroyed last Thurday morning. The beadle was fortunately on the spot, and by prompt exertion the fire was soon extinguished.

THE BURIAL GROUND NUISANOE .-- Mr. Geo. Alfred Walker, in pursuance of his long-continued and praiseworthy endeavours to abate the injurious practice of burying in towns, has recently drawn attention to some disgrace-ful proceedings at Spa Fields Burial Ground. He says: - "This ground is surrounded by houses, many of them tenanted by respectable individuals. On the right is a one-story erection, called a bone-house. For some months past the neighbouring inhabitants having observed flame and sparks issuing from the chimney, entertained apprehensions that improper practices were in progress, and on a recent occasion, called upon the engine-keeper of the parish for his assistance in extinguishing what they believed to be a fire. He demanded admission, but was refused and resisted by the grave-digger. Being determined, however, to execute his duty, he seized a crow-bar, and having threatened to bleak in the door, it was opened. He observed a great quantity of coffin wood piled round the room drying, a fire made entirely of comms in the grave, and tions of human bones also. The engine keeper made entirely of coffins in the grate, and porparticularly noticed the appearance of chimney, and charged the grave-digger with having used water to extinguish the flame, which was denied; and he was told that what he "thought was water—was pitch;" and this was the fact. Thick flakes of pitch were adhering to the inside of the chimney, thus giving palpable evidence of the material consumed, -viz., coffin wood, about two pounds of pitch being used in 'pitching' round the inner joints of an ordinary coffin. The inhabitants of Ex. of an ordinary coffin. The inhabitants of Ex-mouth-street, Fletcher-row, Vineyard-gardens, and Northampton-row, in the immediate neighbourhood, have frequently complained of 'a tremendous stench' of a peculiar kind, which they say proceeds from the burning of human remains and coffins."

NEW STREET TO LONG-ACRE.-We receive great complaints against the bad and inconvenient form of many of the houses lately erected between Leicester-square and Long-Acre. We must look at them.

THE NEW MKCHANICS' HALL AT NOTTING-HAM....The foundation-stone of this building (be completion of which was celebrated last Tue-day week) was laid on the 12th of June, 1843. The erection is of brick, and stuccoed, and the front and side elevations are Grecian. The capitals of the columns are Corinthian. The external dimensions of the edifice are 124 feet long, 62 feet extreme width, and 46 feet high. The one pair is almost entirely occupied by a noble hall, 80 feet, by 45 feet, and 30 feet bigh. Under the orchestra is an upper rallerv for natural history, 50 feet long, 8 feet 6 inches wide, and 12 feet high; also a committee room, apparatus room, music library, &c. The ground, was presented to the members by John Smith Wright, Esq., of Rempstone, president of the institution.

Corresvondence.

BUILDERS' TENDERS.

SIR,—During the last year, I have been a constant reader of your valuable miscellany, and it is with considerable pain I have from time to time observed inserted under the head "Tenders" much to detract from that high tone of moral feeling and action which it otherwise inculcates? In what respect, I would ask, can your readers be edified, or that system of fair and honourable dealing which you so pro-perly advocate be promoted, by such announce-ments as are frequently to be found there? Talk about competition amongst architects, why it sinks into nothing when compared with an announcement of last week as to estimates; for we are informed that some half-dozen (I hope not builders) had met together near Wisbeach in most unworthy "Leverington Church;" and what is the result? why THE BUILDER is made the channel through which to inform the public that these worthies are ready to undertake work, I suppose from the same plans and specification (as nothing is said to the contrary), at sums varying from 25 to 60, aye 80 per cent. over or under each other; and thus builders as a body are held up to the world as men destitute of those common principles of action by which honest men are guided, and that dewhich honest men are guided, and that de-grading, demoralizing system of competition, so much practised in the present day, although condemned by all good men, is perpetuated. Now, Sir, THE BUILDER during the past year has been made the medium through which this sort of advertisement has been announced to the world, and I really feel a degree of disgust when I see the names of architects parading these puffing announcements which frequently, from the humble amounts, tell a sad, humiliating tale, but nevertheless are calculated to feed the cupidity of exacting employers, and damage the reputation of honest men; for the man whose estimate so far exceeds that of a speculator or needy adventurer is sure to be set down as disbonest, when nine times out of ten it is the only real honest offer amongst them, and the principle upon which it is founded the most fair. How do you account for these discrepancies (to call them nothing worse), in estimates for the same work, frequently pub-lished in your paper? It is true, Mr. Sugden has thrown some light on the subject in his letter of last week, wherein he states the quan-tities for the work were handed to him by some irresponsible party; on inquiry, he is informed they are correct; they contain 1,000 feet less of stone than he was called upon to use; the amount of the building is to that extent kept amount of the building is to that extent kept down, he signs the agreement and now (perhaps properly), complains of the consequence. I do think, Sir, your readers have some claim on you to exhibit in their proper colours such transactions when forced upon your attention, and not to allow those specious announce-ments "Tenders" to be published to the world with a sort of advertising impunity.—I am, Sir, yours, &c. TBUTINA. Sir, yours, &c. January 30th, 1845. TRUTINA.

[If the publication of tenders, often shewing ruinous differences between the highest and the lowest, have the effect of drawing attention, as it has drawn the attention of our present correspondent and many others, to the evils of the system, it may lead to some change, and so effect good .- ED.]

MODE OF HEATING CELLS .--- PENTONVILLE PRISON.

SIR,-In reply to "A.B.," Northampton, I beg to state that the cells at Pentonville Prison are warmed by the fresh air passing over an iron case filled with hot water, pre-vious to its being conveyed through the vertical flues leading to each cell. The apparatus was fixed by Messrs. Haden, of Trowbridge. The same system is now being adopted at the new prison at Northampton. The ventilation of Pentonville prison has been noticed more than once in THE BUILDER, but not favourably. We have, however, excellent health here, there. being very little sickness amongst the prisoners, which would not be the case under a bad system of ventilation. — I am, Sir, your obedient servant,

THOMAS LAURIE, Clerk of the Works.

CORRESPONDENCE ON NEW METRO-POLITAN BUILDINGS ACT.

WIDENING STREETS UNDER THE BUILDINGS ACT.

SIR,—There is a very narrow part of High-street in consequence of the houses having been originally built thus opposite a straight line. The freeholder and the coma straight time. In a freeholder and the com-missioners of pavement are willing to join in the expense of pulling down the fronts and setting them back, so as to make them parallel. Now the new Act, under the head "Front," says, if one front be taken down the height of one story, party timber partitions and walls under and over the same are to be taken down, and party walls substituted.

If I read this right, this great improvement cannot be made; your view of this case is respectfully requested. — Yours,

Shadwell. J. T. L.

["For the purpose of preventing the ex-press provisions of this Act from hindering the adoption of improvements," &c., the official referees are required by the 11th section to set forth to the Commissioners of Woods any grounds for a modification of its rules that may be submitted to them, and the commissioners are empowered to direct the official referees to make such an order in the matter as may appear to them to be requisite. application would not be expensive, and might readily be made : it does not seem likely, however, that it would be successful in the present case.—Ed.]

TEMPORARY BUILDINGS.

SIR,--Can you inform me, through the medium of your valuable journal, whether 1 medium of your valuable journal, whether I am at liberty to build in my garden a shed, to be used as a temporary joiner's shop for ten or twelve months, with just room for one bench, without being obliged to build accord-ing to the new Building Act? It would be clear of any other building by about 10 feet, and could not interfere with the landlord's in-surance.—I am, Sir, yours, AN OLD SUBSCRIBER.

Dover-road, February 5th, 1844. [It must be built in accordance with the provisions of the Act.—ED.]

JURISDICTION OF OFFICIAL REPEREES.

Sir,-In your paper, 25th January, you give an extract from a decision, or rather an opinion of the official referees, as to the construction of the term "already built," with reference to buildings commenced before 1st January last, in which it is stated, "the commence-ment must be a *bond fide* one; and that our present impression is, that the erection of the footings with two or more courses of the walls themselves built in a workmanlike manner, is such a commencement." From the vast number of houses so commenced, the question becomes a most important one. With every respect and deference to the legitimate antho-rity of the referees, I cannot understand how they at present assume to act in the matter they are an Appellant Court from the district surveyors, called into action only upon ground of complaint by or of such surveyors. Who has the power, or what would be the course taken to insist upon parties proving the bona fides with which such operations were com-menced? And still less do I imagine they could insist that such commencement should be done "in a workmanlike manner." The Act from the 1st January last, evidently controls workmanship and construction; but the exceptive clause distinctly implies that parties up to that period may adopt the course they have heretofore pursued. It would, from the opinion of the referees, appear that what they term a bona fide commencement would not be controlled as to any extent of work. They then define what would be sufficient under any circumstances. And, I presume, the inference to be drawn is, that where bona fides cannot be proved, a less quantity of work than they have defined would be considered an evasion of the Act, which is a term I cannot admit. It would seem, the only course that can be taken to raise the question would be by complaint of the district surveyor (treating the alleged com-mencement as nugatory), that he had received no notice of the commencement of the building. If resisted, by an appeal to a court of law upon the construction of the clause, I take it, the onus probandi would be on the district sur-

veyor- I cannot imagine the equitable jurisdiction, given to the referees for all matters arising after the 1st January, would be permitted to operate upon questions in difference Another important point is involved by the quoted opinion of the referees as to the progress of works so commenced, in which they say, "the parties concerned are at liberty to say, "the parties concerned are at liberty to pursue what course they please, so that the buildings are finished on the 1st January, 1846." To this opinion I would demur, as it appears to me, the finishing of the building is not in any way controlled. The clause treat-ing of what is to be deemed "already built," states, houses so commenced are to be "covered in and rendered fit for use within twelve months thereafter." But this is merely a permissive clause, not made liable to any penalties under the Act, which only accrue for acts of omission commission in respect of works began er the 1st January. The following clause, or after the lst January. The following clause, which is inactive as to the term "hereafter to be built," distinctly states that it is "to apply be built," distinctly states that it is to apply to all buildings to be built or commenced after the 1st day of January, 1845, or which being commenced shall not be covered in within twelve months thereafter." I would therefore inquire with whom is the power of complaint, or what penalty attaches for their not being "rendered fit for use within twelve months thereafter?" I will not further trespass on I will not further trespass on your columns, although I consider the opinion of the referees as to streets "formed after the passing of the Act" would admit of question. Yours, &c. GREENWAY ROBINS, Architect.

Hill-street, Peckham, Feb. 4th, 1845.

JURISDICTION OF OFFICIAL REFEREES.

SIR,-Referring to your note appended to the letter of "A Constant Reader" in your last No., in which you doubt the doctrine therein laid down, in respect to jurisdiction of official referees, there cannot arise a doubt that the official referees have jurisdiction in all matters upon which a difference may arise upon any point in "all buildings commenced after the 1st of January, 1845;" the question at issue is as to buildings commenced before that day. The officials have themselves admitted that they omicials have themselves admitted that they have no jurisdiction in a new district, vide their reply and directions in answer to Mr. Allen, and published in your No. 103. As to old districts, the Act 14 Geo. 3, c. 73, is still in operation in all cases of beginning before the 1st of January, 1845, and will so continue to January 1845.

continue to January, 1846.

Now, as there is very great doubt upon this point, it would be very satisfactory to me and many others to be enlightened, and the question settled, before we recommence our build-ing operations, having "already commenced" so as to come within the terms and conditions of "already built," as laid down in the con-struction of words, 7 & 8 Vict. Trusting that yourself or some of your readers will give attention to the question at issue, and enlighten your readers thereupon,--I am, Sir, &c., An OLD SUBSCRIBER.

5th February, 1845.

FALLING OF THREE NEW HOUSES IN LIVERPOOL.—Last Thursday week three new and unfinished houses in Upper Canningstreet, fell with a tremendous crash, the walls carrying nearly the whole of the joists, floors, &c., into the cellar, and smashing the timber into comparatively small pieces. The build-ings were of four stories in height, of brick, and formed the eastern end of a new row of houses on the south side of the street. Luckily no one was by at the time of the accident. We find that the lower or cellar portion of the walls to the datum level was roughly built of broken pieces of soft freestone called "nobling," and so imperfectly put together as to be inadequate to support the superincumto be inadequate to support the superincum-bent weight rising to an elevation of 46 feet. The walls were but 9 inches in thickness, which were quite inadequate for buildings of that size. The houses are upon what was formerly Mosslake-field, in which the unbroken ground is yet a black moss to the depth of 2 or 3 feet. The foundations, however, were sunk below this to apparently a stratum of soft sandstone, and the probability is that the house gave way from the cause assigned.—Liverpool Courier. Courier.

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Miscellanea.

SPONTANEOUS COMBUSTION OF GUANO.— In our impression of the 28th of last September, we stated on the authority of Professor Buckland, that two churches in Italy had been destroyed by fire, in consequence of an accumulation of guano in their towers. This statement was at the time considered by many well-informed persons to be extremely doubtful. The following account of the destruction of a ship, which we extract from the Hull Packet of last week, will go far towards proving at least the possibility of such a catastrophe.— "The steam-packet Waterwitch, arriving at Hull from London, on the 15th inst, brought into port the master and crew of the barque Ann, Storey, of Sunderland, who had been picked up by the packet in an open boat, to which they had taken on the destruction of their vessel near Hasborough Sand, on Tuesday erening. It appears by the statement of the shipwrecked men that the Ann, a new barque, on the first voyage, was returning from Ichaboe with a cargo of guano, and unfortunately struck on the sand, and, while beating over, shipped a quantity of salt water, which, penetrating the cargo, caused almost instantaneous combustion. A volume of smoke rising through the fore hatchway warned the crew of this new danger, and induced their taking immediately to the boat, without saving any thing but themselves; and scarcely had they done so, when a tremendous explosion of the gas, engendered by the partially-fired guano, blew the stern out of the vessel, which then filled, and sank in deep water."

Blied, and sank in usep water. FALL OF A HOUSE AT LIMERICK.—A most appaling and fatal accident occurred in Limerick last Sunday night. A woman named Shaunessy, resident in Sheep-street, off Shaunessy, resident in Sheep-street, off Athlunkard-street, had died in the morning, and her husband, conceiving he had not sufficient room to wake the corpse in his own house, applied to a man named Mason, who lived opposite, for the use of the upper part of his house for the purpose. Masson, know-ing the rottenness of the timbers, and fearing the consequences, strongly objected. Even the deceased, offered her house, which mother of had no lofts, and where no accident could have occurred. But all was of no avail, Shaunessy persisted in having the wake at Mason's. The bouse consisted of three stories, and the upper or attic one being unoccupied, the wake was held there. A large number of women and two men were collected in the evening, when, about 8 o'clock, the floor gave way in the centre, and the entire were precipitated to the foor beneath, which also gave way, and all came to the under floor or kitchen with a tremendous crash and wild shriek, which was heard at the distance of several streets. By this melancholy accident eleven persons were killed and from sixteen to twenty grievously maimed some with legs and arms broken, skulls fractured, and one man had his back broken.

PUBLIC NUBSERIES FOR CHILDREN.—An Institution has been opened in Glasgow for the reception of children, from one to four years of age, belonging to the working classes, and is calculated to be of great service. A large building has been taken in an open part of the city, furnished with an extensive green and play-ground for the recreation of the children. The *Glasgow Examiner* says, "the ground floor contains a large kitchen, and a hall in which the juvenile community are assembled at meal hours. On the next floor there is a range of sleeping apartments, furnished in a plain, but neat and comfortable manner, and a room in which the children are tended by nurses, and, if competent, taught some useful lesson by means of drawings or pictures similar to those used in infant schools. The inmates are from one to four years of age. Some of them, whose mothers are employed during the day, remain in the institution from seven in the morning till the same hour in the evenine. During that time they are carefully attended and supplied with nutritious food for the trifting sum of twopence. Others, such as orphans, receive, in addition, comfortable lodging at night, for the same insignificant sum. Every thing, in short, is done, and done faithfully, ' to supply, us far as possible, the place of the absent parent;' and this is abundantly manifested by the appearance of the children, who seem contented, happy, and comfortable."

HEATING GREEN-HOUSES.—At the Hope Nursery, Leeming-lane, Bedale, is a small propagating-house, which is heated in an ingenious manner. The top of the furnace of the stove having been removed, it was replaced by a small boiler, from which two iron pipes, of 14 inch in the bore, proceed in the usual way, pass to the propagating-house, and enter what may be called the propagating-box, the one at the top near the front corner, the other near the bottom of the back corner; the box occupies a pit having a path before and behind; it is three inches in depth in the inside, and is formed of 14 inch deal, having a division up the centre for the circulation of water; the top is covered about three inches in depth with sand, there being an edging of wood that height all round, and in this the pots are plunged. The temperature of the house is kept up by zinc pipes, which issue from the front of the box at the corner near where the flow iron pipe enters. The whole is found to answer very well, especially in autumn and spring, when heat is most required; it is all gained heat. A span-roofed house here is glazed in a peculiar manner; the glass, after being placed on a bedding of putty in the usual way, is not puttied down, but painted with white lead of the consistence of rather thick paint; two or three coats of this are said to answer admirably; the white lead does not give way and peel off as putty often does.—*Correspondent of Gardener's Chronicle*.

FIRE ANNIHILATOR.—Dr. Ryan, of the Polytechnic Institution, has recently deli-vered a lecture "On Fire," for the purpose of explaining an apparatus lately invented by Mr. Phillips, of Bloomsbury-square, called the "Fire Annihilator." After explaining the *phlogiston* theory of the earlier chemists, and the more modern views of Lavosier and others, the lecturer proceeded to prove, that combustion under all circumstances is the result of chemical action. A considerable portion of his lecture was afterwards devoted to the consideration of supporters and non-supporters of combustion, or to those conditions which are necessary either to maintain fire or to prevent its action; he more especially pointed out the effect of volumes of free nitrogen or free car-bonic acid upon the flame of coal gas; and, after shewing that combustion instantly ceased in an atmosphere containing but a small per centage of these gases, he proceeded to explain that Mr. Phillips used a mixture of coke, nitre, and sulphate of lime, with a little water - the products of its ignition were principally free nitrogen, carbonic acid, and water vapour. To illustrate the office of the apparatus, which for a large house is only the size of a small stove, Dr. Ryan kindled a fire of patent wood, to which he added about half a pint of spirits of turpentine, in an iron house when the flame was at its height, he introduced a small apparatus, holding not more than two ounces of his material, and in half a minute the fire was completely extinguished. As the apparatus is small, and may be kept charged, requiring only the action of a trigger, on the requiring only the action of a trigger, on the alarm of fire it may be carried to any part, and immediately used. It will prove of vast utility in ships, as it may be placed in the hold, and on an alarm of fire, the trigger may be pulled, and the gas will escape, thus putting a stop to the ravages of the devouring element.

The new bridge at Besons, over the Seine, composed of seven arches of 80 fect span each, has been opened to the public. It is said to be a remarkably light and elegant construction in iron, built according to Mr. Neville's system of horizontal trussed girders, and was completed in six months.

ARTESIAN WELLS IN AFRICA.—M. Fournel has suggested to the Paris Academy of sciences, that by sinking artesian wells it would be practicable to have a constant and abundant supply of water throughout the whole extent of the desert.

STATUE TO SIR H. FLEETWOOD.—The inhabitants of Fleetwood are about to erect a statue to Sir H. Fleetwood, the founder of the town, and originator of the Preston and Wyre railway.

NEW PLASTER.—A new plaster has been invented by a lady named Marshall. It is said to dry with great rapidity, to present a good surface for painting, and to be cheap.

THE ROYAL EXCHANGE.-The merchants of London have felt themselves so seriously undersigned merchants of the city of London are of opinion that, in the construction of the new Royal Exchange, sufficient attention has not been paid to the comfort of those who attend the same, and beg most respectfully to submit to the Gresham Committee the followsubmit to the Gresham Committee the follow-ing alterations, which are necessary before they can assemble there without danger to their health and personal comfort. The altera-tions suggested are—1. That the area be covered in. 2. That some remedy be pro-vided to remove the cold damp from the pave-ment. 3. That a remedy be also provided to protect them from the current of air." Tha protect them from the currents of air." above petition ,has been signed by Messrs. Barings, Rothschilds, Heath, Morris Prevost, Barings, Roinschlus, Heath, Moris Lices, Doxat and Co., Lemme and Co., and some bundreds of the first firms in the city. After much discussion in Committee, the clerk was directed to communicate to the memorialists, "That in the month of September, in the year 1838, before the Gresham Committee took any steps whatever as to the erection of a new building, they applied by circular to most of the leading merchants and brokers, requesting their opinion as to whether the new Exchange should be a covered hall or partially open, as in the original Exchange of Mr. T. Gresham, and in the one recently destroyed; that besides, the committee took every opportunity, by personal inquiry, of ascertaining the wishes of their fellow-citizens on the subject; that the result of the circular and of these inquiries was, that a large majority wished the Exchange to be partially open, as heretofore, alleging the great noise in the Bourse at Paris, and the necessity for ventilation of the most free kind, as their reasons for the decision; that in consequence of this determination they directed a part of the merchants' area to be left uncovered as before, but that, for greater shelter, they fur-ther directed that the covered space should be increased from one-half (the proportion of the space covered in the late building) to twothirds, and that the architect of the present edifice had strictly followed out these instructions: and for these reasons the committee could not comply with the wishes of the mer-chants; that with regard to currents of air, the committee had directed such inner doors to be put up at the north and south entrances as might check the draughts, at the same time providing that such doors should not interfere with the extensive uses of the area of the Exchange as a thoroughfare to all the neighbouring streets, the Bank, the Stock Exchange, and the other important public and private buildings of the neighbourhood.

THE QUIORSAND UNDER THE NEW HOUSES OF PARLIAMENT. — Our readers may not be generally aware that the foundations of the new Westminster Palace actually float on a quicksand. Westminster Hall and the old palace for many centuries (upwards of eight) have done the same, so there would seem to be no reason for apprehension. This quicksand unless confined, has a tendency to rise, spread, and shift itself. It is thoroughly surrounded by walls of solid concrete, and above it, keeping it down like the cork of a bottle, is a deep nest of concrete. The foundation, however, of the Victoria or Record Tower, as it is called, has passed through the quicksand; because of the great weight the tower will have to sustain, a very ticklish operation was performed last week near the ventilating shaft of the present houses. To prepare for new buildings, it was necessary to excavate immediately close to this shaft, and even below it. The workmen proceeded, almost inch by inch, stopping down the quicksand the instant it began to rise. Fears were entertained for the safety of the shaft, which weighs 200 tons, but no accident whatever happened. The danger is passed, and the works are nearly done. It was curious to see the excavations exhibiting at once the old and new Houses of Lords and Commons, Westminster Hall, the crypt of St. Stephen's, the foundation of the ventilating shaft, &c.—The Bristol Mirror.

A CEMETERY AT HULL is talked of, and a public meeting is to be called to consider the proposition.

Tenders.

The tenders for Twenty-four Engines--sixteen of The tenders for Twenty-four Engines—sitten of 43-inch cylinder, or about 45 h. p., and eight of 12 h. p.—were received at Exeter by Mr. Brunel and the authorities of the South Devon Railway. The contracts were taken by Boulton and Watt, and Messrs. Rennie—the amount from 40,000%. to 50,000%. The principal Cornish engineers and founders were in attendance.

Tenders delivered for Finishing a House, com-menced by J. Brown at Walworth, for Mr. Ireland. Charles Foster, Esq., Architect, 3, Northampton-street, Islington.

| oos, remerces | | |
|-----------------------------------|--------------|----|
| Pickford | £9 60 | 0 |
| Hawkins | 894 | 10 |
| Brake | | |
| Barnesby (for Mr. Flower) | 795 | 0 |
| Opened in the presence of the par | | |

NOTICES OF CONTRACTS.

For erecting and completing the Lower Sluice and Sluice-Pit at the top of the Eau, Brink Cut, about 4 miles above Lynn. — Messrs. Walker and Burges, 23, Great George-street, Westminster; or Mr. George Game Day, Clerk to the Middle Level Drainage Commissioners. St. Ivan. February 10

Drainage Commissioners, St. Ives. February 10. For the erection of New Buildings in Pembroke College, Oxford. - Plans, &c., prepared by Mr. Haywood, Architect, may be seen at the Master's

House. February 11. For the erection of two Fever Wards in the workhouse at Slough.—C. P. Barrett, Clerk of the Union, Eton. February 11. For the erection of a Cast-iron Tank, 52 feet dia-

meter and 16 feet deep; and for a double or Teles-copic Gasholder, to work in the same. Also for a double or Telescopic Gasholder, 70 feet diameter, to work in a tank 18 feet deep.—Mr. John Rofe, Engineer, Gas Works, Preston. February 12.

Engineer, Gas Works, Preston. February 12. For a supply of Railway Fastenings for the Great Southern and Western Railway, Ireland.— Mr. William Taylor, Secretary, 3, College-green, Dublin. February 17.

For such Mason's and Pavior's works (stone For such masons and raviors works (stone paving only) as may be required by the Commis-sioners of Sewers of the City of London, for the term of three years, from the 25th of March next. Joseph Daw, Esq., Guildhall, London.—February 25.

For the supply of Granite or other hard stor for the service of the Stone's End district of the Surrey and Sussex Roads.-Road Office, Charing Cross, and W. S. Gaitskell, Esq., 21, Stamford-street, Blackfriars' Road.

For supplying the Great Western Railway Company with such quantity of the following articles as may be required from the 1st of April, 1845, to the 31st of March, 1846; viz. Bar and Pig Iron the 31st of March, 1846 ; viz. Bar and Pig Iron —Castings—Bolts and Rivets—Copper (sheet and ingots)—Ironmongery, screws and nails—Brass and Iron clasp, closet tacks and wirework—Lead and Zinc—Steel for springs—Timber—Tubes, brass, copper, iron and zinc—Patent Wheel-tire, and va-rious other articles.— Chas. A. Saunders, Esq., Secretary, Paddington. February 27.

Secretary, Paddington. February ar. For the Mason's and Pavior's Works, supply of Guernsey Granite Chippings and Yorkshire Paving, for one Year, from the 25th of March next, for the which of St George. Hanover-square. Mr. R. parish of St. George, Hanover-square. Mr. R Lees, Clerk to the Paving Committee. March 4.

For the supply of 20,000 tons of Iron Rails, and 7,000 tons of Iron Chains, for the Newcastle and Berwick Railway.—George Hudson, Esq., Railway Office, York, and at 24, Great George-street, Westminster. March 4.

For the supply of 100,000 Railway Sleepers for the Newcastle and Berwick Railway.—George Hud-son, Esq., Railway Office, York. March 4.

For the supply of 11,000 feet of nine-inch iron Pipes for a new line of Aqueduct to be laid in the Island of Malta.—Vin. Casolani, Collector of Land Revenue, Office of Land Revenue and Public Works, Valletta, Malta. March 31.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

February 10.-At the Gun Inn, Eridge Green; 4,300 superior Fir Trees of various kinds, long 1. Solv superior in incess of various industriate, long length, large size, and clean growth; also a large quantity of capital Larch, 32 large Ash Trees, about 900 smaller ditto.—Mr. Hart, auctioneer, 1, Wilton-place, Grosvenor-road, Tunbridge-wells; and Mr. H. Hickmott, Eridge Castle.

February 13.-Under the Arches in the Railway Path between the Spa-road and Greenwich : A large quantity of Portland, Granite, and Bramleyfail Stone in blocks, coping. caps, steps, sleepers, paving, foot stones, Bath blocks, &c. &c.—Messrs. Southey and Son, Auctioneers, 191, Tooley-street. THE

BUILDER.

February 14.—At the Cock Inn, Rocester, Staffordshire; various lots of Oak, Ash, Elm, Alder, Aspen, Willow, Poplar, Larch, Chesnut, Fir, and Beech Trees, all lying on the banks of the Cauldon and Uttoxeter Canal.—The office of Sir William Home Southeaster building Chester William Horne, Southampton-buildings, Chancery-

William Horne, Southampton-Dultings, Challery-lane; or Mr. William Pegg, auctioneer, Uttoxeter. *February* 17, at Bristol; Feb. 18, at Dorsley; Feb. 19, at Cirencester; Feb. 20, at Leominster,— a number of Maiden and Pollard Oaks, and Maiden

a number of Maiden and Pollard Oaks, and Maiden Elms.—Messrs. Clark, Medcalf, and Gray, so-licitors, 20, Lincoln's.inn Fields; and Messrs. J. P. Sturge and Co., surveyors, Bristol. *February* 20.—At the back of St. George's-terrace, Dalston Rise; 300,000 sound new Stock and Place Bricks, and a large quantity of Burrs and Bats.—Messrs. Humphreys and Wallen auc-tioneers 68 Old Broad.street.

tioneers, 68, Old Broad-street. February 21.—At Garraway's Coffee-house, Cornhill: 300 loads Quebec Red Pine; 100 loads Yellow Pine; 100 loads of Ash; 80 loads of Oak; 10,000 Yellow Pine deals and battens; 10,000 Spruce deals and battens.

February 25.—At the King's Arms Inn, Hemel reorwary 20.—At the King's Arms Inn, Hemel Hempstead; a large Fall of capital Oak, Ash, Elm, and Beech Timber Trees, the greater portion of which are of very large dimensions and superior quality.—Mr. James Adams, auctioneer, Clarence-street, Staines, Middlesex.

COMPETITION.

Plans and estimates are required for a Work-house, to contain about 1,180 persons. The whole to be done in a plain and substantial manner, without any expensive embellishments. The plans and architects' estimates to be sent to Robert Mercer, the Clerk of the Clifton Union, Pennywell Road, Bristol, on or before the 17th of February next, and the Board of Guardians will adjudicate on the 28th. The architect producing the best plan in the estima-tion of the Board will be employed at a sum not exceeding 5 per cent. on the outlay, and a gratuity of 25 guineas will be given to the architect producing the second best plan in the opinion of the Board.

TO CORRESPONDENTS.

"Ignoramus" asks if "such a work is to be had as a dictionary of all terms used by architects and surveyors as applicable to buildings ?" An excellent glossary of such terms (170 pages) is to be found in Guilt's "Encyclopædia of Architecture." We

in Guilt's "Encyclopedia of Architecture." We are glad of an opportunity to say this Encyclo-padia is a monument of ability and industry. "Scrutator."—The correction is not advisable. "Honestas," "A Builder," and other corre-spondents who have favoured us with communica-tions on these still accident subdates. sponaents who have javourea us with communica-tions on those stir-exciting words in the Buildings Act, "commenced before," must pardon us for not publishing them. They would occupy the whole of the journal. The subject is discussed in more than

one part of the present number. "J.H. (Pontypool)" wishes to know the materials used for polishing marble, and how they are to be emplied applied. "G. R.,"

applied. "G. R.," if he will kindly refer to former numbers of THE BUILDER will find that the fallacies of London Building Societies have already been fully exposed in our pages. The pamphlets and his request shall be forwarded. We shall be happy to hear from him on other subjects.

St. Bartholomew's Hospital views next week. "J. K. (Gorey)."—The drawing he refers to

did not reach us. "W. C." wishes to have the address of a timber

merchant in London who has some well-seasoned oak-plank.

Antiquarian" wishes information respecting it pavement found in Lad-lane two or m ancies three years ago; supposed age, &c. "Enquirer" should take the opinion of a sur-

gical friend.

"Constant Subscriber" (Hand-rails).--We have no definite intention to continue the subject.

W. Hawley" is thanked for his communication; it shall appear. "T. H. Cash."—His request shall not be lost

sight of. "E.C.L."—The address arrived too late for

examination. It shall be read. "G. W." (Hackney), must give notice to the

surveyor in bolh cases. "J. Pickard."—The sketch shall be engraved

forthwith. "A Subscriber" (as to undersetting) next week. "An Early Subscriber" is anxious to have "an

"An Early Subscriber" is anxious to have "an analysis of a good brick, shewing the exact pro-portion of each material used in its composition." "An Observer," seeing our notice of the frescoes at Buckingham Palace, refers us to two works of that kind executed by an English artist in the spring of 1842, at the Literary Institution, Graneend Gravesend.

"One of your Subscribers" shall have coneideration.

*** We have to acknowledge several very com τ_* We have to acknowledge several very com-plimentary letters on the improvement visible in our columns. We are not insensible to praise, and will endeavour to deserve it. Arrangements are in progress for still further increasing the efficiency of the journal.

BOOKS RECEIVED DURING THE WEEK. The Quarterly Journal of the Geological So-ciety—Old England, part 14—Supplement to Penny Cyclopedia—Professor Byrne's Report on the proposed Great Western Irish Railways.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, February 10. - Geographical, 3. Waterloo-place, 8 p.m.; British Architects, 16, Grosvenor-street, 8 p.m.; Medical, Bolt-court,

Fleet-street, 8 P.M.; Medical, Boli-Coult, Fleet-street, 8 P.M. TUESDAY, 11.—Medical and Chirurgical, 53, Berners-street, 8 P.M.; Civil Engineers, 25, Great George-street, 8 P.M.; Zoological, Hanoversquare, 81 P.M.

WEDNESDAY, 12.—Society of Arts, Adelphi, 8 P.M.; London Institution, Finsbury-circus, 7 P.M.; Graphic, Thatched-house Tavern, 8 P.M.; Phar-

Graphic, Inacineu-noise laveni, St., I. M. maceutical, 17, Bloomsbury-square, 9 P.M. THURSDAY, 13. — Royal, Somerset House, 8 P.M.; Antiquarian, Somerset House, 8 P.M.; R.S. Literature, 4, St. Martin's-place, 4 P.M.; Medico Bolanical, 32, Sackville-street, 8 P.M.

FRIDAY, 14.—Astronomical, Somerset House, 8 P.M. (Anniversary); Royal Institution, Albe-marle-street, 8] P.M.; Philological, 49, Pall Mall, 8 P.M.

SATURDAY, 15. — Asiatic, 14, Grafton-street, 2 P.M.; Westminster Medical, 32, Sackville-street, 8 P.M.

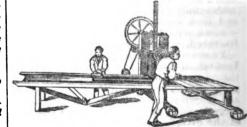
ADVERTISEMENTS.

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Utiff and HOSDER take this opposi-regement they have received since opening their Stone Wharf near the Ferry-house, Isle of Dogs; and, while expressing their gratitude, would assure their numerous customers that no exertion shall be spared to render this wharf a dept where at all times their orders can be supplied with Stone of the best quality, and with promptitude and disnatch.

with Stone of the best quality, and with promptitude and dispatch. There is now a large stock of Self-faced and Tooled York Landings and Paving, Tooled Steps, Sinks, and Coping; fine Slabs for Chimney-pieces and Hearths. All kinds of Yorkshire Block Stone, Bromley Fall, Harchills, Parkspring, and Robinhood. A large and choice selection of Portland and Bath Stone from the best quarries. Fire Bricks, Lumps, Tiles of every description; Lump and Ground Fire Clay. N.B.—Orders for Cargoes to be delivered direct to a wharf or in the river, executed at short notice and on the most liberal terms. A powerful Crane on the Wharf, and Stone and Goods Landed and Re-shipped on reasonable terms. Agent: JOHN TRICKETT, No. 14, Ferry-street, Iale of Dogs.

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This is the most efficient Machine that has been invented for the purpose of making Urain Tiles. Any shaped Tile can be made by merely changing the die, which can be done in a few minutes. It requires but few hands, vis., one man and three boys. With this amount of labour, the pro-duct of a day of 10 hours is as follows, vis:--1 inch diameter of Tile, 11,000 12, ..., 8,000 12, ..., 8,000 12, ..., 8,000 12, ..., 8,000 12, ..., 8,000 12, ..., 8,000 12, ..., 8,000 12, ..., 8,000 12, ..., 8,000 13, ..., 8,000 14, ..., 8,000 15, ..., 8,000 16, ..., 8,000 17, ..., 8,000 17, ..., 8,000 18, ..., 8,000 19, ..., 8,000 19, ..., 8,000 10, ..., 8,000 11, ..., 8,000 12, ..., 8,000 12, ..., 8,000 13, ..., 8,000 14,

TO BRICKMAKERS AND OTHERS. **J**ONES'S PATENT BRICK and TILE-MAKING MACHINE.—With the view of making the public more extensively acquainted with the Advantages resulting from the use of his Machines, the Patentee has had a Brick-making Machine, with all the recent improve-ments, erected by Mesers. Easton and Amos, Kngineers, and the same may be riewed at work at the Patentee's premises. Queen's Wharf, next the Star Coal Wharf, King's Roed, Old Street, Pancras Road. on and after the 13th inst. between the hours of eleven and three. These Machines will enable the Brick-maker to mould cheaper and better Bricks, which will dry in one-third less time, require less straw and stack ground, and burn better, and will save the expense of pug-mills and moulds. Machines supplied or let on hire, and licences gra ted on application to the Patentee at the above address, where Prospectuses may be procured, as also on ap-plying by letter (post paid) to Mesars. Cardale Cardale and Jliffe, Solicitors, 2 Bedford Row.



SATURDAY, FEBRUARY 15, 1845.



3 T is much to be desired that the construction of our ordinary dwelling - houses should be improved. The system at present pursued in row after row, and square

after square, is defective in the extreme, and contradicts very strangely our assumed advances in scientific knowledge. Use begets indifference : whatever has answered the purpose once will do so again, it is thought, and so men go on year after year in the same defective course, without once thinking of its inefficiency or making any efforts at improvement, which in many cases might be effected without any immediate increase of expense, and in all with a positive saving ultimately. The assistance of architects is seldom sought in the construction of small houses; their attention, therefore, is hardly called to the subject, and the result, unfortunately, is that even in cases where they are employed, the same beaten track is pursued; additional effect, if any thing, is alone aimed at, and the employer sometimes finds that his houses have cost him more money, but are little improved in stability, arrangement, or convenience, by the interference of the man of taste. It is a study that would amply repay serious consideration, and loudly demands it; and that not merely as regards sound construction, but as to the mode of heating, ventilating, draining, and lighting houses, to which little or no attention is ever paid. Let us look at one of the "eight roomed houses," of which hundreds are in progress towards completion in the suburbs of the metropolis at this moment. A shell of 9-inch brickwork forms it, divided in the centre by a few upright pieces of timber reaching from floor to floor, and framed into a head and cill:-in some there is no cill, the head of the lower partition forming the cill of that above it, and the omission is a gain. At the top of the building a gutter plate, supporting the rafters of the roof on either side, passes from the front wall to the back in the middle of the house, and rests in the centre of its length on the head of the upper partition. The timber in the partitions, which is usually saturated with water, necessarily shrinks in drying, and reaching in lengths, as it does, from the bottom of the house to the top, of course allows the roof and floors to sag very considerably; and the mischief is further exhibited by numerous cracks in the plaster and paper in every room. In the front-wall the openings are usually so placed as to bring the upper masses over the lower voids, and are always covered by an arch of such defective construction as to be literally useless. When, in addition to these and numerous other errors, we see the mode in which the brickwork is often executed-mortar-joints, or rather mudjoints, three-fourths of an inch thick, upright joints one over another, and scarcely any beaders running through the wall-it becomes surprising that so few accidents are heard of. It must not, however, be supposed, that none occur; walls are constantly falling, houses not unfrequently, but very few of these mishaps become known to the public. We have examined two or three fallen 9-inch walls within this last week, and have found them have great faith. Going on then to treat of

consist of two half-brick leaves, which had separated, bulged, and fallen; and we do not hesitate to assert, that there is a tendency to this same result in the greater number of walls now raised by speculative builders. Nothing, indeed, can be worse than the greater part of the brickwork raised in and round London, and we cannot too strongly condemn it or too loudly call for an alteration. The use of Flemish bond has greatly aided to make bad workmanship general, and it is much to be desired that the prejudice which exists against the appearance of English bond could be overcome, as it is certain that by this mode the greatest strength is attained. nine-inch wall properly executed in English bond, with only just enough mortar (of stonelime and Thames sand) to connect the bricks, is stronger, and more effectually keeps out the weather and keeps down the damp, than a wall double that thickness of brickwork such as is too generally found in ordinary buildings. An improvement in the construction of houses concerns us all: we shall lose no opportunity to revert to the defects of the present system, and to suggest the means of remedying them.

MR. COCKERELL'S FIFTH LECTURE ON ARCHITECTURE.

MR. COCKERELL commenced his lecture on Thursday, the 6th inst. (at the Royal Academy), by saying he should treat of the distinctions made by the ancients between civil and sacred architecture, and which, unfortunately, were not regarded by the moderns; and afterwards speak of various buildings used by the Romans -mural decorations, arrangement of ceilings, c. The method he had adopted in this &c. course, namely reviewing ancient buildings, and more especially Greco-Roman remains, was not for the purpose of displaying erudition, but from conviction of the practical advantages that would result to the students from pursuing it. The last half-century had greatly in-creased our materials for such an examination, and there was no excuse if we neglected it. To make these lectures merely antiquarian, would have been waste of time; his object was to make them practical. In examining the works of the ancients, we should strive to graft their ideas on our own. The architects of the sixteenth century confessed the superiority of ancient works over those of the middle ages. Bramante practically studied Vitruvius, so did Palladio and others, and laid down principles which have been received, and raised works that are models for imitation. The professor mentioned Colonna as being imbued with love for ancient art, and spoke of his imaginative work on the arts, which took you into the solitude of ancient cities, and raised beautiful visions of ancient skill. If reading Robinson Crusoe had made many sailors, Colonna's work should make many architects. Mr. Wightwick's "Palace of Architecture" was formed on this model, but he had omitted to enlist the feelings.

Genius afterwards became fettered by the rules which had been laid down, and the result was a revolt in the time of Bernini. He again referred to Canina's work, as affording materials for study. The more completely ancient works were investigated, the greater would the reputation of Vitruvius grow. With Canina for a guide they could not fail to be improved.

The recent devotion to Greek art had done good, but had been exclusive. Practically, architecture had suffered since Vitruvius had lost his credit. The want of distinction between civil and sacred architecture, to which he had referred, was a crying sin in modern practice, as also was the manner in which interiors were treated. Vitruvius expressly interiors were treated. Vitruvius expressly stated that the entablature should be diminished in interiors, but we used the same mass as if it were in the air, which always had the effect of reducing it. The architects of the Revival had observed these distinctions, but not rule. He then examined the Palace of the Quai d'Orsay, at Paris, and some of the works of Schinkel, in whose ability he professed to

civil buildings, he described the Theatre of Pompey, 1,000 feet long, and 532 feet wide, and a few of the porticoes at Rome. The magnificence of some of the theatres was almost incredible: they were used as a sort of Parliament House. In the centre of the scene in theatres of late date an apse was formed, probably to aid the voice. He deformed, probably to aid the voice. He de-scribed the magnificent velarium or awning put up by Nero.[•] Sir Christopher Wren had taken a hint from this for his theatre at Oxford. The velarium at one of the theatres was 550 feet by 450 feet. It required great Its prin-dge. The skill, and was managed by sailors. ciple was that of the suspension-bridge. The professor remarked that when he restored the ball and cross at St. Paul's Cathedral they were obliged to employ sailors in the operations

Returning to the subject of proportions for interiors, he ridiculed the practice of applying details from the exterior of the Parthenon in a drawing-room, or executing in joinery the doorway from the Temple of Erectheus for a doorway from the Temple of Erectheus for a small chamber. It was illogical to employ the same proportions for two different purposes. When speaking of large rooms, he mentioned the Bank parlour as a very admirable apart-ment. By pictorial art we might make rooms seem much higher than they really were. The appearance of extent given by using a number of small parts is shewn in Gothic works. The Adams', considered the side of a room as much as the front of a house. It was de-sirable that it should be represented on paper to a large scale, so as to induce the introduction of greater number of parts to fill the space. When speaking of courts of justice the professor remarked that modern courts of justice were very badly arranged, especially as regarded ventilation.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

An ordinary meeting of the institute was held on Monday evening, the 10th inst., Mr. J. B. Papworth, vice-president, in the chair, when Mr. John Burley Waring and Mr. Nathaniel Thomas Randall were elected associates. Herr Gruner acknowledged the honour of his election as corresponding member, and invited all members of the institute to visit

him when they came to Rome. Mr. George Hawkins read a description of King's Scholars' Pond Sewer, particularly with reference to some recent constructions at Pimlico, which will be found at length in another part of the journal. The paper led to an in-teresting conversation. Mr. Poynter remarked on the badness of the drainage in Paris. As late as the year 1832, when the cholera was talked about, there was no sewer in the Rue Castiglione or in many other equally important streets, although there was every faci-lity for discharging them into the river. Mr. Fowler said, that Berlin was even now quite destitute of a system of sewers. Being built on a sandy flat, little or no fall was to be obtained: deep gutters were dug in the streets, and into these the soil was allowed to run and to remain there for some time. At Hamburg since the great fire, they have adopted a most complete system, under the direction of Mr. Lindley. A plan for the whole was laid down in the first instance, and would be gradually carried out. It was such an extensive work, that thousands visited it, as one of the lions of the place. In order to carrie the miner to remain there for some time. At Hamburg the place. In order to carry the main sewer across the river, it was made to dip about 4 feet; the accumulation of deposit was prevented by periodically allowing a flush of water to pass through it.

Mr. Rode Hawkins then submitted some drawings of a restoration of one of the edifices at Xanthus, from sketches taken on the spot, accompanied by an explanation of the sculptures and architecture. A description of the building will be found in our report of Mr. Cockerell's fourth lecture.

Relative to cleaning the sculptured portions of it, now in the British Museum, Mr. C. H. Smith said he had observed a labourer at work upon them in a very injurious manner, and hoped greater care would be taken. t was understood that Sir R. Westmacott had been deputed to superintend the operation, and we may, therefore, rest quite satisfied that it will be properly performed.

* See THE BUILDEE, p. 18, unter Digitized by

THE BUILDER.

ON THE DRAINAGE OF A PART OF LONDON.

WITH & DESCRIPTION OF THE KING'S SCHO-LARS' POND SEWER."*

At the present day it would be superfluous to dwell at any length upon the benefits derivable in a social point of view from a complete and efficient system of drainage. Its increasity and importance are now universally recognized and admitted; a fact not only evidenced by the very generally expressed desire upon the part of the community to promote its extension, but likewise by several recent legislative enactments framed for its special provision and regulation, and the still increasing interest elicited by the subject.

The wisdom of ancient Rome was not the less conspicaous in her external policy than by those internal arrangements and municipal regulations by which the health, comfort, or convenience of her citizens appear to have been specially studied; and certainly among those public edifices and monuments, whose magnificence is recorded by the historian, or whose ruins now arrest the attention of the traveller, there are nonewhich more forcibly exhibit to us the wealth, magnitude, and extent of the Roman city, than the remains of those subterranean adits formed to receive and convey away the sewage and refuse of her immense population.

In a warm elimate, and among a people where the bath may be considered the almost indispensable luxury and appendage of every dwelling, it is obvious that, next to providing the requisite supply of water, the most important consideration was to secure a ready and expeditions means of discharging the waste from each, as well as from the numerous public fountains and aqueducts of the city: we accordingly find the arrangement and conservation of the sewers to have been at all times an object of especial care on the part of the Roman government.

The laying out and construction of the Roman sewerage upon any definite and regular system is said to have been first commenced in the reign of Tarquinius Priscus, about 600 years before the Christian era. To the same years before the Christian era. To the same period is ascribed the building of the Cloaca Maxima, a work of both historical and architectural interest, since in its date is involved the question of the antiquity of the arch. Some writers, however, are disposed to attri-bute the present covering of the Cloaca Maxima to a much later period, probably when the sewers generally were repaired by M. Agrippa. But a monument which still continues to exist, after the lapse of nearly twenty-five centuries, may, independent of any other circumstance, still excite our interest and admiration, more especially when we consider that in the midst of the degradation and ruin attending her proudest works of art, this great and useful structure of the Roman city retains in some degree its original purpose, and may still be supposed to minister to the health and comfort of her modern citizens.

The arch of the Cloaca Maxima is formed in three concentric semicircular rings, with an aggregate thickness of 5 feet 11 inches. It is built of Peperino stone, and there are occasional introductions of large blocks of Travertine, which no doubt have been inserted in some of the later reparations of the sewer. The interior is perfectly regular, and for so much as remains in continuation, which is about 44 feet, is generally in good preservation; it is about 13 feet in width, and as many in height. In the walls are stone brackets to support the ends of the waste pipes of the fountains; each block of stone measures 7 Roman palms 3 inches in length, and 4 palms 4 inches in thickness. The course of the Cloaca Maxima corresponded nearly with what has been considered to be the most ancient limits of the city. It had its origin very near the site of the arch of Severus, then it passed under the Via Sacra to the Temple of Julius, turning thence under the Via Nova, and skirting the Palatine Hill to the Forum Boariam, which it crossed; it proceeded in a straight line towards the Tiber, into which it discharged a little below the Ponte Rotto, and nearly beneath the "little Temple of Vesta," the whole length being altogether about 1,800 feet (2,500 palms).

As affording some notion of the importance

* Read by Mr. G. Hawkins, at the Institute of Architects.

and extent of the Roman sewerage, it is re-corded by Dionysius of Halicarnassus that upon an occasion when they had become neglected, the censors concluded a contract for their cleansing and reparation for the sum of 1,000 talents, equal to 193,000%. For the maintenance of the public sewers, there was For the a tax levied called the cloacarium, and in the time of the emperors they were placed under the control and charge of the public officers specially appointed for the purpose. In re-garding the extent of these works and the great expenditure which must have necessarily been incurred by the Romans in the perfecting and maintaining such a system of sewerage, we must not lose sight of their extreme and vital importance to a city, of which the ordinary daily supply of water by the various aqueducts alone, irrespective of that derived from wells RIO and other sources, has been estimated at 50 millions of cubic feet, a quantity nearly ten times the present supply of the metropolis by the different water companies, and of which some adequate notion may be formed when we consider that it is more than equivalent to that contained by a lake 380 acres in extent, and 3 feet in depth. However large, therefore, the capacity of the Cloaca Maxima may appear, it cannot be considered much more than adequate to the ordinary duty it had to perform even in dry seasons, and without the concurrence of those sudden and violent storms to which the climate and latitude of Rome are subject.

In England the earlier statutes and laws, upon which the constitution of the different commissions of sewers is based, appear to have had more particular reference to the drainage of open fen-lands, and the protection of districts subject to inundation, or the overflow of the tide. In fact, in the establishment of the various commissions, little else was contemplated beyond providing a quick and ready conveyance of the surface-waters to their respective outfalls. The circumstance, however, of several of the commissions of sewers embracing within their jurisdiction large portions of town districts have, in complicating their functions, necessarily induced an extension of the objects for which they were originally founded.

Before the general adoption of arched sewers, London was subject to the plague and other periodical endemics; and the accounts of contemporary writers of the filthy and disgusting state of the public streets, arising from a want of proper municipal regulation and defective drainage, even so recently as towards the close of the seventeenth century, are scarcely at the present time credible; and the surprise is not so much at the often times fatal and devastating effects of these visitations, but that the city should ever have been free from their influence.

The intimate connection between the sanatory condition of a town and its state of drainage was strikingly illustrated by Dr. Southwood Smith in his evidence before the committee of the Health of Towns. "If," said he, "you were to take a map, and mark out the districts which are the constant seats of fever in London, as ascertained by the records of the fever hospital, and at the same time compare it with a map of the metropolis, you would be able to make out invariably, and with absolute certainty, where the sewers are, and where they are not, by observing where fever exists; so that we can always tell where the Commissioners of Sewers have been at work by the track of fever."

From a strict and perhaps necessarily limited interpretation of the original statutes on the subject, it was not before the commencement of the present century that soil-drainage was allowed to be passed into the public sewers; previously to that period each house had its system of cesspools, into which not only was discharged the whole of the excrementitious matter of the inhabitants, but the almost equally offensive suillage of the sinks and sculleries of the dwellings, the cleansing of which cesspools was a regular and periodical operation, entailing great expense not only to the occupiers, but likewise much annoyance to the inhabitants of the vicinity. This system, however, is happily almost superseded, and the business of nightman, formerly so offensive, is now scarcely known.

But upon closer investigation, and taking into consideration the circumstances of the period, the necessity for cesspools, and consequently these restrictions, were not without some reasonable ground; the limited supply of water for domestic purposes was considered insufficient to drive the more solid matter through the drains into the sewers. This objection, however, can no longer hold, since the water supplied by the different companies is both abundant and sufficient to act as an effectual scour not only to the private drains of the hoases, but also to the public sewers into which they are discharged. The metropolis and its immediate vicinity is

The metropolis and its immediate vicinity is divided among seven different commissions or trusts, in whom are vested the charge and control of the public sewers, with the power of raising rates for their maintenance and improvement. Among these the most important, both from the value of the property within its operation and the extent of country subject to its administration, is the Commission for the "City and Liberty of Westminster and part of Middlesex," the active jurisdiction of which extends from Temple Bar, along the northern shore of the river Thames to Fulham, and northwards from the Thames as far as Hampstead and Willesdon.

This district, comprising an area of nearly 18 square miles, is divided into four divisions or valleys, upon which separate assessments of the sewers' rates are levied. These are known as the eastern and western divisions of the Westminster Sewers, the Ranelagh, and the Counters Creek. The above arrangement is not arbitrary, but is indicated and marked out by the natural configuration of the country itself, being in fact four distinct levels of drainage, each discharging, independently by its own outlets, the waters collected on its surface.

With these few general observations I shall at once proceed to the main object of the present paper, which is to give a brief description of some of the most important improvements effected within the last few years in the sewerage of the second or western division of the Westminster Sewers, more particularly as connected with its main line of outfall—the "King's Scholars' Pond Sewer," which receives by its various collateral branches nearly the whole drainage of this district. The course of this main sewer is pretty nearly through the centre of the valley or district drained by it, and almost in the channel formerly occupied by a rivulet known in early days as the Aye brook, having its source at Hampstead, from the overflow of a spring still in existence, called the Shepherds' well. This, before its stream had become polluted by the encroachment of buildings on its banks, supplied a pond used in those times by the King's Scholars of Westminster for bathing, and supposed to be situated somewhere near to the present site of Vincent-square, from whence it is believed originated the present name of this sever. The whole area of the western district is about 2,300 acres, of which nearly 2,000 are drained by the King's Scholars' Pond sewer; of this surface about 1,500 acres are covered by streets and houses, the number of assessments being about 16,000.

In considering the King's Scholars' Pond sewer as a discharging line of drainage, it must be borne in mind that there belongs to it this essential feature peculiarly distinguishing it from the Fleet, the Ranelagh, or other main outfalls of the metropolis, and which involves a principle of operation entirely differing from them. I allude to the fact, that the whole of the lower portion of the district drained by this sewer, including the larger section of Westminster, comprising an area of nearly 500 acres of valuable house property, is below the ordinary high tide level of the Thames.

As a security to this low district, it is therefore essential that a free emission of the sewage into the river be restrained always at that point by which it might through the ingress of the tide be affected, and consequently the action of the discharge is necessarily limited by gates at the outlet to a short period preceding and subsequent to the flood, being altogether scarcely six hours in the twelve. As an additional protection against any sudden and accidental irruption of the tide, each of the collateral sewers and drains of the main line is carefully guarded, as far as the high tide level, by self-acting flaps. Thus it is obvious, that independently of

Thus it is obvious, that independently of receiving and discharging the drainage of u surface amounting to upwards of 2,000 acres this sewer has to retain at its lowest end, at a secure level to the district, for a period of six hours in the twelve (during the rise and recession of the tide), the whole of the sewage accumulated in that time.

The usual quantity of water thus held back, in dry weather and under ordinary circumstances, is about 100,000 cubic feet; but during storms and falls of rain, this, it is evident, must be far short of the actual quantity passing down the sewer, which, to act effectually as a reservoir, ought to be of sufficient capacity to meet every emergency, otherwise upon the concurrence of a heavy storm of rain with a high flood tide, the same liability would arise of submerging the district; but in this latter case, by the water pent back within the sewer.

This consideration has been the chief difficulty attending the question, and has oc-casioned what may at first view appear to have been an unnecessary enlargement of the sewer at its lower end. When, however, we take into account the extent of surface drained, and estimate the quantity of rain falling upon it during the six hours when the gates are closed at half an inch in depth over the whole surface (which is a moderate computation), and supposing even one-half of this quantity absorbed by the ground, there would still remain nearly two millions (1,815,000) cubic feet of water passing down the sewer, requiring a reservoir of nearly seven acres in extent, and six feet in depth,-we are not surprised to learn that even the present large capacity has been occasionally found insufficient, that more than once the water within the sewer has risen to the height of the external tide, or nearly 14 feet above the cill of the gates.[•] It is evident, therefore, that those few and general principles applicable to the drainage of ordinary districts are, from the peculiar circumstances already alluded to, insufficient for the relief of the one under consideration, and consequently the question of its efficient drainage has at all times been a matter of frequent and earnest consider-ation with the Westminster Court of Sewers. About the commencement of the present century the attention of the court was seriously and more particularly drawn to the subject, and to the necessity of providing an improved outfall for the general relief of the district. Among the reasons which more particularly concurred to urge this, not the least was the fact that, in consequence of the recent great increase of buildings and paved streets in the district (independent of the proportionate increase of sewage thereby occasioned), any sudden fall of rain, from there being less absorbing and retaining surface, was carried immediately into the main sewer. This was not only found to be altogether insufficient in capacity, but, from its irregularity of levels and extremely tortuous course, had the effect of so far damming back the stream, as to occasion, more than once, considerable damage to the adjoining property. It was, moreover, in parts exceedingly old and dilapidated, and the increasing value of the ground near Pimlico, as well as towards the lower parts of the district about Westminster, called strongly for some more efficient protection.

As the present object is more to describe the improved state of this sewer than its original capacity or condition, I need merely observe that, in consequence of these reasons and representations from the inhabitants, complaining more or less of the inconvenience and madequacy of the relief afforded by the old line, the court was induced to seek the professional assistance of the late Mr. Rennie, upon whose report, and that of the late surveyor, Mr. Tredgold, much of the subsequent improvements have been effected. These have comprised within the last forty years an entire re-construction of the old line, from the I names to St. John's Wood, at a lower level and considerably enlarged capacity, a diversion of its course where it passed underbuildings, or was otherwise objectionable, with new outlets, gates, and gate-house, including at the lower end a recervoir for the back-water, these last carried

• Taking the total number of houses drained by the Erzr's Scholars' Pond sever at 16,000, the ordinary daily account of back water would give about 22 cubic feet of wware for each house in the twenty-four hours, about 10th short of the average supply to each tenement by the Bra River and other water companies. The deficiency may 17 and the taken as a approximate measure of that lost by www.retuon and absorption before passing into the public sever. But in the case above assumed of a fail of rain, the Brandruck density absorbed would, no doubt, be Transferribly higher.

out under the direction of the eminent engineers Messrs. Walker and Burgess.

It was before observed that the King's Scholars' Pond sewer was originally known as the Aye brook, a small rivulet, which, in common with the Fleet and others of the now scarcely remembered streams of London, and recorded by the old chroniclers as being both the pride and recreation of her citizees, had its source in the hills near Hampstead, and, following the valley of the western district in a direction nearly north and south, discharged itself into the Thames at no great distance from the site of the present outlets.

The King's Scholars' Pond sewer runs very nearly in the original channel of the Aye brook; commencing at Hampstead, it still receives the overflow of the Shepherd's well, and for nearly a mile through the meadows, as far as the Marylebone and Finchley road, is open, and preserves yet much of its primitive and rural character. Thence it begins to be covered, and to the Primrose Hill road is 5 feet in height and 2 feet 6 inches in width; along the latter road to the bridge over the Regent canal it is enlarged to 6 feet in height by 4 feet in width, receiving in its progress the drainage of Portland Town and St. John's Wood. The surface of the roadway not admitting of the last height, the sewer for a short distance is somewhat reduced, and for the sake of headway is covered with cast-iron plates. From the south side of the canal it continues with a gradually increasing capacity along the Park-road, Upper Baker-street, York-place, Dorset street, and Manchester-street, where it is 7 feet 3 inches in height by 6 feet 6 inches in width. Proceeding then across the centre of Manchester-square, it passes along Duke-street to Oxford-street, when, turning to the eastward as far as Avery-row, along which continuing in a direction nearly parallel to Bond-street, it cuts the south-east corner of Berkeley-square at the foot of Hay-hill; thence, turning to the westward, it passes under Lansdowne-passage, Bolton-row, Sun-court, White Horse-street, across the Green Park, and through the court in front of Buckingham Palace, where its dimensions are 8 feet in height by 9 feet 6 inches in width. Beneath the south wing of that building, under which the sewer passes, is a vaulted chamber or subway, and within it is fixed a simple contrivance, of a cast-iron valve and pentstock, by which the water from the main line may readily be diverted for the purpose of cleans-ing the flat sewers of Westminster lying be-tween the palace and Millbank.

The line now continues along the Pimlico road as far as Charlotte-street, between which to the Stag Brewery its dimensions have en-larged to 10 feet 9 inches in height, and 9 feet 6 inches in width; beyond this it passes between the back of the houses in Trelleck-terrace, and the premises of J. Lettsom Elliott, Esq., as far as the intersec-tion of the Vauxhall bridge-road. This last portion is open and is 16 feet wide, and con-fined on each side by retaining walls 12 inches above the level of the highest known tide of the river. Beyond the Vauxhall-bridge-road, the sewer is open to Warwick-street, but with a greatly increased sectional area for the waterway, the form being an inverted elliptical arched bottom, with a chord line of 19 feet 7 inches, and a versed sine of 3 feet 4 inches, confined by sloping earth embankments, whose superior edge is raised 12 inches above the highest tide level. From Warwick-street to White's-bridge the sewer is again covered, being 19 feet 7 inches wide at the springing, with a head-way of 13 feet 4 inches; and for 140 feet be-yond this last point the size is again increased, being 20 feet in width and 14 feet 2 inches in height; whence to the gates at the outlet, pas-sing to the eastward of the works of the Equitable Gas Company, the sewer continues open with retaining walls carried above the highest tide level, being, however, for a length of 250 feet from the sluice gates further en-larged to a width of 40 feet, for the purpose of obtaining additional reservoir capacity.

The gates, of which there are two pairs, are of the ordinary lock construction, 28 feet wide, inclosing a chamber built of solid masonry; they incline to the river, and present a superficial aperture towards it of 274 square feet; they are placed under the charge of a gate-keeper residing on the spot, whose duty is to close and open them each tide. The object, I should

observe, of the second pair is merely precautionary, and used only in the event of the first being out of order or under repair.

The whole length of the King's Scholars' Pond sewer, thus described, from its source at Hampstead to the river Thames, is rather more than 51 miles, of which distance about 4 miles are arched over. The total fall from the Park-road, at the end of Baker-street, to the cill of the gates is 79 feet, giving an average current of about 1 in 220 for the whole distance. Until the last year the arched portion of the King's Scholars' Pond sewer terminated at the part near to Charlotte-street, Pimlico, but upon the application of Mr. Thomas Cubitt, whose property abuts upon the line, to arch over certain portions of the same, the Court of Sewers was induced to concede its permission conditionally upon a public roadway being preserved throughout the entire length so covered. This was guaranteed, and the work was executed according to a section furnished by the commissioners, and under the direction of their officers. It was at the same time decided that Mr. Cubitt having completed the portion undertaken by him, the remaining length of 500 feet down White's-bridge should be covered over at the expense of the district; the contract for which was subsequently taken by Mr. Cubitt for 1,350% being at the rate of 2% 14s. per running foot inclusive of shafts, &c. 'The in thickness and 19 feet 7 inches span, raised upon the old elliptical arched bottom, with counterforts or buttresses at every 10 feet, 2 feet3 inches wide by 1 foot6 inches projection. The whole backed with concrete to the height of the haunches of the arch; the first few courses above the old work are in cement,

The above portion of the sewer presents a superficial area of water-way, amounting to 210 square feet, being nearly one-third greater capacity than the Cloaca Maxima of Rome. At certain intervals there are inserted in the crown of the arch cast-iron gratings, for the purpose of giving vent to the air liable to accumulate with the descending water, which otherwise, if confined, might be apt, upon any sudden rise of the stream, to blow up the arch of the sewer, There are also, at intervals of about every 180 feet, descending shafts for the purpose of occasionally inspecting and repairing the work,

It may readily be supposed that the reconstruction of so important a work from the Thames to St. John's Wood, a distance of nearly 18,000 feet, undertaken in the crowded thoroughfares of a large city, subject to the hourly interruptions of its business and traffic, has not been accomplished without a considerable degree of labour, perseverance, and expense. The total outlay upon this sewer alone, within the last thirty years, I may venture to say, has been little short of 130,000%. But the benefits have more than compensated even this vast expenditure. Property of the most valuable description in the neighbourhood of the sewer, including Buckingham Palace, the lower floors of which are below the high tide level. and many of the streets adjacent to the sewer, between Piccadilly and the Regent's-park, have been improved to an incalculable extent. Formerly, many localities in the neighbour-hood of the sewer were inundated by every sudden heavy fall of rain, so that many of the houses in Berkeley-square, Bruton-street, Avery-row, South Moulton-street, Wigmorestreet, South-street, Baker-street, and Springstreet, were greatly depreciated in value, and some houses in Berkeley-street and Brutonstreet remained unoccupied for many months together, in consequence of the well-known fact, that in the summer months those premises were subject to have their lower floors blown up during thunder storms, and their kitchen fires extinguished by the waters descending the sewer. If, however, farther proof were required of the extreme value of a good and efficientsystem of drainage, such as that adopted by the Westminster commission, I need only instance the very important property now rendered available between the Pimlico road and the river Thames; in fact, the district below the high tide level, and formerly subject to its periodical irruption, which, from being heretofore little better than a swamp, perfectly valueless, and most injurious to the health of the neighbourhood, now promises to become one of the most splendid and luxurious quarters of the metropolis.

THE BUILDER.

HEALTH OF TOWNS.

At a public meeting held at Exeter Hall, on the 11th of December last, the Marquis of Normanby in the chair, an association was formed for the purpose of diffusing among the people the information obtained by recent inquiries, as to the physical and moral evils that result from the present defective sewerage, drainage, supply of water, air and light, and construction of dwelling-houses; and also for the purpose of assisting the legislature to carry into practical operation any effectual and general measures of relief, by preparing the public mind for the change.

The Committee have recently published the speeches that were made on that occasion, and will do good if they circulate copies of the report containing them as extensively as possible. As the noble chairman said at the meeting-

ing-"The question before the public is not one merely of bricks and mortar, of ventilators and drains. His valued friend, Dr. Southwood Smith, had proved in his evidence that filth and discomfort deteriorate the moral condition; that the worst places contain the greatest criminals." Without pretending to go through the whole

Without pretending to go through the whole of the speeches, we may allude to some observations made by speakers which escaped notice at the time. Relative to sewers, Sir R. H. Inglis said, that in Lancaster, excellently situated for drainage and sewerage, and yet most imperfectly provided with either, and where, in consequence, disease and mortality were very great, the sewers were in a square channel; a form which, if a mathematician were to sit down and calculate what would be the most unsuitable, would be selected by him; bad as it is on principle, it is equally rejected by all experience. The great sewers of Rome, indeed, built two or three thousand years ago, remain—in their arched form and their solid construction—the model of all others. Yet this square shape is persisted in at Lancaster; the doctrine being laid down, he would not say by whom, when an improvement was pointed out—" No, we don't copy *nought* here."

the doctrine being laid down, he would not say by whom, when an improvement was pointed out—"No, we don't copy nought here." Mr. B. Hawes, M.P., remarked that "peo-ple rejoice when what is called a low neigh-bourhood is visited by a new line of street. The houses of the poor are pulled down, and doubless, even as things are, good, great good even is now done. Nevertheless the people even, is now done. Nevertheless, the people even, is now done. Nevertheless, the people must find homes somewhere. New alleys and courts are built. Are they well lighted, or drained, or ventilated? Let any one go into the new districts, and see the provision made for them. Are any of the modern improve-ments introduced such as they find accertical He thought not, or at least in a very slight degree. There are plans now forming in the district in which he lived. Plans for new streets. He gave no opinion upon the merits of any particular plan. He spoke generally, and he found no provision for dwellings for the labouring classes; or if they are provided, the last thing thought of are these sanatory provisions, instead of their being the first. public opinion were directed to this subject, this would not be the case. Warming, and ventilating, and lighting, might, in well con-trived buildings for families of the labouring classes, be very cheaply provided. He thought it even would answer as a speculation. As to the economical warming and ventilating of large buildings, he would only quote a remark-able instance, that of the New Prison at Pentonville. From 30 to 45 cabic feet of pure fresh air are made to pass into every cell minute. This ventilation, and a temperature ranging from 52° to 60°, is uniformly main-tained during the coldest weather at an expense of less than a farthing a cell for 24 hours. Now, the construction of this prison is far from favourable for either warming or ventilating it. He was confident that houses might be so constructed as to secure these advantages at as cheap a rate.

Mr. Grainger said, that on visiting Nottingham three or four years ago, he found whole streets of wretched houses without drainage, without the means required by common decency, and without the least supply of water, which latter article could only be obtained from distant pumps, and then by a species of theft. The natural results followed: in fact, there was a constant sequence in the evidence of the surveyor and the medical man, and

wherever the former staled that the houses were badly built, were Undrained, and uncleansed, the latter pointed to those exact localities as the seat of sickness and fever, recurring again and again as regularly as the seasons returned.

METROPOLITAN IMPROVEMENT SOCIETY.

At the last meeting of this society communications were read from Sir Robert Peel and the Earl of Lincoln, in answer to applications from the secretary relative to the longpromised Ordnance survey and map of London, and the projected encroachment upon the carriage way of Lincoln's-Inn Fields.

On the first subject it appears that the estimated expense of a metropolitan survey having exceeded his anticipations, Sir Robert Peel had been deterred from introducing a bill for the object.

The amount of the Ordnance estimate was not stated, and, from the discussion which ensued, several members of the society seemed of opinion that the expense of a comprehensive survey for public use could not well exceed that which had actually been incurred, within the last six months, in the numerous local surveys in the neighbourhood of the metropolis by railway companies. The whole of these surveys would have been unnecessary if an Ordnance map of London, with contour lines, had existed on a scale of 5 feet to the mile; and the Board of Trade would have had a simple means of testing both the correctness and expediency of the various plans submitted to them for railroad lines with new termini in the metropolis.

On the subject of the projected encroachment on the carriage-way in Lincoln's-Inn Fields, for the purpose of insulating the new law courts, the Earl of Lincoln had satisfactory reasons for believing that the project had been definitively abandoned.

Various drawings were laid on the table embodying the suggestions of Mr. Laxton, Mr. Austin, and other gentlemen, for removing the defects of the government plan for an embankment of the Thames between Westminster and Blackfriars bridges.

The government plan had been postponed, and might ultimately be given up, but it appeared possible to obviate the objections made to it, and it was determined to seek an interview with the Earl of Lincoln to submit for his consideration the improvements required.

In the course of the evening an anecdote was mentioned by the chairman which forcibly illustrates the importance to the public of the late sanatory reports, to some portions of which the society have endeavoured to give effect. A legal friend had inquired of a medical practitioner, high in the profession, why the whole body of medical men in London did not, with one voice, address the legislature to modify the window-duties, and remove every other evil arising from either imperfect ventilation or defective drainage. The reply was the following :--

"When you gentlemen of the law petition for measures to diminish litigation, medical men may be expected as a body to agitate for the removal of all causes of disease. If a government were found able and willing to carry out all the recommendations of the sanatory reports, it would diminish the means of livelihood of the medical profession to the extent of one-half; positively one-half."

MR. N1XON'S STATUE OF WILLIAM IV.--Now that the scaffolding and hoard are removed, we will mention that the whole of this monument including the figure, is executed in Forgintor granite, and that the total cost is 2,2007. Peterhead granite would have been preferred on account of colour, but the price asked for it was so bigh as to prevent its adoption. The granite posts in the footway were devised by Mr. W. Johnson of Westminster, all the masonry was executed by Mr. Chadwick, and the iron work which surrounds the basement by Messrs. Dewer of Old-street. We can well believe that the greatest pains have been taken by the sculptor to produce a fine statue, and that his task, a first attempt in a new material, has been difficult. The effective.

delicacy of the operations requisite to carry into effect these improvements. I need merely refer to one or two circumstances connected with its progress to prove that even in a constructive point of view its difficulties were of no slight character. I more especially allude to the entire removal of two immense stone piers, which had at some former time been built in the water-way of the sewer, and which piers supported certain parts of the heavy and lofty walls of the houses in Grafton-street, St. George's. These piers, one measuring 53 feet in length, the other of a more square form, divided the water-way into two channels, and were considered for-merly advantageous to the property lower down the line of sewer, by penning back the torrent in times of storms. The work of taking out these obstructions, as also removing two great projections, and putting in a new bottom throughout the whole length of the sewer (which here ran under buildings), be-tween Hay-hill and Bruton-street, in length 550 feet, at a greatly reduced depth, was noiselessly, unseen by any one other than the work-men employed, and even without the know-ledge of the inhabitants of the houses above, wholly performed from withinside the sewer.

As affording some idea of the extreme

Another operation of scarcely less nicety was to pass the sewer, which was 8 feet wide in the clear, with side walls two bricks thick, at a depth of 22 feet and upwards, beneath White Hart-street, Piccadilly, a street only 20 feet wide, and again carrying the same sewer through Sun-court, Curzon-street, which is in width less than the external dimensions of the sewer itself; and further on, the sewer winds its coarse under and close to buildings of great magnitude nearly the whole way from the end of Berkeley-square to Oxford-street, in most instances at depths of from 10 to 12 feet below their foundations. These instances will suffice; but I may, in concluding this notice, perhaps venture to make the remark, that whether we consider the importance, the magnitude, or the beneficial results of the works carried out in this portion of the Westminster Commission, the King's Scholars' Pond sewer may justly be entitled one of the most magnificent and extensive in the structural sewerage of a great city, executed in this or any other age.

FREEMASONS OF THE CHURCH.

FEB. 11.-The Rev. G. Pocock, LL.B., in the chair.

The minutes of the last meeting were read and confirmed. Mr. Thomas Halifax was elected treasurer, and the Right Hon. the Earl of Cadogan was unanimously elected one of the vice-presidents.

of the vice-presidents. Professor Cull moved that a testimonial detailing the services rendered to architecture by the late A. Bartholomew, Esq., F.S.A., be emblazoned on vellum, and framed and glazed, to hang in the council room of the college; and that a duplicate copy of the same similarly emblazoned, framed, and glazed, be presented to the founder's widow.

Mr. J. W. Archer delivered a preliminary discourse on ancient monuments. The lecturer stated his reasons for prefacing the subject of monuments by a general discourse on ancient monuments, as he found the one in all cases intimately connected with the other. He alluded to the perfection of the earliest existing brasses as something different from other early conditions of art.

After going into some speculations on the source of this branch of art, he proceeded to describe the knowledge of the Saxons in the art of working in British metals, the analogy between some Saxon remains of goldsmiths' work, and the transition of the early engraver from the occupations of goldsmith and chaser.

He distinguished between certain factitious Saxon monuments and such as were undoubtedly genuine, and instanced many early forms of monumental decoration.

After mentioning the brasses of foreign countries, and their inferiority to those of England, he made a remarkable exception in favour of Denmark, and urged the probability of a Scandinavian origin for the art, which he illustrated by a description of the decoration of Scandinavian monuments.

NEW MODE OF CONSTRUCTING BUILDINGS.

LIEUTENANT HIGGINSON has obtained patents for a mode of construction to obviate danger from fire. We insert the inventor's description of the system, but shall withhold our opinion upon it until we can examine his models and drawings :---

" To avoid (says the author) anything like exaggerated pretension or egotistical assump-tion, has been my primary object. And as all inventions are now necessarily but the adoption of known forms and principles to novel purposes, I have no wish these improvements should be considered more than the result of a fortunate experiment, originating in the exigencies of maritime adventure, subsequently, however, atter much labour and consideration, adapted to shore architectural purposes; the object being to remedy those defects in the existing system of construction most pregnant with danger to the community; and without attempting to alter either the present princi-ples or practice of house building, by the sub-stitution of iron for wood generally through-out the structure, to render erections not only fire-proof, but by having no perishable mate-rial inserted, quadruple the strength, obviate their tendency to decay.

" These desiderata are attained in the following manner :-- The patent joists of cast or rolled iron, T shaped, have at each end of any required length a dovetail projection all of one size, fitting into flanched mortices on the iron girders and bonding sockets. The iron gir-ders, of proportionate strength, are likewise <u>J</u> shaped, but reversed, having flanched dovetail mortices cast on each side of them, one foot or eighteen inches apart, as necessary, to re-ceive the dovetail ends of the joists. The iron bonding sockets are of the size and shape of a brick, cut off angularly before, cone shaped cast hollow; in the shorter side having a like The dovetail mortice to receive the joists. short iron trimmer joists compass the chimshort iron trimmer joists compass the chim-neys in the usual manner, fitting by dovetail ends into mortices cast on the principal trimmer, at one end, and intu the bonding sockets, built into the house wall, beside the chimneys, at the other. The usual arch for the support of the hearth being provided for by iron bearing-pieces fitting in mortices between the short trimmer joists, with an iron ulse to unbeld the hearth watter with an iron plate to uphold the bed of mortar under the hearth stone; thus rendering the whole frame-work of the floor perfectly inde-pendent of support from the stack of chimneys, the entire isolation of which obviates all danger of that sinking which occasinally takes place from their greater weight in chimney stacks recently erected. The wells, or openings for staircases, are formed by iron trimmers cast with dovetail mortices on them to receive the joists, and may be obtained of any required torin, size, or description. Additional means of support being provided, when requisite, by iron pillars with a screw in the centre of the lower end, fitting into a female screw socket, drilled into the trimmer beneath-a tenon or projecting piece, at the upper end of the pillar, entering a recess, cast or drilled to receive it, in the trimmer of the floor above. Breast-trimmers for shop-fronts, gateways, and other purposes, may be cast with the mortices for the joists on the inside; and any description of ornamental device, name, or entablature without — trussing spans, to support great weights of superstructure, being likewise, where requisite, annoxed. And when the nontransmission of sound between different apartments is required, however near as a substitute for the usual filthy and destructive method of pugging, slight sheet iron, or tin cases, fit-ting in breadth and depth, between the iron joists, are inserted; which cases, when made, are supported internally from collapse by strong iron upright wires; and the atmo-spheric air within being displaced by passing a body of steam into them—upon hermetically sealing, and allowing the steam to condense, a sufficient approximation to a perfect vacuum is obtained to prevent the transmission of either heat or sound. Unlike the mould and either heat or sound. Unlike the mould and saw-dust now used, adding little to the super-structural weight; and effectually preventing extended combustion, should even the wooden floors and furniture of one apartment be ignited and destroyed.

to the required height, from floor to floor, the patent iron joists are laid in precisely the same way as if of wood, on an iron bond, observing that at every fourth joist, an iron, brick-shaped bonding socket is built into the wall, to receive the dovetail end of the joist; the like bonding sockets being likewise inserted in the party walls when no girders are used-the inside ends of the joists fitting into the flanched dovetail mortices cast on the girders and trimmers, as before described, wherever both or either are in use. By these means the whole fabric is tied together and supported as one solid mass, the bonding sockets in the front walls uniting by dovetail the joists to the girder, or party-walls, in the interior; this central holding being again connected by the iron joists with the bonding sockets built into the back walls. One great saving effected in material and workmanship it may here be admissible to particularize. Supposing the depth of joist required in wood to be fifteen inches, an iron joist nine inches deep would be more than adequate; and thus, with the same pich of ceiling upon every story, two courses of bricks around the entire fabric, with the mortar and workmanship, would be saved. There are other advantages equally obvious, although, perhaps, of minor importance-such as entire exemption from vermin of every de-Notwithstanding this, the conscription. struction of barns may be to the farmer of very serious moment, when the ravages committed by vermin are considered.

"In cases where the floors are intended to be of wood, a groove is run along beneath the upper arms of the patent iron T joist, to receive an iron bracket. The floor planks being laid, and temporarily cramped, or shored down, upon the iron joists, a projecting, square-headed, shouldered screw is inserted by a panner, through the upper arm of the bracket, into the lower surface of the floor plank, which is thus effectually secured to the joist. It being noticed, that should the boards shrink, they may be forced together and the interstices filled up by one piece in any convenient posi-tion, in consequence of the brackets moving along the grooves in the joists, and each plank heing secured independently of the others. The unsightliness of a shrunken floor is thus not only remedied, but as no nuil holes are visible, the screws beneath not perforating the entire thickness of the plank, one unbroken sur-face is presented, which for the purposes of cleanliness and appearance is alike desirable. Magazine or warehouse floors, for goods liable to spontaneous combustion, may, however, be laid of either metal, slate, or stone, rivets being substituted for screws in attaching such to the iron joists beneath-which joists are of many forms as well as that specified, when applied to different uses.

As respects internal ceiling and plastering, these iron joists admit of the common lath being used; in which cuse, to hold the lathing nails, a small fillet of wood is driven into a recess formed to receive it in the lower edge of the joists. But as it is desirable that decay as well as fire should be provided against, per-forated common tin, or thin galvanised iron plates, being punched full of holes, or rosed, ike the nose of a watering-pot, with the rough side towards the plaster, are substituted for the laths; to which the mortar, being applied by the usual process, forces itself through the perforations, and keys at the back of the plate in precisely the same manner it would do between laths. One-half of the ordinary labour, time, and material are in this instance likewise saved, two coats of plastering only being re-quired-and the same sound transmitting ceiling and wall-surfaces preserved. These plastering plates are attached by means of a small double-ended iron key passing through them edgeways, into mortices in the iron joists, and battens, adapted to walls; being by a spanner afterwards turned across the entering orifice, and thereby effectually and immoveably annexed. A house thus constructed cannot be destroyed by fire, and has but little tendency to decay; whilst the expense of erection, taking all items into consideration, does not exceed that of the present method of building with perishable and inflammable materials. It is however, perhaps, impossible to describe in words all that has been practically accom-plished; and I shall therefore be happy to "It may be necessary to recapitulate, that the walls having been built up in the usual manner ples, models, or patterns of these inventions."

WORKS OF ART AT BRITISH INSTITUTION.

THE exhibition of works of modern artists, at the British Institution, in Pull Mall, wa opened to the public on Monday last. It consists of 509 paintings, and 12 pieces of sculp-ture, and the catalogue states that 275 other pictures were returned from want of room. Until the present year works previously ex-hibited elsewhere were admitted, and the best places were usually occupied by pictures already known to frequenters of the Royal Academy exhibition, and which, moveover, had Academy exhibition, and which, moveover, had been sold, while other pictures not exhibited were returned. This was a manifest hardship on the painters of the latter, and being felt as such by the directors, a resolution was passed to prevent the admission of pictures which had been publicly exhibited before. The present collection then consists of

The present collection, then, consists of entirely iresh works, and may be considered a successful issue of the new arrangement. The Royal Academicians, it was said, would not paint pictures purposely for this exhibition, whereas we find here Edwin Landseer, Etty, Knight, Lee, Stanfield, Hart, Howard, and others, stronger in numbers than usual. The first, E. Landseer, has some wonderful profirst, E. Landseer, has some wonderful pro-ductions of the class to which unfortunately, as we think, he confines himself. Decoyman's Dog and Ducks (No. 1), King Charles's Spaniels (No. 134), and Retriever (No. 199), are inimitable. Etty has some charming studies. The Forsaken, although small and elight, is a magnificent piece of colour. Stan-field has three beautiful pictures, of which On the Hollands Diep (No. 129), is the most important.

important. We will pass rapidly through the catalogue, and point out some of the most noticeable works. Fruit (26), by Lance, is a fine speci-men of art, and Scraps from a Burgomuster's Table (102), by the same painter, is equal to any work of the sort ever executed.

any work of the sort ever executed. Belgic Galliott aground on the Shallows off Bergen-op-Zoom (44), by E. W. Cooke, is ad-mirably painted; the same may be said of his Dort, Morning (90). Mr. Cooke has three other pictures which deserve examination. The Widger's Banefit Nicht (59) by F

The Widow's Benefit Night (59), by F. Goodall, is one of the gems of the exhibition. It represents the interior of an Irish cabin, with dancers and revellers, and is full of character and humour. Every head is a study. The Soldier's Dream (197), by the same rising painter, is a fine picture, but less perfect than

A Water Mill (124), by H. Bright, is full of beauty

Mr. Müller has greatly distinguished himself in the present exhibition. Rhodes, with the Pacha's Palace on the right hand of the picture (140), and Tomb in the water, Telmessus (498), are not surpassed in excellence by any land-

scapes in the gallery. *Music* (311), and *Poetry* (314), both designs for freeco by H. N. O'Neil, are full of sentiment and grace.

A Summer Afternoon (312), by J. D.Wing-field, is a view in the gardens of Hampton Court Palace, charmingly painted.

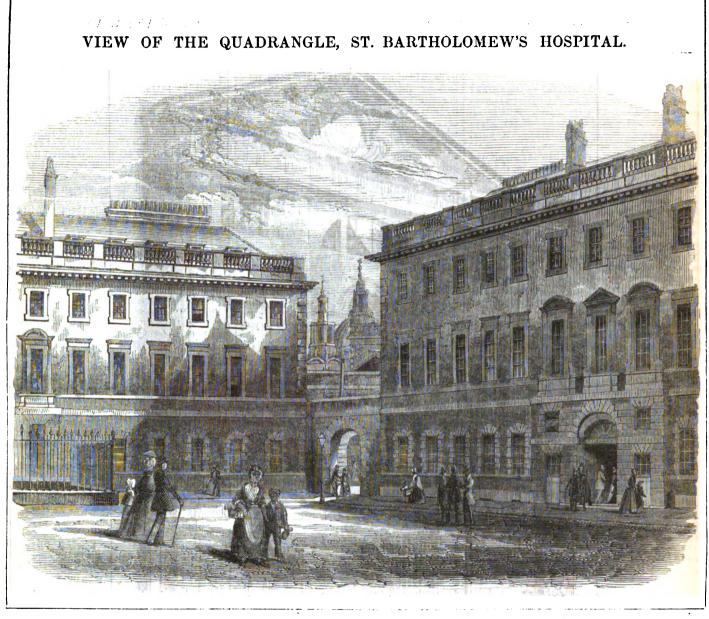
Here, thou great Anna ! whom three realms obey, Dost, sometimes counsel take, and sometimes to Hither the heroes and the nymphs resort." To taste awhile the pleasures of a court."

This picture and one by F. Danby, The Gate of the Harem (401), an admirable work, have been purchased by Prince Albert.

Our limits forbid any lengthened observations: we must content ourselves with com-When the sentence of the second secon (248), by Alexander Johnston, Stray Hounds, (233), by Josi, Entrance Porch of the Church at Cannes (150), by A. E. Goodall, Highland Refugees on the Coast of France (409), by Mrs. Mclun, and Dutch Boats of Ostend (287), by C. Bentley.

There are several bad pictures by men who ought to do better, but with these we will not meddle.

The Wesleyan Society are about to erect a chapel in the Belgrave-road, between Eccleston-square and Wurwick-square. Mr. Seth Smith and Mr. Archbutt have subscribed 1004. each, and Mr. Edge 504. Digitized by



ST. BARTHOLOMEW'S HOSPITAL.

AT page 42 of the present volume, we noticed the foundation of this establishment, and presented an engraving of the principal gateway in Smithfield. We now furnish a view of the quadrangle and a view of the gateway in Giltspur-street. The hospital commenced by Gibbs in 1730, as we have already mentioned, consists of four piles of buildings around a court, connected by stone gateways at the angles. The buildings are all faced with stone, have dressings around the door and window openings, and are terminated by a cornice and balustrade. Although plain and unpretending, there is a considerable degree of elegance about the arrangement of these fronts, but they are not in a fit state to be judged of.

An inscription on the hospital, after setting forth the date of its foundation and of the reconstruction of the edifice in the 18th century, states, that a general repair was commenced in 1814, and finished in 1820, under the direction of Thomas Hardwick, Esq. Looking, however, at the fronts of the building, it hardly seems credible that it was repaired so recently. The stone work is more decayed and dilapidated than that of many buildings centuries old. The window-heads are broken, the cornices decayed, and the whole front disfigured, the certain result of the use of Bath stone. All over the surface may be observed a sort of eruption, the operation of which is to throw off layers of

the stone. It appears in the first instance, in | National Gallery, &c.), he is entitled to conthe shape of slight swellings, which, increasing in size, gradually meet, when they burst and the crust falls off. A punster might take it for a small-pox hospital. The matter, however, is too serious for joking, and should serve as a warning to living architects. There is actually danger in allowing the stone-work to remain as it is, and something must speedily be done to remedy it, or the fall of some of the outside will furnish the inside with inmates. It was recently proposed to case the whole of the exterior with Portland stone, simply cutting away such parts of the present work as might be necessary to obtain good fixing. The object of that mode of proceeding was of course to avoid throwing open any part of the building, and so interfering with the patients.

The gateway in Smithfield, and that of which we now give a view,* are constructed of Portland stone, and present a striking contrast to the main building, being perfectly sound and whole, although of earlier date. Eight or ten years ago, the sides and back of the first gateway were cased with stone, by Mr. Malcot, in consequence of the removal of the houses which, until that time, adjoined it, but few or no repairs were required to the existing stone-work, or even to the figures sculptured in it. According to Mr. Malcot's opinion, indeed, and as a practical mason who has been engaged for fifty years in repairing old churches and raising new buildings (the Post Office,

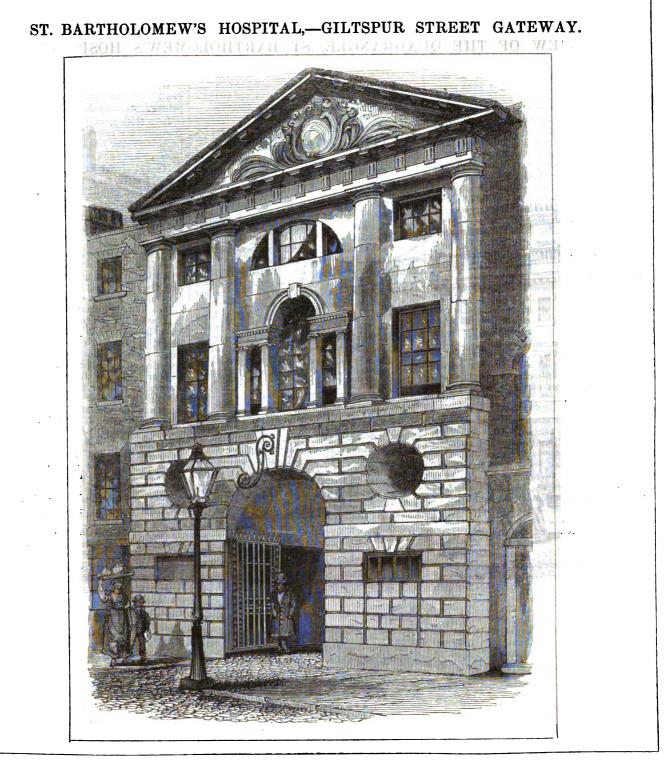
• This illustration is not so satisfactory as was desi and would have been cancelled if time had permitted.

sideration,-good Portland stone never decays, although the surface may be worn by long exposure to the weather.

The gateway in Giltspur-street is Roman-Doric, and presents four attached columns on a rusticated basement, supporting an entablature and pediment, and having two tiers of windows between them: the centre intercolumniation is wider than the others are, and admits a Venetian window in the lower part.

Attached to the hospital is the church of St. Bartholomew the Less, formerly the chapel of the establishment. The interior of it is curious, although little of the old building remains. In plan it was originally square; but George Dance, the architect, in 1789, having first destroyed the interior of the old building, formed it into an octagon, chiefly with timber. It was re-constructed on this same plan in 1823 by Mr. Thomas Hardwick, who substituted stone. The roof is of iron.

Returning to the hospital, it may be stated that no mention is made of it in the volume of designs which Gibbs published, although the second edition of this collection did not appear till some time after the commencement of the works, namely 1739. Gibbs, a favourite of fortune when alive, was considerably under-rated afterwards, and at this time is hardly so well estimated as he deserves to be. A memoir of him will be found in the first volume of THE BUILDER, p. 203.



PUBLIC MONUMENTS.

WE stated in a recent number that a committee was being formed in the city for the purpose of erecting by subscription a fulllength marble statue of Prince Albert in the Royal Exchange, in commemoration of his having laid the first stone. Since then, a meeting has been held of the most eminent merchants, bankers, shipowners, underwriters, and others interested in the commerce of London, when it was determined that the statue should be executed by Mr. J. G. Lough, the sculptor, now engaged on the statue of her Majesty, which is intended to be placed in the centre of the quadrangle of the Royal Exchange.

the quadrangle of the Royal Exchange. At the 24th annual meeting of the Seamen's Hospital Society held last week, it was announced that it had been decided to place another monument in the Royal Exchange in lieu of the one destroyed by fire, in honour of the memory of Mr. J. Lydekker, one of the most munificent benefactors of the Hospital, permission for that purpose having been granted by the Gresham and Royal Exchange Committee.

The Dublin correspondent of the Morning Herald states, that Lord Heytesbury has recently visited the studio of Mr. Kirk, the sculptor selected by Sir Robert Peel to execute the statue of Sir Sydney Smith, intended

for Greenwich Hospital. The work is nearly finished, and in a short time it will be ready for removal to England. His Excellency expressed his satisfaction with the spirited character of the figure, and with the correct likeness, which, he observed, he felt competent to declare, from his personal knowledge and vivid recollection of that heroic soldier.

THE PORTLAND VASE.

ALL England has heard by this time of the destruction of the celebrated Portland, or Barberini Vase, one of the finest specimens of Greek art in the world, by a miscreant called William Lloyd. It was deposited in the British Museum in the year 1810 by his Grace the Duke of Portland, and has always been considered to be his property, hence the name of the "Portland Vase." It was found about the middle of the sixteenth century, about two miles and a half from Rome, in the road leading from Frascati. At the time of its discovery it was inclosed in a marble sarcophagus within a sepulchral chamber, under the Mount called Monte di Grano. The material of which the vase was formed was glass; the figures, which were in relief, were of a beautiful opaque white, and the ground was in perfect harmony with the figures, and was of a beautiful dark trans-

parent blue. The subject of the figures has hitherto remained in obscurity, but the design and sculpture were admirable. This vase was for more than two centuries the principal subject of admiration in the Barberini Palace. It was purchased about thirty years ago by the Duchess of Portland from Sir William Hamilton, and in the year above stated was deposited in the British Museum for the gratification of the public.

Such is the defect in our laws that no punishment can be inflicted on the rascal (our pen will not write a milder word) who has committed this wanton and distressing outrage. If it had been worth less than 5*l*. a magistrate could have inflicted a fine of that amount; but being above it, an action for damages is the only step that can be taken to obtain redress. This being the case, the charge against him for breaking the vase was abandoned, and he was fined 3*l*. for breaking the glass which covered it!! It is to be hoped that immediate steps will be taken to obtain a law for the protection of works of art. For our own part we would willingly assist to nail this fellow's ears to the gates of the museum, that he might serve to deter others from similar outrages. We are glad to be the first to convey to the public the intelligence that the vase can in all probability be restored satisfactorily, notwithstanding the number of pieces into which it is broken.

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HARBOURS OF REFUGE.

THE select committee of the House of Commons on shipwrecks, which sat during the session of 1833, had their attention drawn to the formation of harbours of refuge. In their report they purposely refrained from recommending any particular situations for such harbours, from a conviction that such points would be best decided on by a body composed of scientific and competent persons, whose attention should be specially and exclusively directed to the subject.

In consequence of this, Sir Robert Peel recommended that a commission, to consist of the following gentlemen, should be appointed to inquire into the most eligible situations for such harbours in the channel, viz.:--Admiral Sir Byam Martin, G.C.B., chairman; Lieut. Gen. Sir Howard Douglas, Bart., G.C.B.; Rear-Admiral Deans Dundas, C.B.; Captain Rear-Admiral Deans Dundas, C.B.; Captain Sir William Symonds, R.N.; Captain John Washington, R.N.; Lieut. Col. Colquboun, R.A; Lieut. Col. Alderson, R.E.; Sir J. H. Pelly, Bart; Captain Fisher, R.N.; James Walker, Esq., President of the Institution of Civil Favionom Civil Engineers.

These gentlemen were accordingly appointed, and their report has just made its appearance. It contains the following important conclusions to which the commissioners arrived after an inspection of the various channel harbours :-"First,-That a harbour be constructed in Dover Bay, with an area of 520 acres up to low-water mark, or 380 acres without the two-fathom edge; with an entrance 700 feet wide on the south front, and another of 150 at the

east end. "Entertaining the strong opinion we have expressed of the necessity of providing, without delay, a sheltered anchorage in Dover Bay, we venture to urge upon your lordships' attention the advantage of immediately beginning the work by carrying out that portion which is to commence at Cheesman's Head.

"Whatever may be finally decided upon as to the form and extent of the works in Dover Bay, the pier from Cheesman's Head, run out into seven fathoms water, appears to be indispensable as a commencement, and it will afford both facility and shelter to the works to be subsequently carried on for their completion.

" This will give sheltered access to the present harbour during south-west gales, and protect it from the entrance of shingle from the west-ward; it will afford time also for observation on the movement of the shingle within the bay, and for further inquiry as to the tendency which harbours of large area, on

this part of the coast, may have to silt ap. "These inquiries the commission consider to be of essential importance, and the results will afford the means of determining on the greater or less width that should be given to the en-

trances of the proposed harbour. "Secondly,—We propose that a breakwater be constructed in Seaford Road, in a depth of about seven fathoms of water, one mile in extent, and sheltering an area of 300 acres.

" Thirdly,-That a break water be constructed in Portland Bay, to extend a mile and a quarter in a north-eastern direction, from near the northern-point of the island, in about seven fathoms of water, having an opening of 150 feet at a quarter of a mile from the shore, and sheltering an area of nearly 1,200 acres. "If only one work is to be undertaken at a

time, we give the preference to Dover, next to Portland, and thirdly to Seaford.

MODE OF CONSTRUCTION.

"We are directed by your lordships to report on the expense to be incurred by the completion of the works which we recommend; but as no approximate estimate of this can be made without determining the general principles and modes of construction, we have examined the engineers who have come before us and other authorities upon these important points.

"The various opinions have been considered by the commission, who prefer for the construction of breakwaters, and for the security of the works of defence upon them, the erection

of walls of masonry. "The commission do not offer any opinion as to the profile or degree of slope necessary to insure to the structure the re-quisite stability. They consider that this will quisite stability. They consider that this will be best decided by the government, under professional advice, when the works shall be finally determined on.

"The cost of either mode of construction having been stated to be nearly the same, whether it be masonry or long slope of rough stone similar to that of Plymouth Breakwater, the commission beg to lay before your lordships an approximate estimate of the works at the several places, viz :---

| Dover | £2,500,000 |
|----------|------------|
| Seaford | 1,250,000 |
| Portland | 500,000 |
| Harwich | 50,000 |

BATHS AND WASH-HOUSES.

A NUMEBOUS and important meeting of the clergy and gentry of the parish of St. Pancras took place last week at the vestry St. Paner rooms, Gordon-square, for the purpose of carrying into effect the establishment of baths and wash-houses for the labouring classes in that populous and extensive district. Mr. J. Harris, of the Hampstead-road, occupied the Harris, of the Hampstead-road, occupied the chair, and amongst the gentlemen present were the Rev. W. Dodsworth, the Rev. Dr. Stebbing, the Rev. H. Hughes, the Rev. D. Lang, Mr. J. P. Gibbons, Mr. E. Wilson, Mr. W. Douglas, Mr. J. H. Smith, &c. A report was presented, from which it appeared that in the second computing time having been consequence of a communication having been received from the Central Society for the Es-tablishment of Baths and Wash-houses for the Labouring Classes, recommending the forma-tion of a branch association in that parish, a committee had been appointed, who had come to a resolution, "That the establishment of baths and wash-houses was highly desirable for the comfort and cleanliness as well as for the health of the labouring classes, and they therefore cordially approve the formation of a branch society in the parish of St. Pancras, to carry out that object." The committee felt it their duty to make an earnest appeal to the inhabitants to furnish them with funds necesinhabitants to furnish them with funds neces-sary for the erection of public baths and wash-houses on a suitable scale in one or more dis-tricts of the parish. The report having been adopted, it was resolved that deputations should wait on his Grace the Duke of Bedford, the Marquis of Camden, Lord Southampton, Lord Somers, and other great landed proprietors of the district, to solicit their aid and co operation

The following instance of liberality on the part of a public company as setting a noble example, will, we trust, not be without its effect. At the annual meeting of the proprieeffect. At the annual meeting of the proprie-tors of the Birmingham Fire Office held last week, it was resolved that 50% be given in aid of the funds now being raised for the esta-bishment of public baths in that town. From Bath we hear that the committee of

gentlemen who have taken up the laudable object of providing baths and wash-houses for the poor of that city, are prosecuting their in-quiries on the subject, and that they have been in communication with Messrs. Green and Simms, the lessees of the baths, with reference to the availableness of the surplus hot water of their establishments (which, we are informed, amounts to 5,000 hogsheads per week). During the last four years about 4,000 gratuitous hot baths have been annually furnished to the poor by the lessces of the baths, upon the simple recommendation of any medical gentleman, stating that the individuals recommended were likely to be benefited by the waters, and unable to pay for their use.

OPENING OF THE CITY HALL, PERTH. This edifice was opened last Wednesday week with a civic banquet, combining also the attraction of a grand concert and the eloquence of public speakers. The arrangements were on a liberal scale and well regulated, and although at least from 1,300 to 1,400 persons were accommodated within the walls of that one apartment, there was no crowding, no confusion. The Perth Constitutional says, "The decorations are in the first style of taste, and will have grander appearance when the skill of the painters shall have been brought to bear upon them. On this occasion all was white—the drapery of the platform and cover-ing of the tables, which were of a light crimson, contrasting finely therewith. The sixteen tall pillars, serving for as many candelabra, sur-rounded with ornamental branches (eight on each of the principal four, and six on each of the rest), send forth a flood of light without producing any degree of shadow.

LIST OF NEW PATENTS RELATING TO ARCHITECTURE, ENGINEERING, &c., GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-Inn Fields.

[SIX MONTHS FOR ENROLMENT.]

William Hannis Taylor, of West Strand, gentleman, for certain improvements in propelling. January 2.

John Gollop, of Charles-street, Middlesex, engineer, for improvements in spring binges, in spring roller blinds, and in applying springs to easy chairs and carriages. January 11.

Henry Cartwright, of the Dean, near Brosely, Salop, farmer, for certain improvements in the construction of paddle-wheels. January 11.

Robert Griffiths, of Smethwick, Birming-ham, engineer, for improvements in the manufacture of bolts, railway pins, spikes, and rivets. January 11.

George Spencer, of Hungerford-street, Strand, engineers' draughtsman, for improve-ments in propelling vessels on inland waters. January 11.

Stephen Perry, of Woodland-place, St. John's Wood, gentleman, for improvements in the application of springs to locks and other fastenings, to paper-holders, to cundlelamps, to blinds, window-sashes and doors, and to seats and elastic surfaces for sitting and reclining on. January 11.

rectining on. January 11. Henry Charles Lacy, of Kenyon-house, Manchester, esquire, and George Watson Buck, of Manchester, civil engineer, for a new manufacture for and method of sustaining the rails of railways. January 14. John James Osborne, of Macclesfield, gen-

tleman, for certain improvements in the manu-facture of iron and steel, and in the furnaces to be employed for such or similar manu-(Being a communication). Jafactures. nuary 16.

Henry Adolphe Dubern, of Paris, merchant,

Henry Adolphe Dubern, of Faris, merchant, for improvements in atmospheric railways. (Being a communication.) January 16. James Palmer Budd, of Ystalyfera iron works, Swansea, merchant, for improvements in the manufacture of iron. January 16. John Melville, of Upper Harley-street, es-quire, for improvements in propelling vessels.

January 21. William Yates, of Manchester, upholsterer, and Denis Dolan, of the same place, scagliola manufacturer, for certain improvements in plastic manufacture or composition, part of which is applicable to decorative and useful purposes, and part as a fireproof cement or plastic. January 21.

John Clay, of Edgeley, Chester, corn-dealer, for an improved apparatus for consuming smoke. January 23.

January 23. Peter Borrie, of Princes-square, Saint George's-in-the-East, engineer, for improve-ments in the construction and fitting. or equip-ping of ships or vessels. January 23. William George Henry Taunton, of Liver-William George more senter in pa-

pool, civil engineer, for improvements in ma-chinery for revolving windlasses, barrels, spindles, shafts, and for pumping. Janu-

ary 25. The Earl of Dundonald, for an improved rotary engine to be impelled by steam, and rotary engine to be impelled by steam, and which may be also rendered applicable to other purposes (being an extension for the term of 14 years of letters patent granted to him by his late Majesty King William the Fourth, for the said invention). January 28. George James Norton, of Weymouth, cook

and confectioner, for an improved cooking apparatus, parts of which are also applicable to the purposes of lighting and heating. Janu-

square, tailor, for improvements in stores and square, tailor, for improvements in stores and tilating. January 28.

Mathew Allen, of Worship-street, Shore-ditch, builder, for certain improvements in stores and apparatus for heating. January 30.

Henry Page, of Cambridge, painter, for cer-tain improvements in the mode of painting or decorating with oil and other colours. Janu-

ary 30. Thomas Middleton, of Loman-street, South-wark, engineer, for improvements in ma-chinery for the manufacture of artificial fuel, bricks, tiles, and other similar articles. Janu-

ary 31. itized by Google

IMPORTANT TO ARCHITECTS AND CONTRACTORS.

LAST week an action was brought by Mr. Mansfield, the landlord of Oliver's Coffee-house, at the foot of Westminster bridge, to recover compensation from the defendants, Messrs. Grissell and Peto, the contractors for building the new Houses of Parliament, and Mr. Charles Barry, the architect, for damage done to the coffee-house in sinking the foundations for a portion of the new structure. It seemed that in the progress of the works, which were carried on in 1842, it became necessary to obtain a solid foundation for the clock tower, which now raises its ornamented turreta within a few yards of Oliver's Coffee-house. Excavations were accordingly made, but from some cause or other the foundations of the plaintiff's house, which is built on a quicksand, as are all the buildings in the city of West-minster which are near the river, were so much minster which are near the river, were so much weakened, that the superstructure cracked and yawned in several places, and Mr. Mansfield and his family entertained great apprehensions that the building would tumble about their ears. Representations were accordingly made to Mr. Barry about the state of the house; and some palliation, in the shape of shoring and cement, were applied; but the excavations for the foundation of the clock tower were still continued, and in the middle of June, 1842, the foundations of the coffee-house sank so much, that the whole of Mr. Mansfield's family, about 9 or 10 o'clock, fled, many of them in their night-dresses, out of the house for their lives. The precautions taken, however, preserved the house from coming down, but the proprietor was seriously injured in his business during the progress of the works, and the house has been so much shaken, that it is doubtful whether it can ever be put in a state of thorough repair without pulling it down and rebuilding it. The question for the deci-sion of the jury was, whether the defendants had been guilty of negligence; and the testimony adduced was of a very contradictory character. On the part of the defendants, the witnesses stated that every possible precaution had been taken in order to prevent the catastrophe which had occurred ; while the evidence given on the part of the plaintiff certainly went to shew that all was not done which might have been done.

Mr. Justice Coltman summed up; and the jury returned a verdict for the plaintiff,—damages 700/.

New Books.

The Pictorial Gallery of Arts. Charles Knight, London: 1845.

In this work, published every month, it is proposed by the aid of *three or four thousand* engravings to open to view the entire kingdom of technical skill in all its more important operations: to shew man in every region of the earth labouring to surround himself with those necessaries, comforts, and conveniences, which constitute the elements of civilization, and then, going forward into the higher range of arts, surrounding his life with the attributes of taste, and ultimately reaching the highest develop-ment of the principle of beauty. This, which for any other publisher would be a very expen-sive work, Mr. Knight is able to effect at very small cost, by employing engravings already used in other works, and which when brought together, assist each other to elucidate par-The first volume will be devoted to what are generally called the useful arts, the second will illustrate architecture, sculpture, and painting. The first part, now before us, treats of the arts contributory to food. As calculated to lead the young we cannot recommend it too strongly.

The Builders' Price Book for 1845. By W. LAXTON, Surveyor, 10, Fludyer-street, London.

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This is the 19th edition of Mr. Laxton's useful volume, and contains upwards of eight thousand prices, and three thousand valuable memoranda. It needs no recommendation, or we would gladly give it.

Correspondence.

COMPETITION FOR LAYING OUT GROUND, KING'S-ROAD, READING.

SIR,--After all that has been written upon architectural competition, you will perhaps be unwilling to devote much more of the space in your valuable journal to the subject, but I think Mr. Blendy's letter in the last number of THE BUILDER should not be allowed to pass without comment, as the plan he adopted for obtaining a decision on the designs in the late competition at Reading, appears, as far as I can learn, to have produced any thing but satisfaction. This may not arise so much from any defect in the plan itself, as from the manner of carrying it out. He states that in consequence of a letter in THE BUILDER, he determined to make the competitors themselves the judges of the designs, and that he is well satisfied with the result of the experiment, there being so many almost equally balanced in point of merit, and with a view of proving this, has sent you a list of the designs which obtained votes and the number recorded for each, which certainly shews the diversity of opinion; but then, I would ask, was there any standard laid down for the judges to go upon? For amongst upwards of forty competitors great variety of design was to be expected, and consequently great difference of opinion with regard to the merits of each. Judging from a letter in your journal a short time since from a "Regular Subscriber," who, I presume, has seen the designs, two great mistakes appear to have been made by the promoter of this competi-tion. In the first place, a set of *rules* is printed for the guidance of the competitors in preparing their designs, which it is stated in the preamble "the proprietor will require to be adhered to by those who intend to compete."

The first condition is, "That the designs shall be delineated upon plans of the same scale as the one now furnished (being one chain and a half to the inch), and be drawn in simple outline with Indian ink, the roads coloured vellow and the sewerage blue."

loured yellow and the sewerage blue." The second is, "That if it should be considered hy you desirable that uniformity should be observed in the erection of a class or classes of houses, that a ground-plan and elevation of such houses should accompany your design, and the estimated cost of erection stated."

And with reference to the award of the premiums it is stated that "each competitor will be required to attend in Reading on a certain day to be notified to him, then and there to give me his opinion in writing, which design he considers possesses most merit, and which is the next deserving (of course he must omit his own design)." Now, to the first of these rules, very few of

Now, to the first of these rules, very few of the competitors have thought proper to attend, beyond drawing their designs to the specified scale, for the plans are in many cases got up very elaborately and tickled up so as to attract the eye, the buildings being deeply back-lined in dark lake colour, and the grounds all laid out in walks and beds of different colours; and such is, I am assured, the case with those plans to which the premiums have been awarded.

To the second rule, several competitors have paid no attention, and have merely sent in block-plans, without elevations or groundplans of the houses as required.

And thirdly, if Mr. Blendy is correct as to the number of competitors, they cannot all have attended to give their votes, for by looking over the list of those who have voted (the publication of which, by the way, the competitors will, I should imagine, look upon as a breach of confidence) the names of only twentysix will be found, thus leaving upwards of fourteen who have not chosen to go to the expense of a visit to Reading for the purpose of giving their votes, but who, nevertheless, have been allowed the chance of obtaining votes for their own designs from those who did attend, by not having them withdrawn from the competition, which seems to me to have been the proper course to pursue; for surely some distinction ought to have been made between those who complied with all the rules and conditions, and those who did not. In conclusion, I would I ask, where is the

In conclusion, I would I ask, where is the use of having rules and conditions printed for a competition, if it is made optional with the competitors whether they abide by them or not, as has been done in the present instance? Where instructions are given, the first thing for the judges to ascertain should be, in which designs they have been most closely followed, and thus the anthor of such designs would be placed in a proper and fair position; but in the late competition every one has been left entirely to his own caprice and fancy in his award of the premiums. Would it not have given much more satisfaction if a set of questions had been prepared, and a copy given to each competitor; in which, in addition to stating which two plans he considered most deserving, he should have also been required to state whether such plans were in accordance with the printed instructions, and if not, with which had they not complied, and also in which two designs he considered the authors had most fully complied with the said rules? and then the premiums should have been awarded to those designs which had a majority of these opinions in their favour.

If I am misinformed as to any of the details I have alluded to, I trust that some of the competitors, who I dare say are readers of your useful journal, will be good enough to set me right, as my only object, in thus addressing you, is to state what I consider ought to have been the course adopted in order to give so novel a mode of deciding on the comparative merits of a set of designs, a fair and impartial trial, and which I consider, unless great caution is used in its application, is open to great abuse.

Apologizing for thus intruding so much on your valuable space,—I remain, Sir, yours, &c. Feb. 5th, 1845. FAIBPLAY.

FRESCORS AT BUCKINGHAM PALACE.

S18,—Observing in your number for 1st February a notice that the frescoes in the Casino of the gardens at Buckingham Palace had failed, I venture to say you will, upon inquiry, find this general condemnation incorrect. It is to be regretted that uncertain rumours obtained circulation respecting this first but distinguished effort to introduce to England a specimen of the higher examples of Italian decorative art, they being calculated to check any extending desire among geutlemen of taste and fortune to engage British talent upon similar works.

The principal spartment, forming an octagon, terminates in a cupola, the walls judiciously panelled with brilliant arabesques, relieved by delicate stuccoes and gilding, rendered subservient to eight frescoes, illustrative of Milton's Comus. The fine compartment by Mr. Eastlake is alone sufficient to prove the entire success awaiting our native artists in works of fresco. A second apartment is successfully painted in *encaustic*, powerful in colour, and firmly executed; while her Majesty's closet presents a magnificent adaptation of Italian art.

These beautiful decorations will not be finished for some time, and therefore any detailed notice would at present be injudicious. To the royal personages, at whose suggestions and private expense these works are creating, the British artist will have cause to be very grateful. An example of the highest class of decorative embellishment executed by Englishmen, and under such distinguished encouragement, will at the present time be of eminent service, and confer the highest honour upon its noble promoters.—I am, Sir, your obedient servant, JAMES CRABB.

67, New Bond-street, Feb. 6, 1845.

UNDERPINNING OLD WALLS.

Sir,—I should feel obliged if I could be informed, through the medium of your useful journal, whether I should incur any danger of a settlement by undersetting one side of a large house, for the purpose of adding a building with a cellar underneath. It is proposed to build the cellar 4 feet be-

It is proposed to build the cellar 4 feet below the foundation of the old building. The foundation is beach. How can a settlement be prevented if the undersetting be done with bricks and mortar, the latter being a long time before it gets dry?

It seems to me that undersetting much superincumbent weight can only safely be executed by using cement instead of mortar, but that would be expensive.—I remain, Sir, yours obediently, A SUBSCRIBER.

[Cement must be used; the first expense is the least.-ED.]

ON ARCHITECTURAL COMPETITION.

Singer Vol. 11, p. 52, Singer As, almost all complaints on the SIL, ... As, almost all complaints on the subject of competitions which reach the public seem to derive their publicity from your pages, and a these appeared in the issue of last weak a promise to publish particulars of future mal-practices as they may come to your knowledge, Losend a few extracts from a correspondence to which I have been lately engaged, from which you will be able to judge of the to me, apparent injustice pursued on a very recent occasion. I do not give you the names of the parties, as the correspondence was certainly on one side never intended for publication ; but one side never intended for publication; but you will be satisfied with the recognition of the hund which pens this letter.

The secretary of a committee for obtaining competition designs for a new church, which yes to be built for 4,000*l*, with aid from the

huilding societies, returned to me a set of drawings with the following note:— "Sir,—I have this day returned your plans by rail, car. paid, and hope they will reach you in safety. They were much liked, but not chosen.—I am, &c."

1. In answer to a request to know who was successful, the reply was dated November 4, 1844, and commenced—"Sir,—I did not know that it was customary to give the information you require," adding the name of the parties. "I own myself vexed at what appeared to me rudeness as well as ignorance; and, in conrudeness as well as ignorance; and, in con-sequence of rumours as to an injudicious decision, I wrote twice, giving those reports at full length. To my first a decidedly evasive answer came; and to the second the chief part of the reply was this :--

",December 2, 1844. "" You write that you would be obliged for an applicat answer to your last letter, which you would head one to infer was this :-- 'In shurt; 'I beg you to do me the justice to say (for whether the committee has decided properly your powerful assurance of the wish of the members to for right) if the premium is or will be puid to Mr. — or Mr. —, as I under-stand one of those names is attached to the successful design; and if that design without alteration holds 1,000 people conveniently on the ground-floor without seats in the chancel, which the building societies will not allow; and whether that design, without alteration, can be executed for 4,000% in the judgment of practical men (I do not mean the authors of it, and none but practical men can judge). These questions will be easily answered by yes or no.' Where in your letter of the 11th of November Where in your letter of the 11th of November are these or any such questions asked? You must allow me to say there is something here I cannot understand, and my safest plan is to inform you that the committee having ad-vertised for plans under certain conditions, will, ~I have no doubt, adhere to them..... Yours obediently, &c. " P.S. I hope this correspondence may now cease."

That is, Sir, that one month after the return of my design, and also after stating the name of the successful competitor, I am told, after pressing for a denial of the reports de-scriptive of the successful design, the committee WILL probably decide according to the condition.

I believe that there is no means of investigating the case, or I should feel inclined to learn with certainty what has been done.— I am, Sir, your obedient servant, J. W. P.

[Our correspondent refers to the competi-tion plans for St. Thomas's New Church, Winclester, concerning which, letters are printed at p. 557 and p. 564, vol. ii. We are in-formed that it is not clear even at this time which of the two gentlemen is the successful candidate.-ED.]

SPAPIELDS' BURIAL-GROUND.

SIR,—Seeing in your paper of last week an article under the head of "Burial-ground Nuisance," containing an account of infamous practices taking place in this ground, the whole of which is grossly false, and as proceedings are about to be commenced against the author, I hope you will, in justice, find a corner in your next BUILDER for this communication. I am, Sir, your obedient servant, Feb. 12, 1845. A. BIBD, Manager.

A. BIRD, Manager.

MR. COCKERELL'S LECTURES.

SIR,--I am quite astonished to learn that sor Cockerell should have recommended, Profe ex cathedra, the not particularly artist-like practice of literal and wholesale copying, alias piracy, from books of design. If such doctrine is to prevail, adieu to architectural design altogether; we have only to follow the patterns which are ready prepared for us, and that, as which are ready prepared for us, and that, as is proved, by the professor himself, a builder is capable of doing just as well as an architect. I am tempted to fascy that the professor spoke somewhat isonically of the "exceedingly fine portico" produced by the builder, and intended his remarks to be interpreted com grane salis. I remain, Sir, yours, &c., An Architect.

WHEN TWO BUILDERS, WHICH IS TO GIVE NOTICE ?

SIR,--I have some alterations to make to a house, which my client wishes to be done by two different persons, one to carry out the bricklayer's, and the other the carpenter and joiner's works. Now the new Building Act expresses that the *builder* is to give two days' notice to the surveyor before alterations are commenced; but as there are to be two separate tradesmen employed, upon whom does the duty devolve? By answering this question, you will greatly oblige your constant reader and admirer, WILLIAN FREEMAN. Paddington, Feb. 10, 1845.

[The Act provides that notice shall be given I ne Act provides that notice shall be given by "the master-builder, or other person em-ployed to execute any work; or if there be no master-builder, or other person so em-ployed, then the owner of the building, or other person for whom, or by whose order such work is to be done." If there be two master-builders, he who begins first should give notice, for which and other reasons we point to the bricklaver = 6 npoint to the bricklayer.-Eo.]

Miscellanea,

INCREASE IN LIFE ASSURANCE .- The reports read at the meetings of the several assurance associations held within the last few weeks make known the fact that during the weeks make known the fact that during the past year there has been a great extension in the number of persons who have secured for their families the provision which the system of life ussurance is designed to afford. It has been an anomaly in the action of society, that a people so sensibly impressed as Englishmen peculiarly are by a desire to provide for their families, and yet, at the same time, strongly influenced by the pride of present circum-stances, should have hitherto been so indifferent to the means furnished by the principle of life assurance, for overcoming the apparent insuperable difficulty of securing a large future Insuperable dimiculty of securing a large future benefit without any material present sacrifice. We are glad to find this indifference no longer exists; and that, under the exposition of the benefits of life assurance, promulgated by various offices, and the collateral aid of the press, the subject is becoming well understood and extensively acted upon. At a recent and extensively acted upon. At a recent general meeting of members of the Scottish Provident Institution, held at the Star Hotel, it was remarked, however, that of eight or nine offices which had arisen within the last few months, only one appeared to be constituted with exclusive reference to the interests of the assurers, namely the British Mutual Life Assurance Society of London, which was founded on the principle of mutual contribu-tion, or of dividing the whole profits among the assured. The rates of premium were much lower than those charged by other mutual offices, and have been adopted for the use of the society from the Scottish Provident Institution, which has met with unexampled success.

which has met with unexampled success.--Post Magazine THE IRON TRADE.-The make of iron in the United Kingdom at the present time is near 1,400,000 tons annually. Scot-land furnishes almost one-third part of the supply-being 450,000 tons annually, or at the rate of 9,000 tons per week. But in the course of two months there will be nine new furnaces put in operation in this new furnaces put in operation in this neighbourhood alone, and their combined yield may be calculated at 1,350 tons weekly, or 70,000 tons per annum.—Glasgow Constitutional.

WESTMINSTER IMPROVEMENTS. -Yesterday week a large meeting of the inhabitants of Westminster was held at the Mechanics' Institution, Great Smith-street, for the purpose of considering the best plan for the purpose at of the district. Amongst the gentlemen on the platform were Mr. B. Hawes, M.P.; the Hon. Captain Rous, M.P.; Mr. C. Hindley, M.P.; Colonel Short, Mr. Humfrey, Mr. R. Wason, Mr. C. Wood, &c. The Hon. Captain Rous, M.P. Rous, M.P., was ananimously voted to the chair, and he having briefly introduced this object of the meeting, Mr. Wilson opposed the plan of Mr. Wason; because it would not remove many of the existing inconveniences, and be urged the necessity for the formation of some street to run from Westminster Abbey over the ground now occupied by Tothilistreet, destroying the old and dilapidated courts and alleys in its way, and leading direct to Pimlico. In conclusion, he read extracts from Parliamentary reports, to shew the dreadful condition of the neighbourhood, as regarded drainage, ventilation. cleanliness, and health; and moved a resolution to the effect, that no part of the metropolis more urgently required improvement than the space between the Houses of Parliament and Buckingham Palace. Mr. Bignell moved, as an amendment, "that a committee be appointed to examine the various plans, and to draw the attention of the Metropolitan Improvement Commissioners and the legislature to that which they considered the best." Mr. Hawes, M.P., said that before the committee could come to a determination the plan of Mr. Wason would be in execution. It would be advisable to pass a resolution to It would be advisable to pass a recontinue – endeavour to suspend proceedings in Parliament until the best plan should be determined upon by the inhabitants of Westminster. The reby the inhabitants of Westminster. The re-solution proposed by Mr. Wilson was then carried, and also others, to the following effect:---"that a committee be appointed to consider the improvements suggested; and that they, be directed to impress noon the Government the propriety of withholding any plan which is not approved of by the inhabitants generally." Mr. Hindley, M.P., moved "that in any line of streets formed attention be paid to the im-provement of the dwellings of the poorer classes." This resolution having been carried, and the committee appointed, the meeting so-parated. carried, and also others, to the following effect:parated. THE TOWER.-

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THE TOWER.—A few days since a deputa-tion from the British Archaeological Association from the British Archeological Associa-tion paid a visit of inspection to the Tower, where they were received by Major Ebrington, the deputy governor, Major Hall, Captain Vernon, and Mr. Stacy, who conducted the members over all parts of the building, without any reserve. The alterations now in progress have laid open several new sources of anti-nuarian interest not the least of which are the quarian interest, not the least of which are the quarian interest, not the least of which are the architectural peculiarities of the celebrated Traitors' Gate, most of which have been pre-viously unnoticed. The causes which led to the visit were the disposition shewn by the authorities to preserve all relics and monuments of interest which are not inconsistent with the necessary improvement, as was evinced by their reclaiming from the City the portion of the Old London wall, on Tower-bill, from the destruction to which it had been consigned by the corporation. The results of the inspection, when complete, will be made the subject of an official report to the autho-rities. Upwards of 300 coffins have been removed to the catecombs at the back of the church of St. Peter ad Vincula, which were previously interred in the burial-ground, and displaced in the excavations made for the foundations of the new barracks which are to be erected on the side of the old Small Armoury .- Times.

Armoury.—*Times.* IMPROVED METHOD OF MAKING BRICES: N. J. Wyeth, Cambridge, Massachusetts.—The object of this composition is, to produce bricks which will admit of driving nails into therm, to avoid the necessity of introducing in walls what are known amongst mechanics as "wooden bricks." This composition consists of clay, mixed with either sawdust, charcoal, peat, or tan-bark, after it has been used by the tanner. The proportions may be varied, but the **patentee** The properties and the second by the tanner. The properties may be varied, but the patentee recommends three parts of clay to five parts of either of the combustibles above mentioned. *Claim*: "I do not claim mixing combustible materials with clay for making bricks, but I claim mixing them in such proportions as will produce bricks passasing the above approximation. produce bricks possessing the above-named

THE THAMES TUNNEL SURPASSED .--A submarine tunnel has lately been discovered at Marseilles. It passes from the ancient Abbey of Victoria under an arm of the sea to Fort St. Nicholas. The *Débats* says that the structure is considered by M. Matayras, an architect, to be Roman, and much finer than the Thames Tunnel, being one-fourth longer, and formed of a single vault of 60 feet span.

HEALTH OF TOWNS -- Mr. Mackingen has given notice that on the 18th inst. he will call the attention of the House to the necessity the attention of the health of towns by preventing oburial of the dead within their precincts; and that on the 20th instohe shall move for leave to bring in a bill prohibiting the muisance of smoke from the fornaces of fantinies. /

DWELLINGS OF THE POOR .- The landlord will do nothing but exact an exorbitant rent for houses unit to be inhabited; the poor man is either too ignorant, too indifferent, or too powerless to help himself; the Com-missioners of Sewers abandon him; the Woods and Forests hunt him like a wild beast from one end of London to another. To whom shall he resort in his distress? Will the Government help him? To be sure they will. They have shewn the best disposition ìn the world. They have collected a vast deal of valuable information, they know all about Punderson's gardens and Laub's-fields; they are most desirous of doing all they can for his comfort. Our streets for the future are to be wider, our houses are to be much better built, we are to inhabit cellars no longer, and it is we are to inhabit centrs no tonger, and it is now fairly to be expected that, as party-walls have been long insisted on as means of pre-venting the destruction of property, a supply of water and proper sewers will be given us to preserve our lives from fever. But when are the good intentions of the legislature to take effect it is consistent when a supply of effect? It is for existing things that legislation is urgently required. We do well to provide for the future, but the present ought not to be kept out of sight. -Dr. Southwood Smith points out-two regulations as being of paramount importance, and of universal application to the dwelling houses of the humbler classesthe prohibition, under adequate penalties, of the letting of any house as a dwelling-house in which water is not laid on, and to which there is no privy sufficiently screened from view. To the enforcement of these regulations he sees no practical difficulty; nor do we. Will the legislature have the more to sees no practical difficulty; nor do we. Will the legislature have the moral courage to compel the landlords to the performance of their duty? We shall see. They must first expect a little discussion as to the meaning of the phrase "rights of property." Have they the courage to put a reasonable interpretation upon it? We shall see.—Medical Times.

SAWING BY MACHINERY .--- In reply to request from the sawyers of Oldhams, that Lord John Russell would aid in obtaining a tax on mechanical inventions, his lordship has very properly refused to do so. "If I were to comply," says his lordship, "I could not stop with your trade. Nail-makers are in a similar situation, owing to the new machinery for the manufacture of nails; other artisans and agricultural labourers will pray for the like interference, to prevent the use of new machines which interfere with manual labour. Now, my belief is, that those inventions tend to the im provement of our condition as a people, and to enable us to support the great weight of taxation to which we are subjected. Ever since I have known this country, machinery has been in progress towards perfection, performing more and more the task of human hands, and, at the same time, a great number of people have found profitable employment. I know, and I deplore, that while this progress is going on, many a workman loses the wages which skill and experience have enabled him gain. But instead of the perilous course of ing duties on machinery, which would soon to gain. lay enable foreign nations to outstrip us in the score of competition, I am of opinion that we ought to give greater freedom to trade, and, if possible, so extend the demand for labour, that our population, greatly increased as it is, may obtain a good price for their day's work. I do not mean to pronounce any opinion on the late tariff, so far as regards timber. If the sawyers of this country are subject to unfair competition, they have a cause for redress so far as colonial timber is concerned."

LECTURES AT THE ROYAL ACADEMY .- Sir Richard Westmacott will commence his course on sculpture on *Monday* the 17th inst., and con-tinue it on the 24th March, 3rd, 10th, 17th, and 24th. Mr. Howard, on painting, will begin on Thursday the 20th inst., and continue on the 27th, the 6th of March, the 13th, 20th, and 27th. Mr. Cockerell concluded his course on Thursday last. We shall give a full report of the lecture in our next.

SCULPTURE .--- The Marquis of Landsdowne has commissioned Mr. Watson, the sculptor of the Eldon and Stowell statues, to execute two bes-reliefs of a poetic nature, for Mr. Barry's new gate to the noble marquis's seat at Bo wood.

PRESERVATION OF TIMBER.—Mr. Toplis recommends the introduction into the pores of timber of a solution of sulphate or of mariate of iron; the solution may be in the proportion of about two pounds of the salt to four or five galloas of water.

PROPOSED NEW PIER AT ERITH.—A meet-ing was held last Monday, at the Bell Inn, Erith, for the purpose of erecting a new pier, in consequence of the monopoly of the Diamond Company, who have the sole privilege of calling at the present pier. Mr. Noakes presided. Resolutions were passed in accordance with the object of the meeting.

STONE DRESSING MACHINERY.—A patent has been granted for this purpose to Mr. H. Ward, of Charles Town, Massachusetts, who thus describes it. The block of stone to be pecked and dressed is placed upon a carriage, which passes it, by a slow motion, under a series of pecking and dressing chisels. These chisels slide in a frame inclined to the plane of the carriage, that they may act on the stone obliquely, instead of vertically, and, for the purpose of changing this inclination, one end of this frame is jointed to the main frame of the machine, and the other may be elevated and pressed at pleasure. The chisels are held and pressed at pleasure. The chisels are held up by springs, and forced against the face of the stone by hammers actuated by tappets on two shafts, one at each end of the frame. The first and second rows of these chisels are pointed, for the purpose of pecking, and the others are flat, for dressing the surface. For squaring, or forming, the edges of the stone, there is a phiel on each eido with the lower there is a chisel on each side, with the lower edge at right angles with the side, and operated in the same manner as the peckers and dressers; these break off the stone, and form the edge, so that when the block is turned over to have the other faces dressed, the sharp corners shall not be broken off.

THE MONSTER BELL FOR YORK MINSTER. -The bell, intended to be put up in the south tower of York Minster, has recently been manufactured at the foundry of the Messrs. Mears, Whitechapel, and is larger than any other in the United Kingdom. Its weight exceeds twelve tons; it is 7 feet 7 inches in height, and its diameter is 8 feet 4 inches, height, and its diameter is o reet 2 inches, being heavier by seven tons than the celebrated "Tom" of tLincoln, and by five tons than "Old Tom" of Oxford. The metal took twelve days to cool, from the 18th of January when it was poured into the mould to the 30th ult. The clapper is not yet put in, but this will weigh between three and four cwt. The tone of it is described as being ex-The tone of it is described as being ex-ceedingly grand, and to be compared to the full swelling diapason of an organ. The arms of the city of York, and those of the archbishop (the cross keys), are on the bell in opposite positions to each other. The follow-ing inscription, in Lombardian characters, is round the upper rim :--- "In sanctæ et æternæ Trinitatis honorem pecunia sponte collata Eboracenses faciendum curaverunt in usum ecclesiae metrop. B. Petri ebor." And on the lower rim are the words, "Anno salutis MDCCCXLV Victoriæ reg. VIII. Edwardi Archiepi XXXVIII. C et G Mears, Londini, fecerunt." The cost of it is about 2,000*l*., this having been raised by voluntary sub-scriptions, as alluded to in the above inscrip-tion. It is intended by the executive committee, previous to its removal to the cathedral at York, where it will be conveyed by railway, that the public should have an opportunity of seeing the bell (which is to be named "Peter of York") and which it will require the united efforts of twenty horses to draw.

Cenders.

Fon making a Sewer-in the town of Cambridge. To be cylindrical and 2 feet diameter in the clear. The length about 385 yards, and the average depth about 9 feet.

The Commissioners of Pavlag and Lighting met the 21st ult., to examine the several te which had been cent in. NOT BE SE OUTS IS

college to the proposed course.—This objection made before the confirming of the minutes of former meeting, and some difficulty was relied to the reception of tenders for the drain, which had been advertised for.

The tenders were received conditionally, that the work be not begun until an arrangement was made with the college, and a motion was passed to the effect that formal application be made to the college and the lessee. The following tenders were given :-

Thomas Brook, Hackney, Middleser [hid mide in consequence of the blanks not being filled up].

Joseph Coulson, East-road, sower St. 6d. per yard-cesspools 2/. 8s. each-lateral ds 3s. 6d. per yard. 41-1

3s. 6d. per yard. James Stevens, Quay-side, sewer 8s. 5d. - osss-pools 2l. 7s. -- lateral drains 3s. 6d. - pools John Bennett, James-street, sewer 7s. 11d. --cesspools 2l. 10s. -- lateral drains 3s. 3d.

cesspools 21. 10s.—lateral drains 3s. 3d, Pell Hall, Castle-end, sewer 8s. 5d.—cesspools 21. 8s. 6d.—lateral drains 3s. Then cesspools are likely to be required. Mr, W. Swann proposed, and Mr. H. S. Foster second-ed, that Bennett's tender be accepted. Mr. S. Adcock proposed that Coulson's tender be accepted, on the ground that you should have a man who will do his work well; some complaint had been made of the way in which Bennett had done his work, and there was an objection to Bennett also, because Mr. Asby, a commissioner, was a sarety for him. Mr. Cream seconded the motion of After 5 because Mr. Asby, a commissioner, was a survey as him. Mr. Cream seconded the motion After a noisy discussion on the merits of these parties, Sta-vens' tender was proposed by Mr. Gropley, but not seconded. A show of hands was taken, when there appeared 9 for Coulson and 8 for Bennett. The names were called for, when the following voting took place :---

War-Coulson.-Messrs. Adcock, Favell

wicker, Swinton, Headly, Haslem, Cropley, Cream, Papworth, and Woodley, -10, or Bennett.-Messrs. Balls, C. F. Foster, H. S. Foster, Hatt, Swann, Matthew, Marshall, For Bennett.-

and Asby,-8. Mr. Ekin declined to vote. Coulson's tender vas accepted conditionally. a subject of the state of the s

TENDERS for the Alterations and Fittings of School-room under Vauxhall Chapel for a Wes-leyan Day-school for Boys. - W. W. Jenking, Esq., architect. Bartlett's Ruildianer

| sq., architect, Bartlett's Buildings. | |
|---|--|
| Cooper and Davis £134 | |
| Haynes and Co 128 | |
| Thompson (Camberwell) 115 | |
| Tenders opened in the presence of the Builders. | |

NOTICES OF CONTRACTS.

For a supply of Railway Fastenings for the Great Southern and Western Railway, Ireland..... Mr. William Taylor, Secretary, 3, College-green,

Dublin. February 17. For the Repairs of Lindfield Church, pear Cuckfield, Sussex.—Messrs. T. H. Taylor and Son, Architects, 22, Parliament-street, Westminster. February 17.

February 17. For building a Barge, 69 feet long and 13 feet wide, capable of navigating the river Lee.—James Wright, Deputy Storekeeper, Ordnance Office, Waltham Abbey. February 18. For erecting and completing the Tide Sluices, Bridge, and other Works, at the top of the Eau-Brink Cut, above Lynn.—Messrs. Walker and

Brink Cut, above Lynn. — Messrs. Walker and Barges, 23, Great George-street, Westminater; or Mr. George Game Day, Clerk to the Middle Level Drainage Commissioners, St. Ives, February 20.

For the execution of the whole Works on the For the execution of the Edinbargh and Glasgow Slamannan Junction of the Edinbargh and Glasgow Railway, being about a mile long.—H. G. Wright, Secretary, Railway Office, Queen-street, Glasgow. February 24.

such Mason's and Pavior's works (stone paving only) as may be required by the Commis-sioners of Sewers of the City of London, for the term of three years, from the 25th of March next. Joseph Daw, Esq., Guildhall, London.-Febru-

for the survice of the Stone's End district of the

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Surrey and Sussex Roads.—Road Office, Charing Cross, and W. S. Gaitskell, Esq., 21, Stamford-street, Blackfriars' Road.

For the supply of from 4,000 to 5,000 yards of Iron Bailing for inside drives of Birkenhead-park. --Mr. Hornblower, architect, Hamilton-buildings, or Mr. Walker, Town-hall, Birkenhead. --Feb-ruary 26.

Fuary 20. For supplying the Great Western Railway Com-pany with such quantity of the following articles as may be required from the 1st of April, 1845, to the 31st of March, 1846; viz. Bar and Pig Iron —Castings—Bolts and Rivets—Copper (sheet and ingots)—Ironmongery, screws and nails—Brass and Iron clasp, closet tacks and wirework—Lead and Since—Steel for springs—Timber—Tubes Zinc-Steel for springs-Timber-Tubes, brass, copper, iron and zinc-Patent Wheel-tire, and va-rious other articles.— Chas. A. Saunders, Esq., Secretary, Paddington. February 27.

For taking down and rebuilding the Tower of Grendon Church.—Mr. John Baker, Churchwarden, Grendon, near Atherstone. March 1.

For building twelve Boats and Engines for the City Steam-boat Company. -- Charles Hancock, 17, Earl-street, Blackfriars.

For Surveying and Valuing the Property in Austin-ward, Humber-ward, Trinity-ward, St. Mary's-ward, Whitefriars-ward, and North-ward, All in the parishes of Holy Trinity and St. Mary, Kingston-upon-Hull.—John Moxon, Clerk to the Governor and Guardians of the Poor, Workhouse, Hull. March 1.

For the Mason's and Pavior's Works, supply of Guernsey Granite Chippings and Yorkshire Paving, for one Year, from the 25th of March next, for the parish of St. George, Hanover-square. Mr. R. Lees, Clerk to the Paving Committee. March 4.

For the supply of 20,000 tons of Iron Rails, and 7,000 tons of Iron Chains, for the Newcastle and Berwick Railway.—George Hudson, Esq., Railway Office, York, and at 24, Great George-street, Westminster. March 4.

For the supply of 100,000 Railway Sleepers for the Newcastle and Berwick Railway.—George Hud-son, Esq., Railway Office, York. March 4.

For repairing the footway pavements, and pro-viding and laying new curb and other stone; for viding and laying new curb and other stone; for repairing the carriage-way, pavements, and pro-widing and laying new granite and other stone, during one year from Lady-day next, for the united parishes of St. Andrew, Holborn, and St. George-the-Martyr, Middlesex.—Clerk's office, 13, King's-mod Balfard new March 9

the-Martyr, Middlesex.—Clerk's office, 13, King's-road, Bedford-row. March 8. For the supply of 11,000 feet of nine-inch cast-iron Fipes for a new line of Aqueduct to be laid in the Island of Malta.—Vin. Casolani, Collector of Land Revenue, Office of Land Revenue and Public Works. Valuets: March 21 Works, Valletta, Malta. March 31.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

February 17, at Bristol; Feb. 18, at Dorsley; Feb. 19, at Cirencester; Feb. 20, at Leominster,— a number of Maiden and Pollard Oaks, and Maiden Elms.—Messrs. Clark, Medcalf, and Gray, so-licitors, 20, Lincoln's-inn Fields; and Messrs.

licitors, 20, Lincoln's-inn Fields; and Messrs.
J. P. Sturge and Co., surveyors, Bristol. February 17 and 18.—At Livermere Park, Suffolk; 1,500 very superior Elm. Ash, Alder, Beech, Larch, Scotch Spruce, and Chesnut Trees and Stands.—Mr. Norfolk, auctioneer, Chequer-square, Bury St. Edmunds. February 20.—At Madingley; a quantity of Ash and Elm Trees, some of which are very large, and of excellent quality.—Messrs. E. Smith and Son, auctioneers, Cambridge. February 20.—At the Hall of Commerce, Threadneedle-street, 540 Logs of St. Domingo Ma-hogany, of superior quality and large dimensions.

hogany, of superior quality and large dimensions. —Thomas Edwards, broker, 1, Pinners-hall, Great Winchester-street.

February 20.—At the back of St. George's-terrace, Dalston Rise; 300,000 sound new Stock and Place Bricks, and a large quantity of Burrs and Bats.—Messrs. Humphreys and Wallen auctioneers, 68, Old Broad-street.

February 21. — At Garraway's Coffee-house, Cornhill: 300 loads Quebec Red Pine; 100 loads Vellow Pine; 100 loads of Ash; 80 loads of Oak; 10,000 Yellow Pine deals and battens; 10,000 Spruce deals and battens.—T. and J. Simson,

Spruce deals and battens.—T. and J. Simson, brokers, 5, Change-alley. February 21.—At No. 38, Mincing-lane, 300 tons of fine fresh Lima Wood. — Charles Roberts, broker, 38, Mincing-lane. February 21.—Equi-distant between Lynn and Downham Market; 3,000 Larch, Scotch Spruce, Oak, Elm, and Birch Poles. They are principally Larch. of good dimensions and ouality. from Larch, of good dimensions and quality, from twenty-five to thirty years' growth. — Messrs. Mumford and Casebow, auctioneers, Lynn, or Downham Market.

February 25.—At the King's Arms Inn, Hemel Hempstead; a large Fall of capital Oak, Ash, Elm, and Beech Timber Trees, the greater portion of which are of very large dimensions and superior quality.—Mr. James Adams, auctioneer, Clarencequality.-Mr. James Adam street, Staines, Middlesex.

COMPETITION.

COMPETITION. The Committee of the Liverpool Docks are desirous of receiving Plans for the most convenient mode of landing or embarking passengers, carriages, &c., &c., at George's Pier-head. A Premium of 2001. will be given for the Plan selected and acted upon, and a Premium of 1001. will be given for that Plan which may be deemed to be the next in utility.—Daniel Mason, Esq., secretary, Dock Offices, Revenue-buildings, Liverpool. March 19.

TO CORRESPONDENTS.

"S. A. H." (a earpenter).—Section XLI. in the old Building Act, provides that the person at whose expense a party wall shall be built, agreeably to the directions of that Act, shall recover from the adjoining owner when the wall is used, after the rate of 71. 15s. per rod; but even in cases where the wall was pulled down without any desire on the part of the adjoining owner, a greater price was generally allowed, as it was known that brickwork costs more than that sum. At all events, an addi-tion equal to the duty on bricks imposed since the passing of the Act, could, perhaps, be insisted on leagth. In the case mentioned, we do not think legally. In the case mentioned, we do not think he could avail himself of the Act, but this can be determined only by one who hears all the particu-lars. The ground landlord should be appealed to. If the wall stood wholly on our correspondent's ground, as might be inferred from part of the letter, he would have no right to touch it, and might be punished.

"H. Rose."—The article "Stonehenge," in the Penny Cyclopædia, written by Mr. Britton, will refer you to all that has been said on the subject.

"M. Pepys," (Ghent).—We shall be glad to receive any information he may be able to send. "M. Daly."—Where can we see the "Revue" in London.

"Association of Architectural Draughtsmen,"

"Association of Architectural Draughtsmen," next week. "Mr.W. Herbert" complains of a paragraph in our last number, headed "New Street to Long Acre." He may rest assured we shall not in ter-fere with the private rights of any. The paragraph in question was simply an acknowledgment of letters received by us from others, and on which we gave no opinion. The fact, that Mr. Herbert is build-ing many of the houses in the street named, is an ausurance to us that they will be done well.

ing many of the Aduses in the street named, is an assurance to us that they will be done well. "J. W." (York), and "G. R.," next week. "Bernan's History of Warming and Ventilat-ing."—Our thanks are due to Mr. Bell, the pub-lisher, for the use of the cuts which illustrated the extract from the above work in our last number. We have already recommended Mr. Bernan's book to our readers.

We have already recommended in the second of the second se

materially on the plan. "A Subscriber" (Burton-upon-Trent), asks the height of St. Paul's Cathedral, from the ground to the top of the cross.—340 feet. "L." will be glad to know where the best in-formation on Terra cotta is to be found. "O" withes to be dimented in the heat archi-

"O." wishes to be directed to the best archi-tectural drawing school. We will inquire. Received.—Minutes of Proceedings of the Insti-tution of Civil Engineers.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, February 17. — Statistical, 11, Regent-street, 8 P.M.; Chemical (Society of Arts), Adelphi, 8 P.M.; Medical, Bolt-court, Fleet-street,

Adeiphi, 8 P.M.; Medical, Bolt-court, Fiet-street, 8 P.M. TUESDAY, 18.—Linnæan, Soho-square, 8 P.M.; Horticultural, 21, Regent-street, 2 P.M.; Civil Engineers, 25, Great George-street, 8 P.M. WEDNESDAY, 19.—Society of Arts, Adelphi, 8 P.M.; Microscopical, 21, Regent-street, 8 P.M. (An-niversary); Ethnological, 27 A, Sackville-street,

B P.M.
THURSDAY, 20. — Royal, Somerset House, 8¹/₂
P.M.; Antiquarian, Somerset House, 8 P.M.;
FRIDAY, 21.—Geological, Somerset House, 8¹/₂ P.M. (Anniversary); Royal Institution, Albermark-atreet. 8¹/₄ P.M. marle-street, 83 P.M. SATURDAY, 22.—Royal Botanic, Regent's Park,

4 P.M.; Westminster Medical, 32, Sackville-street, 8 P.M.; Institution of the Fine Arts (Society of Arts), Adelphi, 8 P.M.

ADVERTISEMENTS.

1

NEW CONGREGATIONAL CHAPEL, HOLLOWAY, THE BUILDING COMMITTEE of the above Chapel beg to inform those Gentlemen who have favoured them with designs, that they have selected the one marked "E. D. O.," and that the remainder may be had on application at C. A. Bartlett's, 66, Paternoster-row, Lendon. one marked had on application at London. February 10, 1845.

TO BUILDERS.—To be LET, on BUILDING LEASES, some excellent BUILDING GROUND, to form a square around a church now very nearly completed, in an increasing neighbourhood, near the West-end. Money advanced as the work proceeds. Apply to Mr. Frances E. H. Fowler, architect, 28, Sackville, street, Piccadilly.

street, Piccadiny. Great Reduction in the price of Farleigh Down Bath Stone. G. WELLER, of STEEL YARD WHARF (late Drew's), has the pleasure to inform Contractors, Builders, and Dealers, that he has just con-cluded arrangements which will enable him to place cargoes of this celebrated and unequalled Free Stone alongside any wharf in the river, at the unprecedented low price of 1s. 64d. per foot. The same stone may be had in large or small quantities, at a great reduction from former prices, at the wharfs of Mr. Hanson, Kensington, Mr. Foot, Westminster; Mr. Scarle, Wapping; and Messrs. Dance, Chelsea. N.B. Six-inch Ashlar, 9d. per foot. TTT SNOYELL 96 OULADRANT

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TO ARCHITECTS AND BUILDERS. TO ARCHITECTS AND BUILDERS. DULTON AND WATTS, LAMBETH POTTERY, LONDON-Manufacturers in TERRA COTTA of VASES, FOUNTAINS, &c., for Pleasure Grounds. PIGURES for Public Buildings, and AECHI-TECTURAL WORK of all kinds. This TERRA COTTA has all the appearance of Stone, and being subjected to a high degree of fire is imperiabable; thus possessing a decided supersority over cement or artifi-cial stone. Stone-ware, Water-pipes for Houses, Drains, &c., Water closet pans, with simple and perfect trap; the cheapnes-efficiency, and easy adaptation of which ronder them d esire able not only for public institutions, but for every house.

able not only for public institutions, but for every house. SUBSTITUTES for GLASS, for the windows of Manufactories, Workshops, Warchouses, school-rooms, Offices, Out-buildings, Stviights, Horti-cultural purposes, &c. - GERARD ARNEY and Co.'s TRANSPARENT WATERPROOF GLAZE PAPERS, LINEN, and CALICO. The great support which the Proprietors have hitherto received induces them again to solicit the attention of Builders, Proprietors of Factories, warchouses, &c., to their Substitutes for Glass. They afford a light very similar to ground-glass, and the frames for their support need only consist of a lattice-work of wood or wire. Builders will find them very serviceable for temporary windows, &c. Prices, &c.:-Glaze paper, 23 inches wide, 6d. per yard, calico, 31 inches wide, 1s. per yard ; line, 28 inches wide, 1s. dol per yard, in 6-yard lengths. The Proprietors also prepare the COMPOSITION for rendering paper, linen, calico, and other suitable fabrics, transparent and waterproof, at the under-mentioned prices:--Pints, 2s.; quarts, 3s. 6d. each. Each pint, when dilated with turpentine, will make about a quart sufficiently fluid for use. Every information and amples of the prepared fabrics

for use. Every information and samples of the prepared fabrics may be had upon application (by letter post-paid) to the Manufactory, High-hill-ferry, Upper Clapton, Middlesex. For Agency Appointments apply as above.

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SATURDAY, FEBRUARY 22, 1845.



HE recent investigations of circumstances affecting the health of the masses, have caused the importance of pure air and light to be more generally understood

now than it was before. The simple fact set forth by Dr. Arnott long ago, that a canary bird suspended near the top of a curtained bedstead in which people are sleeping will generally be found dead in the morning, should have been sufficient to shew the danger of breathing a vitiated medium, and the necessity for providing a constant and ample supply of fresh air in our dwellings.

Impure air, however, cannot be seen,—its effects are not immediate,— and so it has been allowed quietly to kill its thousands annually, and to lay the seeds of disease in other thousands ready to be developed by assisting circumstances, without an effort to stay its ravages, and almost without a knowledge of its agency.

A healthy man respires about twenty times in a minute, and inhales in that period about 700 cubic inches of air. Fresh air contains rather more than twenty-three per cent. of oxygen, and about one and a half per cent. of carbonic acid: by the process of respiration the oxygen is reduced, in round numbers, to eleven per cent., and the carbonic acid is increased to rather more than eight per cent. Now, three and a half per cent. of this gas render air unfit to support life ; so that a man in respiring 700 cubic inches in a minute, vitiates about 1630 cubic inches (to say nothing of the effect produced by the exhalation from the skin); and this will serve to give some notion of the large quantity of air required for the healthful occupation of a building by a number of persons.

All this, however, was for long unthought of, as we have already said, but the concurring evidence of scientific investigators and able medical men, shewing the effect of imperfect ventilation, especially in producing consumptive diseases, fever, and scrofula, repeated in all shapes by the press, has at last made the public aware of its destructive effects, and anxious to prevent them. The great interest in the subject which has been awakened is exhibiting itself, amongst other ways, in a widely-spread agitation against the windowtax. Meetings have been held, not merely in several of the metropolitan parishes, but in the provincial towns; a deputation of delegates had an interview with Sir Robert Peel, ineffectually; the matter has been broached in the House of Commons, and petitions are to be forwarded to aid in obtaining the removal of this obnoxious impost.

All are unanimous in terming it a tax on cleanliness, a tax on ventilation, a TAX ON REALTH.

"A window-tax is an injustice," says one, "and of the grossest kind, to all classes and conditions of men. We may be told that houses under seven windows being exempted, the tax does not fall upon the poor; but if we consider how many of this class live crowded in large lodging-houses, and how many families occupy, for economy's sake, the same domicile, we find that only a fraction of the poor

are freed from the weight of this impost. Besides we urge upon higher grounds, that the free light and air of heaven have no right to be supplied in limitation to mankind. God gave them abundantly to satisfy the necessitics of his creatures, and no man has a right to rob his fellow-man of their full service. It has been proved by the statistics of public health, that the maladies and mortality of the poor are mainly owing to want of pure air. Is it not, we ask, the most flagrant tyranny to limit a man to a domicile lighted and ventilated by only seven windows, and to tell him, if he knocks out a few extra bricks that he may breathe more freely, he must pay for his privileges? Can any greater dishonour be perpetrated upon humanity than to confine it under conditions which are noisome and unhealthy, and should it desire better things, to visit the improvement with a penalty? The wealthy, to whom such an infliction is no burthen, can afford to protect themselves against an impure air, and the prospects of infection, but the poor man must be sacrificed either in his health or his pocket."

As Mr. Hickson too, justly observed to the Health of Towns Commissioners, "The window-duties as now assessed operate as a premium upon defective construction. The legislature now says to the builder-Plan your houses with as few openings as possible; let every house be ill-ventilated by shutting out the light and air, and as a reward for your ingenuity you shall be subject to a less amount of taxation than your neighbours." Sir Robert Peel said, in his late financial statement :-" It is supposed that a case is made out for the remission of the window-duties. Just let us look at the case of the duty on glass, and see what a much greater effect it will have upon the comfort of the labouring classes. Let us see how much more advantageous to the community will be the reduction of the duty on glass than the reduction of the windowduties. There are in Great Britain, as it is estimated, about 3,500,000 houses. There are not more than 500,000 houses which are chargeable with the window-tax. There are therefore 3,000,000 houses which require glass for the purpose of comfort, which, if you sanction the removal of this tax, you are about to benefit." Now the first part of this statement, if correct, and which the Premier feigned to consider a triumphant argument against the supposed necessity of a remission of the window-duties, is in reality a strong argument in favour of the loudly called for remission, since it shews that there is an immense number of residences badly, or much less perfectly, ventilated than they ought to be. Without questioning the good effects which will follow the reduction of the duty on glass, we would say, how much will it avail the poor man to know that glass windows can be formed more cheaply than before, when he cannot have the advantages of them because of this hurtful and unholy impost?

The question is one of vital importance to the public; we hope that the recommendation of the metropolitan delegates will be attended to, and that the rate-payers of every city, town, and parish, will present petitions to the House of Commons, praying for a repeal of the inconvenient, unsalutary, and unequal window duties; they are a tax on architectural appearance, a tax on cleanliness, a tax on MEALTH, and we might add, a tax on MORA-LITY,—for the connection between dark, dirty ill-ventilated dwellings, and degradation and vice, is close and indisputable.

MR. COCKERELL'S SIXTH LECTURE ON ARCHITECTURE.

On Thursday, the 13th instant, the professor concluded his course at the Royal Academy. He said he had confined himself to Roman architecture because it was the most practicable for us of all the styles, uniting variety, con-venience, and applicability, and because Canina's work, already so often alluded to, illustrated so many works of this style. It was to be regretted the students had not referred with him to the original authors. Few of them un-fortunately had made themselves acquainted with the modern languages, and the best works on their art were therefore a dead letter with them. We were greatly deficient he thought, in English works calculated to exalt the mind and increase the resources of the student; comparatively worse than we used to be. In 1610, an edition of Serlio was published, and various editions of Palladio in English followed. None of the architectural classics had been published since, with the exception of Mr. Gwilt's version of Vitruvius, which was a very good translation. Fragments of Vasari were published, but not the complete work, which was to be regretted, as it ought to be generally read. It had been translated into French only recently. Many of the modern works, published every day in Italy, Germany, and France, deserved to be studied. Any foreign catalogue would shew how deficient we were in books of the same description. He wished the body of English architects, taking Quatremere de Quincy's Dictionary as a model, would produce a perfect cyclopædia of the art, one . man executing one part and one man another, under the direction of an accomplished editor. All would surely be glad to aid in such a work, which would be of the greatest use, and would reflect dignity and glory on all concerned. It especially devolved on the association of architects now in existence. He trusted he was not stepping out of his path in making this suggestion; such a work was not within the province of the Academy, and he was anxious to see it commenced.

The professor then proceeded to treat of the Triumphal Arch as an especial feature of Roman architecture. It was gratifying to find that the recent applications of monuments of triumph were in commemoration of great and good men rather than of conquests. The late war might well have produced triumphal monuments, but had not done so, the sense of the country was against it; our great captain said the army had only done its duty; and Nelson looked to nothing beyond a place in Westminster Abbey. Our rivals had raised the *Arc de l'Etoile*, and must feel abashed by our forbearance.

All must admire the Roman triumphal arches; the earliest had but a single arch: they were probably perfected by Apollodorus, in the time of Trajan. The propylea of Egyptian buildings were somewhat analogous.

After explaining the proportions adopted by the Romans in their triumphal arches, the professor remarked there were two ways of varying these proportions, namely by the supply of height or the supply of width. The the sublime was produced by excess of either. The sublime produced by excess of latitude was seen under the large arch of a bridge. He urged the application of the triumphal arch for a railway arch, and said for a novel purpose a novel effect should be sought. He then referred to the quadrifrons, or arch of four faces, and suggested that such monuments might be introduced with effect in our circusses, in Regent street, and elsewhere, as memorials of great men. The Obelisk to Waithman at the end of Bridge-street, was not of great cost, nor important as a work of art, but nevertheless, as a memorial of an honest and able citizen, had a striking moral effect.

He would next direct their attention to the mausoleum. That at Xanthus, which was described in the 4th century (uniting architectural and sculptural decorations), was very important in an archæological point of view, as it served to guide us to that of Mausolus, which from its magnificence gave the name to all buildings of that class. Pliny said the latter was one of the wonders of the world. Scopas and four other sculptors were employed upon it. The professor exhibited a restoration of it, according to Pliny's account, shewing a

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high stylbate, columns; and entablature, crowned by a pyramid in twenty-four steps. The whole height was 140 feet, the number of columns thirty-six. In this monument and that at X anthus several new principles of great beauty were set forth. The parallelogram approached the square very nearly. The high stylobate furnished room for thesculptor. Its use in the tomb of Mausolus was hardly credited before, but was now confirmed by the discovery at Xanthus. The introduction of statues between the columns, mentioned in the fourth lecture, was a new arrangement to us, and a good one. The pyramid with which the structure terminated was adopted by Hadrian in his mausoleum long after.

The monument of Augustus, in the field of Mars at Rome, of which parts still remain, was a surprising work. This building was circular, with a portico, and was crowned by a pyramid of terraces, planted with the cypress and other trees, thus uniting the tumulus with the built pyramid. Strabo's account of this monument was the only one existing, and that was very slight. Very little was said about this extraordinary work (its portico was higher than the portico of the Parthenon), a proof that such were universal. We owed our knowledge of this monument, the professor said, to the researches of Canina. The tomb of Cecilia Metella was supposed also to have had cypresses at the too.

said, to the researches of Canina. The tomo of Cecilia Metella was supposed also to have had cypresses at the top. The mausoleum of Hadrian, erected 114 years after that of Augustus, was scarcely less remarkable. It was framed more on Greek models, and had two orders. The body of it still remained, and was known as the Castle of St. Angelo. The statues, which adorned it, had been thrown down on invaders, and were occasionally fished out of the Tiber, which runs at the foot of it.

Such works would not be attempted now by individuals, but might be by public companies. The cemeteries would soon become filled if some fresh arrangements were not made. The professor had proposed to one cemetery company an adaptation of the mausoleum of Augustus, filled with cells, and approached by inclined planes, with four chapels in the lower part, but the proposed outlay frightened them. Government might carry out such a scheme advantageously on Primrose-bill, or other elevated spot. Interment was a fitting subject with which to conclude the course. In taking leave of them, he would say,

"Make the Greek anthors your supreme delight, Read them by day, and study them by night."

It was chiefly by the study of great productions that artists became great; no one could examine the works of the great architects without deriving advantage. They must allow no opportunity for improvement to slip. In their magnificent profession the exercise of every faculty was called for; they must embody every discovery for the use of the public, and obtain general acquaintance with all the sciences. They must prepare themselves to meet men of all stations, from the prince to the mechanic, and must sustain a high moral character; they might then rely on obtaining the respect of all.

FALL OF A BRIDGE.—The new Victoria Bridge at Spalding, which was considered an ornament to the town, and was lately erected by subscription, at the cost of upwards of 3,000l, fell on the 26th ultimo, in consequence of an unusual high tide, accompanied by a tremendous storm, the effects of which in various parts we had occasion to record a fortnight since. A local paper states that "the bridge was upon the ' bow and string' suspension principle, with side-braces to prevent vibration during a gale of wind; and it is certainly possible that, in consequence of the tide having risen considerably above the usual level, a gang of lighters might swing foul of the side-stays, and draw the bridge out of its perpendicular; if so, the principle of the erection was destroyed, and as a matter of course its own weight brought it down. No blame is thought to be attributable to the contractor, though it would have been a fortunate circumstance, had it been considered at the time, to have had a few piles driven at each corner of the bridge, as a preventive against such an unfortunate and expensive mishap."

DRY ROT AND WORMS IN TIMBER. BY JAMES WYLSON.*

In the first volume of THE BUILDER, at p. 268, will be found a full description of the Pavnizing process for preventing dry rot, and which appears to possess considerable advantage over the Kyanizing method : the materials employed are sulphate of iron and sulphate of lime, both being held in solution with water; the timber is placed in a cylinder containing the solution of iron, the air is withdrawn by means of the sir-pump, and the solution strikes into the wood so as thoroughly to pervade its pores; it is then placed in the solution of lime, and immense pressure being applied, the latter is forced into a combination with the iron, and immediate consolidation takes place; the timber is then found to have greatly increased in weight, and to have become unignitable; we may also reasonably infer that, with such a compound in its pores, decay must be greatly retarded, and the liability to worms reduced; the greatest drawback consisting in the increased difficulty of working. Between this process and Kyan's we see the marked dis-Another of the patent processes in use, namely Margary's (see THE BUILDER, vol. i. p. 320), we should fear is of the latter class, the method consisting in steeping the wood in an open tank, with the hope of thorough saturation; in this process the material is sulphate of copper in solution with water, in the proportion of 1 lb. to 8 gallons. Dr. Parry recommended a preparation composed of bee'swax, roll brimstone, and oil, in the proportions of 1, 2, and 3 oz. to \$ of a gallon; to be boiled together, and laid on hot. Dr. Darwin protogether, and laid on hot. Dr. Darwin pro-posed absorption, first of lime-water, then of a weak solution of sulphuric acid-drying between the two, so as to form a gypsum (sul-phate of lime) in the pores of the wood; the latter to be previously well seasoned, and when prepared, to be used in a dry situation. A Mr. Bill is said to have discovered an insoluble varnish, of small cost, which enables wood by saturation, to resist decay for five years under

the most trying circumstances. In a report by Mr Pritchard, C.E., of Shoreham, in 1842, respecting the preservation of the timbering of the Chain Pier at Brighton, he states his perfect success in establishing pyrolignite of iron and oil of tar, as a preventive of dry rot; the pyrolignite to be used very pure, the oil applied afterwards, and to be perfectly free from any particle of ammonia; in that report, reference is made to a patent which it appears is held by Mr. Bethel, of Vauxhall Tar Works, for preparing wood by impregnating it with either or both of these materials; this treatment, as Mr. Pritchard remarks, supersedes the necessity of covering marine timbering with iron nails, as practised at Plymouth Dock and elsewhere.

The above preparations, and those noticed in a previous article, have for their object the prevention of dry rot; with respect to cure, when such has taken place, it is recorded that in a ship called the Eden, every trace of fungus was eradicated by its remaining eighteen months under water; now, it is well known that common salt, in small quantities, conduces to the decomposition of vegetable matter, and would, if applied, be liable to increase the evil; and, therefore, it must be inferred that a solution for the purpose in view — circumstances being supposed to admit of its adoption, —must be of a strength closely assimilating to sea-water, and which, while it destroyed the fungus, would have the effect of suspending decomposition in the ligneous fibre of the timber. Where facility is afforded for making it available, a degree of heat sufficient to destroy vegetable life may be adopted with great certainty for arresting the progress of any fungus growth, and destroying the power of regenerating; but it is attended with difficulty, since as much as 300° of heat is required to produce the desired effect. Where the disease is internal, and far advanced, the best cure is cutting out the parts affected; this is often necessary where it is external, but thoroughly scraping away the vegetable matter, and washing over with a powerful solution of one or the other of the kinds hereafter mentioned, and which are calculated to kill any infectious germ that may exist, will probably eradicate and permanently remove the evil : painting affords

* See page 32 unte.

no protection against it: gary's process has been pplied with success for arresting the progress of the disease where it has commenced; this Prescription we believe is old enough, and unpatented, the only difference consisting in its being used four times as strong, which may be supposed to be necessary, since cure is generally more difficult than prevention.

prevention. When we consider the disastrous results proceeding from dry rot, the trouble and expense which it occasions, how often it originates io imperfect seasoning, and already exists in timber before it is converted to use, we see the importance of exercising the utmost precaution: as regards timber beams, they should invariably be sawn up in the middle of their breadth, the fresh surfaces turned outwards, and the growth reversed; and be thus bolted together, separated a little by blockings where the bolts pass through; by following this rule, it is ascertained whether decay has begun in the heart of the timber, and if so, whether to such a degree as to require the piece to be laid aside; the seasoning is sooner perfected, and by reversing the ends the strength of the of timber may often be ascertained by sounding it with some metal instrument.

Timber, besides being subject to have its natural decay anticipated by premature decomposition, proceeding from unseasonable feiling, imperfect seasoning, or the other destructive agencies to which we have referred, is liable from similar and other causes to be destroyed by various worms and insects; the soft and tender woods, and such as are of a saccharine tender woods, and such as are of a saccharine nature in their juices, are the most liable to be assailed by them; those which are bitter are generally, if not invariably, exempt; it is ob-vious, therefore, that those palatable juices, which are so conducive to their production and propagation, should be got rid of by thorough seasoning, and if further precaution be necesseasoning, and, if further precaution be neces-sary, that the infusion of some bitter decoction into the pores of the wood will be an effectual preventive; and for which those woods that are of a regular grain afford sufficient facilities. Ash, if felled when abounding in sup, is very subject to worms; beech is also very liable to their attacks, likewise alder and birch; in these woods, water seasoning is found to be a considerable preventive; the sap-wood of oak also is by it rendered less liable; smoke drying, or burning fern, shavings, &c., ander the wood, by impregnating it with bitter particles, also renders it exempt from worms; the silver fir is subject to them; the sycamore is rather so; alder is said when dry to be very susceptible of engendering them; the cedar, walnut, plane, cypress, and mahogany, are examples of woods which discourage their advances. For the extirpation or prevention of these destructionists, see recipes appended to this article.

Besides the common worm to which timber in its dry condition is liable, there are a variety of a more formidable character which commit their ravages on the bottoms of ships and the timbering of sea works: of these the most common are the pipe-worm (or *teredo navalis* of naturalists), a species of pholas (*pholas striata*), the lepisma, and another mentioned by Smeaton, which is almost invisible. The pipe-worm was originally brought from India to Europe; when first produced from the egg it is very small, but it soon attains a considerable size, in general acquiring a length of about three inches, and in the more favourable woods, the fir and alder in particular, fattening to its utmost size, and sometimes reaching full twelve inches in length. The more compact woods offer more impediment to its progress, although, from the formation and hardness of its head, it is enabled to penetrate even the most dense; bitter woods they do not at all attack, yet charring the surface of wood has not been found to he of any use as a preventive measure. Timber constantly under water, and which has been subject to their operations, has been aptly compared to a honeycomb, so extremely contiguous are their habitations, yet at the same time perfectly distinct; but while the perforation is so complete, it is unfortunately concealed within a thin external shell of undisturbed wood, which prevents the apparent, the infinitude of minute perforations by which they have communicated and the second by which they have communication with the water being invisible to the eye. The pholas

above particularized, does not confine its work of destruction to timber alone, but extends it to stone and other materials; it penetrates the wood when young, making an entrance of about a quarter of an inch in diameter, and enlarging it as it advances inwards and matures growth, thus becomes imprisoned; it in leaves off boring when full grown, and never extends its operations beyond reach of the water, from which it partly derives its sustenance. The lepisma attacks woods in the East-Indies inimediately they are immersed in sea-water, and, though small, is very destructive in its operations, having been known to eat through the unsheathed bottom of a boat or four weeks. The small white in three worm last mentioned above, differs from the common ship-worm in its boring obliquely across the grain instead of lengthways; and its mode of operation consists in dissolving the substance of the wood rather than cutting into it, the harder woods offering the most obstruction to its progress, yet so far from sufficiently, "that a three-inch oak plank will summerently, "that a three-inch oak plank with be destroyed in eight years, by its action from the outside only." It appears as a small white soft substance like a maggot, but indistinct without a magnifier, and it is said not to live in the part of piling that is imbedded, or in any timbering situated above the tidal influence, that supply being necessary to its existence. These creatures yearly render necessary heavy repairs in the sea-dykes of Holland, from which we may imagine the Sampson-like achievement they might accomplish, if unheeded, amongst the piles whereon Amsterdam is built.

In the report before referred to, Mr. Pritchard disapproves of the use of Stockholm tar as a coating for marine timbering, considering it, in common with other tars containing vegetable matter, as detrimental to timber when exposed to salt water; and also, from its not penetrating the wood, being very soon eaten away by the salt acid of the sea. Common gas or coal-tar he also considers as doing much harm instead of good, forming a hard and brittle crust on the wood, which prevents "the damp and unnatural heat from the possibility of escape, owing to its containing ammonia, which burns the timber, and in a few years turns brown and crumbles into dust:" the pipe-worm, and others, he says, will destroy timber thus prepared in five or six years; and respecting such as has undergone the Kyanizing process, mentions a piece of heart of English oak in Shoreham Harbour, which was eaten to net-work by the worms in four years. For a sure defence against these assailants, he recommends the pyrolignite of iron and oil of tar, as specified by him for dry-rot. It appears that there has been used for years at the port of Liverpool, a wood called mora, or greenheart, the properties of which are well understood there, and which entirely resists the attacks of sea-worms; some of this timber seems also to have been imported into London within the last two or three years, but it is by no means generally known, although evidently it is of high importance that it should be so.

Besides worms, timber is exposed, chiefly in the Indies, to most dreadful havoc by some species of the ant tribe; from the destructive jaws of the termite or white ant there is nothing secure, unless it be of stone or metal; roofs, floors, and the other parts of buildings that are constructed of wood are infested by them, and when painted will present a solid appearance while they are completely hollowed; furniture and wooden utensils alike undergo their devouring ravages. The red ant of Batavia is another little devastator.

The following summary of the most approved formula for preventing and curing the evils of which we have treated, will, we believe, be acceptable to those interested in this particular subject; of course a recapitulation is avoided of those remedies which are already suggested by the tenor of our remarks;—

TO PRESERVE WOOD WORKS THAT ARE EX-Posed to wet or damp.

For those of an extensive nature, such as bridges, &c.-1. A coating of pitch and tar, strewed with powdered shells and sea sand, or smithy ashes, beaten small, is used by the Dutch, and found to be an excellent protection. 2. A paint composed of sub-sulphate of iron (the refuse of the copperas pans) ground up with any common oil, and thinned with coal tar oil having a little pitch dissolved in it, is flexible

and impervious to moisture. 3. Linseed oil and tar in equal parts, well boiled together, and used while boiling, rubbed plentifully over the work while hot after being scorched all over by wood burned under it, strikes an inch or more into the wood, closes the pores, and makes it hard and durable, either under or out of water. For those of a more domestic nature, a coating either of coal-tar or paint sanded over, are generally considered good defences; but they require renewal from time to time: the painting is most durable when sanded.

. TO PREVENT ROT.

1. Boiling the wood for a few hours in sulphate of iron (green copperas), and leaving it for some days in a warm place to dry, renders it hard, compact, and impenetrable to moisture. 2. A very strong impregnation of common salt (muriate of soda) is a good protection where dryness is not an object. 3. Charring will fortify timber against external infection. 4. Coating with coal-tar will also serve that end: in both, the timber must have been thoroughly seasoned.

TO CURE INCIPIENT DRY ROT.

1. A pure solution of corrosive sublimate (corros. mur. of mercury) in water, in the proportion of an ounce to a gallon, used hot, is considered a very effectual wash. 2. A solution of sulphate of copper (blue vitriol), half a pound to the gallon of water, laid on hot, is another excellent wash, and cheaper than the preceding. 3. A strong solution of sulphate of iron is sometimes used, but is not thought such an effectual remedy as the copper. 4. A mixture of the solutions of copper and iron is occasionally adopted.

TO PREVENT WORMS IN TIMBER.

1. Anointing with an oil produced by the immersion of sulphur in aquafortis (nitric acid) distilled to dryness, and exposed to dissolve in the air, secures the wood, and imparts to it a not unpleasant odour. 2. An impregnation of lime is an excellent preservative, especially for sap-wood when in a dry situation. 3. Soaking in an infusion of quassia, by rendering the wood bitter, is a good protective. 4. The oil of spike is a good remedy. 5. The oils both of juniper and turpentine are efficacious in some degree. 6. For small articles, cover freely with copal-varnish or linseed-oil.

TO PREVENT WORMS IN MARINE TIMBERING.

1. A mixture of lime, sulphur, and colocynth with pitch, is a good protecting coat for boards. 2. Saturating the pores with coal-tar, either alone or after a solution of corrosive sublimate has been soaked and dried into the wood, also forms a good protection. 3. Sheathing with thin copper over tarred felt is esteemed the best protection for the bottom of ships from all marine animals; the joints should be stopped with tarred oakum. 4. Studding all the parts which are under water with short broad-headed nails soon covers the whole surface with a strong coating of rust, which is found to be proof against their penetration.

TO DESTROY THEM.

1. Rub the wood with poisonous ointments. 2. Whale oil is stated to have been applied with success.

TO DESTROY ANTS IN WOOD.

1. Kyanize the wood, corrosive sublimate being an effectual poison to them. 2. Arsenic is a good destructive. 3. Oils, especially essential oils, are good preventives. 4. Charring prevents their depredations. 5. Cajeput oil has been proved effectual for destroying the red ant.

WARNING RAILWAY CARRIAGES. — The Philadelphia correspondent of the *Chronicle* says:—" They are warming the passengercars on the railroad between New York and this city with hot water, in copper pipes along the floor and sides. These pipes proceed from a small boiler placed over the stove in each car—a capital invention."

NEW METHOD OF IMPELLING LOCOMO-TIVES.—A patent has recently been obtained by Mr. G. C. Coffin, of Lunaford, Wilts, for certain improvements applicable to locomotive, marine, and stationary-engines. Mr. Coffin's proposed plan is an attempt to introduce the pendulum as a motive agent in machinery.

THE MUSEUM OF ECONOMIC GEOLOGY.

The office of Mining Records and museum of Economic Geology is situated at Nos. 5 and 6, Craig's-court, Charing-cross. It is freely open to all persons every day in the year, except Sundays, Good Friday, and Christmas-day, with no other restriction than the visitor's writing his name in a book. The hours are from ten to four, from November to February inclusive; and from ten to five during the remainder of the year. The museum is in the department of the Commissioners of Woods and Forests, and is under the immediate direction of Sir Henry de la Beche, F.R.S., F.G.S., Mr. R. Phillips, F.R.S., being curator, and Mr. T. B. Jordan, keeper of the mining records.

It originated in a suggestion of the present director, who, in July, 1835, submitted to the Chancellor of the Exchequer that the persons employed upon the ordnance geological survey had opportunities of collecting specimens, and pointed out the advantage which would be derived from those specimens being arranged under the care of the Board of Public Works, and marked with the names of their localities referred to in corresponding maps. The specimens desired were of substances used in roads, for works, or buildings, and for useful and ornamental purposes in the arts, and from which useful metals are extracted. Apartments were allotted for the collection formed, and in February, 1837, Lord Duncannon, then Chief Commissioner of Woods and Forests, requested the present director to undertake the duties of the office, which he has since filled gratuitously, with zeal and ability. In 1839 Mr. R. Phillips was appointed to the office of curator; his duties being to make analyses on moderate terms, and to receive pupils for instruction. In the same year the place became the deposit of the mining records, Mr. T. B. Jordan being appointed keeper; the preparation of plans and sections, and of models of mines and machinery, in the workshops beneath the museum, being under his care. Permission is readily granted to make use of the plans and drawings, on application to the keeper, who is daily in attendance.

The building is easily recognized by the five granite-posts in front, which are specimens sent for those in the centre part of Trafalgarsquare. Commencing near No. 5, the first post is from Aberdeen, the second from Peterhead, the third from Penryn, in Cornwall, the fourth from near Dublin, and the fifth from Dartmoor; only the two last are solid blocks. The museum consists of an entrance-hall, an apartment on the groundfloor, 46 feet by 18 feet 6 inches, a gallery on the first-floor, 103 feet long, and varying in width from 17 feet to 25 feet, a room on the second floor, a record-office, fitted up with folios and cases for plans, a private room for the director, a laboratory, and workshops.

In the room on the ground-floor, over the fire-place, is a painting on cement formed from the refuse of copper furnaces; it has a highly polished surface, and the capabilities of the composition are therefore hardly to be judged of on a small scale.* This room contains the specimens of building stones, procured by the commissioners appointed in 1838 to visit the different quarries for the purpose of selecting stone to be used in the new Houses of Parliament. These specimens are six-inch cubes, 197 in number, arranged according to their mineral composition, having the names of different buildings in which they have been employed labelled upon them, as well as the designation and locality. These are the specimens referred to in the report of the Building-stone Commission, dated August 27, 1839, No. 574, which document is already out of print. We find that the stones used in the Houses of Parliament are the following:— 1. Oolite limestone, from Painswick, Gloucestershire, employed in the internal masonry. 2. Limestone of the oolite series, from Caen, Normandy, employed in the interior. 3. The magnesian limestone, from Steetly, Derby-

• In the Athenæum of July 22nd, 1943, we find the following :-- "The Lady Chapel of the church of Saint Nicholasdes-Champe, Paris, has recently been enriched by a Christ, of colossal proportions, painted on lava, on a gold ground, by M. S. Perlet, after the manner of the Byzantine movaics, which still adorn some of the Italian churches. This modern painting on lava is said to be one of the first essays of a kind peculiarly adapted to a northern climate, by its presenting a surface enamelled by fire, and therefore prof against damp."

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shire, between Worksop and Chesterfield, used for the small internal courts. 4. Magnesian limestone, from Woodhouse, Mansfield, Nottinghamshire. This stone has a beautiful yellow tint, with very small black spots, and takes a smooth face. 5. The magnesian limestone, from Bolsover, Derbyshire, held, in the published report, to be the most eligible of the number : of coarser grain than No. 4. 6. Magmesian limestone, from Stone Ends, North Anston, Yorkshire, between Worksop and Sheffield, used for the plinth of the building towards the river. 7. The magnesian limestone, from Woodhouse, near Mansfield, Nottinghamshire, Lindley's Bolsover Quarry, used for a portion of the mouldings and carvings. 8. Magnesian limestone, Norfall, Anston, Yorkshire, between Worksop and Sheffield, used for the structure generally. 9. Another specimen of magnesian limestone, from Steetly, Derbyshire, used for the small internal courts. 10. Magnesian limestone, from North Anston, Yorkshire, between Worksop and Sheffield, used for the superstructure generally. The colour of this stone is dark yellow, being darker than that from Norfall Anston.

In the collection is a specimen of the stone from Taynton, Oxfordshire, used in the interior of St. Paul's Cathedral; it is a coarse shelly colite. The sand-stone used in the restoration of Hereford Cathedral, is from Capler Quarry, eight miles south-east of Hereford, on the Wye, and is in colour a reddish drab. The pieces of granite and marble are some of them very beautiful. We found the black serpentine, the black and the veined gray, and reddish marble, s the white alabasters of Devonshire, Derbyshire, and Scotland. Many of these are exhibited wrought into tazzas and ornamental vessels. The history of porcelain is exhibited in specimens of pottery from Egypt, Etruria, and Mexico, down to our times, when it is formed into tiles for church pavements, and into such rich and elegant forms as are here exhibited by Messrs. Copeland and Garrett. There are specimens of Keene's cement, Broseley clay, Stourbridge clay, and a series illustrating the uses of plaster of Paris. Mr. C. H. Smith has contributed an Egyptian capital, copied by himself, we believe, in granite, from one in the British Museum, by way of illustrating the perfection to which the art of tempering steel is brought in modern times .- The gallery on the first floor is devoted to specimens of coal, and of the English and foreign ores. There are also some interesting illustrations of the various states which metal assumes under the influence of art or nature ; as of the change which iron undergoes from the fibrous to the crystalline state when employed in axles. Copper, There is a beautiful series illustrative of the mode of preparing dies for coinage, and the electrotypes are the best collection that we ever saw. The process of making swords and gun-barrels is illustrated, and most clearly explained by Mr. Wilkinson, of Pall Mall. Though the ornamental is not professedly sought after in the collection, it happens that there are several curiosities most interesting to the artist and the man of taste. Among these is a model of the monument to William de Valence, senior Earl of Pembroke, half-brother of Henry the Third, who died in 1304, exhibiting the use of enamel in the costly tombs of that period. The model was prepared under the direction of Albert Way, Esq. The figure is entirely gilt, and the shield emblazoned in blue, red, and gold, the horizontal surface of the the tomb being covered in diaper, with heraldic achievements. The collection of enamels is highly interesting, and includes, amongst other things, a reliquary of the 12th or 13th century, and a casket of the 14th century, emblazoned with the arms of England and Valence. There is a candlestick of the 14th century, and a pyx is a candiestick of the 14th century, and a pyx of the same date. On the wall of this room is suspended a "Flemish Monumental Brass, of Lodewyc Cortewille, of Cortewille, near Liege, who died 1504, and of his wife, Colyne Van Castre, who died 1496;" the analysis gives the following result :--

| Copper Zinc Lead | 64 29 | 0 5 |
|------------------------|----------|--------|
| Tin | 3 | 0 |
| | 100 | 0 |

The room on the second floor contains surveying instruments and mining tools, specimens of bricks and tiles, and models. The skill of our ancestors is evidenced in a coat of mail, weighing seventeen pounds, and containing many thousand links, each one being separately rivetted. In conclusion, we advise our professional brethren to avail themselves of the advantages which this collection offers; it has hitherto been little visited, and it is with the view of gaining it a greater share of attention, and the assistance in contributions which architects can often so easily afford, that we have been led to devote so much space to it.

COVENT GARDEN IN THE SIXTEENTH CENTURY.

In the last part of the "Archæologia," there is a copy of the counterpart of a lease from the Earl of Bedford to Sir William Cecil, afterwards the Lord Treasurer Burghley, of part of the "Enclosure or Pasture, communely called Covent Garden, scituate in Westm'." It was executed in 1570, and is interesting to investigators of metropolitan antiquities, as affording information with regard to the state of a portion of London now occupied by a numerous population; but which, in the reign of Elizabeth, presented a very different appearance. The portion in question is said by the lease to be "dyvyeded from the rest of the said Enclosure called Covent Garden on the west syde of the said porcyon or p'cell nowe demysed wth certayne stulpes and Rayles of wood, and is fenced with a wall of mudde or earth on the East next vnto the Comune high waye that leadeth from Stronde to St. Gyles in the fyeldes, and on the west end towardes the South is fensed wth the orcharde wall of the said S^r Willm Cecyll, and on the South end wth a certayne fence wall of mudde or earthe, beinge therebye devyeded from certayne Gardens belonginge to the Inne called the Whyte Heart, and other tenementes scituate in the high streate of Westm', co-munly called the Stronde." Mr. Albert Way, Mr. Albert Way, the present accomplished director of the So-ciety of Antiquaries, who laid this document before the members, remarks in a letter which

accompanied it :----"With regard to the limits of Covent Garden, as defined in this lease, I must appeal to those who are versed in the ancient topography of the metropolis to explain the position of the various boundaries described in the document : but I would offer an observation on the modes of inclosure whereby, in the reign of Elizabeth, property so immediately in the vicinity of the city of London was fenced, even where it adjoined the great highways at the very entrance of the metropolis. It is curious to com-pare the approaches of London, as they now appear, with their aspect nearly three cen-turies since, as set forth in the terms of this lease, and to view the advances of civilization and luxury, illustrated by the comparison of the conspicuous public monuments and suit-able fences which now adjoin Hyde Parkcorner, or the Cumberland-gate, with the mud walls and 'stulpes' which presented themselves to the visitor of London in the 16th century at the gates of the city. At that period the ancient process of forming walls by means of indurated earth was still extensively employed : in the eastern counties this was called dawbing, and the term is still retained in Norfolk and Suffolk; but the process is now used, to any considerable extent, in the more remote county of Devon only. The subject of the cob-walls of the western counties, and of the use of concrete, generally, in all ages, and particularly in Spain, where important ancient structures formed with mud walls may still be seen, has been curiously illustrated in the "Quar-terly Review," Vol. LVIII., by the able pen, as I believe, of Mr. Richard Ford, of Heavitree.

"Sir William Cecil had his dwelling, originally built by Sir Thomas Palmer in the times of Edward VI., upon the site of the parsonage-house of St. Martin's-in-the-fields, situate in the High-street, at the south end of Druy-lane. Sir William had bestowed much pains in beautifying this his abode, which adjoined the property of the Earl of Bedford, and had an orchard contiguous to the inclosure, known as the Covent-garden, a portion of which was leased to him by the earl. This portion is described as divided by certain stupes

and rails of wood. This obsolete term, stulp, is now retained only in the dialect of Norfolk, and is used to signify \blacklozenge low post fixed as a boundary. In the first English Dictionary, which was compiled in Norfolk during the reign of Henry VI., called the 'Promptorium Parvulorum,' this word occurs, as well as the greater part of those archaic terms which are now retained almost exclusively in the East Anglian dialect. In this curious dictionary is found 'stulpe or stake, paxillus.' The same term is used by the chronicler Fabyan to denote the bulwark or fence at the approach of London Bridge on the Southwark side, where he relates how the rebel Jack Cade drove back the citizens of London 'from the stulpes in Southwarke, or brydge fote, unto y' drawebrydge.' A.D. 1450."

BATHS AND WASH-HOUSES FOR THE LABOURING CLASSES.

THE committee, after a month's consideration, have selected the plan of Mr. P. P. Baly, as the best of twenty-two which were submitted to them in competition.

The unsuccessful candidates have received intimation that their drawings will be returned, on application at Crosby-square, after the 27th instant, and that the committee have resolved that the successful competitor shall not be permitted to see the plans of the other competitors. We do not see the necessity or advantage of this resolution, and if it is to be used as a reason for the exclusion of all persons from an examination of them, utter a decided protest against it. We have already received letters from competitors inquiring why their drawings are to be detained till the 27th: we trust it may be for the purpose of exhibiting them. We shall hope to lay information on the subject before our readers next week.

DANGER OF IMPROPERLY FIXING STOVES.

The carelessness with which close stoves are constantly placed so as to jeopardize whole neighbourhoods, is deserving of severe reprehension and really calls for some interference. We constantly see them put up in immediate proximity to wooden fittings, even in a recess *lined* with wood and sometimes with the smokepipe passing through a hole in a chimneyboard! Because no accident occurs immediately, it is thought to be perfectly safe; they forget that the wood so exposed to the heat becomes every day more and more ignitible, and are not awakened to the danger till the house is in flames, which further, may reach the property of others not equally deserving of such an infliction.

Only a few nights ago, a house in Charlottestreet, Bloomsbury, would probably have been burnt down from the above cause, if the occupier of the adjoining house had not been aroused by smoke and the smell of fire, and obtaining entrance, succeeded in stopping the progress of the flames.

Many of the late fires have originated in this manner, but experience unfortunately seems to have very little effect until it is paid for.

The constant occurrence of fires in the metropolis is a subject for most serious consideration. The amount of property destroyed annually, to say nothing of the loss of life, is immense; if but a small part of it were yearly expended by the community in a proper way, this might be prevented and all its consequent distress and miserv.

COURT OF CHANCERY.—The ancient hall of Lincoln'-inn, in which the Chancellors of England have sat for so many years, is nearly stripped of all the armorial bearings which decorated its walls, and the stained glass that ornamented the windows, the whole of which have been removed to the new hall, Lincoln'sinn. The admired picture of "Paul pleading before Agrippa," which has so long ornamented the end of the hall, has also been removed to the new building. It is said that it is in contemplation to add the present kitchen (which is only divided by a passage) to the present hall, and then divide the building into three courts, one for the Lord Chancellor, the others for the Vice-Chancellors. If this plan is carried into execution, the temporary courts at present occupied by Vice-Chancellor Knight Bruce and Vice-Chancellor Wigram will be nulled down — Cloba

pulled down, Globe. Digitized by GOOgle

DISSOLUTION OF THE CAMBRIDGE CAMDEN SOCIETY.

SIR HERBERT JENNER FUST'S Judgment in the stone altar and oredence table cause, printed in a recent number of this journal, and the retirement from the Cambridge Camden Society of the Bishop of Exeter, the Bishop of Lincoln, the Chancellor of the University, and others, have led to a proposal for the dissolution of that association, and will, it is to be hoped, prove a heavy blow and great discouragement to those who have insidiously endeavooured for some time past to guide the sation to Rome.

On Thursday, the 13th inst., while the honorary secretary was reading to the society a report from the committee --

The president rose, and said, that the announcements he had just made of accessions to the society, however gratifying, especially by their promise of the extension of the society's usefulness in distant colonies, would not adoquately supply the vacancies which he felt it his duty, though not required by the rules, to announce from the chair. The members were aware that one of their patrons, the Bishop of Exeter, had not only withdrawn, but had published his retirement and disapprobation the world, assigning reasons of which it did not now become him to contest the validity, however much he might be prepared and desirous to disavow the imputations therein conveyed. Another of their patrons, the Bishop of Lincoln, had since withdrawn his name, on grounds similar to, and brought to his notice by, those adopted by the Bishop of Excter; and subsequently the committee had received an intimation simply announcing the retirement of the Chancellor of the University, followed, as was to be expected by the usual eti-quette, by that of the Vice-Chancellor. If the members were really animated, as he believed to be the case, by the principles which had always been professed by the society, he felt assured that they would neither be surprised nor offended, however much they might be distressed, by the remainder of the report of the committee, the reading of which he had in-

"The retirement of two of its episcopal patrons, accompanied in the case of one of them by public expressions of disapprobation, and followed by that of the chancellor and his representative, have appeared to them to place the society in a position incompatible with its character as an association of members of the church and university. They feel satisfied that any advantages which might be expected from its continued operations would be insufficient to counterbalance the positive evil that must result from even an apparent disregard of the sentiments of those invested with anthority. They therefore recommend unanimously that the society we preserve.

the SOCIETY BE DISSOLVED. "This recommendation can only be carried into full effect at the anniversary meeting. Till then the ordinary meetings, which have been already convened, will be held proformal for the despatch of necessary business. The interval will be occupied in winding up the society's affairs. The recommendation now announced will be submitted at that meeting for, what the committee earnestly hops it will receive, its ratification." This was received with a dead silence. It

This was received with a dead silence. It was evident that the announcement had taken the meeting by surprise. The president proceeded — He was well aware that the recommendation which the committee had felt it their duty to make to the society, was one which largely taxed its confidence, as well as its obedience to the man principles by which it had been always governed. Still it would never do for him, it would never do for them, to walk about the university, and feel that they were members of a society from which the Vice-Chancellor had withdrawn his countenance. No time for dissolution could be more appropriate than the present, and for any sacrifices required by duty they would console themselves with the reflection that the society had done its work, though its work was done. They would remember a sentence to that effect in his address to them in May

last, where he had dimly foretold the consummation to which they were now invited : a sentence suggested, as the context would shew, partly by the considerations which he had been now urging upon them, and partly by the prospects of that change in the condition of the society, which had been anticipated as the consequence of the near removal of himself, and other its founders and principal managers, from the University. His career here was closed: it was a satisfaction, amidst some regret, that their light should go out together. Neither let them suppose their good would be lost, though he hoped that whatever harm, if any, had come from their operations, this act, en consummated, would blot out for ever. The principles of union in church-membership, to say nothing of architecture, which had been generated and fostered by the society, would fructify more generally and forcibly, stripped of whatever was frivolous or inappropri-ate, in other ground and in other forms. Whathe had said would, he trusted, reconcile the society to the decisive and unmistakeable step recommended by the committee. It had, in addition, the highest sanctions of which it was capable. He felt assured that the society would feel that it was more in conformity with their position and their sense of duty, than to prolong, however. effectually, an uneasy existence.

And in May next, therefore, unless a fresh arrangement be made, the Cambridge Camden Society will terminate its existence. To a looker-on, this step seems extreme and unnecessary; and many will say, with a corre-spondent, "Is there no other course open? Must a society, constituted for useful and praiseworthy ends, be dissolved because grave errors have been committed? Cannot its management be amended? Is its original and proper object inseparably connected with the course of proceeding objected to? Is the 'Study of Ecclesiastical Architecture,' to which these high personages are favourable, not capable of being pursued unless in connection these with the encouragement of Popish absurdities er errors? Cannot useful hints be given to eharchwardens for the preservation of sneight and sacred edifices intrusted to their charge, without intruding into the office and duties of the archdeacon? Cannot a design be furnished for a church at Hong Kong, unless a Romish almanac be simultaneously printed at the Pitt Press, by a secretary of the society, or the envelope of the plan be stamped with the effigies of saints of the Romish calendar?

"The dissolution of the society, by its own act, because of complaints made on grounds here hinted at, amounts to a confession on its part that it considers its avowed object not worth carrying out, unless it can be made the means of promoting other ends not avowed; and which, if they had been avowed, the society would never have been composed of its present members."

The following letter takes the same view of the subject :---

"Sir,—As a young member of the architectural profession, and therefore deeply interested in whatsoever concerns it, I venture to solicit your favourable consideration of this address.

"I have observed that your able periodical is ever ready to advance and uphold the principles and study of ancient ecclesiastical architecture, apart from the superstitious and subtle feelings now too generally prevalent in describing and encouraging the admiration of the beautiful remains of our forefathers. Surely, this may always be done without making it the vehicle for disseminating those dangerous views entertained with strange infatuation by many members of the two universities. I have been led to these remarks by a rumour of the intended dissolution of the Cambridge Camden Society, and, in common with many, I should regret the benefits likely to be lost to the profession and to the community by such a proceeding. For when we see so influential and able a society, composed of men who, from their stations, intellects, and pursuits, are so capable of rendering good service to the study of Gothic architecture, if their information be conveyed according to a proper spirit-i. e., apart from the advocacy of Romanism-all sober-minded men will lament that so much advantage should be lost by the cessation of their labours. I, for one, cannot see that because most of our glorious specimens of ancient

architecture were the offspring of mistaken minds in matters of religion, it necessarily follows, we, in these reformed days, should inseparably mix up in our admiration and study of them the same feelings that actuated their founders. "Let us hope, then, that should the Camden

"Let us hope, then, that should the Camden Society resolve upon a dissolution, it may only be for the purpose of remodelling and cleansing itself from the views and opinions which have hitherto characterized it, and will pursue its labours for the advancement of Gothic architecture, purely as an *architectural* society, and leave theology for a separate and distinct study.

"In the hope that you will not deem these remarks unworthy of notice in your next number, I am, &c., "H.H. "February 18, 1845."

PROFITS ARISING FROM GAS APPLIED TO PUBLIC IMPROVEMENTS.

It is not generally known that the very large annual profits arising from the Manchester Gas Works are applied (by a committee called the Improvement Committee), for the purpose of forming new streets, widening existing ones, opening such as appear to require increased ventilation, and in general to such improvements as more especially relate to the forming of better thoroughfares in the town.

These gas-works, now the most extensive in Great Britain, or in the world, were first commenced in 1817, and in December of that year, the Manchester public were first supplied with gas, from the establishment, at the charge of 15s. per 1000 cubic feet. The funds for this purpose were provided by the Commissioners of Police, out of the police funds. At the present period, the smallest consumer only pays 6s. per 1,000 cubic feet, and the largest (say of 80,000 feet) only 5s. per 1000 feet. With these comparatively low charges the gas committee will, however, pay, or have paid, during the present year, a sum exceeding 50,000*l*. to the committee of the improvement fund ! Extensive as are the Manchester Gas Works at the present moment, a further extension is, it is esid, now contemplated. Such is the increasing demand for gas, and such its probable immediate want, that the public need not wonder if, in the next two years, the works should be further extended 33 per cent.

It can only arise from an ignorance of these facts that other towns do not follow the example set by Manchester. How many improvements deeply affecting the health and comfort of towns are continually postponed or entirely laid aside for want of means. Here is a plan by the adoption of which an income to supply this very want may be derived, and, at the same time, a pecuniary benefit would accrue to each gas-consumer, in paying less than he does at present for the light he has occasion for.

While on the subject of gas, we would advert to a plan, lately put forth by a Mr. Blofield, for supplying London (and all other towns situate on or by the principal railway lines) with gas at a much cheaper rate than at present. Mr. Blofield says :--

"In the first place, I propose that extensive gas works be erected, either near Birmingham, upon the Staffordshire coal field, or somewhere upon the Derbyshire, Nottinghamshire, Lancashire, Yorkshire, Newcastle, (the best locality) or Bristol coal-fields.

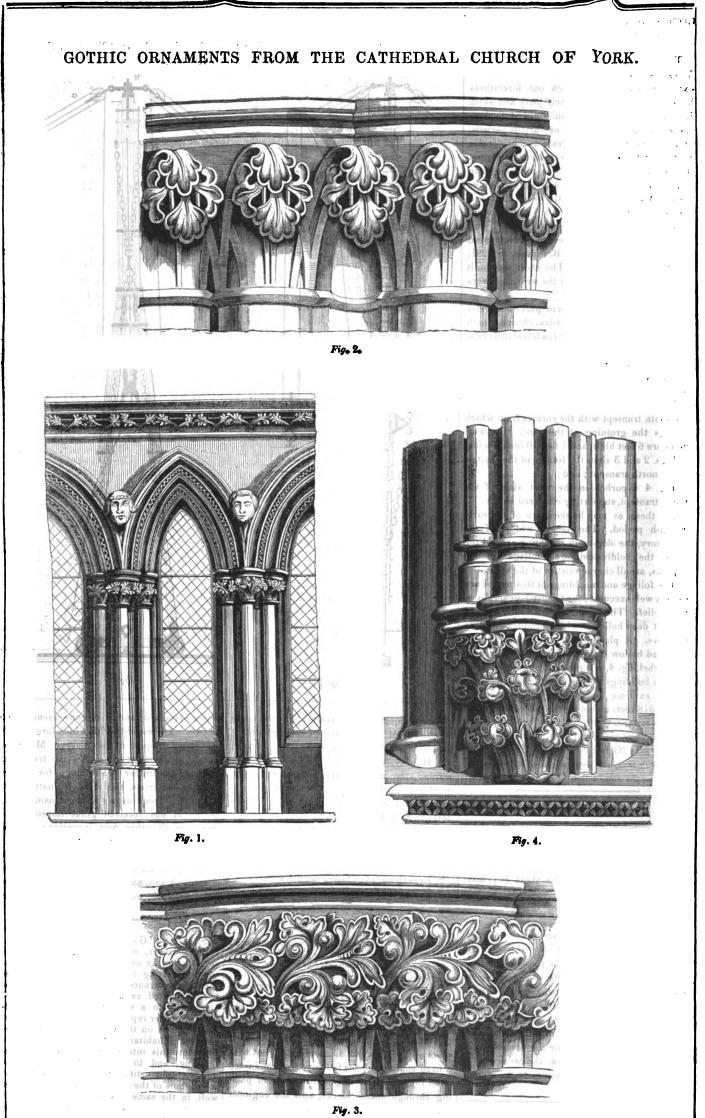
"The gas to be manufactured in the country upon the spot, and conveyed through pipes, luid along the railways, to a large reservoir in the neighbourhood of London.

"By making the gas in the country, in the neighbourhood of the pit's mouth, instead of in London, it would save the following expenses, among several others :--

"It would save the expense now paid for having the coal conveyed such a distance. "It would save all those other numerous

"It would save all those other numerous intermediate expenses, incurred between its purchase at the pit's mouth and its delivery in London.

"It would save the enormous expense of the eighteen *separate* gas manufactories at present in the metropolis, with all their numerous establishments, independent of those in the country on the lines of railway." H.



GOTHIC ORNAMENTS FROM THE CA-THEDRAL CHURCH OF YORK.

THE metropolitan church of St. Peter, at York, is one of the most beautiful of those extraordinary edifices which our forefathers have left us, in proof of their piety and skill. Like many of our ancient buildings, it displays the workmanship and style of various periods, and may be made to illustrate a considerable portion of the history of pointed architecture. The crypt under the choir was commenced in 1171. The south transept was built by Archbishop Walter Grey, about the year 1227; and the north transept by John le Romayne, treasurer of the church, between 1250 and 1260. The nave and aisles were commenced by his son, Archbishop le Romayne, in 1291, and finished about 1330. The choir was built between 1361 and 1400, and the western towers soon after the latter date.*

The above engravings form part of a series of ornaments from this cathedral church, which we propose to lay before our readers at intervals. They are reduced in size from Halfpenny's work, † and will be found as beautiful per se, as they are valuable from exhibiting the style of different epochs.

Fig. 1 represents part of the clerestory in the south transept with the cornice from which springs the groining of the roof. The windows are 6 feet high, and 1 foot 10 inches wide. Figs. 2 and 3 shew the foliage of the capitals

in the north transept; and Fig. 4 a corbel in the west aisle of the

north transept, supporting clustered shafts.

All these, as may be seen, are of the early English period. The lancet widow of the elerestory, the dog-tooth moulding around the arch, the boldly-sculptured foliage of the capitals, areall characteristics of the style.

The foliage and mouldings of this period are usually well executed; the former is generally in high relief. The monidings are boldly cut, and present deep hollows, which produce effective shadows. A plain round with a good projection, and hollow below it, such as is seen over the corbel, fig. 4, is a moulding very generally used in buildings of this style.

The extreme length of York Minster outside is 518 feet, including the projection of the battresses, the width 140 feet, the transepts from north to south 241 feet. The height of the nave is 93 feet, the height of the centre tower 198 feet, and the height of the western towers to the top of the pinnacles 200 feet.

PORTLAND VASE.

WE observe with indignation that some charitable individual, unknown, has paid the fine of 37. levied on the tipsy rascal who destroyed this interesting and unique relic, and has thus saved him from the short imprisonment to which, in default of payment, he had been sentenced. We regret that we cannot make known, for public gratitude, the Samaritan who has thus stepped in to prevent the infliction of the very immensurate punishment permitted in the present defective state of the law, and has offered a premium to some other sot for the destruction possibly of some choice illuminated MS. at the Museum, or of the last new picture at the National Gallery. It is to be hoped that the legislature will promptly pass a law for the protection of such works, and not allow the weakness of one individual to offer impunity to the vicious habits of another.

See Mr. Britton's history of the building in his "Caents in the Cathedral Church of York."

Fig. 2. engine attached, and it is consequently loco-In consequence of the reference to the mode motive. The rapidity with which large stones adopted by Mr. Tomkinson for raising building are raised is quite extraordinary. Mr. Tommaterials at Liverpool, made in page 34 ante, kinson also first put in practice the travellingcarriage on timber scaffolding, for raising building materials, the idea originating with one of Mr. Tomkinson's foremen, named John Day. It has received great improvements

> from experience, our greatest tutor." We examined the machine for raising stones by steam in operation at Liverpool a short time ago, and saw that it accomplished its work with wonderful rapidity and precision.

> since, as all other first inventions will do,

ST. JOHN'S GATE, CLERKENWELL .--- In a recent number, we mentioned some proceed-ings under the new Buildings Act relative to this interesting relic. For some time past, the lodge entrance to the old monastery has been tenanted as a public-house, and it is apparently in a very dilapidated state from want of proper repairs and attention. A strong desire exists on the part of many antiquaries and the inhabitants of the neighbourhood, to restore this interesting part of the ancient building, and to convert it into a literary and scientific institution, for the benefit of the inhabitants of the crowded district of Clerken. well, in the same way as Crosby-hall for the city, as it might easily be made available for the purpose.—Globe.

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Mr. Hawley, the clerk of the works, has for warded the annexed representations of the machine, drawn on a scale of 16 fect to l inch. Fig. 1, shews the side of the derrick, fig 2, the end. The wheels run on a tram-way laid parallel with the walls of the

building. A. Cat-head : four sheaves.

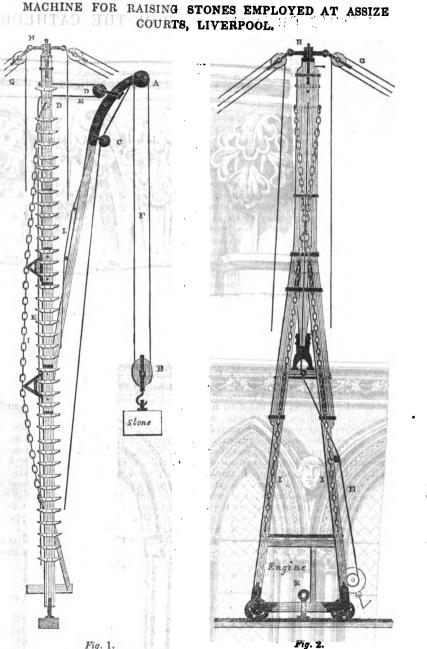
- B. Large three-sheave block.
- C. Single sheave to keep hauling part from stone. D. Strong single sheaves for derrick-rope to pass over to
- the crab. E. 7 in. rope for hoisting and lowering derrick.

F. Fall for hoisting stone, &c., worked with 31 he

G. Guy-ropes; three parts to each worked with single purchase crabs.

- H. Swivel-cross for attaching the four guy ropes. I. Chain back-braces.
- K. Screw for hoisting sheaves when turning corners. L. Braces for strengthening derrick.

Mr. Hawley says, " I believe Mr. Tomkinson is the only builder that has this kind of shear legs in use at the present time. He first used them at the Liverpool Custom-house, but with a fixed engine, and the fall-rope was conducted from the legs to the engine by means of passing through snatch-blocks, and the engineer was guided by signals. We have the same legs in use at the new Assize-courts, with the



LONDON BURIAL-GROUND PRACTICES.

SIR,-You did me the honour to insertacommunication in THE BUILDER of February 8, on "Spatields Burial-ground," and observing in your journal of the 15th inst., that a person, signing himself "A. BIRD," and who calls himself "Manager" (I presume of the grave-yard bearing the above name), has thought fit, not only to venture an attempt to invalidate my statements but has done invalidate my statements, but has dared even publicly to question my right to make them, I will trouble, you, Sir, with the following additional remarks, premising that I do not retract a single word of my former communication, whilst I hurl the most uncompromising defi-ance at Mr. A. Bird, the "management," and the "proceedings about to be commenced." As Mr. Bird states only in general terms his determination to commence "proceedings;" as he assumes, nay, apparently has, in his own belief, long occupied the position of an ill-used and injured man,* I, pending his legal proceedings, in disclaiming any *personal* motive in the contest he has chosen to enter upon, invite Mr. Bird's most serious attention to the observations and statements I may deem it necessary to make, reminding him that, under any circumstances, the PUBLIO have a far deeper and more important interest in this question than individual disputants — and that grave-yard PROPRIETARY INTERESTS, of the nature of those represented by their, for aught I know, self-elected champion, Mr. A. Bird, like other interests, must submit their claims, it may be, reveal their condition, to, and abide by the decision of, PUBLIC OPINION, represented by a free, a vigilant, and an independent press.

From a very long conviction, based on no slight grounds, I have from time to time, as the occasion offered, or opportunity served, the occasion offered, or opportunity served, endeavoured to convince my countrymen of the folly and wickedness of tacitly permitting the continuance of our present system of BURIAL IN TOWNS; and having, I think, abundantly proved that this iniquitous and permicious practice has prostrated, and will continue to prostrate, numberless victims, I call upon the readers of your journal to apply their most serious consideration to this unartion assuming them that it will afford them question, assuring them that it will afford them abundant material for salutary contemplation, and, if I mistake not, will supply a most powerful incentive to energetic, and determined, and united action.

In the mixed condition of society in all large towns, it is impossible to draw a line of demarcation between the various classes, neither is it necessary to attempt to apportion to each individual his own share of inevitable, well-deserved punishment attendant upon his neglect of the first dictates of natural feelings and common sense; but it especially concerns the middle and poorer classes to reflect that circumstances, frequently inseparable from their condition, compel their residence in localities principally the seats of shamefully-overcharged burying-grounds; that it is an *indispensable* condition of healthy existence that the atmosphere they breathe shall be in a pure condition; that in the immediate neighbourhood of, and even at a considerable distance from, all such places, annoyance, discomfort, disease, and death, are the invariable and abiding concomitants; that the locality, the area, the condition of the soil, the numbers buried in a given period, the depth at which bodies are interred, the constant upturning of earth yet portunities afforded by free ventilation for the dissipation of the invariably injurious products of human decomposition,---that these circum-stances must and do influence the sanatory condition, most certainly, of the surrounding residents, and even the health of the entire district.

Sir, these statements, which I unhesitatingly make, are true or false. Perhaps Mr. Bird, whilst arranging his counter-statements to disprove my allegations, will favour your readers

with his opinions, as I understand that he entertains some original notions on the buryingground question. I do not wish to press un-necessarily upon Mr. Bird, but the course he has thought proper to pursue is so little in accordance with irrefragable facts, that I beg to assure him, and all whom it may concern, that he or they must convict, or be convicted, for I will neither offer nor accept a compromise ; mean-while I publicly ask Mr. Bird for distinct and unequivocal answers to the following questions :-

lst. What is the area of your buryingground?

2nd. How long has it been employed for the interment of the dead?

3rd. How deep are the graves dug?

4th. How many bodies are placed in one grave in a given period of time? 5th. What depth of earth is ordinarily

placed over the topmost coffin ? 6th. What lateral thickness of earth is

allowed between each grave?

7th. How many bodies on an average have you interred on Sundays, and how many on the remaining days of the week, since you became "manager?"

8th. Why do you constantly keep from five to fifteen graves open in expectancy, and do you consider the practice of keeping "open graves" injurious to the health of the district ?

9th. As the soil of Spafields buryingground is in a *peculiar* condition, I believe from the mode of "management" adopted, in how short a period, in your experience, do the soft parts of the human body resolve themselves into their ultimate elements?

10th. How long do the coffins remain entire or undecayed?

llth, and lastly. Do you persist in re-iterating your assertion, reported in the *Times* of Dec. 23, 1843, "that the statement" (a memorial on the condition of your buryingground, from some of the surrounding in-habitants) "was altogether false;" and do you now express your "surprise that any respectable newspaper could give insertion to matter destitute of foundation and so unsupported by proof?" I am. Sir. &c...

I am, Sir, &c., GEORGE ALFRED WALKER. 11, St. James's-place, St. James's-street, Feb. 19th, 1845.

WORKS IN THE PROVINCES.

AT Brighton a great improvement is about to be effected by widening of the King's Road, and putting back of the battery. The width of the present road (about 40 feet) is to be doubled by means of a sea-wall which will connect the eastern marine promenades with the western. In the immediate vicinity of the battery this width will be much in-creased by the present site of the battery being thrown into the road. The estimates amount to 14,000?. A subscription has been set affect and is proceeding most presumally set afloat, and is proceeding most prosperously, for the erection of a fountain on the Steyne.

At Cirencester, the committee of the pro-posed Agricultural College have selected the design of Messrs. Daukes and Hamilton, ar-chitects of Gloncester and Cheltenham, from a large number, among which were some from architects of eminence in London. The college will occupy the delightful site on Lord Bathurst's grounds known as Port-farm, near the railway station at the junction of the Stroud and Tetbury roads, thus presenting a perspec-tive of two bold fronts. The design is in the **Tudor style, of three stories high; the upper** story being lit by picturesque old fashioned dormer windows, of the style prevalent among the collegiate buildings of Oxford. The centre is occupied by a tower, the upper part of which is intended to form an observatory for meteorological and other scientific purposes. At the Privy Council held on Tuesday week, her Majesty was pleased to approve of the grant of a charter of incorporation of the subscribers to this important institution.

At Manchester the subscriptions for public parks, &c., amounted, at the close of last week, to more than 30,0002. It is highly gratifying to find that a sum has been thus obtained, which promises, at all events, that the first steps in this important measure of public health and

the extent and importance of this vast hive of industry. The subscription is equivalent to one of 2s. each from every man, woman, and child in the community, assuming the population to be 300,000.

At Romford a new corn Exchange is about to be erected. Two premiums are at the present time advertised for the two best de-

signs to be sent in by the 1st proximo. At Harrow, a very handsome subscription has been raised for the purpose of re-building the head master's boarding-house, which was destroyed by fire in the year 1838. Further means being requisite for the attainment of the object in view, the committee have publicly solicited the assistance of Old Harrovians.

At Liverpool the stock-brokers and shareholders have determined on building a new and splendid Stock Exchange. The subscription, which was but recently opened, has augmented most rapidly, and the list now amounts to 50,0001.; one sharebroker alone subscribed 4,0001.

At Carnaryon, the fine old castle which has been for some time in a dilapidated state, is by order of the Commissioners of the Woods and Forests, to be put in complete repair.

At or near Stratton St. Margaret's, Wilt-shire, the guardians of the Highworth and Swindon Union have resolved on building a new union workhouse.

At Coventry, land has been purchased for a cemetery, and it is the intention of the town council to complete the work, so essential to the health as well as to the feelings of the inhabitants, without delay. The province of Ulster will, ere long, pos-

sess a college for the education of the future ministry of the Presbyterian Church. The contributions towards the building of the new college are proceeding most satisfactorily. Already from forty-two contributors a sum of 2.500% has been realized, besides 500% more in smaller sums, making in all 3,000%. Concurrently with this movement, a deputation is at present in London, to solicit from her Majesty's government an endowment for the proposed college

At Huntingdon, Lady Olivia Sparrow has purchased the theatre for the purpose of con-verting it into a chapel of ease. The *Globe* states, that an eminent architect is to be engaged to effect the necessary alterations in the appearance and interior of the building, and the sanction of the bishop of the diocese will be obtained for its consecration. Funds will also be provided for the endowment of it, a considerable portion of which will be given by Lady Olivia.

The rage for building is now exhibiting itself in the neighbourhood of Stratford. Between three and four hundred houses are being erected on a farm, recently in the oc-cupation of Mr. Thomas Spence. On Wanstead Park, the like number of villas, besides various others on a minor scale, in other parts of these localities, will soon be in a habitable state.

INSTITUTION OF CIVIL ENGINEERS.

FEB. 11, 1845 .- The President, Sir John Rennie, in the chair.

The first paper read was a description, by Mr. Thomas Hughes, Assoc. of the method employed for draining some banks of cuttings on the London and Croydon, and London and Birmingham Railways, also a part of the retaining wall of the Euston inclined plane. The method adopted was the introduction of Watson's drain-pipes, which were made of the iron-stone clay of Staffordshire; their surface is pierced with numerous apertures, small externally and enlarging inwardly, tures, small externally and enlarging inwardity, which form prevents their being clogged by the earth, and allows whatever enters to pass freely into the pipe. In their application on the London and Croydon Railway, a longi-tudinal trench, 4 feet deep, was dog on the crown of the bank, at a few feet from the edge, and other trenches, about 30 feet apart, descended from it to the open drain by the side of the permanent way. On the London and Bir-mingham Ruilway the descending trenches were 80 feet apart, and varied from 3 to 6 feet in depth ; the pipes were introduced into these trenches, and the clay which had been dug out was then laid over the pipes; from the longirecreation shall be taken on a scale worthy of tudinal line of pipes, upright pipes were occa-

^{*} CLERKENWELL.—Yesterday a respectable-looking man, who stated that he was the manager of the burial-ground at Spafields Chapel, came before the magistrate to com-plain of a report from that court in the newspapers of that morning relating to that burial-ground. He declared the statement which appeared was altogether false, and expressed his supprise that any respectable newspaper could give insertion to matter destitute of foundation and so unsup-ported by proof. The applicant said it was very hard that such a report should remain uncontradicted. He would certainly push the matter further.—Times, December 23rd, 1843.

sionally introduced, for the purpose of ventilation. The panels of the retaining wall were drained by boring holes through the brickwork at given distances by a powerful auger worked by a machine, and then inserting castiron pipes of the same form as those of clay. This process proved so effectual, that the wall which before shewed evidence of water being lodged behind nearly the whole length, was now evidently drying fast, and the water oozed out from the pipes at all times, even during the severe draught of 1844.

The paper induced an animated discussion upon retaining walls, in which Mr. R. Stephenson gave an interesting account of his views at the time when he designed the walls of the Euston incline, the changes which subsequent experience had worked in his opinion, and the reasons which induced him to adopt the process of staying the walls with cast iron beams, stretching from one side to the other.

The next paper read was a description of the Ouse Bridge on the Hull and Selby Railway, by Mr. W. B. Bray, Grad. The Act for this railway was obtained in 1836, and it forms with the Leeds and Selby, which was opened two years previously, a direct communication between Leeds and Hull; they were both surveyed and executed from the designs of Messrs. Walker and Burges. The river Ouse at Selby is 176 feet wide and 14 feet deep at low-water; the tide rises 4 feet at neaptides, and 9 teet at spring-tides. The bed of quicksand, beneath which is bard clay.

The foundations of the abutments were formed of piles driven into the clay, and on these longitudional sleepers and transverse sills were tenoned, the intermediate spaces being filled with broken stone grouted thin mortar. On this platform, brick abutments with stone quoins, string courses, and copings were built. They were subsequently tied by wrought-iron rods to heavy stone piers. There were six pieces placed in pairs, which were founded on piles driven into the clay, and tenoned to receive the cap sills, on which cast-iron frames were strongly bolted, the ends being furnished with cutwaters of cast-iron plates. The superstructure consisted of six ribs of cast-iron an inch and a half thick, resting on transverse girders, one being placed under each line of rails, and one under each handrail, the rails themselves being laid on longitudional sleepers, 12 inches wide and 6 inches deep. In the Act there was a clause requiring that this bridge should have an opening arch for the passage of steamers and vessels with fixed masts ; this consisted of two versels with fixed masts; this consistent of two similar leaves each keyed on to a cast-iron shaft 9 inches square, with turned journals, plummer blocks, and trusses. The total weight of iron-work was 590 tons, and the erec-tion of the bridge was let to Mr. Briggs, of Party on Trant and the Buttarlay Iron Com-Ferry-on-Trent, and the Butterley Iron Company. The communication was accompanied by a register of the tides at Selby during the year 1842, and was illustrated by a wellexecuted model, presented to the institution by Mr. James Walker

Mr. J. B. Redman exhibited a portion of a fender pile which had been driven into the works of the new terrace pier at Gravesend, in 1843, and in which the "teredo navalis," a pipe-worm, had made great inroads. It appeared, however, that the ravages of this insect were confined to a space of about 3 feet above the level of low-water spring-tide, and that therefore if wood-work was well defended by copper sheathing or scupper nails at and below that point, no great injury would be received by piles in any situation. The meeting was adjourned to Tuesday

The meeting was adjourned to Tuesday evening, the 18th instant, when the following paper was read :--

" Description of the Great Britain steamship, with an account of the trial voyages," by T. R. Guppy, Associate.

THE FINE ARTS.—The number of foreign artists now studying in Rome amounts to 405; 300 of whom are painters, 58 sculptors, 39 architects, and 7 engravers; 158 of those artists are Germans, 25 Freach, 33 English, 17 Russians, 7 Poles, 13 Swedes and Norwegians, 31 Danes, 19 Belgians, 3 Dutch, 11 Hangarians, 10 Spaniards, 7 Portuguese, and 14 Americans. The Italian artists are 542 in number, besides 2,000 mosaic-work makers.

DECORATIVE ART SOCIETY.

On Wednesday, the 12th inst., an introductory paper was read by Mr. Vicary, "On the physiology of timber trees considered with reference to manufacturing purposes." He commenced with a notice of the few

He commenced with a notice of the few Government and private collections of specimens of timber in this country, and expressed regret that a scientific arrangement had been seldom attempted, whereby a study of the varieties of timber could be promoted. He contrasted in a forcible manner the attention devoted in our national museums to stuffed birds, &c., with the almost total neglect of a useful classification of timber, although entering, as it does, so largely into our everyday comforts and conveniences.

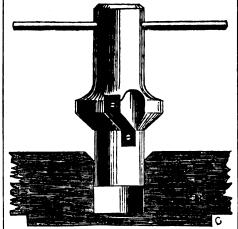
The growth of trees, and the capillary action of the sup, &c., the formation of knots, and the consequent weakness wherever they occur, were next noticed, as also the effects of pruning and lopping at a wrong season, thereby generating what is usually termed "dry rot." The patent processes of Mr. Payne were introduced, exhibiting in a series of experi-

The patent processes of Mr. Payne were introduced, exhibiting in a series of experiments his modes of preserving timber from decay, and rendering it incombustible, also of hardening any English woods, and dyeing them of various colours, so as to make them available for the purposes of the cabinet-maker.

On Wednesday, the 26th instant, a paper will be read "On the interior decorations of the Collegiate Chapel of St. Stephen, at Westminster, as finished by Edward III., A.D. 1348." L.

TOOL FOR CHAMFERING TRACERY.

SIR,—I beg to hand you a sketch of a tool used in chamfering tracery, after being pierced by the one shewn in page 621, Vol. II. A, represents the tracery as cut; B, a piece of plank



fastened to the tracery by hand-screws, to keep the tool steady; C, a slip of wood screwed to the plank to prevent the tool cutting too deep. The arris, or principal part of the part chamfered, should be cut away, which would much accelerate the work. The block should be made of dry, hard wood, as much depends on its being kept steady to its work. Your insertion of this would oblige,

Yours respectfully, Newport, Jan. 7, 1845. JAS. PIOKARD.

How TO PUT OUT A CHIMNEY ON FIRE.—A correspondent of the Carlisle Journal states that while visiting a few days ago in Berwickshire, "I saw applied by a lady the following mode of putting out a chimney on fire, which I think should be generally known, for its simplicity, efficacy, and expedition. The chimney of the parlour, where an additional supply of wood was put upon the fire, at once caught fire. The lady immediately brought a plate full of common salt—shut the door of the apartment to prevent a current of air, and sprinkled a few handfulls of salt upon the fire. In about a minute and a half the fire in the chimney, which roared like distant thunder, was quenched. This neither caused smoke, nor precipitated soot, nor put out the fire, nor disturbed the operations of the breakfast, which were going on. The *rationale* of this I believe to be, that, in the process of burning the salt, muriatic acid gas is evolved, which extinguishes fire."

CHURCH NEWS.

A NEW church has just been completed at Yeovil, in Somerset, under the direction of Mr. Benjamin Ferrey. The style of the building is early English; it is cruciform in plan, and capable of accommodating 800 persons. The expense of the building has been about 3,000/. - The new district church at Montpolier, Bristol, was consecrated a few days since. The edifice is cruciform, in the style of ar-chitecture that prevailed at the end of the 13th century; it is rather plain, built of native stone, with freestone quoins, dressings, &c. A tower is placed at the centre of the west front; it was originally intended to have carried a lofty spire, which, with the tower, would have been 140 feet in height, but this important feature has been postponed, and thus the pleasing appearance of the exterior is greatly diminished. The pulpit is of stone. panelled diminished. The pulpit is of stone, panelled on either side, and supported by a corbel of deeply-sunk mouldings. The lectern is of oak. The chancel is ascended by five steps. oak. The The altar-piece is composed of arcaded panelling, with detached shafts, cornice over, set with the ball flower, and the spandrels filled with foliage. The roof is devoid of plaster, and the characteristic Gothic feature carried out by rendering the construction ornamental. In the nave the roof is not light as in the chancel, in consequence of the Incorporated Society having prescribed the use of the tie-beam. The whole of the woodwork is stained and varnished, and has the work is stained and varnished, and has the appearance of oak. The font, placed near the western and principal entrance, is of stone, the sides ornamented with elegant foliage, &c.; round the pedestal are four detached shafts; the whole stands on an octagonal base. The archi-tect is Mr. John Hicks. — Cherter Cathedral is about to undergo a thorough restoration, for which purpose a liberal subscription has been entered into. The cost of the works already contracted for is 2,504l., but the sum required contracted for is 2,504*l*., but the sum required will be 5,000*l*. Amongst the contributors are his Royal Highness the Prince of Wales, 105*l*.; the Dean and Chapter, 100*l*.; the Dean of Chester, 100*l*.; the Marquis of Westminster, 105*l*.; Earl of Stamford, 105*l*.; Bishop of Chester, 100*l*.——It is in contemplation to open the new church at *Willon*, Wilts, at Easter. The raised chancel is to be paved with porcelain tiles of a gorgeous pattern, ex-cept one small portion, which will be covered with amall aquares in agate. lava, and precious with small squares in agate, lava, and precious stones collected abroad by the Counters of Pem-broke. No pews or galleries will be admitted, open sittings in carved oak being already placed on the floor of the building. A spacious area is preserved around the exterior, termiarea is preserved around the exterior, termi-nating in a stone palisado-work on the side next the public highway.——A new church of large dimension is to be erected at *Ashby Wolds*, Leicestershire, towards the funds for which her Majesty the Queen Dowager has liberally subscribed. The Marchioness of Hastings has given a site; and amongst the other contributors are the Earl Howe, the Bishops of Peterborough and Lichfield, the vicar of Ashbyde-la-Zouch, Colonel Buckley, Mrs. Lane Fox, &c. — The Honourable and Rev. G. M. Yorke, formerly of Queens' college, rector of St. Philip's Birmingham, has commenced soliciting subscriptions from the parishioners for the necessary repairs of that sacred edifice. We understand that donations amounting to 1,000% have been received, and that about 600%. nore will be required.—An appeal for con-tributions in aid of building a church in the new district of *Pembroke Dock*, has been ex-extensively circulated. There is now a popu-lation of 4,000 inhabitants (still repidly increasing) without a church nearer than Pembroke, a distance of two miles and half. The incumbent of Pembroke has promised, con-ditionally—that is, if the church shall be built and consecrated during his incumbency, a donation of 2001. A subscription having been opened, the sum of 400% has been placed in the hands of the treasurer, exclusive of the above donation, which is available only under the aforesaid conditions.

An Artesian well is being sunk in Berkeleysquare, in lieu of the old pump which has for so many years past supplied the square and its vicinity.

dem Books.

The Botanic Gerden; or, Magazine of Hardy Flowering Plants: to which is added, The Fruities; a Description of the best Apples, Pears, and other Fruits, their Qualisies, Habits, and Culture. By B. MAUND, F.L.S. Small 4to, and 12mo. January, 1845.

THIS work has enjoyed an uninterrupted career of twenty years, and is thoroughly established in public favour. Such a result is, well merited, for the editor has evinced his sense of the support he has received by so many successive additions to the original plan, without in any instance increasing the price, that we have long regarded it as the most ample, elegant, and cheapest horticultural periodical in the kingdom. But, as if to outdo his farmer self, Mr. Maund seems to think that having borne flowers of all bue, it is time his work should bear fruits; accordingly, he has now added "The Fruitist." This is a most valuable addition, and we must recommend it to every one who has a garden, from the peer to the peasant. Indeed, it is from regarding the advantage of the cottager that we are chiefly induced to notice it here. The instructions for the culture of the fine varieties of fruit-trees figured in it are mainly adapted for dwarf-trees, so that there is scarcely a labourer's garden so small as not easily admit three or four of these, which he can omlive at his leisure, and find his recompense in the ornamental blossoms they will put forth in spring, and the substantial and savoury fruit they will yield in autumn.

We deem it one of the most gratifying signs We deem it one of the most gratifying signs of the times that the well-being and comfort of the labourer now occupies the thoughts and attantion alike of the legislator and the phi-lanthropist; that efforts are every where making to implant in his heart the feeling, then bench an it that he is not an too long banished from it, that he is not an intruder here, but a valuable, essential, and integral part, of the body politic. Few things will conduce more to offect this blessed change than, giving, big a garden with a few fruit-tress, which may be at once his pride and his proj. How truly does Mary Howitt, who knows the deputs and has taken the soundings of the poor man's heart, sing, " like an angel in the glouds," of the Poor Man's Garden :----

But he, the poor man, sees his crops,

- at a Por he thinks all through the winter exclusion blow rich his board will be! (at a The rich man has his wall fraits,
- In the And his delicious vines :

 - The fruit for every season, His melons and his pines.
 - The poor man has his gooseberries, His currants white and red ;
 - His apple and his damson-tree,
 - And a little strawberry-bed
 - A happy man he thinks himself,
- A man that's passing well
- To have some fruit for the children. And some besides to sell."

. All success, therefore, to the "Botanic Garden" and "The Fruitist."

Correspondence.

ASSOCIATION OF ARCHITECTURAL DRAUGHTSMEN.

S1B, — As you have on many occasions afforded space in your widely-circulating journal for the purpose of disseminating the rules and principles which govern the Association of Architectural Draughtsmen, I beg, with your kind permission, again to call the attention of the profession generally, and more especially of your correspondent of January 11, to the address and real objects of the society, premising, for the information of those who possess copies of the laws of the association at first issued, that during its operation, now two years and a half, it has been found expedient to ma-terially remodel the rules which first go-versed it.

The meetings of the association take place on the first and third Wednesdays in every month, and are held at 33, Southampton-street, Strand.

A leading object in its formation, that of securing to unemployed members and invalids a weekly stipend, was that which received on the part of the committee of management the most serious consideration; it also at-

tracted considerable attention out of the society, and many objections having arisen against it, it was found eventually expedient to make it a mere voluntary "benevolent fund," to which members might or might not subscribe, as their means or inclinations prompted. This accumulating fund tells its own purpose, and in proportion to its amount, so will be its utility if discriminately laid out.

The next object of importance, that of providing employers with assessments and "unem-ployed members" with situations, has been found fully to answer every expectation of its promoters, many members having secured eligible situations through its influence, and formed connections with architects which are likely to be of material and permanent benefit to them.

Among the new rules an exemption is provided in favour of members in practice for themselves in regard to the quarterly contribution drawings, architectural prints being made admissible instead; the fines also against members generally for the non-production of the said drawings are limited to 5s., which those who have occasion from press of business or other circumstances, can avail themselves of; and, further, with regard to these "quarterly drawings," members are allowed to withdraw their first when they contribute their ninth, and so on in rotation, leaving at all times eight in the folios of the society; this rule has given great satisfaction to every one. Apart from the general management of the society, a number of the members have formed a "book club," which is conducted in the usual manner, an architectural work being selected. the members ballot for the reading and the choice of purchasing the work at half its original cost. Having now stated the leading objects of the society, allow me to press upon such of your readers as belong to the architectural profession the importance of support-ing by their fellowship, activity, and talent, this most useful and laudable society. It requires co-operation in all its branches, additional members to secure on every meeting night a full and attentive audience to its various papers and topics of discussion-numbers to co-operate in the purchase of more valuable works, and to swell the already valuable collection of drawings, that examples may be amassed of every class of executed works, practical and ornamental, classic and Gothic, from the earliest ages to our own day and last, though not least, as usual, we want numbers to augment the funds, that its operations may be carried on with spirit, and that we may engage permanent premises suitable for the collecting of casts, models, books, drawings, and engravings, and annually to form a public exhibition of purely architec-tural subjects apart from the glitter and gorgeous frames that surround the few annually hung at the Royal Academy.

Allow me, in conclusion, to apologize to you for the length of this communication, and to remain, Sir, your constant reader,

A MEMBER OF THE BRITISH ASSOCIATION OF ARCHITECTURAL DRAUGHTSMEN. London, Feb. 6th, 1845.

COMPETITION FOR LAYING OUT GROUND, KING'S-ROAD, READING.

SIR,--Having submitted a design for laying out for building purposes ground situated in the King's-road, Reading, I can bear testimony to the correct statement, dated 5th Feb., and signed "Fairplay," which appeared in the last week's number of your highly useful journal. I paid two visits to Reading, the first to examine the site, and the second to attend at Mr. Blandy's office, for the purpose of giving my opinion in woriting upon the merits of the two designs which in my judgment should appear most worthy of the premiums offered. This was by no means so difficult a task as might have been expected, for although forly-seven designs had been submitted, I found, upon examination, not more than half that number to be finished and completed in accordance with the instructions issued. Some of the designs exhibited were so largely at variance with the rules laid down, that I felt surprised they had not been at once rejected. It would, therefore, be a satisfaction to learn that the successful designs *ars* in rule and order; and perhaps Mr. Blandy, through the medium of your widely-circulated journal, may

be induced to communicate that fact for the gratification of those gentlemen who have by their exertions afforded him so much profes-I am, Sir, &c., sional information. London, Feb. 18th, 1845. V ERITAS.

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CORRESPONDENCE ON NEW METRO-POLITAN BUILDINGS ACT.

JURISDICTION OF OFFICIAL REFEREES. SIR,-In consequence of my letter upon this subject, which appeared in your journal of the 8th instant, I was applied to on the following Monday to attend before the official referees Monday to attend before the official referees on the succeeding Thursday, to argue a case for a party who had received a summons then to attend, upon the information of a district surveyor, for alleged irregularities under the "New Metropolitan Buildings Act;" which was an opportunity I gladly availed myself of, as some nice points were involved in the peculiarities of the case, that may, in the present state of excitement upon the question, be interesting to your readers. I of course shall carefully avoid remarking on what occurred at the conference, confining myself to statements that came to my knowledge as to statements that came to my knowledge as instructions, but I will not omit the opportunity thus afforded of stating the great courtesy with which we were received, and the evident desire to elicit the truth. From the course of proceeding adopted, I feel satisfied that substantial justice will be done through the medium of the equitable powers intrusted to the referees for all matters in difference arising after the 1st January last, thus avoiding the ruinous litigation that has arisen heretofore upon the construction of various clauses of the old Act.

My ground of complaint is, that they have assumed an authority for works "commenced" previous to 1st January, which, being upon construction of terms in a penal act, are open to be discussed in a court of law, upon the ground of maintaining civil rights, which every citizen[®] is entitled to do, unless controlled by such an equitable jurisdiction as is evidently given to the referees after the lat January.

If this view be correct, and a doubt exists as to the construction to be put upon terms or words, it appears the rational course would be for the referees at their own cost, upon a case put, to seek the best legal advice, and not by summons to individual parties, put them to considerable expense to argue points that must all tend pretty much to the same result.

Under my advice, we appeared by protest. After this long exordium, we will now to the facts, which, if contrived for the purpose, could not more completely have met two important points for the object of raising the question, viz. the "bona fides" of the natter, and the intended buildings projecting beyond the line of other houses. I will confine myself in this letter to the "bons fides," as, if that is esta-blished, the other point falls to the ground. A party having determined some years since to erect five fourth rate houses within the operation of the old Act (but prevented by circumstances over which he had no control), gave due notice to the district surveyor of his intention on the 27th December (the case is surrounded with much matter distinctly proving "bona fides" within the knowledge of the district surveyor, who had been in correspondence upon the subject, and assented in writing nearly two months previous that such a proceeding would be in accordance with the Act). I prefer assuming he had not heard of the intention until the 27th December, as more completely raising the argument upon other cases so circumstanced.

The party, between the time of notice and lst January, proceeded with the work 28 rapidly as possible, having put in the footings of the whole length of the front wall and of one end wall, and indicated by projections the party-walls of the five houses, with some few courses of the walls in addition to the footings. The work was steadily proceeded with until 14th January, when the builder received a notice to suspend operations. The opinion of the referees, as addressed to Mr. Allen, noticed in your journal 25th January, must now be taken as their dictum, as in this case the district surveyor founded his complaint to

This word appears to be an apposite illustration of the word "commencement." I contend for using it in its largest sense, and retues to be limited as meaning a citizen of London.

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the referees upon this their opinion; and upon such grounds they issued the summons.

The peculiarity of this case is, that an ad-mitted legal notice was given under the then existing Act, neither that nor the present Act in any way controlling the progress of works, except that under the new Act, if suspended for a certain period, fresh notice must be given, evidently only to inform the district surveyor when the works being in operation require his superintendence; sec. 13. A controlment of time as to roofing in (for finishing I repudiate, unce as to rooms in (for unishing i reputitie, see my letter in your journal of the 8th inst.) clearly applies to houses commenced before 1st January, and that only in new districts. I also contend that any the slightest com-mencement is provided for in schedule A, housing heap so commend unce level action

having been so commenced upon legal notice under the former Act, and I must presume this schedule has been overlooked in the issuing of the summons, inasmuch as the schedule declares the former Act, 14 Geo. 3. c. 78, is repealed except as to certain points, one of which precisely meets this question :-"And except as to offences committed, penalties incurred, and fees payable, and any proceedings taken or commenced, or which might ceedings taken or commenced, or which might be taken or commenced under the said Act on or before the said 1st day of January, 1845." I contend that the word "proceedings" must be taken in as large a sense as the word " com-mencement." Legal notice having been given, mencement." Legal notice having been given, the works if not, "might have been com-menced," and to prove that it could not mean legal proceedings, it will be necessary only to proceed through a few more paragraphs of the "Extent of Repeal," where we find, to prevent any doubt, it is stated, "and to legal proceed-ings in respect of accidental fires." The party complained of would willingly have given a fresh notice under the new Act, as the thickness of walls, &c. would have been precisely similar; but the sanction of the referees to the further ground of complaint of the district surveyor, that these buildings projected beyond the general line of houses, would have implied the impossibility of building on the ground if the present footings wars repudiated. This is a question of considerable importance in future operations, and I will endeavour to prove in a subsequent letter, that whatever the intention of the Act may have been, there is

no such existing enactment. Your obedient servant, . GREENWAY ROBINS, Architect. Hill-street, Peckham, Feb. 15, 1845.

SHOP-FRONTS UNDER NEW BUILDINGS ACT. SIR,—In schedule E of the new Metro-politan Buildings Act, under the head "Wooden Shop-fronts and Shutters," it is stated that the woodwork of any shop-front must not be fixed nearer than 41 inches to the centre line of a party-wall. Again, the succeeding clause requires that, in case the woodwork be fixed at such distance, then a pier or corbel, built of stone or of brick, and of the width of 44 inches, must be fixed in the line of the partywall, so as to be as high as such woodwork, and so as to project one inch, at the least, in front of the face thereof. Does this mean that an unsightly mass of brickwork is to be carried out from the face of an external wall to the distance of an inch beyond the projection of the cornice, or merely have refer-ence to breastsummers and story-posts? Your valuable opinion upon these points will confer a favour upon, Sir, yours obediently,

A SUBSCRIBER. Islington, February 12, 1845.

[The words of the Act are perfectly clear. If the woodwork be put up 44 inches from the centre line of the party-wall, a pier or corbel, 44 inches wide, built of stone or brick, or other incombustible material, must be fixed in the line of the party-wall, so as to project one inch, at the least, in front of the face of such woodwork. The object, and a very important one, is, of course, to prevent the communication of fire from house to house by means of the entablature. We do not wish to suggest evasion; but it is obvious that if the wood work he any thing more than the inches work be any thing more than 41 inches, say even 5 inches, the corbel cannot be insisted For the general good, however, the inon. tention of the enactment should be adhered to. It will not be difficult to prevent the corbel or pier from injuring the appearance of the front; better still, the entablature, &c., may be formed of incombustible material.—ED.]

Aliscellanea.

DIVING BELLS .- The first diving bell we read of was nothing but a very large kettle suspended by ropes, with the mouth downwards, sit on fixed in the centre of the and planks to concavity. Two Greeks at Toledo, in 1588, made an experiment with it before the Emperor Charles V. They descended in it with a lighted candle to a considerable depth. In 1663, William Phipps, the son of a blacksmith, formed a project for unloading a rich Spanish vessel sunk on the coast of Hispaniola. Charles II. gave him a ship, with every thing necessary for his undertaking, but being un-successful, he returned in great poverty. He then endeavoured to procure another vessel; then endeavoured to procure another vessel; but failing, he got a subscription, to which the Duke of Albemarle contributed. In 1687, Phipps set sail in a ship of 200 tone, having previously engaged to divide the profits ac-cording to the twenty shares of which the sub-scription consisted. At first, all his labours proved fruitless; but at last, when he seemed almost to despair, he was fortunate enough to being us on much treasure that he returned to bring up so much treasure that he returned to pring up so much treasure that he returned to England with the value of 200,000/. Of this he got about 20,000/., and the Duke of Al-bemarle 90,000/. Phipps was knighted by the king, and laid the foundation of the fortunes of the present noble house of Mulgrave. Since that time, diving bells have been often suc-cessfully employed.—Mechanics' Magazine.

HARDENINGOF IRON NAILS, SCREW CASH -When electro-deposition is used in coat-&c.ing iron with copper, the iron is liable to be corroded either during the process or after-wards, an oxide of iron being formed beneath the copper coating. To prevent this, it is proposed to coat, or case-harden, the iron with lead, or an alloy of lead, before the coating of copper by electro-deposition is applied. A patent for this invention has lately been granted to Benjamin Brunton Blackwell, of Newcastleto Benjamin Brunton Blackwell, of Newcastle-on-Tyne, Gent.; and William Norris, of Exeter, C. E. The case-hardening is per-formed by first freeing the surface of the articles from any scale that may attach to them, and then placing them, with parings of hoof, horn, or bone-dust, in a crucible well luted, and subjecting them to a red heat, taking care to remove the articles as soon as a thin surface of case-hardening is obtained. taking care to remove the articles as soon as a thin surface of case-hardening is obtained. The articles may be coated with lead or an alloy of lead, by first freeing their surfaces from scale, and then plunging them into a vessel of the metal in a molten state. The alloys of lead which are preferred for the purpose here stated are, first, from one-tenth to one-fifth of tin combined with a given quantity one-fifth of tin combined with a given quantity of pure lead; and secondly, one part of anti-mony, two parts of tin, and fifteen parts of pure lead. When the articles have received this first coating, they are next to be placed in a solution of copper, exposed to the influence of a galvanic battery kept at a temperature of from 80° to 100° of Fahrenheit. The claim of the patentees consists in first coating the articles with lead or an alloy of lead, and afterwards coating them with cooper by means afterwards coating them with copper by means of galvanism.

IMPROVEMENTS IN LEAD PIPES .- A patent for this purpose has recently been secured in America by Messrs. C. and G. E. Sellers, of Cincinnati. In manufacturing lead pipes by this process, the metal from which it is to be formed is fused, and poured into a receiver of cast-iron, or other metal of great strength, which receiver is heated by means of a suitable furnace, so as to preserve the metal in a fluid state. The lower part of the receiver contains a die, having an opening through it of such size as to adapt it to the forming of the outside of the pipe, and a case or mandrel to determine the size as the writhin. It also inclosed the its size or calibre within. It also inclosed the apparatus which is employed for the purpose of cooling the pipe as it leaves the core, and also of keeping the temperature of the core below that of melted lead, by which means we effectually prevent the combining of the lead with the surface of the core, which takes place when lead is in a fused state, and is subjected to heavy pressure. The fused lead is to be forced out by means of a ram or plunger, made to fit the cylindrical cavity containing the lead, the said plunger being brought down by means of an hydrostatic press. The patentees state that "what we claim as our invention is the employment of a tubular core or mandrel, divided longitudinally into chambers, through

which heated water, sir, or steam, is to be passed, in the manier deveribed, and for the purpose of preserving the said core at a tem-perature somewhat below that of melted leady by which device the lead is effectually pre-vented from adhering to the mandreli. We claim the manner of forming the packing of the ram, by attaching to its end the piece of wrought-iron, rendered thin at its lower edge, by forming the face of the said piece concurs, for the purpose above set forth. (The purpose here alluded to is, keeping the piston tight," and preventing the escape of the melted tead around the edges of the run or piston.) WW claim the combination and 'arrangement" of claim the combination and arrangement of the parts constituting the water chambely con-sisting of the tube, the bed-piece, and the conical die---the supply of water thereto being given, and governed substantially as described. ARTHUR'S CON.---This curious specimen of

Roman masonry was destroyed many years since. In a work entitled Caledonia Romana, recently published by Bell and Bradfute, it is thus described This building was of a circular form, its shape in some measure resembling that of a common bee hive. It measured at the base from twenty-nine to thirty yards in chme dimencumference, and continued of the sa sions to the height of eight feet, from which point it converged gradually inwards in its ascent, till at an elevation of 22 feet, the walk terminated in a circle, leaving in the top of the dome a round opening 12 feet in diameter. On its western side was an arched doorway, 9 feet in extreme height, and above it an ap المحمد rest in extreme neight, and above it an aper-ture resembling a window, of a slightly trid-angular form, 3 feet in height, and averaging¹¹ nearly the same in width. The whole was formed of bews freestone, laid in regular how risontal courses, the first of them resting upon" a thick magnitude theman material. a thick massive basement of the same material, which, to follow out the simile, represented with curious fidelity the common circular board on which the cottage hive is usually placed. The interior of the structure core: placed. The interior of the structure core responded with its general appearance from without; the only difference being in the con cavity of the shape, and in its having two pro-jecting stone cornices round its interior sur-face, the one is a height of A and the other of 6 feet from the ground. The style of the workmashin was a interiard without or do workmanship was singularly perfect, and showed an intimate acquaintance with masonic snewed an intimate sequisintance with masonic art. No cement of any description, had been made use of in its construction, yet the stones were so accurately joined together, that even the difficult process of forming so diminutive a cupola by the concentration of horizontal courses was accomplished there in the most skilful and enduring manner."

NOTICES OF CONTRACTS

For the execution of the whole Works on the Slamannan Junction of the Edinburgh and Glasgow Railway, being about a mile long.—H. G. Wright, Secretary, Railway Office, Queen-street, Glasgow. February 24. For such Mason's and Pavior's works (stone

paving only) as may be required by the Commissioners of Sewers of the City. of London, for the term of three years, from the 25th of March next. Joseph Daw, Eq., Guildball, London.—Febraary 25.

For the supply of Granite or other hard stone for the service of the Stone's End district of the Surrey and Sussex Roads.-Road Office, Charing

Sarrey and Sussex Roads.—Road Omos, Charley Cross, and W. S. Gaitakell, Eaq., 21, Stamfords; street, Blackfriars' Road. For the supply of from 4,000 to 5,000 yards of Iron Railing for inside drives of Birkenhead-park. —Mr. Hornblower, architect, Hamilton.buildings, or Mr. Walker, Town-hall, Birkenhead.—Feb-

ruary 26. For supplying the Great Western Railway Com-pany with such quantity of the following articles as may be required from the 1st of April, 1845, to the 31st of March, 1846; viz. Bar and Pig Iron —Castings—Bolts and Rivets—Copper (sheet and ingots)—Ironmongery, screws and nails—Brass and Iroa clasp, closet tacks and wirewerk—Lead and Zinc—Steel for springe—Timber—Tubes, brass, copper, iron and zinc—Patent Wheel-tire, and ta-rious other, articles.— Chas. A. Saunders, Beq., Scretary, Paddington, February 27. For taking down and rebuilding the Tower of: Grendon Church.—Mr. John Baker, Churchwarden, Grendon, near Atherstone. March 1, For building twelve Boats and Engines for the

For building twelve Boats and Engines for the. City Steam-boat Company. — Charles Hancock, 17, Earl-street, Blackfriars.

For surveying and mapping at per acre an Agricultural Parish in Bedfordshire, consisting O Agricultural Parish in Bedfordshire, consisting of about 4,000 acres.—Mr. James Butler, 51, Wig-

about 4,000 acres.—Mr. James Butler, 51, Wig-more-street, Cavendish-square. February 26. For Sarveying and Valuing the Property in Austin-ward, Humber-ward, Trinity-ward, St. Mary's-ward, Whitefriars-ward, and North-ward, all in the parishes of Holy Trinity and St. Mary, Kingston-upon-Hull.—John Moxon, Clerk to the Governor and Guardians of the Poor, Workhouse, Hull. Marrh 1

Governor and Guardians of the Poor, Workhouse, Hull. March 1. For the erection of a Station House and Strong Rooms for the use of the Staffordshire Con-stabulary Police Force at the Town of Wol-verhampton. — James Smith, County Surveyor, Stafford. March 1. For a survey of the Messuages, Lands, and Hereditaments liable to poor rates, in the parish of Tydd St. Mary, Lincolnshire; together with a plan thereof, upon a scale of three chains to an inch, a tracing of such plan. and a book of reference in

thereof, upon a scale of three chains to an inch, a tracing of such plan, and a book of reference in duplicate. The parish contains from 4,000 to 5,000 acres. — Mr. Edward Key, Clerk of the Union, Holbeach. March 3. For the furnishing, delivering, and fixing a Steam-engine, with boilers, pumps, &c., at the Water-works, Green-lane, West Derby, Lancashire. —Edward G. Deane, Clerk to the Paving Com-missioners, No. 1, Parish offices, Fenwick-street, Liverpool. March 4. For the Mason's and Pavior's Works, supply of

For the Mason's and Pavior's Works, supply of Guernsey Granite Chippings and Yorkshire Paving, for one Year, from the 25th of March next, for the

for one Year, from the 25th of March next, for the parish of St. George, Hanover-square. Mr. R. Lees, Clerk to the Paving Committee. March 4. For the supply of 20,000 tons of Iron Rails, and 7,000 tons of Iron Chains, for the Newcastle and Berwick Railway.—George Hudson, Esq., Railway Office, York, and at 24, Great George-street, West-minster. March 4. For the supply of 100,000 Railway Sleepers for the Newcastle and Berwick Railway.—George Hud-son, Esq., Railway Office, York. March 4.

son, Esq., Railway Office, York. March 4. For a supply of thirty iron Lamp-posts and

Columns, according to pattern, each weighing at least four cwt.—Robert Oldersham, Parish Clerk,

For completing the Works connected with the inclosing and annexing certain Land lately pur-chased for the improvement of Newport Bridewell, in the Isle of Wight.—Mr. Woodham, Deputy Clerk of the Peace, Winchester. March 8. For repairing the footway pavements, and pro-viding and laying new curb and other stone; for manicing the carriage way pavements and pro-

viding and laying new curb and other stone; for repairing the carriage-way, pavements, and pro-viding and laying new granite and other stone, during one year from Lady-day next, for the united parishes of St. Andrew, Holborn, and St. George-the-Martyr, Middlesex.—Clerk's office, 13, King's-road, Bedford-row. March 8. For the supply of 11,000 feet of nine-inch cast-iron Pines for a new inc of Aqueduct to be laid in

iron Pipes for a new line of Aqueduct to be laid in the Island of Malta.—Vin. Casolani, Collector of Land Revenue, Office of Land Revenue and Public Works, Valletta, Malta. March 31.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

February 25.—At the King's Arms Inn, Hemel Hempstead; a large Fall of capital Oak, Ash, Elm, and Beech Timber Trees, the greater portion of which are of very large dimensions and superior quality.—Mr. James Adams, auctioneer, Clarencestreet, Staines, Middlesex.

street, Staines, Middlesex. February 25. — At Elmer Farm, Beckenham, near Sydenham, Kent; 145 Elm Trees of large dimensions and prime quality.—Mr. Warren, land and timber surveyor, Isleworth. February 26.—On the Estate of the Earl of Denby, at Monk's Kirby; 70 Lots of very superior Ash Poles, a few Fir Poles, 74 Lots of very straight Larch Poles of good size, 24 very large Ash Poles. 300 Beech Trees, a few Fir sud other Timber 300 Beech Trees, a few Fir and other Timber Trees.—Mr. T. Nixon, auctioneer, Claybrook.

February 27.—At the Coach and Horses Inn, Nazing, about two miles from Waltham Abbey, and four from Epping; 300 Oak, 150 Elm, and 50 Ash Trees of good dimensions and clear growth.

50 Ash Trees of good dimensions and clear growth. -R. B. Andrews, Esq., solicitor, Epping; and Mr. R. K. Davies, anctioneer, 68, Mark-lane. February 28.—At Garraway's Coffee-house, Cornhill; 150 logs of Cuba and African Maho-gany, 67 logs of New South Wales Cedar, 1,600 planks of Bahia and Rio Rosewood, 848 Lancewood Spars.—Alexander Simson, broker, 75, Old Broad-street street

February 28. — At Trumpington, Cambridge-shire; Ash and Alder Timber Trees, Oak, Ash, Ehm, and Larch Spires and Poles. The Larch Poles are very clean, and of large girth, varying in length from 20 to 50 feet; the Ash and Elm Spires are also very straight and of large dimen-sions.—Mr. W. Smith, gamekeeper, Trumpington; and Mr. J. Wentworth, austioneer, Cambridge.

February 28. - At Garraway's Coffee-house. Cornhill; 300 loads Quebec Red Pine; 100 loads Vellow Pine; 100 loads of Ash; 80 loads of Oak; 10,000 Yellow Pine deals and battens; 10,000 Spruce deals and battens.—T. and J. Simson,

brokers, 5, Change-alley. March 3.—At the Greyhound, Sandy, Bedford-shire; a large fall of remarkably large Larch and excellent Scotch Spires .- Mr. J. Carrington, auc-

excellent Scotch Spires.—Mr. J. Carrington, auc-tioneer; Potton and Biggleswade, Befordahire. March 4.—At the Green Man Inn, Plashet, Esser; 220 capital Timber Trees, 200 superior Poles, of large dimensions, part nearly timber-girth, consisting of Lime, Ash, Beech, Oak, Black Poplar, Birch, and Hornbeam.—Mr. Mills, land and timber rveyor, 24, Poultry. March 4.—In the Wood on the Deadmonsey

Batrica 4.—In the wood on the Desamonsey Estate, near Market-street, Herts: 1,100 large Oaks; 3,500 smaller Oaks; 400 large Beech; 600 smaller Beech; 1,000 Oak poles. The estate is twenty-eight miles from London, and about seven miles from the Grand Junction Canal at Boxmoor.

miles from the Grand Junction Canal at Boxmoor. --Mr. George Hudson, Auctioneeer and Surveyor, Woolwich; or Mr. Mellor, Auctioneer, Dunstable. March 7.--At the Hall of Commerce, Thread-needle-street: 500 loads of large Yellow Pine Timber, 20,000 Baltic and Colonial Deals.--Churchill and Sim, brokers, 75, Old Broad-street. March 10.--A quantity of excellent Scaffolding, the back used in survive of Worth boxed.

&c., lately used in erecting a division of Westbourne-terrace, near the Great Western Railway. — Mr. Charles Green, Auctioneer, 8, Grove-end-place, St. John's-wood-road.

March 11.--At the King's Head Inn, Enfield, March 11.—At the King's Head Inn, Enneld, Middlesex; 200 Oak Timber Trees of large dimen-sions and excellent quality, 34 Elm and 24 Ash Trees.—Mr. Henry Cobb, surveyor and land-agent, 18, Lincoln's-Inn Fields.

Shortiy.—A valuable cargo of Mahogany and Cedar in Logs and Planks. — Mr. R. Marvin, auctioneer, 34, Queen-street, Portsea.

COMPETITIONS.

Designs and Plans are required for a Corn Ex-change, to be built in the centre of the Corn Market, at Romford, Essex. Ten guineas will be given for the most approved Design, and five guineas for the next best. — Mr. Harvey George, Romford. March 1.

Plans and Elevations for a new Workhouse with the requisite offices, capable of a new worknows with inmates, for the Canterbury Incorporation. The architect is requested to state the amount of premium he will require for the use of his plan and specifications in the event of the Court of Guardians adopting the same, and appointing their own sur-veyor to superintend the works.—Mr. W. M. Smithson, Clerk, Canterbury. March 8. The Committee of the Liverpool Docks

The Committee of the Liverpool Docks are desirous of receiving Plans for the most couvenient mode of landing or embarking passengers, carriages, &c., &c., at George's Pier-head. A Premium of 200*l*, will be given for the Plan selected and acted upon, and a Premium of 100*l*, will be given for that Plan which may be deemed to be the next in utility.—Daniel Mason, Eaq., secretary, Dock Offices, Revenue-buildings, Liverpool. March 19.

TO CORRESPONDENTS.

Received with thanks .- A Proposition on the Received with thanks.—A reposition on the National Debt, by Luke James Hansard; Sug-gestions for a Collection of Studies of our National Architecture, by C. B. Lamb; Prospectus of Tardley's Pneumatic Wind Guard; Rules of East London Building Association. "Dr. D." is thanked; a notice of the meeting

was in type before his letter arrived. "Caouchous" has our thanks. "J. W. Archer."—The addition is not advis-

able. "A.P. (Datchett)."—Without wishing to say

any thing to the prejudice of the other materials mentioned, we should give the preference to Claridge's Seyseel Asphalte. "Embryo Architect" will find an answer to

"Embryo Architect" will find an answer to part of his question in another page. He can obtain a prospectus of Corrugated Iron at the Grove, Southwark. "J. White and Sons."—Our remark did not

"J. White and Sons."—Our remark and not apply to the cement. We have so good an opinion of Keene's Marble Cement, that we would wil-lingly assist in drawing public attention to it. "H. A. (Manchester)."—We do not see at the moment, how we can aid his purpose. "H. R. A."—Does our correspondent mean an erabitative of a correspondent mean an

architectural, or a general cyclopædia? "1. I. 1."—Next week. "A. R. C."—Mr. Manfred No. 36, Palace-street, Pimlico.

Received — Joseph Ash; M. J. S. Romford; D. W. B.; Lieut. Higginson; Censor.

MEETINGS OF SCIENTIFIC BODIES During the enquing week.

MONDAY, February 24. — Geographical, 3, Waterloo-place, 84 P.M.; British Architects, 16, Grosvenor-street, 8 P.M.; Medical, Bolt-court, Plant draw and a statement of the statem

10, Grosvenor-street, B F.M.; Szealcal, Bolt-court, Fleet-street, 8 P.M. TUESDAY, 25. — Medical and Chirurgical, 53, Berners-street, 81 P.M.; Civil Engineers, 25, Great George-street, 8 P.M.; Zoological, Hanoversquare, 84 P.M.

WEDNESDAY, 26.—Society of Arts, Adelphi, 8 P.M.; Geological, Somerset House, 81 P.M.; Pharmaceutical, 17, Bloomsbury-square, 9 P.M.

P.M.; Geological, Somerset House, 53 P.M.; Pharmaceutical, 17, Bloomsbury-square, 9 P.M. THURSDAY, 27.— Royal, Somerset House, 84 P.M.; Antiquaries, Somerset House, 8 P.M.; Royal Society of Literature, 4, St. Martin's-place, 4 P.M.; Medico-Botanical, 32, Sackvillestreet, 8 P.M.; Numismatic, Somerset House, 7 P.M.

FRIDAY, 28.—Royal Institution, Albemarle-street, 81 P.M.; Philological, 49, Pall Mall, 8 г.м.

SATURDAY, March 1.—Asiatic, 14, Grafton-street, 2 P.M.; Westminster Medical, 32, Sackvillestreet, 8 P.M.; United Service Institution, White-hall-yard, 9 P.M. (anniversary); Medical and Chirurgical, 53, Berners-street, 81 P.M. (anniversary).

ADVERTISEMENTS.

DERSONS having Second hand Deal Frame, Saws, Tools for Matching and Planing Boards, or for Rebating or Cutting Moulding, suitable for Working with Stear Power, may hear of a Purchaser by ddressing a letter to B., at the Office of "The Builder."

HENDRY and GLOVER, IRON-ENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

BY HER MAJESTY'S ROYAL LETTERS PATENT. IEUTENANT FRANCIS HIGGER-girder, all floor-supporting, well-covering, and strengthen-ing parts of house-suiding, by which the remotest possibility of danger from fire is obviated, without in anywise inter-fering with, or altering the present methods or principles of construction. May be obtained from Messrs. Boulton; and Soho, Birmingham; by application to the Inventor and Patentee, Lieutenant Higginson, Saint Margaret's Bank, Rochester, Kent. All letters pre-paid.

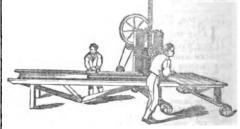
TO ARCHITECTS AND BUILDERS. DULTON AND WATTS, LAMBETH POTTERY, LONDON.-Manufacturers in TERRA COTTA of VASES, FOUNTAINS, &c., for Pleasure Grounds. PIGURES for Public Buildings, and ARCHI-TECTURAL WORK of all kinds. This TERRA COTTA has all the appearance of Stone, and being subjected to a high degree of fire is imperiabable; thus possessing a decided superiority over cement or artif-cial stone.

cial stone. Stone-ware, Water-pipes for Houses, Drains, &c., Water-closet pans, with simple and perfect trap; the cheapness, efficiency, and easy adaptation of which render them desire-able not only for public institutions, but for every house.

RCHITECTS.-NOTICE is hereby **A INCLUST S.**—NOFICE is hereby given that the TRUSTEES appointed by SIRJOHN SOANE will meet at the Museum, in Lincoln's-Inn Filds, on Monday, the 24th of March, at three o'clock in the after-noon precisely, to distribute the dividends which shall have accrued during the preceding year from the sum of 5,000. reduced 3 per cent. Bank Annuities invested by the late Sir John Soane, among distressed Architects, and the Widows and Children of deceased Architects left in destitute or dis-tressed eircumstances.

Forms of application may be had at the Museum, and Forms of application may be had at the Museum, and must be filled up and delivered there on or before Saturday, the 15th of March, after which day no application can be received.

HATCHER'S BENNENDEN TILE-MACHINE, Manufactured and Sold only by COT-TAM and HALLEN, Engineers, Agricultural Implement Makers, &c., 3, Winsley-street, Oxford-street, London.



This is the most efficient Machine that has been invented for the purpose of making Drain Tiles. Any shaped Tile can be made by merely changing the die. which can be done in a few minutes. It requires but few hands, viz., one man and three boys. With this amount of labour, the pro-duct of a day of 10 hours is as follows, viz.— 1 inch diameter of 12 inches diameter of Tile, 11,000 24 ..., 3,200 The Machine is moveable down the drying-shids, so that it requires no extra boys to carry the Tiles, nor are shelves required in drying. It has been in full operation for upwards of four months at Heupstead Park, tear Cran-brook, Kent. No charge made for Patent dues or licence. The purchase of the machine includes free use of it.

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elient Building Materials, Whitton, near Hounslow and

Excellent Building Materials, Whitton, near Hounslow and Twickenham. MR. M. ADAMS will SELL by AUC-TION, on the Premises, on Tuesday, March 4, and following day, at Eleren precisely, on account of the number of lots, the whole of the valuable MATERIALS of a MANSION, known as Whitton Dean House, formerly the residence of Colonel Campbell; comprising 350,000 malm, stock, and grässled bricks, thirteen tons of lead, twelve squares of slating, 3,000 fest of York and Portland paving, 16,000 glased pantiles, stone stircases, stone steps and entrances, strings, copings, marble chim-ney-pieces and elabs, glased sashes and frames with plate-glass, moulded and carved doors, oak and deal floor boards, girders, joists, and all the internal fittings, register stoves, two water-closets, large lead cistern, force-pump, the handsome fittings up of a dairy with mahogany shelves, and lined throughout with about 1.600 Dutch tiles, dreasers, shelves, lead pamps, coppers, and the whole of the useful meterials. Whitton is only one mile and a half from the Thames, from whence the great advantage of water-carriage mast render the above materials peculiarly deserving of attention. Catalogues (3d. each) may be had on the premises ; at the Georgs and Bell Inna, Hounalow; the King's Head Inn, Twickenham; the Northumberiand Arma, Chequers, and George Inns, laleworth; the White Hart and Red Lion, Whitton; and of the auctioneer, Mr. M. Adams, Isleworth, and 3D, Hart-street, Bloomsbury, Note. — No person will be adminited on the premises without a Catalogue.



SATURDAY, MARCH 1, 1845.



N examination of the very interesting example of ironwork at Chelsea Hospital, represented by the accompanying engraving (p. 102), leads us to express regret

that art is now so seldom employed on this material, and that in the modern manufacture of works in iron right principles are not pursued. It is a blot upon the age, that modern art has done so little in a material with which modern science has done so much. Cast iron has taken the place of wrought, and in many respects offers considerable facilities, and might be very advantageously and effectively used in architecture if it were applied in accordance with true principles, in forms adapted to the material. Ironwork should look like ironwork, and stone should shew itself to be stone. An ancient iron railing has a beauty of its own, quite distinct from the beauty of a stone balustrade; but we unfortunately seldom use iron in any other way than as an imitation of some other material.

To apply iron in construction properly, very different proportions should be used from what would be necessary for stone, and these would lead to new combinations, and ultimately to a new style of architecture. We have the means in our bands to produce very extraordinary effects, but as yet we don't know how to use them efficiently.

What we are now about to say, however, relates chiefly to iron applied decoratively, not structurally. In ancient works, such as hinges, locks, bolts, rivets, railings, or screens, the greatest ingenuity to produce beauty, in addition to skill to render the work sound and fit for its purpose, is apparent. You see that the man was an artist as well as a smith, that he understood the material on which he was working, and knew how an effect was to be obtained by it. The beauty of the foliage in some works of the 16th century formed out of thin iron plates, simply twisted up by a tool, is marvellous. Tracery was produced by plates differently pierced, laid one over the other, without any attempt at disguise, and flat bars were rivetted together, and made ornamental by the very rivets. These men, as we said before, were artists as well as smiths : one of them, indeed, Quentin Matsys, shewed himself so to the world in another material; but his reputation as the worker of the iron screen

of King Edward the Fourth's tomb in St. George's Chapel, at Windsor, is as great as it is for his well-known picture of the Misers, at Windsor Castle.

That extraordinary piece of ironwork is now under repair at Messrs. Bramah's, and must be considered one of the finest specimens in the country, presenting paneling and tracery, crockets, finials, and minute ornaments, wrought in the most perfect and artistical manner. Inquiring of one of the firm whether he would be able to produce a similar work, his reply was, " Certainly ; but not by contract, or under limitation of time :" and these, there is no doubt, are the great bars against the improvement of our own mechanics and artisans. The master cannot afford to develope a

man's ability; what he is obliged to seek for is, the greatest quantity of work in the smallest space of time: excellent work won't do; work that will pass is all that he can hope to give. And the result, as might have been expected, is a lamentable decline in many of the constructive arts.

To return to the ironwork by Matsys;--it is to be regretted, that in the repairs now making, cast iron is partially employed, probably on the ground of expense. In a work of this sort, however, expense should not be considered; and if the screen be restored at all, it should be restored in the most perfect manner possible. The cast portions, notwithstanding the able hands to which the work is confided, contrasts very badly with that which is wrought, having none of the sharpness and vigour which distinguishes the original. In saying this we do not wish to attach the slightest discredit to the workmanship,-the defect is a consequence of the material; it is to the use of this we object; and we hope, as there is still much to be restored, that the remainder will be executed as nearly like the original as possible, and this can only be done with wrought iron.

Another fine work by Matsys is to be seen at Antwerp, near the Cathedral. It is a sort of cage over a well, and displays great skill.

Formerly, there were many admirable examples of ancient ironwork around the tombs in Westminster Abbey; but, about the year 1820, they were taken down and sold as old iron to one Samuel Tansley. Some stir was made in the House of Commons at the time, and part of the railings from Henry the Fifth's tomb was sent back ; but all the other railings were lost irretrievably. The ironwork from Queen Eleanor's tomb was very beautiful, and included eleven divisions of scroll-like foliage, all varying in design. The screen round Henry the Seventh's tomb in the Abbey, which still remains, is a fine specimen, and shews fully the principle which the ancient workers in metal pursued.

DOINGS OF THE OFFICIAL REFEREES.

WE mentioned some time ago, amongst other matters connected with the new Buildings Act, that the surveyor of the Greenwich district had laid before the official referees, a complaint against the owner of a certain house for an alleged illegal projection of a shop-front, and cellar-flap and way, but that as he had omitted to state all the grounds and particulars of his objection, and the parts of the new Act to which the said works were not conformable, its consideration was deferred, in order that he might do so. Since then, the matter has been formally investigated and decided; and, as the award in this case deter-

mines one question which has been submitted to us on several occasions, we will briefly state the admissions on both sides, and the referees' decision.

The surveyor's objections to the shop-front were, that the end adjoining the neighbouring were, that the end aujoining the neighbouring houses was not formed of fire-proof materials: that it was a new structure, having been put up since the 1st of January, and extended over part of the front where no projection over part of the front where no projection existed before: that the projection of part of the shop front, not being the cornice, was sixteen inches, which was contrary to the statute. The objection to the cellar-flap was, that it was not formerly adjoining to the passage-way; that the alteration brought it within the meaning of the Act, and therefore it was unlawfully placed, projecting as it did before the front into the street or public way. The owner's reply was, that the shop front

had not been disturbed, merely the windows; that it did not extend over any other part now than it did before, and that the alterations both of the front and the cellar-flap were menced before the 1st of January. com-At the menced before the 1st of January. At the hearing before the referees (not insisted on by them, it is as well to state, but required by the owner), the surveyor admitted the commencement of works before the 1st, but urged that each alteration was a distinct feature : also that the old entablature remained, and did not extend over any other part now than it always did.

The owner admitted that the refiring was begun after 1st January; that the oblong and circular portions of the front were removed circular portions of the iront were removed before the lst; that the new structure extended over parts of the front, where no portion but the entablature existed before; and that the formation of the cellar-flap and way had not commenced before the 1st of January.

The decision of the official referees was, that the alterations, so far as related to the projec-tion of the shop-front and of the cellar-flap, were within the statute, and ought to have been executed according to its provisions; that these provisions had not been attended to; that these shop-front, so far as it had been made by the alterations to project into the street (in parts not being the cornice), more than 10 inches[®] from the face of the wall to which it is annexed, should be pulled down, and that the cellar-flaps should not be made to encrosch upon any part of the public way. We have received two or three letters com--

plaining of the refusal, on the part of the re-ferees, to give any information without a, "case" and a fee, and of the time occupied in making their award, whereby builders are in-jured. One correspondent, who signs himself jured.

Censor," further says-"Sir,-Have you had occasion to make any application to the official referees or registrar in 'Trafalgar-square ? If so, have you ever seen them?

"From my own experience, I suspect they wish to make themselves as inaccessible as eastern potentates ; petitions or representations must be submitted before the oracular response can be obtained. Nothing can be done without written applications (the fees for which are, of course, carefully registered and charged, or a notice sent you, that unless the fee is paid, they will not be laid before the officials), or else you are referred to the clerk, who can, of course, settle or do nothing, except book the charge for the interview.

"On calling in Trafalgar-square, you are always met with the reply 'The registrar or referees are engaged with the board.' Can you tell me who, and what is 'the board?' as I can find no allusion to it in 'the Act.'

"I hope the three gentlemen appointed to carry the Act into effect will not require all the formularies of a master in chancery's office, or we should have been enabled to get dis-puted points settled under the old Act quicker by going to law, than under the present one. It was anticipated that the reverse would have been the case.

"There is no want of courtesy in words, but I apprehend the present feeling of the pro-fession is that 'the board' are not giving the facilities for carrying on building works which they expected to obtain from the supervision of professional gentlemen.

"I hope we shall not find registrar's law as troublesome as the old magistrates' law.'

> * The street is above 30 feet wide. Digitized by GOOgle

Now, we do not insert this letter as agreeing with the statement in it, our own experience contradicts it completely, but as a timely hint to the excellent official referees to use as much despatch as may be, to simplify their proceedings, and to aid in rendering clear the intention of the Act. To ask them to see every gentleman who called in Trafalgar-square to make an inquiry, would, however, be a very foolish request on the part of those who wish them to get quickly through their business. At present every thing is new, and requires more deliberation than will hereafter be necessary. The difficulty in the way of obtaining information, too, will be very much lessened in a short time, as every case decided by the referces is fully recorded, and will be made accessible on payment of some small charge, perhaps sixpence.

A PAPER ON MONUMENTS AND NATIONAL MAUSOLEA.

THE corpse of the Gothic king Alaric was laid in the bed of the river Busentinus, in a sepulchre adorned with spoils of vanquished Rome. The stream had been diverted by the labour of the captives, afterwards murdered that the place of burial might remain con-cealed. And it seems well that no visible monument should mark the grave of him, who spread rapine and bloodshed through the whole of Italy. The body of the barbarian Attila was inclosed in coffins of gold, of silver, and of iron; spoils of conquered nations were thrown into the grave, and the prisoners who had opened the ground were massacred. But we, in later times, delight to bonour the virtues which accelerate, rather than the vices which retard the progress of civilization. Our poets, artists, and philosophers, have bequeathed to us living monuments, in works which, like the waves circling on the pool, will continue to undulate, in effect, on the ocean of time, long subsequent to the earlier and more sen-sible agitation. The works of Homer, of Raphael, of Newton, are their best monuments, and all have concurred in praising the peculiar appositeness of that epitaph so well known to architects, which in the words, "Lector ! si monumentum requiris, circumspice," points to the self-created monument of a great artist.

But, if by the evidence of a monument, and an appropriate epitaph, we can evince our gratitude for benefits conferred, and thus, by publishing that efforts are appreciated, stimulate emulation in others; if it be merely a delight to honour the memory of the departed great, and to be reminded that they had "senses, affections, passions," like ourselves, we should foster these pleasurable emotions with such tangible record. The monuments of the dead are the most interesting records which one age can hand down to another; they exist while temple and dwelling alike moulder and disappear, reflecting on succeeding ages the manners and habits of their originators, and the memory of great names and noble deeds. The name of Watt will live long as England's arts shall flourish, yet do we look with pride and pleasure on the monument to that lofty genius which made England great among the nations. Let us, therefore, grant that this homage to the manes of our illustrious men is, if not the vital principle, at least an important function in the matter of our progress, and now call to mind in what manner we have executed the duty.

we nave executed the duty. Monuments may be classed, according to their distinctive objects and characteristics, as religious or "ecclesiastical," and civil, or as monuments to the dead and to the living. In the first category should be included all such as are placed in churches, and tombs or erections over the grave of the departed, in which the design should be conducive to all that may draw the mind of the beholder to thoughts of virtue and immortality. In contra-distinction to these are such as direct an honourable ambition to paths where fame awaits the philanthropist, the discoverer, and the defender of his country. Each description of testimonial requires a distinct mode of treatment, which must also be considered in reference to the intended *locale*. Of all styles of monumental design, none observe the rules of propriety so strictly as the Gothic ; they have all a devotional character, and, until the later period of decline in the art, are devoid of allusion to earthly honours and achievements. But up to the present moment in modern times, we have entirely disregarded these obvious canons of art, repeating the same gods and goddesses in the cathedral and the public square, and altogether shutting out a style of design which would present to modern sculptors, from its comparative novelty alone, a fertile source for invention, and a greater scope of design in a right channel, than the mythology and farfetched allegory to which they have bitherto restricted themselves.

Whoever has examined the images in our Gothic cathedrals, will have been struck with their peculiar form and impress. Their attithe folds of their drapery, their whole tudes. execution and design, bear an assimilation to the character of the edifices, of which they are part. The smaller decorations of the capital or the boss often shew great grotesqueness of fancy, and pliancy of curvature, but the larger figures, which partake less of detail, and more of the general effect, have an expression of stability in accordance with that of the mass. In all points these are strictly architectural; the crusader rests in unbroken sleep, recum bent on the tombstone, the saint stands erect in solemn meditation. In other styles of architecture, we find not an equal propriety of design. It is forgotten that sculpture is for the most part seen in connection with architecture : it should be subservient to it whenever the arts are employed together.

The sculptures on the fronts of Grecian temples, faultless as they are in themselves, have less of accordance with that motionless character, if we may thus apply the term, which the Grecian style, more than any other, pre-The centaurs, in violent contest sents. with the Lapithæ, are huring huge rocks at their opponents, whilst women, with fluttering gar-ments, are flying from the scene of action. In the Panathenaic procession in the Par-thenon, the horses bound with their riders, and no one can look at this fine frieze, without feeling the impression of motion in the actual marble before him, most powerfully depicted in his mind. During two thousand years these sculptures have remained unsurpassed, and it may seem little short of hypercriticism to question in any respect their propriety as works of art. In the buildings of the later Italians, we find statues beautiful, perhaps, if they could be viewed apart from the edifices which they are designed to decorate ; but, placed in a niche or a pediment, they are entirely out of keeping with the building. Palladio, in his designs, has given figures with extended arms and distorted attitudes, and Wren himself, in his statues on St. Paul's, has shewn some want of the architectural character for which contend.*

Westminster Abbey is inferior to several of our cathedrals in its exterior effect, but is surpassed by none in the majesty of its interior. While, as we shall presently shew, its archi-tecture has suffered, it has yet all but escaped the greatest opponent to architectural beauty, alike delighted in by the country church-warden and the improving rector—the detestable whitewash. As we have before said, it would be infinitely better to do nothing in the way of repairs than to convert beautifully foliated capitals into shapeless knobs, by repeated colourings and whitewashings, of which we could name a hundred instances--of others, in which the whole character of a church has been destroyed by absurd attempts at improvement. It is scarcely too much to say, that what the Protestants did in the sixteenth century, and the Puritans in the seventeenth, the restorers and improvers of Gothic edifices have again done-with no religious zeal to extenuate-in the nineteenth. We must hope that the English Government may follow the example of those of other countries, and preserve the still existing relics from decay.

But to return to the abhey: huge monuments, in the style^s prevalent during the reigns of Elizabeth and James, or before the art of sculpture had been created in England by Bacon and Flaxman, block up the aisles or the windows, whilst architectural decorations of surpassing beauty have been cut away, to make room for tasteless monuments to men unknown to the pages of history. In the east walk of the cloisters, over the door leading to the Record office, may be seen the most beautiful bit of architecture which the abbey affords. Two brackets support mutilated figures of angels, and the third is thought to have borne a figure of the Virgin and child; the whole being surrounded with scroll-work of most beautiful design : but in the very centre of the composition a square tablet has been inserted. Of such barbarisms there are several hundred instances. The range of beautiful arches beneath the windows of the aisles, once enriched with colour and gilding, have almost disappeared, being replaced by tablets of the most objectionable character. Every part of the building is crowded; a figure of Watt nearly fills the chapel of huge St. Paul, a window in the south aisle is blocked up with a mountain of clouds; even the elegant chapel of Henry the Seventh is defaced. It is much to be deplored that the dean and chapter do not take it into their immediate and anxious consideration, whether some change in the disposition of the monuments may not be effected less detrimental to the fabric itself, and more conducive to the ends of monumental design. It has been suggested * that the chapter-house would be an appropriate place for some of the monuments, but we should deprecate any step, which would only remove the evil, and prevent the restoration of the building to the exact state in which it formerly existed. The triforium issufficiently lofty for a large portion of the monuments; it is well lighted, and would, in our opinion, be the most desirable place. There is no architectural decoration which they would interfere with, and we urge that the advantages of this po-sition be well considered. We have not had sition be well considered. We have not had the opportunity of personal examination, but we believe that the height of the triforium is nearly 15 feet in the highest part, from which it takes the slope of the roof; it is lighted by the upper range of windows, and is, of course, the same width as the aisle, and has a good floor laid upon the groining. The monument to Wilberforce, an admirable work, though hardly adapted to its locality, is 9 feet high, including the pedestal, and the greater part of the objectionable works are much smaller. The monument to William Pitt, Earl of The monument to William Filt, Earl of Chatham, is the largest in the abbey, reaching to the capitals of the piers; several others are near the same size, and for these another locality must be found, unless they are consigned to the lime burner, a way of getting rid of them, which, for ourselves, we should hardly regret. Whether some of them could be placed in St. Paul's, without injury to that edifice, or whether, as has been suggested to us, a cloister could be built in Dean's-yard for their reception, is matter for very careful consideration; but we could well consent to their remaining as at present, if other monuments were removed.

From all we have said, it seems that an edifice in which monuments, not of a devotional character, may be erected to individuals, in commemoration of actual services, and of private or public worth, is urgently demanded. Mr. Barry has allotted a space in his design for the New Houses of Parliament, which, if devoted to the reception of monuments, as he suggests, will answer the object, provided the modern style of sculpture can be made to accord with that of the building. Some space might be got in Chelsea Hospital, and a score of statues to great naval heroes might be advantageously placed in the colonnades of Greenwich Hospital. The terrace in front of Somerset-house, which most unaccountably is always closed to the public, might be made into a magnificent promenade, if thrown open, and enriched with appropriate works of sculpture.

In St. Paul's Cathedral the sculptures are nearly all well placed, and add to, instead of detracting from, the beauty of the building. They in part fulfil the intention of the archi-

• First by Mr. G. Godwin, in "Civil Engineer's Journal," 1813, and afterwards by Mr. Richard Westmacott, A.R.A. Digitized by

[•] That talented architect, Sir William Chambers, speaking of statues on a building, has said, "Their attitudes must be upright, or, if any thing, bending a litt e forwards, but never inclined to either side. Their legs must be close to each other, and the draperics close to their bodies; for whenever they stand straidling, with bodies tortured into a variety of bends, and draperics waving in the wind, as those placed on the colonnades of St. Peter's, they have a most disagreeable effect, especially at a distance; from whenee they appear like lumps of unformed materials, ready to drop upon the heads of passengers."

tect, whose original idea may be seen in the published section; and all must regret that his design has never been carried out. A proposal was once made by Barry, Reynolds, and other high-minded artists, to decorate the building, free of expense; but their offer was declined on grounds which could hardly have weight in the present day. Whilst the cathedral of St. Peter displays the accumulated enrichments of centuries in its interior, our own St. Paul's has not a single painting. Popery does not entirely consist of pomp and decoration ; and it is to be hoped we have passed the time when men could be so led away from truth. Rather is psinting a powerful instrument, in the hands of a true religion, for good. The best evidence that an improvement is in progress is observable in the altered character of our new churches. The church-commissioners did indeed try their utmost to stem that progress, and have inundated the land with a multitude of cheap structures, to which the term Gothic is, in one sense, rightly applied. But we now bear of new painted windows for our cathedrals, and in the Temple Church decoration has

and in the Temple Church decoration has been carried to an extraordinary extent. There can hardly be a richer treat than Westminster Abbey affords in its epitaphs alone; and it must be allowed that its monu-ments, if not all displaying the originality of a Roubiliac, or the dexterous chiselling of a Chantrey, are at least interesting per se, as forming a complete history of the art of sculpture in England.[†] Though the greater part are remarkable,

Though the greater part are remarkable, ther from the individuals with whose either names they are associated, from their epitaphs, or from their design, it must, as we have said, be regretted that, to erect some of the least interesting, architectural decora-tions of surpassing beauty have been tions of surpassing beauty have beauty hav it be, instead of multiplying such instances, to revive the monumental brasses, than which there can hardly be a more beautiful and expressive form of commemoration. The Dean of Chichester has adopted the painted window as a memorial, and thus has not lessened, but increased the beautiful effect of the cathedral.

Ille est hic RAPHARL, timuit quo sospite, vinci Rerum magna Parens, et moriente mori."

The last lines of Kneller's epitaph,

" Living, great Nature fear'd he might outvie Her works ; and, dying, fears herself may die," might pass for a translation. The lines on Lord Mansfield's monument,

"Here Murray, long enough his country's pride, Is now no more than Tuliy, or than Hyde,"

are also Pope's, with slight variation. The monument to Sir Palmes Fairborne has an epitaph by Dryden, and that to Gray one by Mason. The epitaph on Draiton's monument, said to have been written by Jonson, is worth preserving, as it will shortly be effaced:--'' Michaell Draiton, Esq., a memorable poet of this age, exchanged his laurell for a crowne of glorye s' 1631.

631.
⁴⁴ Doe, pious marble, let thy readers knowe What they and what their children owe To DAITON's name, whose sacred dust Wee recommend unto thy trust, Protect his mem'ry, and preserve his storye, Remaine a lastinge monument of his glorye, And when thy ruines shall disclaime To be the treas'rer of his name, His name, that cannot fade, shall be An everlasting monument to thee."
The monument to Chaucer, exected about the

His name, that cannot fade, shall be An everlasting monument to thee." The monument to Chaucer, erected about the time of Edward VI., has the character of decline which marked the architecture of that age; but even its association with the name of one who has the credit of being the father of poetry in England, has not prevented its wilful descration. Near Chaucer's monument are deposited the remains of Denham, the poet; and near St. Benclict's ehapel those of Beaumont, the dramatist: but neither have of Sir Samuel Morland, Bart., with inscriptions in the English, Greek, Hebrew, and Ethiopic languages. In all ages, whether from a want of power to express the virtues of the deceased, or otherwise, there has been a great love of abort epitaphs; and we find in the Abbey two singular examples.—On the grave of D'Arenant are the words, "O rare Sir William D'Avenant!" and on Jonson's monu-ment, as well as upon his grave. "O h rare Ben Johnson!" the name having erroneously the letter "h" inserted. This "affectation of simplicity in sequichral insertioptions is com-mented upon by Lord Byron in his notes to Childe Hurold. He complains that was of fouchark lark the tothe time in which the monument was erected, and have no means of ascertaining whether it was an actual tomb, or a simple tribute to a living hero. "Machiavelli's earth returned to whence it rose" affords an example. "Tatot nomin nullum par elogium Niccolars Machiavelli's"

"Tanto nomini nullum par elogium Niccolavs Machiavelli "

are the words on his monument in the church of Santa Cro Lord Byron, in another note, gives the epitaph on Co Merci, "Siste, vintor-heroa calcas."

If, instead of the slabs and spiritless relievos with which our cathedrats are patched in black and white, windows and pinnacles were restored, or unfinished portions completed, the same end would be attained as of old, when one good Christian gave the stone and another bequeathed money to crect the spire ; and, in-stead of our pleasure being mingled with regret, we should look through " the long-drawn aisle and fretted vault" with no emotion but one of unqualified delight. E. II.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AT an ordinary meeting of the Institute, held on Monday evening, the 24th inst., Mr. George Smith, of Mercers'-hall, in the chair, Mr. Bland Hood Galland was elected an associate. Mr. Matthew Habershon exhibited a Doric capital, and other architectural remnants, found at Mount Sion, 30 or 40 feet below the surface, when excavating for a church, which is about to be erected there. Mr. Scoles remarked that the capital resembled those he had seen in the valley of Jehosophat, and was probably not older than the time of our Saviour. The echinus was peculiarly our Saviour. The echinus was peculiarly straight. These relics were interesting, as being the only fragments in this country, connected with Jerusalem.

The hon. sec., Mr. Bailey, read the report of the council on the essays submitted in competition for the institute medal. From this it appeared that three had been received, and that the council considered one of them sufficiently meritorious, as a careful com-pilation, to deserve the offered reward. One of the three was a verbal transcript from an Encyclopædia, and the council commented in strong terms on the author of the attempted imposition. For the Soane medallion no de-signs had been received in time. A set, signed "H., an associate," had been recently forwarded, which, if sent by the stated date, would probably have been rewarded.

It gave selected essay was then read. The the derivation and nature of slate, and traced its introduction and increased use in England. It was not employed in London before the end of the eighteenth century; Spafields' Chapel was one of the earliest buildings slated. For some time after its introduction it cost from 21. 15s. to 21 18s. per square. A square foot of slate weighing only 111 lbs., while a square foot of tiling weighed 161 lbs., it was found that lighter timbers might be employed in roofs; and this, with other circumstances, led to its constant use. Slates were at one time imported from France, but were found to be indifferent; and now Bangor slates are sent by us into that country. Its power of resisting damp was shewn by the fact that the whitewash on many slate cisterns, which had been in use ten or fifteen years, was in no degree bulged, which would have been the case if any dampness had exuded. It was too soft for paving, but well adapted by its strength for balconies. Slate, I inch thick, was equal to Portland stone 5 inches thick. It might be advantageously used to make buildings fireproof. Without following the essay further, suffice it to say it contained a fair amount of information, and was a praiseworthy effort for a student, but certainly was not of that character which the institute might expect, or were called on to reward with their medal. The author was found to be Mr. S. J. Nicholl, of Argyll-place. Mr. Poynter, in a conversation on the subject which afterwards took place, mentioned that in Pembrokeshire slate was used for every thing. They made even posts and rails of it, of the same scantling as if of wood. The walls of buildings were of square blocks, rought-cast. Having a range of stables to build there, he had used rough blocks for the walls, but had made all the door and window-frames of worked slate. There was a prejudice against the use of squared blocks of slate without plastering them, on the ground that they admitted damp. This he thought singular, as slate was not absorbent, and was used for cisterns. He had found, however, that if there was the smallest hole in the slate, or if, as was often the case from the want of absorption, that the joints were not per-fectly close, that the rain drove through; and this explained the origin of the prejudice. He obviated the difficulty by laying every block with the bed lightly inclining outwards.

Mr. Tite then made a number of observations, displaying, as what he says usually does, sound sense, and great knowledge, and urged on the younger members of the profession the on the younger members of the profession the importance of obtaining practical informa-tion, and of the study of construction. Notes bearing on these points they would find useful throughout their practice. He drew attention to what was called Horsham slate, but was in reality a limestone. There was no limit to its durability, but being very heavy, proper prepa-ration was necessary for it; they must avoid the fashion of rafters 4 inches by 24 inches when they used it. He had had experience of French slates: they were very light and French slates; they were very light, and should be used on boards, not battens, or the wind would act on them. The French were in the habit of bedding them in plaster on the boarding, and this was a good arrangement. We should be careful how we altered any modes adopted in a country until we knew exactly all the requirements and peculiarities of the locality. A slate with the colour of Westmoreland slate, and at the price of Bangor, was a desideratum. In their specifications it was desirable to state weight per square of the slating required. Slates were now made so thin, that without this being specified the architect might not have power to obtain a sound covering. As to the use of slates to make buildings fire-proof, he did not consider that any slate would stand fire, and would not himself risk its employment for such a purpose. He would offer one caution in the use of non-absorbent materials, which should be borne in mind, and that was, to guard against the effect of condensation. In some of our cheap churches-too cheap churches, as he thought,—the slating was sometimes made to form the ceiling. The external The external atmosphere kept this cold, and the result was the condensation of all the moisture which ascended to the roof. In one that he had seen, where iron beams were employed, the water dripped on the congregation to such an extent that an action was brought against the archi-tect for forming an unsound roof. In a chapel built by himself, where the gallery was supported on iron beams, the condensation was so great as to form a positive drip at the lowest end of each beam. In exposed situations near the sea, if the walls were only nine inches thick, the external atmosphere condensed the internal moisture. What was wanted was a space to contain an internal atmosphere, as by that means rank acoling was prevented. The that means rapid cooling was prevented. The meeting was then adjourned till the 10th of March.

BATHS AND WASH-HOUSES FOR THE LABOURING CLASSES.

In reply to a formal application for leave to examine the various plans submitted to the committee, we received the following note:-

"SIR,-I regret that I have not at present any instructions that will authorize my giving the permission you request to examine the plans submitted in competition.

plans submitted in competition. "The plans have not been shewn to any one not of the Committee of Works, or of the Committee for General Purposes.

"By a resolution of the committee for general purposes, the committee of works was instructed not to allow the plans to be seen by any but members of that committee and myself, until they should have come to a decision; and since the decision, the ex-hibition has been restricted to the committee

for general purposes. "I will take care to lay your note before the committee at the first meeting, which, however, will not be for some days, and I will immediately inform you of the result. I shall have much pleasure in shewing you the plans, if the committee so direct .- I am, Sir,

"Your most obedient servant,

"GEOBGE STONHOUSE GRIFFITH, "Assistant Secretary.

"Committee-room, Crosby-square, "February 20th, 1845."

The 27th, however, has passed (the day named for the return of the drawings to competitors), and no permission has been given. Far be it from us to impute motives which may not exist, but the general im-pression out of doors raised by this determination of the committee to prevent any examination, will unquestionably be, that their decision could not be justified. We protest

in the strongest terms, in the name of the profession and the public, against the course adopted by the committee, and will spare no pains to ascertain in what way they have discharged the duty confided to them. Correspondents complain, amongt other things, that they were put to considerable extra trouble by the largeness of the scale on which the drawings were required to be, and that they received no thanks (a cheap return), in the letter informing them they might obtain their drawings again. As, however, we do not wish to raise an angry feeling, if it can be avoided, we refrain from printing the letters, and further comment at this moment.

DISSOLUTION OF THE CAMBRIDGE CAMDEN SOCIETY.

A BEPORT to the effect that the society intended to appeal against Sir H. Jenner Fust's judgment in the stone-altar case, which was very generally circulated a fortnight ago, was afterwards nerally circulated a fortnight ago, was afterwards as generally contradicted. A few days since, however, at a meeting of the parishioners of St. Sepulchre's, the parish in which the Round Church stands, it was formally announced that the report was correct, and that an appeal to the Privy Council, on the part of the Camden Society, was in progress. The result Camden Society, was in progress. The remains to be seen, but is hardly doubtful.

The proposed dissolution of the society has led to much correspondence, as might have led to much correspondence, as might have been expected, especially in the local papers. One of these writers says, if it is to be abolished, why, "at any rate, should not another society be modelled upon its remains? In the sister university, a society has existed even longer than the Camden; and, notwithstanding the theological contests with which the harmony of the university has been disturbed have of that university has been disturbed, has pursued a quiet course of usefulness. Why net, then, establish afresh an architectural society at Cambridge, as well as at Oxford? And why should not one go on as quietly and usefully as the other has done? The very title of the Camden Society was a misnomer; no one knew what it meant; whether it was assumed in honour of our late revered chancellor, during whose term of presidency over the university the society was formed, or whether it derived its name from the author of the "Britannia," there being in London a society already bearing that title. Let the therefore, of the society be changed, name. and let its constitution be changed also; but let not the country lose the benefits which such a society must confer."

As a further inducement to the re-modelling of the society, it is suggested " that, unless a new society be formed, the valuable collections of books, drawings, models, plans, &c., of the old society will be dispersed, which would be a sin and a shame : but if a new society were formed, I have little doubt, from the well-known liberality of the Camden Society, that they would be glad to transfer this collection to the keeping of the new society, as the nucleus of a more extensive collection."

It is to be regretted that in controversies such as that produced by the proceedings of this society, advocates adopt the most opposite extremes. Thus the Rev. Mr. Close pub-lishes a sermon, entitled "The restoration of churches is the restoration of popery while a late Hulsean lecturer issues a d discourse, headed "The restoration of Churches is the duty of Christians." So that a Romish logician might say, as the conclusion of the syllogism with protestant premises, "there-fore, the restoration of popery is the duty of Christians.'

We insert, with pleasure, the following letter from a revered and accomplished correspondent :-

Sir,-I have just read in THE BUILDER, with much painful interest, the report of the late meeting of the Cambridge Camden So-ciety, and the announcement of its intended dissolution

Surely this is both an unwise and unnecessary step. The society has been the means of doing a vast amount of good in various ways, and is in a position to direct, or at least to assist, the growing taste for the study of church architecture, of late years unhappily, but little understood.

I was one of its earliest members, and shall be one of its latest defenders. I am no sup-porter of any of the extreme ecclesiastical and

theological opinions which have been mixed up in the minds and doings of some, and do not see any necessary connection between the simple study of architectural design and those views referred to.

Cannot the Society be remodelled and reformed, and its objects be definitely and deci-sively determined? This done, it would be the means of yet greater utility, and secure the co-operation of many who have looked upon it with coldness or suspicion, or even utter dislika

At least, it is due to the members (and especially to those who, like myself, have com-pounded by one subscription for all future payments), to give them an opportunity of ex-pressing their opinion as to the question of dissolution. That such an evil may be averted, and that the present unhappy dissension in our church may soon pass away, is the earnest wish church may support of your's, truly, A Yorkshire Camdenian.

INSTITUTION OF CIVIL ENGINEERS.

FEB. 18 .- Sir John Rennie, president, in

the chair. The paper read was by Mr. De la Garde, with a supplement, by Mr. James Green, M. Inst. C.E. It contained a history of the Canal of Exeter, from the year 1540, when it was first projected, to the present time.* In 1563 the Chamber of Exeter engaged John Tren, of Glamorganshire, as their engineer, and under his directions a canal, with pound locks, similar in all essential points to those of the present day, was constructed from Wear to The depths of the canal at first was Exeter. 3 ft. by 16 ft. in width ; subsequently, at various periods, as the commerce of the city increased, the dimensions were enlarged, and after an arduous struggle, which extended from the year 1563 until 1835, when the Chamber ceased to exist as a corporate body, it suc-ceeded in perfecting a ship canal from Turf, near Topsham, on the river Exe, capable of conveying vessels of 500 tons burthen to the quays of Exeter. The latter work was accom-plished by Mr. James Green, whose reports were given, confirmed by those of Mr. Telford. They abounded in interesting illustrations of engineering difficulties, and the method of overcoming them. We may mention one. This was in the excavation for the entrance lock at Turf, which, after being carried to a depth of 20 feet through a stiff alluvial clay without water, was pressed down by the embankment 10 feet, and the bottom of the lock-pit rose to a greater height than the sides, exhibiting on its surface peat moss, marine plants, fern, &c. A com-plete kerbing or sheating of whole timber piles as therefore driven, the same being strutted by transverse timbers, and the excavation made and the lock founded in lengths between the transverse struts: as it was feared that the pressure of water from the tide would have a tendency to raise the invert and gate platforms, trunks of elm planking were laid in the rubble masonry, forming the bed of the invert, which were carried under and throughout the lock. and terminated in a vertical well beyond the higher gates of the lock ; this allowed the subwater to circulate and rise without obstruction.

This, as well as other ingenious modes of overcoming impediments encountered by Mr. Green, was highly applauded. The archæo-logical researches of Mr. De la Garde, and the extracts from old acts and charters respecting this canal, were of an interesting character, and deserve careful attention, as it must be concluded that this is the oldest canal, with locks, in the kingdom, having been commenced nearly fifty years before the Sankey cut.

The discussion which ensued, drew from Mr. Cubitt a promise of a description of the works and oblique weirs on the river Severn, which have excited so much discussion among engineers.

The meeting was adjourned to Tuesday evening, the 25th inst.

HOUSES IN HULL.-Mr. Cardwell, in a lecture "on the architecture of the present age," seys, for bad construction, no town in the kingdom can furnish a greater number of houses than the town of Hull.

• An account of this canal, by Mr. De la Garde, will be rand in the "Archseologia," vol. axviii. p. 7.-ED.

THE MARQUIS OF NORTHAMPTON'S FIRST SOIREE.

ON Saturday last, Lord Northampton gave his first soirée to the Fellows of the Royal Society. The rooms were crowded with men of station or of note. Royalty, rank, wealth, and talent, were all represented. The noble, the legislator, the poet, the man of science, the artist, were all congregated together, to confer mutual pleasure, and, by extending each other's views, mutual advantage.

Amongst the various objects of interest dis-played on the tables were a *fuc-simile* of the "late lamented Portland vase" (as a shop-keeper in Regent-street calls it); a model of the Chapter House of Salisbury Cathedral, orbitistic hu M. Britton to a more the invested exhibited by Mr. Britton; a recently invented instrument, called the "volute delineator," for forming the lines of the characteristic feature of the Ionic capital; a fine portrait of George IV., in mosaic, from Mr. Rogers's collection, and some specimens of glass pave-ment. The noble and amiable host exerted himself, as he always does, to increase the gratification of his guests.

ON PORTLAND STONE. BY C. H. SMITH.

At the Isle of Portland there are the remains of several buildings that were erected with stone from the neighbouring quarries, long before that material was generally known or considered of sufficient value to be used in the construction of the principal buildings of the metropolis. A large portion of the island has been the property of the Crown during many Henry centuries and so early as the reign of the Eighth, that monarch caused a castle to be erected at Portland, and another on the opposite shore, near Weymouth; one of these has been continued as a garrison to the present time, the other has long since been left to ruin; nevertheless the stone with which the walls are built does not appear to have undergone any decomposition worthy of notice. Holinshed, who wrote his Chronicles of England prior to the year 1574, has given rather a long account of Portland Isle; he has also, in another part of his works, devoted an entire chapter to the subject of "Quarries of stone for building;" but in neither case has he made even the slightest allusion to Portland stone. Camden the historian (who died in 1623) has also minutely described the Island of Portland, without mentioning the stone quarries; and it is worthy of remark, that in the next paragraph he describes the island of Purbeck distant about fifteen or twenty miles, as having "many sorts of good stone, from which large quantities are carried to London, to the great advantage of the inhabitants." From these two eminent writers being wholly silent on the subject of Portland stone, we may reasonably infer that at that time it was a material not generally known or used, except in the immediate vicinity of the quarries.

James the First appointed Inigo Jones his chief architect and surveyor-general of his Majesty's works; under this appointment he had to survey the crown lands at Portland; and his discrimination very soon led to the introduction of Portland stone for all the principal buildings in and about London. The banquetting-room, or military chapel at White-hall, was begun in the year 1619, and finished in two years. As far as I can search or learn, this is the earliest building of magnitude constructed with Portland stone in London, or at any considerable distance from the quarries. In 1631, Inigo Jones received orders to repair In 1631, Inigo Jones received orders to reprint the old cathedral of St. Paul; this was per-formed by "casing great part of the outside, and adding a grand Corinthian portice to the west front, all of Portland stone." From that time it became the chief material used for ornamental architecture, not only in the south of England, but in many parts round the coasts of this country and Ireland.

After the fire of London in 1666, up to the beginning of the present century, the archi-tects and builders of London scarcely ever thought of using any other kind of stone, except for pavements and similar subordinate purposes. Sir Christopher Wren used Port-land stone for St. Paul's Cathedral and other public buildings, because he considered it the best material then known, and on account of the quarries belonging to the Crown, as well as their being most eligibly situated for water

carriage. Among the writings of Sir Christopher Wren relative to the stone for St. Paul's, he states, that "All the most eminent masons of England were of opinion that stone of the largest scantlings were there to be found, or no where. An inquiry was made after all the good stone that England afforded; and next to Portland, Rock Abbey stone,* and some others in Yorkshire, seemed the best and most durable; but large stone for the Paul's works was not easily to be had even there."

At first, all the stone brought from Portland was obtained from the crown lands on the north-east of the island; but, as the demand increased, private property in different parts became more valuable, and large quantities of stone were brought from the west and southeast cliffs, without the slightest regard to quality, durability, or any other consideration of fitness, except that of meeting with an immediate sale in the market. I have carefully looked over many specifications for public and private buildings, and find the materials usually described to be of the best quality; but the general tenour of those parts describing the stone to be used rarely amounts to any thing more than the mere well-known name, preceded by an adjective, such as "good Portland stone;" but what is to constitute that "goodness" is altogether undefined.

Large quantities of Portland stone of an inferior quality are brought to London, not because the island is deficient in the best kind. but because all our large buildings are executed by contracts, at so remarkably low a price, that the mason's study is not what kind of stone will be most durable, but what stone can be wrought by the workmen most expeditiously, and thereby yield the largest profit; and of course the proprietors of quarries will only send such stone into the market as is likely to suit his customers. St. Paul's Catheand many of the churches and other large drai. buildings, erected in the reign of Queen Anne, were constructed with stone very superior, as far as regards durability, to the greater quantity now used; and yet the quarries from whence those sources were derived have been deserted beyond the memory of any inhabitants now living at Portland; and the only reason as-signed is, because the merchants find they cannot sell such stone, on account of its being a little harder, and thereby more expensive to work.

Whenever a number of large buildings are being erected at the same time, the demand for stone of the best quality is greater than the quarries already opened can supply. The con-tractors are bound under a heavy penalty to finish the work by a given time, and hence are compelled to use a material which perhaps they would otherwise reject. It may be owing to circumstances of this kind that portions of the stone used in buildings so recently erected, as the park entrances from Piccadilly, are slready in a state of decomposition; the same remarks may be applied to some of the stone used about the new buildings of the British Museum. Most readers are probably aware of the deplorable condition that Blackfriars Bridge was in before the repairs were comed: I have been informed by persons who men recollected the building of it, that the masonry presented innumerable evidences of slow, though certain decay, before the bridge was quite finished, in the year 1770. I shall notice one more example, merely to shew how com-pletely this subject has been neglected heretofore, even by men of first-rate eminence. He, whom we all admired for his abilities and munificence, who had risen to the most distinguished rank in his profession, whose percep-tion and discernment in most things were more acute than in the generality of men,-yez, the late Sir John Soane, about twenty or twentyfive years since, allowed the front of his own freehold residence in Lincoln's-Inn Fields to be constructed with Portland stone of such an inferior quality, that it is already evidently mouldering away. It is probable that too much confidence was placed in the mason, who ought to have known better, and have acted

differently. Abundant examples of defective Portland stone might be pointed out; but when we consider that the stone brought from the island, good, bad, and indifferent, is all shipped from

⁹ The asbiar at the east end of Greenwich Hospital appear to be Roche Abbey stone, which is likely to be the case, a Sig C. Wren had a high opinion of that material. the same pier, which is a very small oue, and that notwithstanding the blocks are marked in the quarry, so as to denote from whence they were obtained, it is possible that some of them may be misplaced, we ought not to be surprised if occasionally a very bad stone is conspicously placed in a building that is otherwise in excellent condition; and this we find more particularly to be the case in our modern structures, arising no doubt sometimes from ignorance or inattention, but often from some trifling interest, such as using a stone because it is just of the dimensions required.

These events seem to have brought about an important investigation, in which the reputation and interest of persons connected with architecture are deeply concerned. The Portland merchants had enjoyed the supply of stone to London and the south of England for an almost uninterrupied period of more than 200 years; I say almost, because in the year 1804 a duty of 261. 8s. per cent. was imposed on all stone conveyed by sea from one port of Great Britain to another. This was a temporary injury to the Portland trade, for large quantities of Bath stone were brought to London by canals, and consequently free of duty; but in 1823 the coast-duty was taken off, and Portland again took the lead for all superior buildings. But its character was stained, and public confidence was lost, in consequence of a few individuals bringing shiploads of rubbishing stone into the markets, which was used by the unwary masons for all purposes. Many of our noblest structures, which were constructed with these defective materials, rapidly assumed the appearance of premature ruin; the architects and proprietors of buildings united in one universal outcry against all kinds of Portland stone; and it has been condemned without inquiring into the cause of complaint, as wholly unit and unworthy of being used in substantial edifices.

To explain and illustrate the numerous qualities and localities of Portland stone would far exceed the usual limits of an essay. You will see by analysis* that the ingredients are apportioned in this stone much the same as in most other oolites, therefore, its quality depends greatly upon the manner in which the component parts are united. There are not fewer than fifty or sixty quarries already opened at the Isle of Portland, most of them along the north-east and north-west cliffs, at an elevation of several hundred feet above the sea. The stone from each of these quarries, and from different beds in the same quarry, almost always presents some minute particularities, which, on very attentive examination, serve to distinguish it from others. In many instances, these distinctions are so conspicuous as to be evident on the most casual inspection.

By minutely and attentively examining a specimen of Portland stone that is found after fifteen or twenty years' exposure to the weather, to be in a decomposing condition, its characteristic features will be on the whole lighter coloured than such as is known to be good stone, arising partly from the entire mass being less crystalline, and from spots, veins, and rings of a lighter tint than the ground. The whitest parts are generally least cemented and most friable; the stone is altogether of an open, powdery texture: and the pores or vacuities being numerous compared with the bulk of solid matter, render it deficient in weight for its size.

Portland stone of the most durable quality is comparatively heavy, of a uniform colour, or rather darker than the last described, owing to the quantity of cement of a compact crystalline texture regularly dispersed throughout the pores; and hence it will resist a

• The following analysis of colites, as given by Professor Daniell, in the report on the selection of stone for building the new Houses of Parliament, will shew how nearly the proportional quantities of the component parts in four specimens, possessing very different degrees of durability when exposed to the weather, approach each other. They are chiefly composed of carbonate of lime; the greatest difference does not amount to three per cent. of that material, and the Portland contains a small quantity of silica.

| | Ancas- ter. | Bath, Box Quarries. | Portland, Way-croft Quarries. | Ketton. |
|---|--|---|--|--|
| Silica Carbonate of lime Carbonate of magnesia Iron alumina Water and loss Bitumen | 93·59 2·90 ·80 2·71 A trace, | 94·52 9·50 1·20 1·78 A trace. | 1.20 95.16 1.20 .50 1.94 A trace, | 92'17 4'10 '90 2'83 A trace, |

greater force to crush it, or to disintegrate the particles. The following comparison will shew the relative peculiarities of good and bad Portland stone, considering the specimen when examined, subject in every respect to the same conditions, such as being equally wet, or dry, &c.

| GOOD. | | | BAD. |
|-------------------------|----|----|-----------------------|
| Preponderance of weight | •• | •• | Deficiency of weight. |
| Dark coloured | •• | •• | Light coloured. |
| Uniform colour | •• | | Party coloured. |
| Compact and crystalline | •• | •• | Open and powdery. |
| Hard to crush | •• | •• | Friable. |
| | | | |

What are technically called glass veins vary from a line to an inch or more in breadth, and often run completely through a block; they retain their original whiteness, while all the remaining surface becomes covered with lichens; or if, in London, with soot and dirt; whereas the "party-coloured" just named looks more as if some whitish fluid had been sprinkled or thrown upon the stone in patches. Glass veins may be considered unsightly, but they are by no means perishable, neither do they facilitate decay in way whatever. If they occur in steps, pavements, or any other situation, subject to considerable wear, there hardness will soon occasion them to be conspicuously above the general level; therefore such variation of colour is no defect beyond appearance, and causing a surface to wear irregularly.

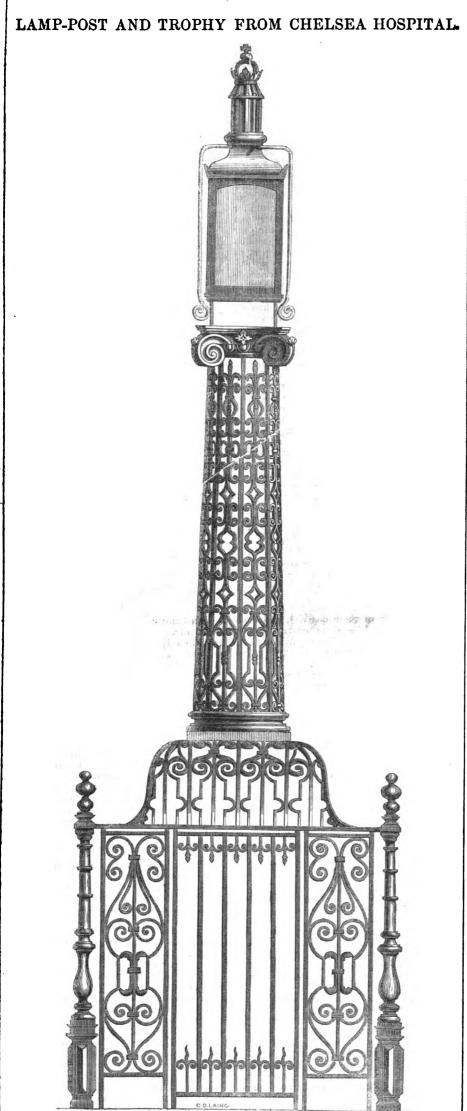
According to the observations of Professors Daniell and Wheatstone, at the end of the report on the selection of stone for building the new Houses of Parliament, the following inference may be drawn: that in all stones of the same class, the heaviest kind, or that which has the greatest specific gravity, is the most durable and best suited for architectural works; this is given as a sort of general rule, "though linble to individual exceptions;" but it appears to hold good with all the varieties of Portland stone. The specimens from which the following weights have been nost tested by exposure to weather :--

Weight per Cubic Foot.

| | TOB. | 04. | G (10. |
|---|------|------|---------------|
| Grove quarries, best or lower bed, stands the weather pretty well * Way-croft quarries, top bed, best stone | 147 | 10 | 11 |
| in the island | 135 | 8 | 18 |
| Vearn-street quarry, top bed | | 10 | 0 |
| Castles quarry, between the fint beds, | | | |
| decomposing quality | 132 | 5 | 8 |
| Gosling's quarry, bottom bed, decom- | | | |
| poees rapidly | 191 | - 4 | |
| -Lithology; in Trans. of British | Are | chil | ects. |

THE SMOKE NUISANCE. - On Thursday week. Mr. Mackinnon moved for leave to bring in a Bill to "prohibit the nuisance of smoke from the furnaces of factories." hon. gentleman stated, that the bill was almost identical in its provisions with that he obtained leave to bring in last session. He proposed to take the discussion on the second reading. After a conversation between Mr. Bright, Mr. Ferrand, Mr. Ricardo, Mr. Milnes, Mr. Borthwick, Mr. Hawes, and Mr. M. Phillips, the Earl of Lincoln said he apprehended that there were two questions before the housefirst, whether it was possible by any legislation to suppress this nuisance, and in the second place, whether the scheme proposed was practicable? With reference to the first question, he was inclined to believe that it was possible considerably to abate, if not altogether to re-move, the nuisance. He had been in communication with some scientific gentlemen on the subject, but he doubted whether the bill of his hon. friend would be operative. If on discussion the house should be of that opinion, he should be prepared to introduce a measure of his own, being persuaded that the subject itself was not only important with reference to the public health, but also in an economical point of view. Mr. Muntz said that there were many difficulties connected with the subject. It might be practicable to effect the hon. mover's object in respect of some trades, but it would be impracticable in the case of others. Any attempt of the sort with respect to the iron trade would ruin it. Any legisla-tion on the subject required great care, and words from Mr. M. Phillips, Mr. Becket, Mr. Gill, and Mr. Alderman Copeland, leave was given to bring in the bill.

* The reason of this stone being so much heavier than any other marketable stone in the island, is its being so full of abells, which are of much greater specific gravity than the general mass; we must not thereby infer that this stone is considerably more durable than any of the others, notwithstanding its weight far exceeds them,



IRON LAMP-POST AND TROPHY FROM CHELSEA HOSPITAL.

SIR,—I have been long desirous of adding to the beautiful collection of sketches which have appeared in your journal. The continued publication of judiciously-selected examples from the works of ancient and modern art is of infinite use to the inquiring reader; and forms a very powerful auxiliary to the attempts which the Government is now making to diffuse a correct taste among all classes.

With this idea, I have sent you a drawing of what at first sight may appear a very humble subject. It is but a lamp-post, but it is one designed by the master-hand of Sir Christopher Wren, and it illustrates in a remarkable manner what may be done in small matters by the pencil of genius, and how the admiration of the spectator may be excited without straining after effect, or violating the laws of propriety.

The lamp-post stands in the middle of the west court of Chelsea Hospital. It is of iron, and 19 feet in height; the pedestal 5 feet 8 inches square.

There appears to be no doubt that it is as old as the hospital, the first stone of which was laid by King Charles II., in 1682, and the buildings were completed in 1690, from the design, as is well known, of that unrivalled English architect, Sir Christopher Wren.

Such a composition as this simple stand, placed on two or three steps with proper angleposts and curb, would make a very much better ornamental centre to some of our public thoroughfares than many which have been put up of late years. Compare it, for instance, with the strange affair at Charing-cross, the bodkins at the end of the Poultry, the Waithman block, or that poor dear departed monument they have just pulled down at Battle-bridge (I suppose because it was so ugly, as to make the omnibus horses shy at it) with its statue of George IV., immortalized by the satiric needle of George Cruickshank as resembling at a distant view a sack of flour, and at a nearer approach Dusty Bob in a blanket.

As an inhabitant of Chelsea, I may perhaps be excused for my excessive admiration of Wren's noble building; I devoutly believe, and I know several eminent architects are of the same opinion, that the chapel of Chelsea Hospital is a finer work of art than the chapel at Greenwich,—the latter was designed by Athenian Stuart.

I have endeavoured to represent in my smaller sketch one of the military trophies



carved in stone at the entrance gates, which are very original and of striking beauty. These sketches from the outside of the building afford some little proof of what might be obtained from the structure itself.

LANDLORD AND TENANT.

In a report on the agriculture of Norfolk by Mr. Barugh Almack, published in the last part of the journal of the Royal Agricultural Society of England, there is a valuable chap-ter on "Tenure," wherein the writer very properly urges :-

"lst. That to induce a man to exert to the utmost such ability as he possesses, you must shew him that his doing so will be rewarded by benefits to himself, and not merely to others, who have no just claim to the exclusive ad-vantages of the fruit of his labour; in other words, to prompt men to great and extraordi-nary industry, you must satisfy them they shall certainly be rewarded for their exertions, by at least participating in those permanent improve-

"2nd. That, in order to gain the advantage of first-rate talent, added to sufficient capital, you must not trust to chance, but hold out some advantages to attract and secure to your-self those select men as tenants."

The late Mr. Coke (afterwards Earl of Leicester), to whom Norfolk owes great part of its fame as an agricultural district, acted on these principles, and both granted leases and offered inducements to good tenants.

"To secure the assistance and advantages of "To secure the assistance and advantages of first-rate talent in the improvement of his estates," says Mr. Almack, "Mr. Coke gave, not only security that each should reap a certain portion of the benefits arising from his own exertions and skill, but he provided superior houses, and other ac-commodation, for his first-class tenants. This, undoubtedly, was well adapted to the object in view. I am not about to advocate a great onliay. in every case, on farm-houses and great outlay, in every case, on farm-houses and farm-buildings, nor any outlay inconsistent with the occupation and business of the tenants ; but there should be, on all farms, such buildings, conveniently arranged, as are necessary for the economical carrying on of the farm, and no more than are necessary, so that they may be kept in good order at moderate expense.

"There should also be such a dwelling-bouse as is suitable for the management of the farm, and appropriate, as a residence, for the family of a man who possesses talent, and such an amount of capital, as is invested in that occupation. When, in any thing, we are de-termined to have the best of its kind, we must be prepared to pay the best price for it, more especially in this case, when the value is cer-tainly known to the party who has it to disof." pose

The advantages of this course are so appa-rent, that we might expect to find it univerfollowed. Such, however, is not the case ; sally for though landlords may admit it to be the best means of obtaining great and permanent improvement in the soil, they are not willing to give up the power they have over their own property

In order to meet this objection, Mr. Almack says, - "I would venture to submit, that if Great Britain were divided into three parts, and each let separately under one of the fol-lowing agreements, all the land might be cul-tivated in the highest possible manner; for, although this division would allow each owner and each tenant to select the one agreement best suited to his own feelings, all would be so far founded on justice to the party who ex-pended his capital for the improvement of the soil, as to insure the most liberal outlay of it : "lst. Leases.

"2nd. Insert a clause in the lease granted, ander which the owner should have the power to cancel it, on giving eighteen months' notice, and paying to the tenant such sum as two arbitrators (one for each party) should think a fair compensation to the tenant for his perma-ment improvements, bearing in mind all the circumstances of the case affecting landlord or tenant.

"3rd. By giving the tenant a clause, under an agreement as a yearly tenancy, by which he would be entitled to a fair and equitable allowance for all permanent improvements made at his expense, but with the sanction of the owner, on written notice of such intended improvemente having been given to the latter or his agent, and not having been answered within a given period, or in time to prevent that outlay which the owner of the land would not sanction

We recommend this view of the question to the consideration of all landowners.

LETTERN-STAND, LITTLEBURY CHURCH.

the reading-desk in the choir of ancient part of allettern beinging to Littlebury Church churches was termed a lettern, or lecturn, from lego, to read; and a reader was called a lector, or lecturer. The earliest letterns known in this country are of wood, but many are found of brass, often in the shape of an other rubbish, was the font-cover. The plan of the stand is six-sided; each side eagle, with extended wings, upon a pedestal. is slightly curved inward. It bel The annexed engraving represents the lower last period of pointed architecture.

THE reading desk in the choir of ancient part of a lettern belonging to Littlebury Church It belongs to the

WORKS IN THE PROVINCES.

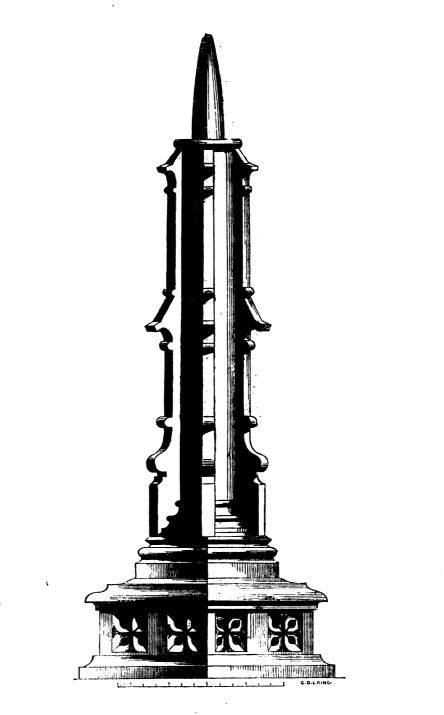
AT Portsmouth, the fortifications are being repaired and strengthened. The old gun-carriages on the King's Bastion have been replaced by new, and eight 32-pounders, instead of four, mounted. Blockhouse Fort, commanding the mouth of the harbour, will abortly diaplay a double instead of a simple for shortly display a double instead of a single (as formerly) row of teeth; and it is contemplated to remove the old victualling store, upon which stands the old telegraph on the platform, in order to extend the Platform Battery to the Round Tower. Works will also be erected on Southsea Common, between the Castle and the King's Bastion.

At Wolverhampton, a project is on foot to establish a company for the purpose of sup-plying the town with water. The services of Mr. Thomas Wickstead, the engincer, have been secured. The estimated outlay required is 25,500%.

At Louth, a public meeting was lately

held, for the purpose of determining the best mode of testilying respect for the memory of the late William Allison; when it was resolved that the most appropriate mode of testifying the public estimation of his worth would be in the erection of alms-houses in the town of Louth, to be called "Allison's Alms-houses," the patronage of which shall be invested in the family and descendants of the deceased, in such manner as shall be hereafter settled by a deed of trust. Subscriptions were forthwith entered into. At Southend, the extension of the pier is

roceeding so rapidly as to leave no doubt of its being completed early in the approaching season. With the exception of only twenty-seven piles, the whole of them have been driven, and most of them braced. The plank-ing is also ready, and the workmen are em-ployed in preparing the railing, which is to be ployed in preparing the railing, which is to be of wood. This important addition, when completed, will afford to the visitors a distinct view of the fleets, both inward and outward bound,



conveying the commerce of the world. At the head of the pier, ships of every burthen will not only be distinguishable, but in most instances within hail; and the depth of water will enable them to land or receive passengers during the ebb of the tide.

during the ebb of the tide. At Bungay, the theatrical speculation having so entirely failed as to bring the stage properties and theatre to the hammer, the building has been purchased by a company, who intend immediately to convert it into a corn-hall. The building, being in the centre of the town, is eligibly situated, and easy of access. It is intended to throw ample light upon the stalls from the roof, and it is understood that there will be one or more rooms attached, suitable for committees or other parties requiring a public place of meeting.

there will be one or more rooms attached, suitable for committees or other parties requiring a public place of meeting. At Wisbeach, a great addition to the number of houses has been made in the last few months. Several pieces of land have been sold at high rates for building purposes. The piece known as the late Mr. Girdleston's garden, near Blackfriars-brige, has been built upon and graced with the names "Angenoria" and "Ruby" streets. Other new streets are in course of erection at the back of the new parade, in East-field. A stimulus to improvement in domestic architecture has been given by the examples of Messrs. W. and A. Peckover, the bankers, whose new erections on the north beach are now approaching completion, and present a striking contrast to the dingy dwellings which until lately occupied their sites. Mr. W. Peckover's residence is in the old English style, with high pitched roofs, ornamental gables, twisted chinneys, &c. That destined for Mr. A Peckover, though less ornate, forms a more substantial-looking pile, and has a good appearance.

At Lincoln, it is confidently expected that during the present year greater improvements will take place in that city than have ever taken place in one year before, so that mechanics and labourers will be fully employed. The county goal is to be enlarged at the cost of several thousand pounds; the hospital is also to be enlarged; the temperance hall will be erected; a public walk constructed; many of the shops are to be pulled down and rebuilt in the London style, and it is expected that not less than fifty new houses will shortly be commenced. Extensive sales of household property in Lincoln are continually taking place, and generally speaking the prices obtained are exorbitant.

At York, a new lecture-hall for the Mechanics' Institute is about to be built. The money already raised amounts to 520/.

At Sandwich, it is in contemplation to erect a new day school in connection with the Independent Chapelin that town. W. Harris, Esq., who upon all occasions affecting the wellbeing of the poor is foremost to assist, has contributed 100% towards the building fund.

At Burton, in Lincolnshire, a new day school, in connection with Wesleyan Dissenters, has just been completed. The huilding consists of two stories, with a wide passage in the centre. The upper room is for the school, and is 53 feet long by 25 feet wide. Beneath, on one side of the passage, is a comfortable house of three rooms for the teacher, and on the other side, a room, about 23 feet by 25 feet, possibly for an infant school, at some time. The whole of the common bricks—the front is of stock-bricks—amounting probably to seventy thousand, were the gift of a wealthy member of the Wesleyan body.

THE CHURCH OF ALL SAINTS, DOR-ORESTER, has been recently rebuilt, under the direction of Mr. Benjamin Ferrey. It formerly stood in a very objectionable position, blocking up the pavement, and at the west, and close to the entrance, were fish shambles. These, by the interference of the Town Council, have been removed. The new building is erected in the Decorated style of architecture: it consists of three bodies separated by arcades; the whole building is finished in a superior manner. The stained glass in the east window will be presented by the Bishop of Salisbury. At present the tower terminates a little above the roofs; but it is intended that it shall be surmounted by a lofty stone spire. The expense of the building, exclusive of the spire, has been about 3,0004. The church contains 700 sittings.

THE EXCAVATIONS AT POMPEII.

THE Academy of Fine Arts, in Paris, has received a report from its perpetual secretary, M. Raoul-Rochette, on the present progress and condition of the excavations at Pompeii, in which he earnestly calls attention to the rapid decay by which the exhumation of these remains is speedily followed, for want of due precautions.

"While rendering justice (he says) to the intelligence with which these explorations are conducted under the direction of a minister so enlightened as the Chevalier Santangelo, it is impossible to see without pain the gradual decay of the buildings of Pompeii. After an interval of six years I have found almost effaced paintings which I had previously be-held fresh and uninjured. This ruin, with which Pompeii is threatened, seems owing to the neglect, in the majority of instances, of the most simple precautions demanded for the preservation of paintings; such, for instance, as that of adding a roof to the walls on which they are found; or, better still, covering them with glazed frames, as has been done in parts, and might be done everywhere at trifling ex-pense. For want of repair, however, these frames, where they have been employed, are rendered ineffectual, as I found lamentably proved in the 'House of Adonis.' A general belief prevails in Naples that Pompeii is destined once more - and this time irrevocablyto perish at no distant day; and owing to this anticipation, but too well grounded, there is a disposition to abaudon the place to its fate without an attempt at retarding the destruc-tion by measures of precaution, which in any case would cost but little, and which might be more effectual than is imagined. The Neapolitan Government will owe a serious reckoning to the learning of Europe, when the disap pearance of Pompeii, daily going on before its eyes, shall have been consummated by the fault of those whom fortune had made the masters of such a treasure. They seem to think they do all that can be required of them when they transport from the old city to the museums of Naples its most important paint-ings. But how are these very paintings, affirmed to be thus snatched from destruction, treated? They are placed between layers of plaster, and shut up in wooden cases, where they remain for years buried in the warerooms of the Museum. Thus, the paintings removed before my former visit, more than six years ago, from the street of Fortune, and that of Mercury, are still at this moment in their prison of plaster and wood—as completely lost to us and science as they were beneath the volcanic crust, and far more compromised as to their preservation under the present than the former covering. Who shall venture to say in what condition these paintings will be found when withdrawn, at the close of seven or eight years, from their plaster beds? And what, at any rate, can justify this seclusion, for a term so prolonged, of these works in a museum, all whose treasures should be open to the student and the public?"—Globe.

THE ROYAL EXCHANGE.—It appears from a report presented to the corporation that the payments already made in respect of the new Exchange, and the new Gresham College, amount together to the sum of $\pounds 100,244$. 17a. 7d., and the amount yet required is estimated by the committee at $\pounds 15,000$. A detailed report is promised at Midsummer next.

DRAWINGS BY THE LATE ADAM LEE.— We perceive that the entire series of very beautiful and highly interesting drawings in water-colours, by Adam Lee, Esq., F.S.A., deceased, late resident officer of the Royal Office of Works at Westminster, are to be sold by auction towards the close of April. They consist of plans, sections, and perspective views of the ancient Palace of Westminster, in the times of Edward the Confessor, Rufus, Stephen, Edward III., Richard II., and Elizabeth; particularly, two most elaborate and beautiful drawings of the interior of St. Stephen's Chapel, as it appeared in the time of Edward III., beautifully illuminated with gold, and giving all the elaborate details of the painted glass and architectural ornaments. Also, plaus for restoring the Palace, and views illustrative of the coronation ceremonials of George IV. and William IV.

New Books."

The Geometric Tracery of Brancepeth Church, in the County of Durham. By ROBERT WILLIAM BILLINGS. Published for the Author by T. and W. Boone. London, 1845.

This is a further exposition of the mode in which the Gothic architects produced by rule their apparently capricious tracery, as before set forth in the author's "Geometric Paneling of Carlisle Cathedral," and should be studied by all who wish to understand the spirit of pointed architecture. The paneling here illustrated belonged, it is supposed, to the ancient rood-screen of Brancepeth Church, and is attributed to about the year 1500. Although only about 10 feet long, and 4 feet 3 inches high, it contains twenty-seven panels of tracery; each widely differing from the other, yet all formed on geometric principles.

"It is satisfactory to find (says the author) that the more we examine Gothic architecture, the more we are convinced that chance was in no possible way connected with the linear designs of construction. The most exuberant richness of contour can, by a careful analysis, be reduced to simple geometric rules; and, in the investigation of laws of description which we have here endeavoured to exhibit, it has been curious to observe how extraordinary an alteration, in the general features of such panels as have fallen under our notice, is effected by a very slight deviation in that most simple of all curves — the arc of a circle."

We propose to represent one of the Carlisle panels in an early number of this journal; and, by means of it, to explain the mode adopted to produce them: in the interim we recommend all our readers who are engaged either in designing or executing Gothic tracery, to obtain the little volume of which we are now speaking. Mr. Billings, although still a young man, has produced a number of elaborate and excellent works on architectural subjects, and is entitled to warm commendation and support. His work on Carlisle Cathedral contains fortyeight drawings; that on Durham Cathedral, seventy-five; and his first book, the Temple Church, thirty-one; the latter, moreover, were wholly engraved by the author, as well as drawn.

The Antiquarian and Architectural Year Book for 1844. Newby, Mortimer-street, Cavendish-square. London: 1845.

The object of this work, which is to be continued annually, is to gather into one view all discoveries and proceedings for the year, both in primeval and mediæval antiquities; to afford notices of new ecclesiastical structures, and the restoration of buildings of the same character, where the erection or adaptation are of sufficient magnitude to warrant description; and to supply information on important works on antiquities and architecture, published during the year.

We think the idea a good one, and cordially wish success to the attempt. Nor indeed is there any reason to doubt it, for, as the editor remarks in his preface :--" No time can be more propitious for the publication of such a volume than the present. Our national monu-ments, nay every relic of our country which volume than the present. has undergone the baptism of years, is re-garded with an interest which, though perhaps newly, has nevertheless been powerfully, awakened. Antiquity and the study of it is ceased to be objects of contempt, or, to speak mildly, of derision. Antiquity has become popular. It has found its way out of the popular. It has found its way out of the libraries of the learned, and made for itself an abiding place in the book closet of the man of business—of the poor scholar—of the artist. It is among all and with all. Its professors find honour among us, and they who study any of its multiform divisions are regarded with more than common attention, and their labours looked upon with interest. Every literary effort, therefore, which has for its object the illustration of the past for the better knowledge of the present or the future, is likely to be received into favour, and its efforts crowned with success."

The present volume is dedicated, with great propriety, to "John Britton, Esq., F.S.A., as a slightacknowledgment of the high estimation

entertained for his talents and his labours;"* and forms a very interesting record of fugitive essays on archæological subjects that have come before the public during the past year, antiqua-rian investigations, and published works. The 'l'he various articles are arranged under the heads,primeval antiquities, medizeval antiquities, ecclesiastical architecture (chiefly notices of old churches and restorations), and bibliography. There are not many original communications, but these may be expected to increase in ensuing volumes when the publication is known. The principal papers are those which were read at the Canterbury meeting of the Archæological Association, a meeting which has led to more writing and printing than could possibly have been anticipated by those who projected and arranged it. We shall be glad to learn that the "Anti-guarian and Architectural Year Book" has

had a large sale.

Correspondence.

JURISDICTION OF OFFICIAL REFEREES AND CONSTRUCTION OF SCHEDULE (E) AS TO PROJECTIONS.

SIR,-In accordance with my promise to continue the discussion of this subject, I would first, to supply an *hiatus* in my last letter, set out the form of notice from the district surveyor, issued in consequence of an application from him to the official referees: "That the from him to the official referees: "That the said works were not a sufficient commence-ment prior to the 1st day of January, 1845, to take them out of the operations of the Metro-politan Building Act, 7 & 8 Vict.; and that, in the event of your proceeding therewith without giving me such notice as is required by the aforsaid Act, the said work will be liable to be abated as a nuisance."

Here is a palpable recognition of a "com-mencement," and where is the authority to define the extent of it? more especially, as stated in my last letter, the "commencement" having been made upon admitted legal notice under the former Act. The ground of complaint to the official referees, upon which by their decision the summons was issued (a copy of which was sent to the party complained of), also raised the question of the proposed buildings being in contravention of sect. E as to projections. The official referees upon this ground of complaint issue, or sanction the district surveyor issuing, his summons, and, with a plan of the locus in quo before them, evi-dently admit the operation of sect. E, as restraining buildings from projecting before the general line of buildings in any street: with this impression (signified in the same summons), that under the new Act no such buildings could be erected, it would appear to be a farce to complain "of your proceeding therewith withoutgiving me due notice, as is re-quired by the aforesaid Act," which brings us to the discussion of schedule E as relating to to the discussion of schedule E as relating to projections. The ground of complaint by the district surveyor to the official referees being thus: "and, lastly, the whole are projected buildings beyond the general line of the fronts of the bouses, viz. being 29 feet before those already erected in Princes-place, vide plan, and contrary to the said schedule E." The his-tory of the matter is this :--Princes-place, as stated, is 29 feet from the public road, then comes a vacant piece of ground on which these five fourth-rate houses are commenced, and then another row of houses in a line with Princes-place. The information to the re-ferees states that the intended houses commenced next the road have a return wall 24 feet deep, or 5 feet short of the front of the above-mentioned houses.

The heading of the clause in the Act is, "Projected buildings beyond the general line of buildings, and from other external walls;" it will be perceived in the above quoted information to the official referees, that the district surveyor has quoted the words of this recital, without pursuing the inquiry as to what the enact-ment was, viz.: "And with regard to buildings already built or hereafter to be re-built, as to bow windows or other projections of any kind."

The words here used seem clearly to define that what was contemplated as to projections related only "to buildings already built or hereafter to be rebuilt;" and then follows, "Such projections must neither be built with, nor be added to any buildings or any face of an external wall *thereof*, so as to extend beyond the general line of the fronts of the houses." Using the term projection in its ordinary sense (not claiming the limitation of the above clause), would imply buildings proceeding from, and not, as in this case, being commenced at, the edge of the road actually advancing in progress towards the general line of the houses in the street. After the great deliberation that was given to the subject, many sessions passing over before the bill was in a condition to become an Act, it would be injustice to the framers of it to imagine that other than the common sense reading of the above extract was their intention. Had the intention been that the district surveyor assumes, sancwhich tioned by the referees, it is impossible to imagine that the talent engaged in the prepara-tion of the Act could have lost sight of the few words that, suggested in parenthesis, in addition to the existing enactment, would have made the matter thoroughly intelligible. "And with regard to buildings already built

or hereafter to be rebuilt, as to bow-windows or other projections of any kind" (and with regard to buildings hereafter to be build) " such projections must neither be built with, nor be added to, any (such) building on any face of an external wall thereof" (and no new building shall be erected) "so as to extend beyond the general line of the fronts of the houses, &c."

It would also appear, that to any new buildings now or hereafter erected, at a future period, projections might be made thereto "beyond the general line of the front of the houses," as not being controlled by the words "buildings already built or hereafter to be rebuilt."

A most important point presents itself for discussion, as to the extent of application of the large equitable powers intrusted to the referees, which would appear to have been so intrusted to them to accommodate the Act to peculiar cases not precisely met by any positive direction, and not to be applied in contravention of a special enactment. I shall be glud to induce the opinion of some of your correspondents learned in the law upon a case thus cir-cumstanced, in which I am now professionally concerned, by putting the facts before them in a subsequent letter.—Your obedient servant, a subsequent letter.—Your obedient servar GREENWAY ROBINS, Architect.

22nd Feb. 1845.

SALE OF ABCHITECTURAL PRINTS AND DRAWINGS.

SIB,-I read the letter of a member of the Association of Architectural Draughtsmen in your last number with pleasure, and am glad to find that they are looking forward to the establishment of a separate and distinct exhi-bition of architectural drawings and a museum.

In the first volume of THE BUILDER I ventured to offer a few suggestions to this society with every feeling of respect, and am now about to make a proposition, which I trust, will be received by them in the same spirit.

I am very fond of the study of architecture, and in my leisure hours can enjoy the luxury of being possessed, if only for a time, of a good engraving or drawing, and having but small means, as is the case with many of my class, I find some difficulty in supplying my wants for contemplation and study. Lallude to the great difficulty found by young men who are anxious to obtain information from such sources, their being no place in London where architectural prints can be obtained in any great variety or quantity, therefore beg to call the attention of the above society to the consideration of the following plan :

If they have an exhibition of architecture, they must have a large room, I therefore propose that they establish a depot for the sale and purchase of prints and drawings of all styles of architecture, and every art and trade connected with it. With regard to myself, I often buy engravings, &c., that may strike me as having some peculiar effect, a door or window, or other feature which I may introduce into a design or sketch to advantage, or some place I may have visited or be about to do so, and when I have made such use of it, would be

glad to dispose of the same at a cheap rate, or exchange it for others, consequently should exchange it for others, consequently should find such an establishment very acceptable. Working drawings of buildings actually exe-cuted, machinery, furniture, &c., however rough and dirty, would be useful and readily purchased by those requiring such in their early studies, and again, after being copied, find their way back for the use of new comers, at a very triffing cost to all parties; nothing should be refused; and this plan will offer the opportunity to young artists to send their drawings for sale, and bring their names before the public; assist them greatly in obtaining employment, and induce them, when taking sketches from the actual buildings, to make them more accurate, as the sketches will be-come valuable to those who have not been there, and sell for a small sum.

The plan of management would be simple, and might be arranged as follows :--each party sending a drawing or print for sale would write the name and price at the back, inclosing a letter with his name and address, which would be kept private; after being numbered, it would be entered in one book open to the public; and when sold, struck out and entered in a ledger, the name, address, and price being stated and paid when demanded, deducting a commission, which may be agreed upon. The drawings, &c., by a little judgment could be arranged in the various styles, so as to be shewn immediately.

snewn immediately. During the continuance of the exhibition, the drawings and engravings might be kept in portfolios on a large table in the centre of the rooms, so that the public would have the additional advantage of inspecting and pur-chasing plans; and when the exhibition was termined they might be placed on the wells terminated, they might be placed on the walls, and the public admitted free.

By the assistance of the county members of by the assistance of the county inclusions of the society, or others that might be appointed as agents to collect and send up portfolios of drawings, &c., and, in return, have such subjects as they may require, thus keep up a correspondence and diffusion of knowledge all over the kingdom, and, in the course of time,

establish similar exhibitions in the large towns. And you, Sir, might, by lending your powerful aid in THE BUILDER, assist them by having a weekly head; say-

THE PORTFOLIO OF THE ASSOCIATION OF THE ARCHITECTURAL DRAUGHTSMEN.

| Drawings and Prints ro | ceived for Sa | ie thie wee | nk. |
|------------------------|--|----------------------|---------------------|
| DRAWINGS, &c. | SIER, | in. X | in. |
| Saffron Walden Church. | Here son to follow, drawings, &c. | whether coloured, | working outline, |

Prints, &c., similar to the abov

Such information would be very extensively circulated by the assistance of your excellent journal, and would be found useful. Your most obedient servant,

WILLIAM J. SHORT.

2, Spring-terrace, Lambeth, Fobruary 22nd, 1845.

THE PORTLAND VASE.

-As the Portland Vase has been lately STR. brought into lamented notoriety, and you have noticed it with just execution of the vagabond sot who destroyed it, perhaps the following particulars, which will be found in "Granger's Letters and Miscellanies," may not be unin-teresting in your journal. He, Granger, is describing the Portand Museum. I am, Sir, &c., H. B. H.

"The most celebrated antique vase or se-pulchral urn, from the Barberini cabinet, at Rome. It is the identical urn which contained the ashes of the Roman Emperor Alexander Severus, and his mother Mammea, which was deposited in the earth about the year 235 after Christ, and was dug up by order of Pope Bar-berini, named Urban VIII., between the years 1623 and 1644. The materials of which it is

[•] The capital required would be very small—a table, portfolio, and a little furniture; and the whole might be managed by a clerk and boy, or porter. The clerk ahould be a draughtaman, well acquainted with the subjects he has to arrange; and if he be a man of talent, he might in the evenings, when the rooms were not otherwise engaged, give lectures to the younger members of the profession on the various styles and construction shewn in the numerous draw-ings and engravings on the walls, with instructions as to the best mode of pursuing their studies; thus making them useful when even under sale; and, by means of the foces, increase his salary, making the situation worthy the accep-ention of a man of character and ability.



[•] We hear that a committee is being formed for the purpose of paying some public compliment to this estimable pendeman is acknowledgment of his long career of exten-ine asschunces. We will gladly aid such a proposition.

composed emulate an onyx, the ground of a rich transparent dark amethystine colour; and the snowy figures which adorn it are in basrelief, of workmanship above all encomium, and such as cannot but excite in us the highest idea of the arts of the ancients.

"Its dimensions are 93 inches high, and 213 inches in circumference. A more particular account of this famous vase may be found in Montfaucon's Antiquities, vol. v. book ii. chap. 6; in Signor Bartoli delle Sepulchri Antichi; in the Ædes Barberinæ; in Wright's, Breval's, and Misson's Travels; in Winckleman on the Arts of the Ancients, &c. &c.; and an accurate engraving, with a particular description of it, was given in "Gentleman's Magazine," vol. lvi. p. 97. 1,0294."

N.B. This sum is the price it fetched at the sale of the Duchess of Portland's collection, by Mr. Alderman Skinner, who was thirtyseven days employed in the sale at the duchess's house, in Privy-gardens, commencing his labours on the 24th April, 1786. I presume it was bought in by the family.

SLAB SLATING-CONDENSATION OF MOISTURE.

Sin,—It is generally known that the great objection to the use of slab slate as a covering to a building is the fact of its being liable to dampness on the underside in certain states of the weather. The evil no doubt arises from damp air, which, as it comes in contact with the slate, condenses and falls in drops of water; this especially occurs after a frost. If any of your readers are acquainted with an application as a simple remedy to prevent this defect, and would make it known through the medium of your journal, it would be a means of greatly extending the usefulness of that valuable material.

I am, yours, &c., &c., Southampton. AN ARCHITECT.

[Our correspondent will find some remarks on this subject in the notice of proceedings at the Institute of Architects, in our present number. The evil would be lessened by covering the slate outside with any non-conductor of heat. —ED.]

Miscellanea.

NOVEL APPLICATIONS OF IRON.—Experiments have for some years been in progress, chiefly under the superintendence of Herr Dase, inspector of mines in Richmond, in the Duchy of Branswick, with a view to make cast-iron, as the cheaper and more durable material, applicable to the preparation of stereotype plates. The success of these experiments is attested by the publication of a cast-iron stereotype edition of the Bible, published at Nordhausen, the price of which, with marginal readings, is 9 ggr. (13d.) Another application of the same metal has lately arrested our attention, and for which it possesses certain capabilities. We refer to the use which is beginning to be made of it in perpetuating the memory of the dead. Sepulchral monuments, formed of cast-iron, are already to be found in our metropolitan church-yards and suburban cemeteries. We believe that to the late Mr. Thomas Wedlake, of the Fairkytes Foundry, near Romford, must be awarded whatever credit is due for the novelty of the application.

THE NEW CHAPEL, COLCHESTER, WAS erected in 1844, from the design of Mr. W. F. Poulton, architect, Reading. It is built of white Copford brick, the strings, entablature, &c., being formed of moulded brick. Stone is used only for the caps and bases of pilasters and for the impost mouldings. The colour of the facing brick being uniform, the building has the appearance of a stone erection. The size in the clear is 40 feet 6 inches by 51 feet 6 inches — accommodation for 500 persons. There is a shallow gallery across the entrance end. The pulpit is suspended from the back wall, with entrance by steps direct from the minister's private vestry. The size of vestry is 30 feet by 11 feet 6 inches. The contract (by Mr. Kemp, builder, Colchester), for the chapel and vestries, was 1,011. Amount of extras, 18/. 15s.

MAHOGANY AND ROSEWOOD VENKERS.— A question of some importance to the im-porters of foreign furniture woods has recently been raised by the customs officers at Hull. A parcel of veneers of mahogany and rosewood, cut from the log, were imported into that port from Hamburgh, which the revenue offi-cers placed under detention, as being contrary to the navigation laws, i.e., as being the produce of Asia, Africa, or America, and īm. ported into this country from Europe, the logs, in this instance, having been imported into Germany from the place of growth, and there cut or sawn into the very fine thin slices of wood used in the making of cabinet farniture, and known by the trade as veneers. The officers, however, considered that this operation, per-formed in Hamburgh, did not constitute a manufacture, inasmuch as the wood retained its original state, having been simply sawn or cut from the log, and would require polishing &c., here, previously to being fit for use for the purpose to which it is applied. It has, however, been decided that, under the Trea-sury order of the 23rd February, 1833, the parties are entitled to the admission of the veneers as the manufacture of the country from which they were imported, although the wood itself, in its raw state, be the produce of either of the other quarters of the globe. This decision has been communicated to the officers for their information and future government.

FIRST JUDGMENTS ON NEW DISCOVERIES. However void of practical utility any discovery may at first appear, it is impossible to tell to what important results it may eventually lead. Who could have foreseen an acquaintance with the minutest wonders of the heavens from the child of a spectacle-maker amusing itself with convex glasses—the marvellous re-sults of steam machinery from the steam issu-ing from a kettle—or the illumination of our of a tobacco pipe? One ingenious contriver of a steam-ship was advised by a former president of the Royal Society to employ his time on some practicable scheme, and not on a vi-sionary speculation; and thus it is that the sus-picion and distrust with which any novelty is commonly received has tended to damp in-quiry and retard science. I have been assured by that eminent geologist, the Rev. W. D. Conybeare, that his early investigation of the more recent strata of this kingdom, and especially of the Portland oolite, &c., was treated as an idle occupation of time, and as leading to no useful purpose ; whereas the progress of geology, since that time, has shown that the stability of our great public edifices depends on a proper selection from the rocks best adapted for building; and Mr. William Smith, who shared in the obloguy of following such useless pursuits in the infancy of the science, was in his old age employed by government, in conjunction with Mr. De la Beche and others, to examine the various strata of the United Kingdom, with a view to selecting the best stone for building the new Houses of Parliament.-T. Sopwith on Glaciers in Great Britain.

SCHOOLS OF DESIGN .- Mr. Edward Bannister, of Hull, in urging the establishment of a school of design in that locality, where, at present, there is no place for the study of the finearts, remarks very justly : -- "For the pursuit of that knowledge which is essential to the cultivation of design as applicable to our arts and manufactures, every facility should be afforded and every means held out to induce the artizan to become skilful and ready in the execution or to become skilled and ready in the execution or invention of patterns which he may be called upon to produce. The acknowledged supe-riority possessed by the French in design is so generally admitted, that any observation in proof thereof would be needless. The demand by the public for all actions whereas in charge by the public for all articles wherein elegance of design is exhibited fully proves that the people are already capable of appreciating their merits, and that in order to compete with other nations we must bring into operation an equal amount of talent in the production of goods both of a useful and ornamental nature. De. sign is the same arrangement and fitness of parts, to form an harmonious whole, whether employed in the grouping of materials for a shawl pattern, or in the disposing of figures for a cartoon; it may exist in the commonest and most ordinary article, rendering it chaste verdict given in and beautiful, whilst without it the most costly the other points.

and elaborate works are vulgar and contemptible. Designs must also be adopted suitable to the purposes for which the articles may be applied—a triangular coin or a square tea-cup would be as absurd as a fat Hamlet or a lean Falstaff; how often do we see used the most ridiculous and unmeaning patterns; nature in all her freaks never produced anything so incongruous, the willow pattern to wit, and the grafting of various flowers and fruits upon one stem, exhibiting monstrosities in form and colour which the painted Indian could never rival, nor the gay Chinese surpass."

PUBLIC FOOTPATHS.—A few evenings since, Mr. Aglionby called the attention of the House of Commons to the unprotected state of the public footpaths, which are now frequently crossed and intersected by ra'lway constructions, quite regardless of the rip ats and convenience of the neighbourhood. The consequence of this state of things was that footpaths to the church, the village, and through the fields, might be intersected by r ailwaycuttings, 20 or 30 feet deep, so that there would be a descent, and then an ascent of that magnitude, to be accomplished before the footpath could be regained. What he desired to have was, that public footpaths should be protected the same as railways. Lord G. Somerset expressed his willingness to give the subject his best consideration.

GALVANISED IRON.-An action brought by Patteson and others, against Holland and others, for the infringement of a patent granted in 1837, for an "improvement in coating or covering iron or copper for the prevention of oxydation," was heard last week in the Court of Common Pleas. The defendants pleaded-first, that they were not guilty; secondly, that the plaintiffs, or those they represented, were not the first and true inventors, and, further, that the specification did not particularize and determine the nature of the invention, and in what manner the same was to be performed. The evidence, on the part of the plaintiffs, related to very few points, the main question being, that if the patent were valid, whether the defendants had in-fringed it. No witnesses were called on the part of the defendants, who relied upon the cross-examination of the witnesses put forward on the part of the plaintiffs; but several scientific persons were examined on behalf of the plaintiffs, and upon whose cross-examined on the defence was rested. The examination the defence was rested. The specification stated, that the zinc by which the iron or copper was to be coated might be used either in a state of fusion, or in a solid state reduced into powder. The iron was to be previously scoured by immersing the metal in water acidulated with sulphuric acid, or by water acidulated with surplusive way, ..., or dipping it into a solution of sal ammoniac, or in water acidulated with muriatic acid. metal pieces, after being dipped, were to be dried immediately, and, as the specification stated, might be dried by holding them over a reverberatory furnace. The zinc was to be melted in a crucible of earthenware, or of cast-iron with bricks, or an earthen lining of some lined kind. The specification then stated, that the zinc, being melted, must be skimmed care-fully, and the surface covered with sal ammoniac, after which the plates of iron or copper were to be slowly introduced into the melted zinc. With regard to small pieces of metal, such as nails, small chains, &c., they were to be thrown into the melted zinc, covered with sal almoniac, and afterwards put into a rever-beratory surface, and covered with charcoal. A red heat was to be maintained there during a quarter of an hour, while the mass was moved and shaken, until the pieces of metal had dis-charged the excess of zinc which they had taken up. It was admitted, by the witnesses for the plaintiffs, that the coating of iron with zinc, as a means of preventing its oxidation, had been known in England, at least half a century. There was no evidence to shew that a reverberatory furnace had ever been used; and one of the witnesses admitted, that, although it might be possible to use an earthenware crucible, it would, practically speaking, be im-practicable.—The jury, after an absence of half an hour, returned into court, finding for the plaintiffs on all the issues but the fifth, which they found for the defendants; thereby substantially, giving a verdict for them, and thus, in a great measure, stultifying verdict given in favour of the plaintiffs the on

SCOTT MONUMENT .--- The committee for this monument are now turning their attention to the necessary decoration of it, by proceeding to raise a fund for the purpose of filling its niches with figures of characters appropriately selected from the works of the Scottish Shakspeare. Those already erected are the figures of the Last Minstrel, Lady of the Lake, Prince Charles, and Meg Mer-rilees, which severally represent his first poem, his most popular poem, his first novel, and his most popular novel. We are glad to hear that the committee are bestirring themselves for the purpose of raising additional funds to enable them to have the other niches filled in a similar manner, as without this, Mr. Kemp's design would be left incomplete in its most important object, that of filling the mind of the spectator with recollections of the great author's wonderful works.

OLD FAIRLIGHT CHURCH, NBAR HAST-INGS.—The Times, says this humble, but curious and ancient structure, is about to be pulled down. It is one of the last of a class of religious edifices now almost swept from the land by the ruthless hand of modern taste, the land by the ruthless hand of modern taste, and there seems to be really no just grounds for destroying this church; it is not in a ruinous state, and is quite large enough for the wasts of the place; in fact, in the winter months it is never full, and only so in the summer, when visitors attend from the neighbouring watering-place, chiefly on account of its quiet, retired situation. The old inhabitants of the parish are against its demoli-tion; they feel that if the building be not gay or attractive in itself, it is nevertheless the old church wherein the rude forefathers of the hamlet worshipped for many ages, and around which many take their eternal rest, and they view with surprise and aversion its removal to make way for a new structure. A very small sum would be enough to put it into good repair, and it is to be hoped that the dignituries of the church will yet avert the doom to which the building will in a few days be consigned unless they interpose.

BELGIAN ENGINEERING.-A short time since, a portion of the tunnel of Cumptiel, on the line of railway between Belgium and Rhenish Prussia, gave way, but without causing loss of life. Since that occurrence, the comloss of life. Since that occurrence, the com-munication between the two countries has seriously been retarded, both from apprehen-sions on the part of the public, and obstructions created by the recent heavy falls of snow. These circumstances attracted the notice of the Government, who accordingly, a few days since, brought before the Chamber of Representatives a project for substituting an open cut for the tunnel in question, and applied for 300,000f. to carry out that object. It was stated during the discussion, that the falling in of a portion of the tunnel was to be ascribed to the bad quality of the bricks which had been used in the construction, and to the want of sufficient lime thickness in the partition walls. One member demanded the Minister of Works to institute a special inquiry into the causes of the accident, with the view of ascertaining whether there were not sufficient grounds for prosecuting the engineers. The Minister, in reply, observed, that Belgian engineers were highly estimated abroad—that they had been engaged in the majority of the German States, where the formation of rail-ways was commenced or contemplated—and that in no foreign railways had more talent or science been displayed than on the Belgian, and that none presented greater prospects or guarantees for safety.

CAIRO AND SUEZ RAILWAY .- By advices which have recently been received from Alexandria, it appears that His Highness Mehemet Ali has arranged with Mr. Galloway, the London engineer, for carrying out forthwith the execution of this long-projected railway. The vast importance of this work to Great Britain, and the advantage and facility it will afford to our Indian passengers and mails, inasmuch as the crossing this desert of eighty miles now occupies as much time as going from Alexandria to Cairo, a distance 220 miles, must be evident to every one; besides which, it is well known that the faligue, inconvenience, and expense of the desert journey in many cases deter travellers from availing themselves of the overland route to India. When this rail-

road is completed, the journey across the desert may be accomplished in three hours with ease, comfort, security, and economy, as it will no longer be necessary to send out supplies of food and water to the desert, which at present are requisite, in consequence of the time occu-pied in the journey. We sincerely hope, that pied in the journey. We sincerely hope, that before three years shall have clapsed we may have it in our power to congratulate Great Britain on the achievement of this useful and gigantic work. The following are the distances across the desert between Cairo and Sucz, dividing the line into stations :---

| | м. | | | |
|---|----|---|----|--|
| From Cairo to No. 2 station | 17 | 4 | 18 | |
| From No. 2 to 4 station | 20 | 5 | 7 | |
| From No. 4 to 0 station (First stage hard and regular, last hard but rugged.) | 23 | 7 | 8 | |
| From No. 6 to Suez | 23 | 1 | 4 | |
| (Both stages hard and level.) | | | | |
| Total distance | 85 | 1 | 31 | |

NOTICES OF CONTRACTS.

For a survey of the Messuages, Lands, and Hereditaments liable to poor rates, in the parish of Tydd St. Mary, Lincolnshire ; together with a plan thereof, upon a scale of three chains to an inch, a tracing of such plan, and a book of reference in duplicate. The parish contains from 4,000 to 5,000 acres. March 3.

For the Mason's and Pavior's Works, supply of Guernsey Granite Chippings and Yorkshire Paving, for one Year, from the 25th of March next, for the parish of St. George, Hanover-square. March 4.

For the supply of 20,000 tons of Iron Rails, and 7,000 tons of Iron Chains, for the Newcastle and Berwick Railway. March 4.

For the supply of 100,000 Railway Sleepers for

the Newcastle and Berwick Railway. March 4. For repairing or new-paving the Foot-ways and Carriage-ways in the parish of St. John the Evangelist, Westminster, and parts of St. Marin the parish of St. John the march 4.

For a supply of thirty iron Lamp-posts and Columns, according to pattern, each weighing at least four cwt. March 5.

For supplying 21 inch Yorkshire Paving, Granite Kerb, Circular Kerb, Granite Channel Paving, and faced Granite Stones for crossings, within the district of Camden Town for three years from the 25th of March next. March 6. For completing the Works connected with the inclosing and annexing certain Land lately pur-

chased for the improvement of Newport Bride in the Isle of Wight. March 8. well.

For repairing the footway pavements, and pro viding and laying new curb and other stone; for repairing the carriage-way, pavements, and pro-viding and laying new granite and other stone, during one year from Lady-day next, for the united parishes of St. Andrew, Holborn, and St. George-the-Martyr, Middlesex. March 8.

For paving and repairing the Carriage-ways and Foot-ways within the parish of St. Paul, Covent-garden. March 11.

For supplying and laying down about 400 yards of cast-iron Pipe, of 10 inches diameter, for the Commissioners of the Southampton Water-works. March 13.

For building a Sewer in the City-road, St. Luke's, near Charles-street, in length about 401 about 130 feet. March 14.

For the repairs and restoration of the Tower and Nave of St. Mary's Church, Nottingham. March 17.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

March 3 .- At the Greyhound, Sandy, Bedfordshire; a large fall of remarkably large Larch and excellent Scotch Spires. March 4.—At the Green Man Inn, Plashet,

Esser; 220 capital Timber Trees, 200 superior Poles, of large dimensions, part nearly timber-girth, consisting of Lime, Ash, Beech, Oak, Black Poplar,

Birch and Hornbeam. March 4.—In the Wood on the Deadmonsey Estate, near Market-street, Herts: 1,100 large Oaks; 3,500 smaller Oaks; 400 large Beech; 600 naller Beech; 1,000 Oak poles. March 4.-At the Red Lion Inn, Worksop; smaller Beech; 1,000 Oak

large quantity of very valuable Oak, Lard Beech, Elm, and other Timber Trees, now standing at Worksop, Clumber, and Martin, near

Bawtrey. March 4.—At the Harrow Inn, Lower Warn-borough, Wilts; 72 Elm Trees, 2 Oaks, and 1 Ash.

March 4 .- At Whitton, near Hounslow and Twickenham; 350,000 Malm, Stock, and Grizzled Bricks, 13 tons of Lead, 12 squares of Slating, 3,000 feet of York and Portland Paving, 10,000 Glazed Pantiles, &c. &c.

March 7.-At the Hall of Commerce, Thread-

medle-street: 500 loads of large Yellow Pine Timber, 20,000 Baltic and Colonial Deals, March 11.—At the King's Head Inn, Enfield, Middlesex; 200 Oak Timber Trees of large dimen-sions and excellent quality, 34 Elm and 24 Ash Trees.

The last week in March, or the first week in April next.—A large quantity of Oak and Elm Timber, of superior quality and large dimensions, principally growing in the woods on the Orchard-leigh Estate, near Frome, Somerset.

Shortly. — At Portsea: a valuable cargo of Mahogany and Cedar in Logs and Planks.

COMPETITIONS.

Plans and Elevations for a new Workhouse with the requisite offices, capable of accommodating 400 es, for the Canterbury Incorporation. inmate The architect is requested to state the amount of premium he will require for the use of his plan and necifications in the event of the Court of Guardiana adopting the same, and appointing their own surveyor to superintend the works. March 8.

Plans for the most convenient mode nding or embarking passengers, carriag of landing or embarking passengers, carriages, &c., &c., at George's Pier-head, Liverpool. A Premium of 2001. will be given for the Plan selected and acted upon, and a Premium of 100*i*. will be given for that Plan which may be deemed to be the next in utility. March 19.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, March 3.—Entomological, 17, Old Bond-street, 8 P.M.; Chemical (Society of Arts), Adelphi, 8 P.M.; Medical, Bolt-court, Fleet-street, 8 P.M. TUESDAY, 4.—Linnæan, Soho-square, 8 P.M.;

Horicultural, 21, Regent-street, 3 p.m.; Civil Engineers, 25, Great George-street, 8 p.m.

WEDNESDAY, 5.—Society of Arts, Adelphi, 8

THURSDAY, 6. - Zoological, Hanover-square. 3 P.M.; Royal, Somerset House, 81 P.M.; Antiquaries, Somerset House, 8 P.M.

FRIDAY, 7. — Royal Institution, Albemarle-street, 81 P.M.; Botanical, 20, Bedford-street, Covent-garden, 8 P.M.

SATURDAY, 8.—Royal Botanic, Regents-park, 4 P.M.; Westminster Medical, 32, Sackville-street, 8 P.M.; Medical, Bolt-court, Fleet-street (Anniversarv).

TO CORRESPONDENTS.

"W. F. P."-The sketch is declined with thanks. "New Corn Exchange, Romford."-We cannot lend ourselves to attacks on individuals without being fully satisfied that they are just. The papers sent give no such assurance. As to the amount of premium offered, if architects can be found sufpremium opered, if architects can be found suf-ficiently foolish to submit plans for a Corn-Exchange, Lecture and Reading-rooms, &c., to a tribunal of which they know nothiny, for the remote chance of obtaining ten guineas! they will deserve just what they are likely to get, namely, their trouble and outlay for their pains and weakness.

"Pro bono publico" (Colchester) must member that we have many classes of readers to gratify. His wishes, however, shall not be it sight of. "The Rev. W. D." (Montreal).—Any informalost

tion on the state of architecture and building in the colonies will be acceptable. "A Hand-railist" inquires "what course we

"A Hand-rallist" inquires what course we would recommend to a person who knew how to construct an exceedingly useful and valuable machine of novel character, but whose means were not such as would enable him to obtain a patent."—

Consult confidentially some capitalist. "The Rev. J. F." (Yorkshire).—The appeal shall be read. As to the drawings, it would be wrong to answer without seeing them; but we have no doubt they would be useful.

D. W. B."-We " are quite willing to aid the wishes and intentions of those who are resolved to agitate the subject of Architectural Competitions, unlil a system, acknowledging principles of justice and honesty (at least), shall become recognized;" but we think the "Translator" has hardly case enough at present. "M. B. A."-No

-Next week.

"A Subscriber" (Liverpool) wishes to be re-ferred to the best works on copper-smelling, and the construction of smelling-furnaces, with the names of the publishers.

"G. L." (City-road) shall be written to. "Railway Masonry."-Messre. Groombridge and Sone, of Paternoeler-row, and Mr. Thurnam, of Carlisle, intend very shortly to issue a new edition of the late Peter Nicholson's work on Railway Masonry.

Rainbay Masonry. Received: Parl I. of Dr. Young's Lectures on Natural Philosophy; edited by the Rev. P. Keiland. (Taylor and Walton.)—Dolman's Ma-gazine, No. 1.—Minutes of Proceedings of the Institution of Civil Engineers — D. Finney— J. W. 8—An Enquirer.

Current Brices of Blood and Metals. February 25, 1845.

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ADVERTISEMENTS.

TO ARCHITECTS.—To be SOLD, Sir WILLIAM CHAMBERS'S TREATISE on the DECORATIVE PART of CIVIL ARCHITECTURE, with valuable Notes and Examinations of Grecian Archi-tecture, by Joseph Gwilt. "Aumerous fine plates, two very large vols., imperial 8vo., half-morocco, gilt backs, for 32s. 1926. Apply to Thomas Cole, bookseller, 58, Princes-street, Leicester-square. Only a few copies remain for sale. "The only text-book in the language."—Walpole.

THE BUILDER.

EMBARRASSED CIRCUMSTANCES. EMBARRASSED CIRCUMSTANCES. --PERSONS IN DIFFICULTIES being desirous of availing themselves of the Beneft of LORD BROUGHAM'S HUMANE ACT, are requested to apply to MESSRS. GRAND AND CO., of 54. Coleman-street. City, where every information may be obtained, FREE OF EX-PENSE, or arrangements can be made with Creditors, by which means the painful necessity of resorting to BANKRUPTCY or INSOLVENCY may in many cases be avoided.--N.B. Partnership accounts adjusted.

IMPORTANT TO INVENTORS AND PATENTES. PRACIICAL ASSISTANCE GIVEN to parties taking Letters Patent, by Mr. J. WILSON, Esgineer and Patent Agent. Every description of business relating to or connected with Patents, Registration of De-signe, Patent Agency, &c., conducted at his offices, 16, CHANCERY-LANE, opposite Carey-street. Negotiations patented from our parties wishing to dispose of or purchase patented or registared inventions. Every necessary infor-mation may be obtained at the offices as showe, where also may be had printed instructions (gratis), to which Mr. W. begs particularly to draw the astention of parties about to take out patents. Mechanical drawings of every description, original designs for machinery, models, &c., executed with dispatch and sconoary.

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N. B. -- Every sheet is stamped with the initials of the Manufacturer. This beautiful and unequalled article is allowed to be the cheapest and most useful Paper hitherto introduced to the public, as will be best proved by a trial.

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the Kingdom, on the receipt of Postage Stamps equat to the amount. Drawing Pencils of the best quality, for Architects and Engineers, warranted free from grit: the BBB and BBBB are particularly recommended.—Price 5s. per dosen. May be had of all Instrument Makers and Stationers, and at the Manufacturers', 23, Church-street, Spitalfields,



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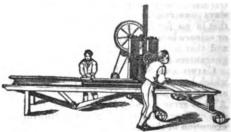
HOLBORN AND FINSBURY SEWERS, MIDDLESEX THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Bent Houses or Property, or take Land for Building purposes, of the altuation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. By the Court, STABLE and LUSH, Clerks.

STABLE and LUSH, Clerks. TO BUILDERS AND OTHERS. NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for Holborn and Finsbury divisions, Middlesex, will meet at their office in Hatton-garden, on Friday, the 14th day of March next, at Two o'clock in the afternoon precisely, to receive TENDERS for building a Sewer in the City-road, Saint Luke's, near Charles-street, for a length of about 401 feet; and lowering an existing Sewer southward, to the extent of about 136 feet, conformably to Plans and a Speci-fication, which may be seen daily between the hours of ten and three. The parties offering must attend at the above time of meeting with their Tenders sealed up, which must contain the names of two surcise, for the due execution of the works. The Commissioners will not coasider themselves bound to accept the lowest Tender. By the Court, Stable and Leak, Clerks. Office of Sewers, Hatton-gardes, February Stud, 1845.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-strest, Soho-

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soba-square. TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by water-courses falling into the river Thames, between the city of Dondon and the parish of Fulham. The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, pre-viously to the making of any new sever in any street, lane, or public way, or to carry off or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing that such new sever or severs shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise. Ad, in order to prevent the serious serils and inconveni-have directed that, upon splicatic being made at this office, and that such new sever or severs shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise. Ad, in order to prevent the serious serils and inconveni-have directed that, upon splicatic being made at this offeo previous to the accevative is 1 such ground, information shall be given as to the lowest depth at which the same can be drained. And the Commissioners do also give notice that, when-sense hows faors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any severs. or drains into severs, to be made for the service of such buildings. It is recommended to all persons shout to purchase or take on the premises, to accretain whether such premises have separate and distinct drains into common severs. All petitions will be called on in the order of their appli-cation, and the name of any party not present when called in to support the application will be struck out, and the pro-cedings must in consequence be commenced

HATCHER'S BENNENDEN TILE-MACHINE, Manufactured and Sold only by COT-TAM and HALLEN, Engineers, Agricultural Implement Makers, &c., 2, Winaley-street, Oxford-street, London.



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Ehe Builder.

SATURDAY, MARCH 8, 1845.

HE applications made to us for information on various points in the Metropolitan Buildings Act are still so numerous, as to lead us to believe that a large propor-

tion of our readers are greatly interested in the subject. The inquiry, When may we omit sending for the district surveyor? has been repeated, it is hardly necessary to say, oftener than any other. One correspondent, a respectable builder, whose letter represents a dozen others now before us, asks :--

"Can you inform me, if it is really necessary that notice should be given to the district surveyor of such trifling works as the following, viz.: in fixing a kitchen range, for instance, it is generally necessary to cut or bore a hole through the jaumb, to lay on the service from the feeding cistern; another case is, that of laying on service-pipes or gas-mains to houses, where it is often necessary that the pipes should be carried through the walls? Surely no district surveyor would compel the giving of notice in such cases, although I am well aware the wording of the Act is very strong, two days' notice being required to be given, sec. 13, 'before any party wall, external wall, chimney nack or flues, shall be begun to be built, pulled down, rebuilt, cut into, or altered.' Another case of far greater importance, is that respecting chimney-tubes, &c., above four feet high. Schedule F states that all such pots, tubes, &c. 'shall be fixed two feet at the least into the brick orstone-work of the flue;' now if I make my tubes so as to slip down two feet into the fue, is it necessary that I give notice to the district surveyor before so doing? This appears to me to be a point of great importance to the building trade, and I trust will soon be settled officially. It appears to me it can never be meant that in all such trifling cases notice must be given, and a (I will not say the) fee paid, as in many cases the fee would be far more than the value of the work done, and what for? It would simply have the effect of increasing the fees of the district surveyor, without any adequate advantage to the public, who would have to bear the expense, which, in very many cases, would be equal to the poor rates. In order that these, and many other points of such great importance to the builder, should be settled without delay, I would suggest that a society be formed by the builders for their protection; for should a difference arise between the builder and the district surveyor, it would be well that such a matter should be settled at once, and that the best advice should be had. It would fall hard on a single individual to be put to the expense and inconvenience of settling points which concern the trade; besides, the district surveyors have a society of their own for that purpose."

We referred to the points raised in the foregoing letter in our leading article of January the 25th (p. 37 ante), and expressed our opinion that, strictly speaking, a man may not let in an iron air-brick, for example, to his front or back wall, or make a hole for a bell-wire at the street-door, without sending notice to

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THE BUILDER.

the district surveyor, and paying such fee as may be ordered by the official referees. Section 13 says two days' notice shall be given before any matter or thing shall be done which by this Act is placed under the supervision of the surveyor, unless specially excepted. And schedule L provides, that for any service performed by any surveyor, which is required by this Act, but not comprehended under the stated heads, such a fee is to be paid as the official referees may order, not exceeding 21.

There seems to be no doubt that wherever instructions are given in the Act for the performance of certain things, wherever a mode is prescribed for the execution of works, they are placed under the supervision of the surveyor, and he may demand notice and a fee. Relative, then, to fixing chimney-pots, tubes, funnels, or cowls, if more than 4 feet above the brick or stone-work of the flue, insomuch as schedule F provides, that in that case they must be fixed at least 2 feet into the brick or stone-work of the flue, notice to the district surveyor (whose duty it is to see the provisions of the Act carried out) is required, and a fee may be demanded. Mr. Biers, in a letter to us on this subject (p. 45 ante), says, it cannot be admitted that the Act requires any notice to the district surveyor, and less so that any fee is payable if the directions be properly attended to. "I am borne out in this opinion," continues Mr. Biers, "upon reference to the amended Bill in the committee of the House of Commons, previous to the amendments and alterations proposed to the committee of the House, and assented to by them. In that Bill, among a great many other objectionable fees, was a fee specially set forth, of 10s. for inspecting chimney-pots, shafts, funnels, &c., above a certain height;" and which Mr. B. says, was expunged in consequence of the objections raised.

Taking out the special fee, however, while the clause remained that the fee for any service required by the Act and performed by any surveyor, not specified, should be appointed by the referees, did not get rid of its payment, but simply left open the question of "how much." Let us hope that the referees may name a fee for this, and similar trifling services, so low as to prevent just complaint. If, moreover, the enactment in question should lead to greater attention to the construction and arrangement of flues and fire-places, so as to obviate the necessity for unsightly and dangerous long pipes and cowls, it will, after all, do good service.

The steps to be pursued before taking down and rebuilding party-walls are matters in dispute, and shall have our early attention. Several cases are now before the referees, and will be decided in a few days. A letter on one of them will be found in another part of the present number.

An award of considerable importance has been recently made by the referees. Schedule K provides, with regard to back yards, or open spaces attached to dwelling-houses, that " every house hereafter built or rebuilt, must have an enclosed back yard or open space of at the least one square, exclusive of any building thereon, unless all the rooms of such house can be lighted and ventilated from the street, or from an area of the extent of at the least threequarters of a square above the level of the second story, into which the owner of the house to be rebuilt is entitled to open windows for every room adjoining thereto." The builder of three houses at the corner of St. Martin'slane and Cranbourn-street, thought that this

provision did not require one square, or even three-fourths of a square, for *each* house, but that a building owner might, if he pleased, light and ventilate even three or more houses into an open area of only one square, and in this opinion he was supported by an eminent architect. The district surveyor, however, thought differently, and as at the houses in question the area left was only 17 feet 6 inches by 10 feet 7 inches, making little more than $1\frac{3}{4}$ square for the three houses, the works were stopped, and the case submitted to the referees.

Their award was, "that inasmuch as according to the plan which was submitted, the buildings are to have each a back yard, each such back yard must be of at the least one square, containing one hundred superficial feet, exclusive of any building thereon. And that if the site of the proposed back vards were occupied by buildings to the level of the third floor, then, inasmuch as the light and air would not have to descend so low, an area of three-quarters of a square, that is to say an area of seventy-five superficial feet, to each house instead of such back yards of one square each would suffice, but subject to the condition that the owner of every such house be entitled to open windows into such area for every such room adjoining thereto. And that if more than one of such houses be lighted and ventilated from one and the same area, then such area must consist of a space as many times greater than three-fourths of a square of 100 superficial feet, as there are more houses than one having rooms to be lighted and ventilated therefrom, subject as to every house, to the aforesaid condition, that owners thereof are entitled to open windows into such area for every room adjoining thereto."

The portion of schedule K which relates to back yards, and under which this award is made, seems obscure and defective, and the referees have doubtless decided according to what they believed was the intention of the legislature. By requiring an area of threefourths of a square for each house, they ask no more than is necessary for health, but it is certainly doubtful whether the strict words of the schedule go so far. The requirement is, that every house must have an enclosed back yard or open space, of at least one square, unless all the rooms can be lighted and ventilated from the street, or from an area of at least threequarters of a square above the level of the second story; but the schedule certainly does not say that this area shall be appropriated exclusively to this one house, any more than that the street should be. And before this award was made, we unquestionably should have urged, there was nothing in the schedule to prevent the erection of three or more houses, around an area equal to three-fourths of a square (inefficient as such an area would he), provided the other requirements of the schedule were complied with.

BRITISH ARCHEOLOGICAL ASSOCIATION.----We have purposely omitted any allusion to the unfortunate differences which have arisen in the council of this association, hoping that a little consideration would lead to an adjustment, and knowing that every word that was printe d would probably make this more difficult. The objects of the association are so excellent, and its organization so far advanced, that we should greatly lament to see its existence jeopardized by what is, after all, a mere personal dispute

dispute. Digitized by Google

WESTMINSTER ABBEY.

IN the last number of this journal, will be In the last number or this journey, found some suggestions for the better arrangebelieve that the subject has long engaged the attention of the Dean and Chapter, and im-portant changes would doubtless have been made ere this, were not very considerable difficulties in the way of alteration.

It is considered. that the removal of monuments, originally in churches, to buildings of distinct character, would be attended with impropriety. If this view be persevered in, it will be quite sufficient to obviate the removal to Mr. Barry's proposed quadrangle in New Palaceyard. The arrangement advocated by us, has been found to answer well in the Temple Church, and would unquestionably be a great improvement to the Abbey. However, matters are not likely to remain long as they are, and the attention bestowed, by those now in authority, to the improvement of the building in some other particulars, augurs well for its future condition. It has been decided to eject the organ from its present objectionable position over the doorway of the rood-screen, where it greatly impedes the view, from the nave, of the eastern extremity of the building. It will be divided into two portions, each of which will stand on opposite ends beneath the arches, the small choir organ being allowed to remain. We are by no means ready to assent to the opinion of Mr. Cockerell, and to consider the organ well placed, as it now stands in the Abbey, and in most of our cathedrals. The length of the Gothic cathedral unquestionably adds to the majesty of the pile, and we would not sacrifice the effect, resulting from the long perspective of the interior, which the original architect tried successfully to gain, for the supposed advantage in the modern arrange-We do not deny that the situation of a building, and the approaches to it, do not receive that attention in this day, which resulted in so much delight to the beholder receive in the temples of the Greeks. Our monu-ments may not be effectively placed at the ends of streets, or in open squares, but to sacrifice the unquestionable advantages of space, size, and length, in a building, is, we deem extending a favourite theory for the we deem, extending a favourite theory farther than sound judgment warrants. Also, it may be well to recollect, that the same rules are not always applicable to what we are looking at, and which is before our eyes, as to that we are standing in, and which is around and about us. The Gothic architects were probably as well aware of the adjuncts to beauty in a building as those of any age.

The organ at Westminster, seen from below, is somewhat ineffective, but, on close ex-amination, proves to be rather rich in ornament, carved with elaborate care and delicacy, and evincing considerable feeling for the style.

The stained glass for the windows of the south transept has been completed by Messrs. Ward and Nixon, and is already within the

Ward and Nixon, and is already within the precincts of the Abbey. We may, therefore, expect to see something of it very shortly. We believe that no decision has yet been arrived at, as to the placing of seats for the overflowing congregation in the transepts, which change was so strongly commented upon in some of the daily papers. If in-creased accommodation be urgently demanded, we trust it may be gained in some way loce we trust it may be gained in some way less opposed to the distinctive character of a Gothic The works of architecture are the church. most valuable records of the past, but their importance is lessened or destroyed whenever an innovation is permitted to creep in. The nave and triforium were at one time occupied by worshippers, and a considerable number might find room in either now. Were the nave made available, there would probably be a greater observance of decorum than appears to be now practised by the visitors : people are too much accustomed to consider all that is not in the choir the same as what is without the walls of the church. The removal of the monuments would have similar tendency.

We hope at no distant period to see the unsightly stalls of the choir replaced by rich and elegant carving, equal to any existing. The skill of modern artists in this branch is not inferior to that of their predecessors, yet, strange to say, it is little known or called for. The space castward of the star The space eastward of the stalls should be enclosed with parcloses of wood or stone, as in the cathedrals. E. H.

ON RENDERING PAPER-HANGINGS USE-FUL AS WELL AS ORNAMENTAL. BY MR. F. WHISHAW.

PAPER-HANGINGS are of several kinds. some of which are made in imitation of velvet, damask, chintzes, &c., while others are in imitation of marbles, stucco-work, &c.

There are three methods by which paperhangings are painted: the first by printing on the colours, the second by means of the stencil, and the third by using the pencil as in other kinds of painting. In the first method the impression is

made by wooden blocks, in which the patterns are cut, the parts to be shewn being made to project from the surface by cutting away all the other parts. The blocks being charged with the required colour, properly tempered, are pressed on the paper prepared with a proper ground of colour or varnish.

The colour to be used by the printer is spread on oil-cloth, laid on a flat block a little larger than the print; this operation is perwith a brush on the block, between every stroke and impression made by the printer.

When the sheet is printed throughout, it is hung up to dry, and the operation is repeated with another piece of paper.

For each separate colour in a particular pattern there is a separate block, so that a piece of paper has to pass under the printer's hands as many times as there are distinct colours in the pattern to be produced; some modern papers have required as many as seventy-two separate blocks. The placing of the different blocks in blocks. the exact position on the paper requires con-

siderable skill on the part of the printer. The second method, which is adopted for common paper-hangings, is merely to print the outlines, and fill in the colours by stencilling.

The stencils are either of leather or oilcloth, and are cut out to correspond with all the figures to be printed in one colour, and, being placed flat on the paper to be printed, the colour is rubbed over the upper side, thus passing through all the parts cut out, the upper side, and giving the proper impression on the paper below.

This method is only applicable for patterns of the most common description, it being im-possible to represent fine lines by the stencilling process.

The third method, viz., by pencilling, is only used for the more costly hangings in imitation of Chinese and India papers, and is performed in the same manner as other paintings in water or varnish; sometimes the outline is printed, and then the colouring performed by pencilling. The first of the three methods which I have endeavoured briefly to describe is the one in ordinary use, in which the order of printing is first to lay on the ground colour, next the various shades, then the lights, and lastly the outline. Very fine lines and points, or dots, are in-troduced by means of rules and points of the particular forms required, which are let into the wooden blocks, as types are let into the small blocks used for printing illustrations to books.

The above is only an outline of the ordi-nary methods used; but, as my object is to introduce a system of useful paper-hangings, I need not enter more into detail with regard to methods in practice of producing the finest specimens of hangings, but proceed at once to the object of this communication.

My mind has long been impressed with the idea of rendering the modern hangings of walls useful as well as ornamental.

For this purpose I have proposed that useful information should, in the more or-namental patterns, be so blended with the design as not to disfigure it, and thus ornament, with amusement and instruction com-bined, would add greatly to the value of paper-hangings, and often serve as a ready mode of reference for information desired. When wanted especially for use, without any regard to ornamental appearance-as, for instance, Sunday and other schools, for the lecture-room of colleges and seminaries propose to introduce the information in panels.

I have arranged, mixed with several ordinary patterns, some specimens illustrative of my proposition; and, I think, it will be

allowed that in one of two of them the patterns are not disfigured by the introduction of the useful information they contain in the shape of historical and other facts.

In one pattern I have introduced words in several languages, which would be especially useful if carried out to a sufficient extent.

The greatest-indeed I believe the only obection which has been raised against the introduction of these useful paper-hangings is the cost.

Now, for patterns likely to be extensively used in infant and other schools and semina-ries, it would be worth while to cut out the writing in wood blocks, or fix in metal letters for each particular sentence to be introduced.

Another mode I propose is, to have move-able types introduced into a frame, so arranged as to form a substitute for one of the numerous blocks required in cases where the pattern is made up of a variety of colours. Thus, when as many copies as are likely to be required at the time have been printed, the type is to be distributed, and again set up for another piece of information, while the rest of the pattern is printed with the different blocks as usual.

A third mode which I propose is to print the patterns complete in the ordinary way, leaving, however, spaces for the writing to be inserted according to the style and fancy of individuals. This is by no means so expensive a method as persons unacquainted with the process would be led to suppose. - Transactions of Soc. of Arts, Vol. LV.

[A similar suggestion appears in Loudon's "Encyclopædia of Cottage and Villa Architecture." There is no reason but the expense, says the Encyclopædia, why a geographical paper should not be formed; or one exhibiting the principal rivers, mountains, and cities in the world; or the portraits of eminent men with their names; or perpetual almanacs; or lists of weights and measures; or chronologi-cal or arithmetical tables; or, in short, any useful and instructive subject which it would be beneficial to the cottager to have constantly be-fore his eyes. We all know how easily, and yet how deeply, the mind is impressed with objects that we are continually in the habit of seeing; and that what is learned through that medium in childhood is rarely, if ever, for-gotten in after life. There is also a paper on gotten in after life. There is also a paper on this same subject in the ninth volume of the "Penny Magazine," p. 52, with an engraved pattern. We should be glad to see it carried pattern. V out.—Ev.]

BURIAL-GROUND PRACTICES.

SINCE the publication in our journal of Mr. G. A. Walker's communications on the subject of proceedings at Spafield's burialground, evidence has been adduced not simply confirmatory of all that was then asserted, but of horrors and atrocities almost incredible, and public attention is so fully aroused, that we may now confidently expect, before long, some legislative enactment to protect her Majesty's lieges from the fatal evils of the system. One witness, a lady, stated before the magistrate at Clerkenwell, that she lived in a house near the grave-yard, but had been obliged to leave it, as well as many other persons in the neighas well as many other persons in the heigh-bourhood, in consequence of the intolerable and unearthly stench proceeding from the bone-house. One frosty night the smell was still worse than usual. She and her son ascended the top of the wash-house, which commands a view of the ground, thick volumes of smoke and sparks were issuing from the chimney of the bone house; she saw two men carrying something in a basket which appeared very soft and to shake; took it to be human flesh. Her tenants who lived near the place were constantly complaining of illness from the smell. The weather became bot, and two of the children died from putrid fever. "Great sensation" was excited by this statement, say the

newspaper accounts; and well there might be. The loud cheering with which Sir James Graham was greeted in the House of Commons, when he said this case was one in which, if clearly made out, he should certainly be inclined to interfere, shewed plainly the state of public opinion on the subject. The audacity displayed by the manager, Mr. A. Bird, in the cool denial of the facts as first mentioned, and threat of legal proceedings, which we admitted

into our columns, almost hoping, for the sake of humanity, that the statement of which he complained *was* exaggerated,—has seldom been surpassed. This *rara avis* will be thought a "black swan," we fear.

TRAFALGAR-SQUARE FOUNTAINS.

AFTER many months of expectation and preparation the two fountains have at last made their appearance in the centre of the two large basins made to receive them, which have been so often and so facetiously reported upon by our ubiquitous friend *Panch*. The first thing that strikes the spectator, on looking at these tazza, is their diminutiveness when compared to the extent of the square, and also to the basins in which they are placed; there is no doubt but that they are a trifle too small. I venture to think myself that the effect would have been much better if the upper tazza of each of the fountains had been equal in size to the bottom one as now erected, and the bottom one itself some three feet larger in diameter.

Perhaps the difficulty of getting good sound blocks of granite, suitable for a basin of such large dimensions, was considered as a matter of too much uncertainty to run the risk of attempting; but still even admitting the probable difficulty, I think an attempt might have been made to get a block sufficiently large that the whole proportion of the fountains might have been very considerably increased, so as to render them suitable to the great space they have to fill.

The fact of their being surrounded on three sides with a high wall, and on the remaining side with a lofty column, is a certain argument that unless they were of large dimensions, they would appear smaller than they really are, and look comparatively insignificant when viewed in juxtaposition with the surrounding objects overtopping them on all sides.

Taken by themselves, without any reference to their local position, they are exceedingly chaste in design, plain, simple, and unadorned as all works in granite ever should be, without any attempt at minute detail, or elaborate sculpture. Ornamental work, when made of granite, loses all its effect, if cut up into any thing like florid design, tracery, or open-work, as it is quite contrary to the character of the stone; so far, then, these fountains are strictly in keeping, in my opinion, with the character of the material of which they are made, and, with the exception above alluded to, also in keeping with the prevailing design of the square itself. Not that I consider the design of the terraces, &c., the best that might have been adopted for such a situation, as I feel convinced that there are several errors in the artistic perspective of the general planning of the square and terraces, which, in certain positions, have any thing but a pleasing effect.

With respect to the work manship and skill displayed in the finish of these fountains, I think it may be unhesitatingly stated, that there is nothing in the country of the same material to surpass, if indeed to equal them; they are made of fine, deep red-coloured Peterhead granite, so finely chiseled and polished, as to be equal in brilliance to the finest and smoothest statuary marble; on this head, at least, they have elicited the highest admiration from practical men and connoisseurs in such matters.

They are the work of the Messrs. Macdonald, who made the pedestal for the Wellington statue in front of the Royal Exchange, also a very beautiful specimen of granite work; the hydraulic part of the matter is intrusted to Messrs. Easton and Amos, who are well known for their practical acquaintance with such matters; the water to supply the fountains is obtained from two wells, one in front of the National Gallery and the other behind it which are connected together by means of a tunnel, that of course passes directly under the National Gallery, behind which is also placed the engine-house for raising the required water into the tanks, &c., before it is forced through the fountains, which will be at the rate of between five and six hundred gallons per hour: it will be forced up a considerable height from the central jet; it will then be received into the first or upper basin or tazza, over the sides of which it will flow into the second basin or tazza in a continuous stream, and from hence into the large basin; in addition to which there are four spouts from the

dolphin's heads immediately under the bottom basin. The lower fall, however, would be much more effective if it stood on a higher base than at present.

JOSEPH LOCKWOOD, Surveyor. 6, Childs-place, Temple.

JOHN SMEATON, THE ENGINEER.

MR. PARKER has commenced the publication of a series of instructive books at low prices for general use in families, under the title of "Collections in Popular Literature." They include history, biography, science, travels, and miscellanies, and though uniform in appearance and ob ject, each work is complete in itself. To one of the volumes of this series, in the class of science, we have already referred. The following sketch of the life of Smeaton is from the biographical series, wherein it is proposed to connect with the life of an individual the history of the particular department of knowledge that he aided to extend. Thus, with Watt, the steam-engine would be spoken of; with Brindley, canals; and with Smeaton, light-houses. In our present extracts we confine ourselves to the individual, and may perhaps speak of his great undertaking hereafter.

after. John Sineaton was born the 28th of May, 1724, at Ansthorpe, near Leeds, Yorkshire. Little is recorded of his parentage or early education: but we find that his father was a respectable attorney, and that the family lived in a house built by the grandfather of the younger Smeaton.

Smeaton seems to have been born an engineer. The originality of his genius and the strength of his understanding appeared at a very early age. His playthings were not the toys of children, but the tools men work with; and his greatest amusement was to observe artificers, and to ask them questions. Having watched some millwrights at work, he conceived the idea of constructing a windmill, and, to the alarm of his friends, was one day per-ceived on the top of his father's barn attempting to fix his model. On another occasion he accompanied some men who went to fix a pump at a neighbouring village, and observing them cut off a piece of bored pipe, he managed to procure it, and made a working model of a pump that raised water very well. These anecdotes are related of him while he was yet a mere child in petticoats, and probably before he had attained his sixth year. At the age of fourteen or fifteen he had made for himself an engine to turn rose-work, and he made several presents to his friends of boxes in wood and

In the year 1742, Mr. Holmes, afterwards his partner in the Deptford Water-works, visited Smeaton, and could not conceal his astonishment at the mechanical skill displayed by the young engineer; he forged his iron and steel and melted his metal; he had tools of every sort for working in wood, ivory, and metals. He had made a lathe, by which he had cut a perpetual screw in brass, a thing very little known at that day. All these resources were not furnished to him by rich and wealthy parents, nor had he the advantage of masters in his various pursuits; on the contrary, by the strength of his genius, and by indefatigable industry, he acquired at the age of eighteen an extensive set of tools, and the art of working in most of the mechanical trades, and Mr. Holmes, himself a good mechanic, says that few men could work better.

Astronomy was one of his most favourite studies, and he contrived and made several astronomical instruments for himself and friends. In later years, after fitting up an observatory at his house at Ansthorpe, he devoted much time to it when he was there, even in preference to engineering.

Smeaton's father being an attorney, was desirous to educate his son for the same profession. He was therefore sent to London in 1742, where during a few terms he attended court; but finding the legal profession distasteful to him, and not to suit "the bent of his genius," he wrote a strong memorial on the subject to his father, who had the good sense to allow him from that time to pursue the path which nature pointed out to him. He continued to reside in London, and about the year 1750 he commenced the business of mathematical instrument maker. In 1751 he invented a machine to measure a ship's way at sea, and a compass of peculiar construction, touched by Dr. Knight's artificial magnet. He made two voyages in company with Dr. Knight for the purpose of ascertaining the merits of these contrivances.

In 1753 he was elected a fellow of the Royal Society, and his admirable papers in-serted in the Transactions of that body sufficiently evince how highly he deserved that distinction. In 1759 he received by an unani-mous vote their gold medal, for his paper entitled "An Experimental Inquiry concerning the natural powers of wind and water to turn mills and other machines depending on a circular motion." This paper was the result circular motion." This paper was the result of experiments made on working models in 1752 and 1753, but not communicated to the society till 1759, by which time he had had abundant opportunity of applying these experiments to practice in a variety of cases, and for various purposes, so us to assure the society that he had found them to answer. He discovered by these means that wind and water could be made to do one-third more than was before known. In the year 1754 he made a voyage to Holland, travelling for the most part on foot, or in the trekschuiten or drag-boats, the national conveyance of the country, and thus made himself acquainted with the most remarkable works of art in the low countries.

In December, 1755, the Eddystone Lighthouse was burnt down. Mr. Weston the chief proprietor, and others, were desirous of rebuilding it in the most substantial manner, and through the recommendation of the Earl of Macclesfield, whose friendly conduct to Smeaton we have already noticed, they were induced to appoint Smeaton as the most proper person to rebuild it.

Smeaton undertook the work, and completed it in the summer of 1759. The completion of the work does not seem to have had the immediate effect of procuring him full employment as a civil-engineer: in 1764, being in Yorkshire, he offered himself a candidate for the office of one of the receivers to the Greenwich Hospital estates;* and on the 31st December in that year he was appointed, at a full board at Greenwich Hospital, in a manner highly flattering to himself. In this appointment he was greatly assisted by his partner Mr. Walter, who managed the accounts, and left Smeaton leisure and opportunity to exert his abilities on public works, as well as to make many improvements in the mills, and in the estates of Greenwich Hospital. By the year 1775 he had so much business as an engineer, that he wished to resign this appointment, but was prevailed upon to continue in the office about two years longer.

Among the many valuable public services of Smeaton a few only can be mentioned in this place. He completed the erection of new lighthouses at Spurn Head at the mouth of the Humber: he built the fine bridge over the Tay at Perth : he laid out the line of the great canal connecting the Forth and Clyde, and made the river Calder navigable; a work that required great skill and judgment, on account of its impetuous floods. On the opening of the great arch at London-bridge by throwing two arches into one, and the removal of a large pier, the excavation around and under the starlings was so considerable, that the bridge was thought to be in great danger of falling. Smeaton was then in Yorkshire, but was sent for by express, and arrived with the utmost dispatch: on his arrival the fear that the bridge was about to fall prevailed so generally, that few persons would pass over or under it. Smeaton applied himself immedi-ately to examine it, and to sound about the starlings as minutely as possible: his advice to the committee was to repurchase the stones which had been taken from the middle pier, then lying in Moorfields, and to throw them into the river to guard the starlings. This advice was adopted with the utmost alacrity, by which simple means the bridge was probably saved from falling, and time afforded for securing it

^{*} This was the Derwentwater estate, which was forfeited in the year 1715, and its revenues applied by Parliament towards the funds of Greenwich Hospital. It consists of mines of lead, containing much siller, as well as lands. It required careful management, and the knowledge of mining details to make it prontable. Smeaton contrived more efficient machines and better modes of working the mines and managing the estate.

in a more effectual manner. " This method of stopping the impetuous ravages of water," says Mr. Holmes, "he had practised before with success on the river Calder; on my calling on him in the neighbourhood of Wake field, he shewed me the effects of a great flood, which had made a considerable passage over the land; this he stopped at the bank of the river, by throwing in a quantity of large rough stones, which with the sand, and other materials washed down by the river, filling up their interstices, had become a barrier to keep the river in its usual course.

In 1771 Smeaton and Holmes made a joint urchase of the water-works for supplying Deptford and Greenwich with water. On examining the books of the former proprietors, it appeared to have been a losing concern during many years; but the skill of Smeaton soon brought the undertaking into such a state as to be of general use to those for whom it was intended, and moderately profitable to himself and partner. In noticing this subject Mr. Holmes makes a few general remarks on the character of Smeaton :-- " His language either in speaking or writing was so strong and perspicuous, that there was no misunderstanding his meaning, and I had that confidence in his abilities as never to consider any plan of improvement which he proposed, but only to see it executed with scrupulous exactness; at the same time, he was so open to reason in all matters, that during a constant communication of our opinions for upwards of twenty years, after we had laid them fully before each other we always agreed, and never had the slightest difference."

It must be remembered that Smeaton lived before the time when the genius of Watt had rendered the steam-engine the useful and obedient servant of man; and consequently that much of the power now furnished by steam was then supplied by the wind. Hence the mechanics of windmills was an important study to the engineer, and Smeaton erected a vast variety of mills in which he turned to useful account the results of his experiments in 1752 and 1753. His usual habit was to in 1752 and 1753. His usual habit was to confirm the conclusions of theory by direct experiment. He also erected a steam-engine at Ansthorpe, and made experiments thereon to ascertain the power of Newcomen's engine, which he improved and brought to a far greater degree of certainty both in its construction and powers.

During many years the opinion of Smeaton was held in such high esteem, that no great works were undertaken throughout the kingdom without first applying to him; he was constantly consulted in parliament, and was re-garded as an ultimate reference on all difficult questions connected with his profession. was his constant practice to make himself fully acquainted with every subject before he would engage in it, and then his known integrity and lucid powers of description secured the re-spect and attention of all. In the courts of law he was frequently complimented by Lord Mansfield and others for the new light he threw on difficult subjects.

About the year 1785 Smeaton's health began to decline, and he then endeavoured to retire from business in order to gain time to publish an account of his inventions and works. This was one of the wishes nearest to his heart, for as he often said, "he thought he could not render better service to his country than by doing that." He had just completed his ac-count of the Eddystone lighthouse when he was prevailed on to continue his services as engineer to the trustees for Ramsgate harbour. The works at Ramsgate were begun in 1749, but had been conducted with very indifferent success until Smeaton was called in to super-intend them in 1774. He completed the magnificent pier and harbour of this place in 1791, and thus established a secure and much needed place of shelter in the Downs.

A man whose life is so beneficially devoted to the service of the public can scarcely hope to enjoy leisure and retirement during which he may look back upon the past, and leave a written record of his exertions. Smeaton was so constantly and urgently employed, that he could not achieve much with his pen. On the 16th September, 1792, he was seized with an attack of paralysis, induced by over-exertion, and this attack carried him to the grave on the 28th of the next month, in the 69th year of his age.

During his illness he dictated several letters to his old friend Mr. Holmes. In one of them he describes minutely his health and feelings, and says, "in consequence of the foregoing, I conclude myself nine-tenths dead, and the greatest favour the Almighty can do (as I think) will be to complete the other part, but as it is likely to be a lingering illness, it is only in His power to say when that is likely to hap-pen." His daughter, Mrs. Dickson, says that pen." His daughter, Mrs. Dickson, says that he always apprehended the attack which terminated his life, as it was hereditary in his family. He dreaded it only as it gave the melancholy possibility of outliving his faculties or the power of doing good; or, to use his own words, "lingering over the dregs after the spirit had evaporated." Indeed, the decay of his mental faculties seems to have been that which he most dreaded. He would sometimes complain of slowness of apprehension, and would then excuse it with a smile, saying, "it could not be otherwise, the shadow must lengthen as the sun went down." When seized with paralysis he was resigned to the event, anxious to soften any alarm to his family, and was thankful that his intellect was spared. But his invariable wish was to be released. He expressed particular pleasure in seeing the usual occupations of his family resumed; and read-ing, drawing, music, and conversation excited the same interest and the same cheerful and judicious observations as ever. One evening he was requested to explain some phenomena respecting the moon, which was seen from the room shining brightly. He gave a full explanation, then fixed his eyes full upon the object in question, and after regarding it sted-fastly for some time, he observed, "How often have I looked up to it with inquiry and wonder, and to the period when I shall have the vast and privileged views of an hereafter, and all be comprehension and pleasure.'

We learn from his daughter Mrs. Dickson, that early in life Smeaton attracted the notice of the eccentic Duke and Duchess of Queensbury, on account of the strong personal like-ness which he bore to their favourite Gay the Their first acquaintance was made in a poet. singular manner: it was at Ranelagh when walking with Mrs. Smeaton, he observed an elderly lady and gentlemen gaze steadily upon him, they stopped and the duchess said, I don't know who you are, or what you are, but so strongly do you resemble my poor dear Gay, that we must be acquainted; you shall go home and sup with us, and if the minds of the two men accord as do the countenance, you will find two cheerful old folks who can love you well, and I think (or you are an hypocrite) you can as well deserve it." The invitation was accepted, and as long as the duke and duchess lived the friendship was cordial and uninter-rupted. During his visits cards were some-times introduced. Smeaton detested cards, and could not confine his attention to the game. On one occasion the stakes were already high, and it fell to Smeaton to double them when, neglecting to deal the cards, he was busily occupied in making some calculations on paper which he placed upon the table. The duchess asked eagerly what it was, and Smeaton replied cooly, "You will recollect the field in which my house stands may be about five acres three roods and seven perches, which, at thirty years' purchase, will be just my stake, and if your grace will make a duke of me, 1 presume the winner will not dislike my mortgage." The joke and the lesson had their effect, for they The never played again but for the merest trifle.

Smeaton procured a situation in a public office for a clerk in whom he placed the greatest confidence, and jointly with another became security for him to a considerable amount. This man committed the crime of forgery, was detected, and given up to justice. Mrs. Dick-son says, "The same post brought news of the melancholy transaction, of the man's compunc-tion and danger, of the claim of the bond forfeited, and of the refusal of the other person to pay the moiety! Being present when he read his letters, which arrived at a period of Mrs. Smeaton's declining health, so entirely did the command of himself second his anxious attention to her, that no emotion was visible on their perusal, nor, till all was put into the best train possible, did a word or look betray the exquisite distress it occasioned him. In the interim, all which could soothe the remorse of

wij a characteristie be were exerted for him, will a chan nevolence, active and unobtrusive."

Smeaton was a man Of indefatigable industry and great moral probity. With ample oppor-tunity of amassing wealth, he rendered its ac-quisition but a secondary object on all occaions; his first aim always being to execute the task intrusted to him in the most skilful and perfect manner. Had his object been to amase a fortune, he might have received many lucrative appointments besides those which be actually held. The empress Catherine of Russia attempted to secure his services for her own country by most magnificent offers; but Smeaton preferred to dedicate his time and talents to the service of his country. "The "The disinterested moderation of his pecuniary an-bition," says his daughter, "every transaction in private life evinced; his public ones bore the same stamp; and after his health had withdrawn him from the labours of his profession, many instances may be given by those whose concerns induced them to press importunately for a resumption of it; and when some of them seemed disposed to enforce their entreaties by further prospects of lucrative recompense, his reply was strongly characteristic of his simple manners and moderation. He in-troduced the old woman who took care of his chambers in Gray's Inn, and shewing her, asserted "that her attendance sufficed for all his wants." The inference was indisputable, for money could not tempt that man to forego his ease, leisure, or independence. whose requisites of accomodation were compressed within such limits! Before this, the princess Daschkaw made an apt comment upon this trait of his character; when, after vainly using every persuasion to induce him to accept a carte blanche from the empress of Russia as a recompense for directing the vast projects in that kingdom —she observed "Sir, you are a great man, and I honour you! you may have an equal in abilities, perhaps, but in character you stand single, The English minister, Sir Robert Walpole, was mistaken, and my sovereign has the mis-fortune to find one man who has not his price.'

In all the social duties of life Smeaton was most exemplary; and he was a lover and en-courager of real merit in whatever station of life he found it. To strangers, his mode of ex-pression appeared warm and even harsh; but Mr. Holmes refers it to the intense application of his mind, which was always in the pursuit of truth, or engaged in investigating difficult subjects: hence, when any thing was said that did not tally with his ideas, he would some-times break out bustily. As a friend, he was warm, zealous, and sincere; as a companion, always entertaining and instructive, and none could spend their time in his company without improvement. In his person Smeaton was of middle stature, but broad and strong-made, and possessed of an excellent constitution. He was remarkable for the plainness and simplicity of his manners.

After his death, his papers, consisting of plans, reports, and treatises, on almost every branch of engineering, were published by the Society of Civil Engineers.

THE MORMON TEMPLE AND ITS BUILDERS.

AT the summit, overlooking the whole landscape for nearly twenty-five miles in all directions, stands the Mormon temple, the largest structure in any of the western states. When completed, it is assumed that the entire cost will not vary much from four hundred thousand dollars. Nothing can be more original in architecture—each of its huge pilasters rests upon a block of stone, bearing in relief on its face the profile of a new moon, represented with a nose, eye, and mouth, as sometimes seen in almanacs. On the top, not far from fifty feet high, is an ideal representation of the rising sun, which is a monstrous prominent stone face, the features of which are colossal, and singularly expressive. Still higher are two enormously large hands, grasping two trumpets, crossed. These all stand out on the stone boldly. Their finish is admirable, and as complete as any of the best specimens of chiselling on the Girard College, at Philaa prisoner, every means which could save (which did, at least from public execution), apartment, about 128 feet by 80, simply sub-

divided by three great veils of rich crimson drapery, suspended from the ceiling overhead. drapery, suspended from the ceiling overhead. Neither pews, stools, cushions, nor chairs are to encumber the holy edifice. In the basement is the font for baptism, which, when completed according to the design, will be a pretty exact imitation of the brazen laver in Solomon's Temple. The tank is perhaps eight feet square, resting on the backs of twelve carved even of peaks of twelve carved peaks of the set of the s oxen. They are of noble dimensions, with large spreading horns, represented to be standing in water half-way up to their knees. The execution of the twelve oxen evinces a degree of ingenuity, skill, and perseverance, that would redound to the reputation of an artist in any community. When they are finally gilded, as intended, and the layer is made to resemble cast brass, together with the finishing up of the place in which this unique apparatus of the church is lodged, as a whole, that part of the temple will be one of the most striking artificial curiosities in this country. When the officiating priests, in their long robes of office, lead on a solemn procession of worshippers through the sombre avenues of the basement story, chanting as they go, the effect must be exceedingly imposas they go, the enerci must be exceedingly impos-ing even to those who may deplore the infatua-tion of a whole city of Mormon devotees. Although estimated to cost so large a sum, the walls of the temple are gradually rising from day to day, by the concurrent, unceasing labour of voluntary labourers. Every brother gives one day in ten to the undertaking. Thus there are always as many hands employed as can be conveniently on the work at the same time. The architect and different masterworkmen are constantly at hand to direct the operations. Each day, therefore, ushers in a new set of operatives. Some fine brick buildings are already raised on the different streets, and stores are continually growing up. Even were the Mormons to abandon the cit as it is asserted that they will, somebody will own the property; and a city it is, and a city it will continue to be, of importance, unconnected with the false religious tenets of its inhabitants. But the Mormons will never leave Nauvoe; no, never! Its associations are hallowed to their excited imaginations. They would re-linquish life as soon as they would voluntarily, en masse, leave their glorious habitation, which to them is the gate of heaven.—Boston Paper. Is this account American in more senses than one?—ED.]

RECOMMENDATIONS CONTAINED IN THE SECOND REPORT OF THE HEALTH OF TOWNS COMMISSION. FEB. 1845.

1st. THAT in all cases the local administrative body, appointed for the purpose, have the special charge and direction of all the works required for sanatory purposes, but that the Crown possess a general power of supervision.

2nd. That before the adoption of any general measure for drainage, a plan and survey, upon a proper scale, including all necessary details, be obtained, and submitted for approval to a competent authority.

3rd. That the Crown be empowered to define and to enlarge, from time to time, the area for drainage included within the juris-diction of the local administrative body.

4th. That the local administrative body appoint the executive and other officers under it; that the appointment and dismissal of the chief surveyor be subject to approval; that such officer produce proof of his qualification for the office to which he shall be appointed, and, if required, be subject to an examination.

5th. That upon representation being made by the municipal or other authority, or by a certain number of inhabitants of any town or district, or part thereof, setting forth the defects in the condition of such place as to drainage, sewerage, paving, cleansing, or other sanatory matters, the Crown direct a competent person to inspect and report upon the state of the defects, and if satisfied of the necessity, have power to enforce upon the local administrative body the due execution of the law.

6th. That the management of the drainage of the entire area as defined for each district be placed under the jurisdiction of one body

7th. That the local administrative body be

empowered to raise money for purchasing the rights of mill-owners or others, when the milldams or other obstructions injuriously affect the drainage of the district comprised within the area defined, inquiry in each case having been previously made by the proper officer into the necessity of the purchase and the amount to be paid.

8th. That the construction of sewers, branch sewers, and house drains, be intrusted to the local administrative body. 9th. That the landlords of houses be rated

for the purposes of the Act when the houses are let in separate apartments, or when the rent is collected more frequently than once a quarter, or when the yearly rent is less than en pounds, such a deduction being made from the gross amount of the rate, as may be con-sidered a fair equivalent for the labour and losses incident to the collection of rent on

such property. 10th. That the duty of providing the funds necessary, be imposed upon the local admi-nistrative body, and that the cost of making the main and branch sewers be equitably dis-tributed among the owners of the property benefited; and that the expense of making the house drains be charged upon the owner of the houses to which the drains are attached. That the expense remain a charge upon the properties, to be levied by a special rate upon the occupiers, and recovered with interest by annual instalments within a certain number of years, unless the owners prefer to pay the cost in the first instance, and except in the cases mentioned in the ninth recommendation.

11th. That some restriction be placed on the proportionate rates in the pound to be levied in each year; but if the local adminis-trative body finds that there is need of larger funds for the immediate execution of the works for sanatory measures than can be provided by such rates, it be empowered to raise by loan on security of the rates, subject to the approval of the crown, such sums as may be requisite for effecting the objects in view. That profor effecting the objects in view. That pro-vision always be made for the gradual liquidation of such debts, within a limited number

of years. 12th. That the whole of the paving, and the construction of the surface of all streets, courts, and alleys be placed under the management of the same authority as the drainage, and that the limits of jurisdiction, for both purposes, wherever practicable, be co-extensive. That the principle above submitted, in respect to the cost of making drains and sewers, and the equitable distribution of the expense, be adhered to in the case of laying out, levelling, and paving of streets, courts, and alleys; but for the purpose of ensuring the greatest effi-ciency and economy in the execution of the work, it be performed by the local public officers. 13th. That the provisions in local Acts

vesting the right to all the dust, ashes, and street-refuse, in the local administrative body be made general; and that the cleansing of all privies and cesspools at proper times, and on

due notice, be exclusively intrusted to it. 14th. That many of the more common nuisances which prevail within towns, such as large collections of dung, be declared a nuisance, and be summarily abated. 15th. That, after such a period as it may be

deemed advisable to fix, the provisions in local deemed advisable to hx, the provisions in local Acts for preventing the escape of dense black smoke from furnaces and steam-engines in towns, be made general. Also that these provisions be applied, so far as is practicable, to steam-boats usually plying within the limits of any city or town, subject to the operation of such Act. 16th. That in cases where complaints shall be subtentiated that the inhabitants of any

be substantiated, that the inhabitants of any house, street, or district in towns, are in-juriously affected by the noxious exhalations of any factory, power be given to the local administrative body to ascertain the cause of such exhaustions, and to take legal proceedings for the abatement of the evils, in the event of such evils not being removed on due repre-

sentation. 17th. That it be rendered imperative on the local administrative body charged with the sentation. 17th. That it be rendered imperative on the local administrative body charged with the management of the sewerage and drainage to procure a supply of water in sufficient quanti-ties not only for the domestic wants of the in-habitants, but also for cleansing the streets, scouring the sewers and drains, and the ex-

tinction of fire. That the said body have power to contract with companies or other parties or make other necessary arrangements.

18th. That where any independent body has the management of the supply of water, it be liable to comply with the demand of the local administrative body on equitable terms; and that further, the local administrative body be empowered to purchase the interest in waterworks, subject to the control of the Crown whenever the proprietors are willing to dis-pose of them. Further, that on the establish-ment of new companies, it be made a condition that the local administrative body be enabled to purchase the works after the lapse of a certain number of years, upon certain terms, and upon a rate of interest to be fixed; and that with a view to economy, competition between water-companies be discouraged as

between water-companies be discouraged as far as practicable. 19th. That as soon as pipes are laid down and a supply of water can be afforded to the inhabitants, all dwelling-houses, capable of benefiting by such supply, be rated in the same way as for sewerage and other local purposes; and the owners of small tenements be made liable to pay the rates for water as already re-commended in respect to drainage. 20th. That every facility be afforded to fur-

nish ample supplies of water to public haths and wash-houses, that may be established for the use of the poorer classes. 21st. That for increasing the protection of

property from fire, in all cases the supply of water in the mains be not only constant, but also at as high a pressure as circumstances will permit, and that fire plugs be inserted in the mains at short intervals.

the mains at short intervals. 22nd. That, subject to proper control, the local administrative body be empowered to raise money for the purchase of property for the purpose of opening thoroughfares, and widening streets, courts, and alleys, so as to improve the ventilation of the densely crowded districts of towns, as well as to increase the general convenience of traffic.

23rd. That courts and alleys be not built of less width than 20 feet, and that they have an opening of not less than 10 feet from the ground upwards at each end, the width of the court being in proportion to the height of the houses.

24th. That such provisions be made general, and that after a limited period the use of cel-lars as dwellings be prohibited, unless the rooms are of certain dimensions, are provided with a fire place and window of sufficient size and

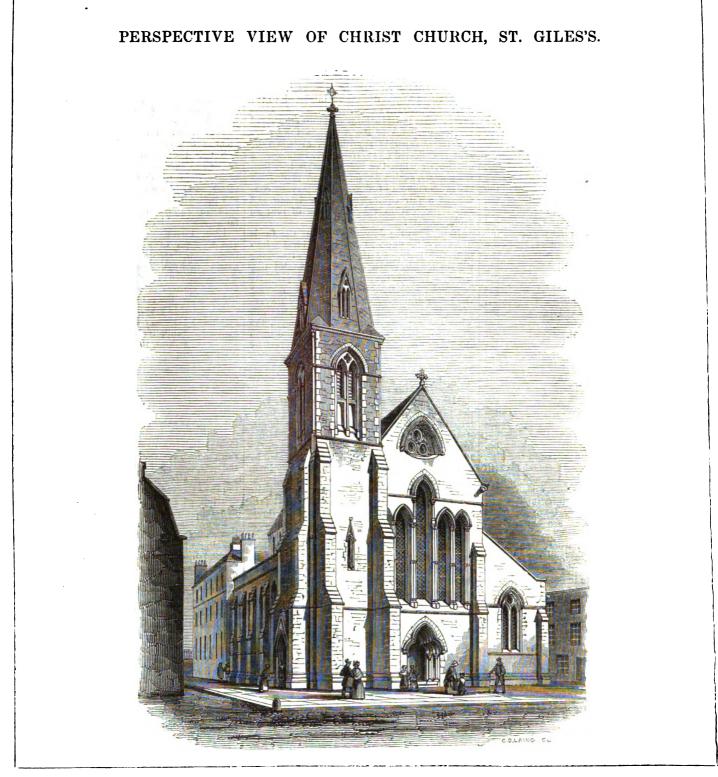
made to open, and have an open space in front, and the foundations be properly drained. 25th. That the provisions above referred to be made general, and that all new houses be provided with proper necessaries for the ac-commodation of the inmates.

commodation of the inmates. 26th. That measures be adopted for pro-moting a proper system of ventilation in all edifices for public assemblage and resort, especially those for the education of youth. 27th. That on the complaint of the parish, medical, or other authorized officer, that any

house or premises are in such a filthy and un-wholesome state as to endanger the health of wholesome state as to endanger the health of the public, and an infectious disorder exists therein, the local administrative body have power to require the landlord to cleanse it properly without delay, and in case of his neglect or inability, to do so by its own officers, and recover the expense from the landlord.

28th. That magistrates have power te license and to issue rules to be approved of by the Crown, for the regulation of lodging-houses for the reception of vagrants, trampers, and other such wayfarers. 29th. That the local administrative body

have power to appoint, subject to the approval of the Grown, a medical officer properly qualified to inspect and report periodically upon the sanatory condition of the town or district, to ascertain the true causes of disease and death, more especially of epidemics increasing the rates of mortality, and the circumstances which originate and maintain such diseases, and iniuriously affect the public health of such town



CHRIST CHURCH, ENDELL-STREET, ST. GILES'S.

THIS church is built in the new street, leading from Long Acre to Broad-street, High Holborn, now in progress under her Majesty's Commissioners of Woods, authorized by certain Acts of Parliament for the improvement of the metropolis. The opening was very much wanted, and an improvement it unquestionably will be, but half its value is destroyed by the imperfect character of the plan adopted. As originally proposed, the new street would have been commenced exactly opposite to Bow-street, and would have been altogether a new street as far as Belton-street. In order, however, to save a comparatively trifling immediate outlay, an existing street to the west of Bow-street (Hanover-street), was made use of, and the line rendered crooked, so that every vehicle coming from the north to the theatres, the market, or elsewhere, will have to turn a sharp corner to get into Bow-street. Moreover the street itself will never be a good one, for however handsomely the houses on the

new side may be built, the general appearance will be destroyed by the old side left standing. There can be no doubt that it is better economy in the end to form an entirely new street than to widen an old one, as in the first case a double frontage of greatly increased value may be obtained, while in the other, the value of the one new frontage is kept down by the character of the houses which are left.

This was forcibly urged by the *Westminster Review*, and by the Metropolitan Improvement Society, hefore Endell-street (as it is now called), was commenced, but ineffectually; the result, it is already clear, will shew the correctness of their anticipations.

The ground on which the building stands, is of very contracted dimensions, and the church commissioners having stipulated that it should contain 1,000 sittings, every inch was required in order to get the necessary accommodation. Further, on two sides little or no light could be obtained, as the east end abuts against the workhouse, and the south side is to form the party-wall between the church and the new houses, so that the architect had many difficulties to contend with.

In order to obtain light, the building has been carried up very high so as to get a lofty clerestory with a series of unobstructed windows; and by the aid of a small well-hole or area, taken from the workhouse, some partial light has been obtained for the east window. The wedge-like shape of the ground regulated the position of the tower and spire, at the north-west angle.

As may be seen in the engraving, the building is designed in the early English style (the style of the 13th century), and is faced externally with Kentish rag, and Bath stone dressings. The principal features of the west front are the five lancet-headed windows seen in the engraving, ornamented with dog-tooth mouldings. In the gable above them is a triangular window, and below them is the principal doorway, recessed and ornamented. There is another entrance on the north side of the tower. The height of the building as compared with its length is very observable

externally, and gives it a continental character.

Inside, aisles are formed in the nave by columns and arches, and in the chancel by open wainscot screens. The columns of the nave are built of blue lias, from Glastonbury, in Somersetshire, which is a tolerable substitute for Petworth marble, and was often so used in ancient buildings. There is a gallery in each aisle, which injures the appearance of the interior, but under the circumstances was unavoidable. They are supported on iron columns behind the blue lius columns, and have an open front. The roofing is open, and is stained to represent oak. So also are the seats, which, being all free, have no doors. In this particular, that none of the seats are appropriated, Christ Church stands alone in the metropolis. The old and infirm occupants of the workhouse are specially cared for, and are enabled by means of a communication with their wards on the south side of the east end of the church, to attend service without going into the air.

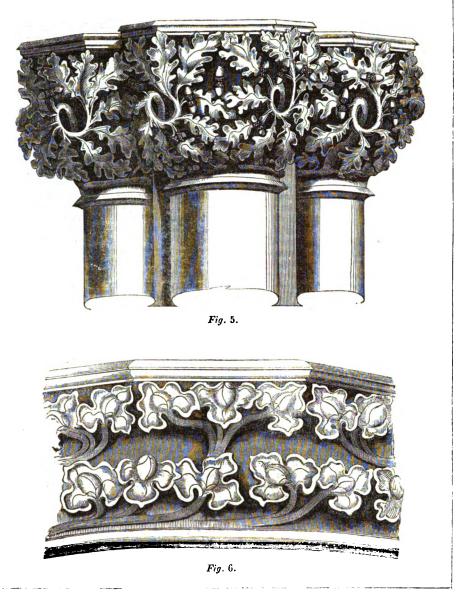
The chancel is paved with encaustic tiles, presented by Messrs. Copeland and Garrett, and some of the windows are filled with stained glass; that in the east window, a triplet, was an offering to the church made by Messrs. Hudson, pupils of Mr. Dyce. In the chancel aisles there are some small obituary windows of stained glass, executed by Mr. Willement, and presented by him, Captain Hardy, and others, to the church. One on the north side is inscribed "To the memory of Ellen, daughter of Benjamin Ferrey and Annie, his wife. She departed on the 22nd day of June, A.D. 1841, aged twelve months." Mr. Ferrey was the architect under whose directions the church was built, and descrives much praise for the ability displayed.* The width of the church within the walls is 50 feet, the whole length 64 feet 6 inches. The width of the nave is 22 feet 6 inches, and the height, to the apex of the roof, 52 feet 6 inches. The height of the spire is 120 feet.

The site cost 1,250/. The whole expense of the building, inclusive of every charge, will be under 4,800/. Mr. Winsland was the builder.

The church was erected by Her Majesty's Church Commissioners, aided by grants from the Metropolis Churches Fund, the Incorporated Society, and private subscriptions. A small fund has been raised for the endowment, and the rector of St. Giles's, the Rev. James Endell Tyler, in whom the presentation is vested, has nominated the chaplain of St. Giles's workhouse to be the first minister. An additional amount is required, and the excellent rector, by whose exertions chiefly the church has been obtained, has issued an appeal, which we gladly insert :--

"The munificence of the church societies, and the bounty of individual benefactors, have enabled us to provide a church of stone, capable of containing one thousand persons. The whole church being free, and there being, consequently, no income from pew-rents, our chief anxiety now, is to realize an endowment sufficient to secure for ever the daily performance of Divine worship, and for this object subscriptions are still earnestly solicited. Whilst, however, we have good hope that under God's blessing adequate means will be supplied by Christian benevolence, we unfeignedly desire not to lay an additional burthen on those who have with such unsparing liberality already assisted in this work and labour of love."

GOTHIC ORNAMENTS FROM THE CATHEDRAL CHURCH OF YORK.



In continuation of the series of details from this noble building, commenced on page 90 of the present volume, we here give two from the nave and aisles, commenced, as before mentioned, in the year 1291, and completed about 1330.

Fig. 5 represents the capital of one of the semi-pillars attached to the wall in the south aisle of the nave. It is 1 foot 2 inches in height, and 26 feet from the floor. It is composed of three cylinders with a flat surface between them; the centre cylinder is 9 inches in diameter, the others 6 inches in diameter. From these pillars spring the groins of the vaulting by which the aisles are covered. The foliage is sharply cut, and is very beautiful.

Fig. 6 represents the foliage in the capital of one of the pillars in the nave. All these capitals are different, and display great luxuriance of fancy. The aisles of the nave in this building are very lofty and magnificent, perhaps more so than those of any other of our cathedrals. The windows are in three lights with quatre-foils in the arched heads, and the wall below them is adorned with paneling, which displays crocketted gables and pinnacles in great profusion. The whole of this part of the minster, namely, the nave and aisles, belongs to the decorated period of Pointed architecture, but being an early example, some of the ornaments have much of the character of the previous style.

THE INTERIOR DECORATIONS OF ST. STEPHEN'S, WESTMINSTER.

ON Wednesday, the 26th ult., a paper was read by Mr. Crabb, before the Decorative Art Society, upon the "Interior decorations of the collegiate chapel of St. Stephen, as finished by Edward III., in his palace of Westminster, A.D. 1348."

The paper was interesting, the information it contained being unpublished, and derived from Mr. Crabb's acquaintance with the original painting, and with Adam Lee, Esq., who for twenty-five years was the officer in trust of the buildings that had formed the ancient palace of Westminster. In 1800 the act of union rendered it necessary to provide accommodation for the Irish members, and in taking down the wainscotting, it was discovered that the walls of the House of Commons were covered with paintings and gilding; copies of those at the east end were taken, and published by Mr. Smith in 1807, as also by the Antiquarian Society. Extensive subsequent discoveries were made, and the hon. speakers, Lords Sidmouth, Colchester, and Canterbury, gave every facility and encouragement to Mr. Lee, who eventually obtained sufficient information to make out the original plan of the painted decorations which had adorned the chapel, and to restore them in a miniature series of most interesting water-colour drawings.

Mr. Crabb then noticed the localities of the ancient palace of Westminster, describing the decorations of various apartments, particularly the *Chamber of the Holy Cross*, built by

[•] Mr. Ferrey was a pupil of the late Augustus Pugin, and has executed numerous creditable works; one of which, the Dorset County Hospital, is mentioned elsewhere in the present number of the journal.

Henry III., and adorned with historical paintings, which continued to be used as a council ings, which continued to be used as a council room down to the age of Queen Elizabeth; also many precepts of this king. In one he directs "That a list or border shall be made well painted," with images of our Lord and angels with incense pots scattered over the border; also the four Evangelists. Another lorder are to encour the paintings ordered to leads one to suppose the paintings, ordered to be done in a certain low chamber in the king's garden, were intended to be representations of the siege of Antioch, taken by the Christians in the first crusade, 1098, as a book in French on that subject is ordered by a former mandate to be delivered to Henry, the

keeper of the wardrobe, for the Queen's use. The Painted Chamber, St. Edward's, was of great interest, the ceiling flat and curiously designed with scroll-work and the heads of pro-phets, and the seraphim with seven wings from Isaiah. The walls had been painted with subjects, part of which were battle-pieces taken from the two books of Maccabees; these were certainly as old as 1322, probably older, for in a MS. of Simson Simson and Hugo, the illuminator in the year 1322, existing in the library of Bennett College, Cambridge, this passage occurs : "At the other end of the city London), is a monastery of black monks, named Westminster, in which all the kings of England lie buried, and immediately joined, is that most famous palace of the king, in which is that well-known chamber on whose walls all the histories of the wars of the whole Bible are painted beyond description, and with most complete and perfect inscriptions in French, to the great admiration of all beholders, and with the greatest regal magnificence." Many other records exist of great interest where the name of Master William, the painter and monk of Westminster and of Florence, is men-tioned, and thus we know he was an Italian. Henry III. was a great admirer and encourager of the fine arts, and by the Exchequer mandates we obtain an insight into the nature of the painted decorations in use at this early period, and by the examination of the items in the Exchequer Rolls of Edward I., relative to the first chapel of St. Stephen, such as white period. lead, red-lead, vermilion, and azure, gold and silver oifs and varnishes, we learn that oil-painting was in use as early as 1292, 150 years prior to its supposed invention by John Van Eyck.

Mr. Crabb proceeded to mention that, in conformity with the ancient custom of attaching a chapel to every residence of im-portance, the first chapel for the use of the palace of Westminster was founded by King Stephen, A.D. 1150. And upon King Edward III. and his Queen Philippa's return from their conquests in France, they determined to rebuild the chapel with the utmost magnificence, in a style that should surpass whatever had been previously attempted in any land. The *principle of design* upon which the ar-rangement and decorations of the chapel were made was explained, with observations upon the richness of dress at the period, and the interest attached to these peculiarly illuminated edifices raised by our ancestors at a time when the arts, struggling for existence, yet appear to have held no inconsiderable power over the warlike taste of the period. Bearing in mind this feeling for magnificent effect, we can entertain with comparative ease the accom-panying desire for its extension to their buildings and to their architectural embellishments by an assimilating sumptuousness of style in coloured decorations, and much more easily understand the plan of the *design* adopted by our munificent Edward for his chapel royal, our munificent Edward for his chapel royal, produced on the principle that no work of beauty should be "void of signification." The architectural design would thus be formed in conjunction with the sculptured and pictorial embellishments. The chapel consisted of a nave without aisles, the roof rising to a very birth picch: the five windows on each eide high pitch; the five windows on each side were remarkably enlarged by deep splayings, thus a strikingly peculiar effect was obtained. The piers narrowed, richly painted, and relieved by gray purbeck marble shafts embel-lished with thousands of gilt paterse, continued one successive varied, but unbroken, effect of magnificence along the whole side, again carried upwards by the coloured and gilded cornice, and timber roof. In the piers it was purposed to place the statues of our kings from the Norman Conquest down to Ed-

Upon the walls, under a superb ward III. canopy of open tracery and slender clustered columns, were (painted figures of angels, each bearing a mantle emblazoned and of different colours, being the armorial bearings of noble contributors, and the holy knights to whose contributors, and the holy knights to whose honourable keeping the edifice was particularly intrusted. At the east end, upon each side of the altar, were to be introduced the king and his family kneeling; and upon the walls them-selves, together with the windows, were to be depicted the history of the Bible, all the leading events from the Creation to the death of the Apostles. The quarterings of the French arms and the English lions were to be freely introduced, as also the fleur-de-lis and rench lily, as marks of Edward's supremacy

Thus the general notion will be understood as one to create an apartment of magnificent as one to create an apartment of might before size, to adorn it with a picturesque roof, rich architecture elaborately sculptured, and to fill the walls and windows with a connected series of historical paintings of our faith, and the minor portions with single figures, emblazonry, and gilded and painted tracery-work. The and gided and painted tracery-work. The babiliments of the priests were also provided of the richest materials, as also others for the court to wear during mass. The paintings were peculiarly treated, and the most careful finish pervaded the whole.

The chapel was suppressed, and its wealth transferred by Henry VIII. The lecturer traced it down to the period of 1800, giving the authorities upon which his descriptions were founded, and quoting the existing Exchequer Rolls relating to its first erection and sub-sequent repairs by different kings. And he concluded by saying, "That magnificent example of Italian ecclesiastical decorative art I recently had the pleasure of bringing before you should not be forgotten on the present occasion. The rebuilding of St. Stephen's resulted from a vow made by Edward and his Queen during the French wars, and was Guen uning in eighteen years, A.D. 1348. The Certase of Pavia, whose sumptuous decorations were continued with equal taste and spirit and expense during three centuries, and spirit and expense during three centuries, and form a perfect chain and example of the fine arts in Lombardy, was commenced A.D. 1396; and arose from the fruits of repentance in one of arose from the fruits of repentance in one of the noble house of Visconti, who had murdered his uncle and his family. In atonement for this guilt, and in expitation of his crimes, Visconti, in dedication to the Queen of Heaven, laid the foundation of a mass of dedicate destinate to heave a division sonouedifices, destined to become a glorious monu-ment of perfection in every branch of the fine Those who are disposed to pursue for arts. themselves the gratifying inquiries which my limited leisure only allows me to hint at, will discover the close connection of the funda-mental principles of design exhibited in each building for its peculiar purpose. The chapel of St. Stephen, intended for a sumptuous temple fit for princes to worship in, was a single space uninterrupted by pillars, of rich and elegant Gothic architecture, every ingenuity being used to increase richness by the aid of an unusual breadth of light gilding and colour. Its roof, pavement, walls, and windows combined in solemn history with the richest habiliments to produce an apartment suitable for the chapel of a royal palace, and justly rendered it the most magnificent the arts of the era could produce.

The church of the Certosa was later. Art was then advancing with giant strides towards the creation of names yet continuing to shed an undiminished lustre over the country. This building was for a different purpose. The building was for a different purpose. interior, with all its profusion of rich expenditure, was to prepossess the spectator with so-lemn grandeur, its massive columns, wide-spread arches, subdued light, quietly illuminating the lengthy vista of marble walls, and rendering dimly visible the sparkling of gilded stars, from its deep azure-coloured vaults, all tending, as a portion of the design, to produce the impression of indefinite space. Grandeur and rich harmony which tends, through the power of effect, to soothe those turbulent and stormy passions of man's mind, which yields to the subduing tones of music and of colour, were produced.

It may not be exactly within my province to notice, but there does appear something greatly to be admired in the idea, of a temple of religion thus exhibiting in its churches a combination of studied magnificent effects as a whole, and an endless application of the highest excellences in the details, must be allowed to speak an intelligent language plainly indicative to the general people of that perfection required in the worshipper. Let no labour or expense be thought too great which will contribute to the honour and embellishwill contribute to the honour and embelian-ment of the House of Prayer, was the precept of those men whose works we have this evening been considering." On Wednesday next (the 12th), a paper on the Interior Decorations of the Royal Exchange

will be read.

INSTITUTION OF CIVIL ENGINEERS.

FEB. 25.—The President. Sir John Rennie. in the chair.

The paper by Mr. P. W. Barlow "On the comparative advantages of the Atmospheric system of propulsion on Railways," was the result of an examination of the system, with a view of determining as to the propriety of adopting it on the Tunbridge Wells branch of the South-eastern Railway.

The author first examined the comparative advantages of the atmospheric system over advantages of the atmospheric system over that of traction by a rope, and then he stated the reason for supposing it to be inferior to the locomotive system. He premised that on lines similar to the Greenwich and Blackwall, where the traffic was nearly uniform, and at short intervals, the power used admitted of mathematical computation; but that on rail-ways generally, the power required must be irregular, both as to the amount required and the duration of its employment, and that there-fore a power which was restricted to carrying between certain given points only and certain intervals, would lead to great inconvenience in practice. It would be inconvenient also to have a power which could not be employed for the ordinary repairs of the road, ballasting, removing slips, conveying building materials, working the coal and lime traffic at sidings, moving goods, trucks, carriages, &c. at the stations, all of which was done at present by the locomotives with a great saving of time, and of the expense of men and horses. If locomotives were employed for these purposes only, it nust be at a great expense, as the keeping up a small locomotive establishment was very costly, and, moreover, the gradients and curves of the line must be adapted for working locomotives, and thus do away with one of the great arguments in favour of the atmospheric system.

It was contended that the subsidence of embankments, which at present constantly occurs without interrupting the usual traffic or being perceived by the passengers, would suffice to rupture the air-pipe, or strain it in such a manner that the valve would not close, and thus cause a stoppure of the line. and thus cause a stoppage of the line. Many other and similar practical objections were stated against the system, but the main point was in the comparative cost of haulage when examined with stationary and with the locomo-tive engines. With the former it was contended that on lines with unfrequent trains the small portion of time the power was actually employed and the number of hours for which the steam must be kept up in order to be always ready, would be so disproportionate as to make the stationary engine system far more expen-sive than locomotive power. The lines with sive than locomotive power. The lines with very steep gradients were of course excluded from this position. It was considered also that with the atmospheric system, steep gra-dients increased the expense of power in the same ratio, as the power must always be exerted in whatever way it was applied.

Several experiments were then given to shew the great expense of fuel per ton of goods on the Atmospheric Railway; the results were decidedly in favour of the locomotive. The cost of construction was then examined, and it appeared, that referring to the calculation of the cost of working the London and Birmingham line, to lay down the atmospheric ap-paratus of a double line with a pipe of the re-quired area would not be less than 10,000/. per mile or a total cost of 1,120,000/. the interest of which sum at 5 per cent. would be 56,0002. or 500/. per mile, which sum nearly equalled the average nost of working the line by lage worship exhibiting the perfect production of every ingenious art which the bounty of the Creator has pleased to bestow upon man. A motives, and was greater than on many lines.

In fact, that a contract might be entered into for working a line by locomotive power for the interest of the sum which would be expended in the establishment of an atmospheric apparatus.

'The general results deduced were in accordance with these observations, and it was assumed that the atmospheric system could be most advantageously adopted on short lines, with frequent traffic near large towns, where the absence of noise was important; and that railways on steep inclines in one direction, as at Dalkey, was most favourable to the system.

In the discussion which ensued it was contended that many of the objections urged by Mr. Barlow were not well founded, and that many of the practical difficulties he had advanced had been overcome by the mechanical arrangements now in progress of execution on the more extensive lines which were destined to be worked on the atmospheric system. That both sidings and level crossings were practicable; by a very simple contrivance, a self-acting platform could be so arranged as not only to guarantee the pipe from any injury by the traversing of a cart across the line, but that, by the action of the vacuum in the main, a barrier could be raised on the passing of a train which would effectually prevent the tra-versing of any vehicle, and thus avoid the possibility of accidents. That instead of the possibility of accidents. assumed liability to be thrown off the rails, it was shewn, that the leading carriage being tied down to the piston, greater security was attained, and that on one occasion the leading carriage on the Dalkey line had started before its time, and had actually traversed the distance at a speed of nearly seventy miles per hour, going round curves 130 to 180 yards radius. That the power stated to have been expended in the conveyance of a given gross load was assumed at too high a ratio, and the fuel also, and that as to the question of cost by haulage, by the adoption of small steam power worked only for pumping water, to be used only at the time of forming the vacuum for untrequent or for light trains, a system of pro-pulsion might be established which would be more economical than that by locomotives under the best management.

THE ARCHIMEDIAN SCREW APPLIED TO RAILWAYS.

A PATENT for this purpose has been granted to Mr. Isaac Farrell, of Dublin, which, if satisfactorily established, will lead to the most important results. The following description is extracted from a letter addressed by the patentee to Mr. Purcell, chairman of the Great Southern and Western Railway:--

"The invention consists simply in a screw, called the screw propeller, laid down continuously in the middle of the track, fixed in the direction of its length and turned under its axis, by steam or other power, communicated to it at proper intervals, say every three miles along the line. This screw may be of any given diameter, say from 18 to 24 inches, formed in lengths of from 12 to 15 feet each, and consists of a shaft of cast or rolled irontubing 4 inches in diameter, supporting, by means of wrought-iron arms keyed on the shaft, a rolled-iron spiral, which is bolted to the ends of the arms.

"The power is communicated to the screw by means of spur-wheels, turning a pinion fixed on one end of each line of shafting, of one and a half mile in length; it is situated so as to drive two such lines, that is, one in each direction from it, and the gearing is so contrived as gradually to bring the screw propeller into motion, and also to transfer the power from one line to the other without stopping the train. The motion of the screwpropeller is communicated to the trains by means of a pair of wheels or rollers, so attached to the framework of the leading carriage of the train, as to bear upon the rim or spiral rail that forms the thread of the screw, and thus carries on the train forward; the other acts as a check-wheel, and prevents the train from moving with an unequal motion, or running forward by acquiring acceleration.

"The screw propeller is capable of acting in both directions; and, on the motion being reversed, that which before acted as a checkwheel becomes the propelling wheel, and vice versid. These wheels, which form the only connection between the trains and the pro-

peller, are perfectly under the control of the conductor, who, by turning the handle of the vertical screw, can press the wheels when he scess it necessary with more power upon the screw propeller, or in a moment disengage them from it; and, having done so, can instantly apply the break to the bearing wheels, by continuing the movement of the vertical screw and thus stop the train at any point without interfering with the motion of the propeller.

"The advantages proposed to be derived from this invention are—economy in the construction of railways, from the facility it affords for ascending inclined planes of almost any angle, and the consequent reduction in cuttings, embankments, bridges, &c.; also in the use of light rails instead of the heavy rails required for the locomotive system; also, in the use of lighter carriages than those at present in use, and hence less useless load; economy of power for locomotion by the use of fixed engines, or water power in the place of locomotive-engines, and the consequent avoidance of the expense of erection and support of those costly establishments required for the latter. Injury to passengers, by collision or the running of the trains off the rails, being rendered impossible.

"One of the greatest advantages this system possesses over any other is the facility it affords for transmitting a succession of trains at very short intervals. Provision may thus be made for the most extensive traffic without increasing the engine-power: for instance,—a train, capable of carrying 50 tons on the present system, could be divided into four trains of five or six carriages each, at ten minute intervals, an arrangement by which 12,960 passengers might be conveyed in a day of twelve hours, and the expense of locomotion not exceed six shillings per day."

WORKS IN THE PROVINCES.

Ar Cromer, in Norfolk, it is in contemplation to erect a new jetty, or breakwater, and sea walls for the purpose of protecting the town from the further encroachments of the sea. It is also proposed to erect other works and defences on the beach and cliff, with convenient promenades. Application has already been made to Parliament for leave to bring in a bill to this effect. The Secretary-at-War has decided upon

The Secretary-at-War has decided upon the erection of five experimental military prisons, to which superintendents, selected from the half-pay list, are to be immediately appointed, at a salary, in the majority of cases, of 2000, per annum.

of 2007, per annum. Lord Middleton purposes expending 15,0007. upon improving the town in the county Cork, from which he derives his title.

At Canterbury the labours of the workmen employed in the restoration of the ancient church of St. Martin are nearly concluded. The new pewing is completed, the whole of which is of foreign oak, and in character with the antiquity of the building itself, which is said to be the oldest ecclesiastical structure in this kingdom. Little of the ancient part however remains.

In Cumberland it has at length been determined that the memorial to the late Earl of Lonsdale shall consist of a statue in marble. Whether it is to be an in-door or out-door statue, and the site, are left for further consideration, to be determined upon by a committee specially appointed for those purposes.

At Camarthen a preliminary meeting was held last week, having for its object the erection of a monument to General Nott, the hero of Ghuznee and Candahar. A committee was formed, and a subscription opened, to which Lord Ellenborough has contributed 1001.

At Rugby a monument has just been erected to the memory of the Rev. Dr. Arnold. It was executed by Mr. John Thomas, in Caen stone; the figure is recumbent, under a rich Gothic canopy, and has given so much satisfaction to the committee, that they have rewarded the artist with 100% beyond the sum agreed upon.

In York Minster, a monument is about to be erected to the memory of the late Dr. Beckwith. It is to consist of a high tomb of the decorated period surrounded by pinnacled buttresses, between each of which are to be ogee arched panels with crockets and finials; in each panel will be inscribed the name of one of the charities which the doctor aided by his benevolence. The cover of the tomb will be of black marble, having on a splay the inscrip-

tion in incised brass. On the tomb will repose a whole-length effigy of Dr. Beckwith, the size of life, in white marble. The head will be a faithful likeness, the sculptor, to whom the work has been committed, J. B. Leyland, having had the advantage of carving and modelling the bust previous to the doctor's death. The tomb is to be placed in the east end of the south aisle.

In the cometery at Nottingham, a monument has just been erected to the memory of Robert Millhouse, the poet. It is about 6 feet high. Over the surbase is a tablet, containing the following inscription from the pen of Mr. Spencer Hall, who was the intimate friend of poor Millhouse. It is creditable both to the head and heart of the writer.

IN MEMORY OF BOBBET MILLHOUSE, AUTHOD OF THE DESTINIES OF MAN, EMERWOOD FOREST, THE SONG OF THE PATRIOT, BLOSSOMS, AND OTHER FORMS, WHO DIED AT NOTTINGHAM, APRIL 13TH, 1839, AGED 50 YEARS.

When Trent shall flow no more, and blossoms fail

On Sherwood plains, to scent the springtide gale; When the lark's lay shall lack its thrilling charm, And song forget the patriot's soul to warm; When love o'er human hearts hath lost all sway,

When love o'er human hearts hath lost all sway, His fame may pass—but not till then—away: For nature taught, and freedom fired his rhyme, And virtue dedicated it to time."

And virtue dedicated it to time." Emblematical of the subject, over the in-

Emplematical of the subject, over the inscription, is a lyre entwined within a wreath; the whole is surmounted with an elegant cross fleury. The work was committed to the charge of Mr. Widdison, sculptor, of Edwinstowe. Thorwaldsen's celebrated statue of Lord

Thorwaldsen's celebrated statue of Lord Byron, which was originally intended for Westminster Abbey, is about to be placed in the library of Trinity College, Cambridge. The poet was a member of this distinguished body, having graduated M.A. (hon.) 1808.

At Pembroke Dock, a new church is about to be erected. As Government own a good deal of house property in the town, they have considerately granted 500*l*. towards the building.

ing. In the Potteries, a district church for Fosbrook and Blythe Marsh is being built. The Queen Dowager has recently presented a donation of 20% towards the building fund.

JURISDICTION OF OFFICIAL REFEREES —PARTY-WALLS.

SIR,—Before addressing myself to the task of explaining the painful position in which I am placed with the official referees, I will state the case that has induced the discussion. The trustees of a chapel hold a vestry-room on the ground floor, in the rear of, and over which, are rooms belonging to the owner of the adjoining property, consequently coming under the denomination of "intermixed buildings." This chapel was rebuilt in a most substantial manner in 1817, having an 18-inch wall against the adjoining premises, now perfectly sound, and in thorough repair. The owner of the adjoining property being desirous of pulling down his erections for the purpose of putting up other buildings, applied to the referees, who issued their authority to serve notices both by the "building owner" and the district surveyor, appointing a day for meeting on the premises.

Two distinct notices were served—one as to the party-arch between the intermixed rooms, the other as to the above-mentioned wall; in respect of which wall a tenable objection might be taken, that it is an external wall, inasmuch as it was built entirely on our ground, and not being within the operation of the former Act of Parliament, the common law of the land would preserve our right to it. But as, with the exception of the preservation of ancient lights, no objection would have been raised to the "adjoining owner" using the wall, we will assume, for the purpose of raising the argument, that it was a "sound party wall" (presently, also, contending that it is a "sufficient one"). I attended the meeting on the part of the trustees of the chapel, protesting against the survey; the building-owner was attended by his surveyor, who, I presume from the statements I made, declined to take any part in the matter; and whatever the opinion of the district surveyor may have been from

our discussion, he stated he had no alternative but to proceed in obedience to the directions of the official referees, and consequently pro-

ceeded alone in his survey. I then took the liberty of addressing the referees, assuming they were an appellant court for the public as for the district surveyors. Setting out the particulars of the case, and the points of objection, I thus reasoned— "If the public are entitled to hope for a de-claration of your opinion upon such points claration of your opinion upon such points as controlling future practice, this point, it appears to me, is one of considerable importance. My reading of the intention of the legislature would be, that in all cases of intermixed property, questions relating to taking down and rebuilding party-walls, or any matter where two adjoining owners were mutually interested, that it is competent to them to assent to the principle involved as applicable to their case; and that it would then become the duty of the district surveyor, in respect of the fee pre-scribed to be paid for his superintending the work, to advise the parties (if doubt arose) as to what was required, in conformity with the to what was required, in conformity with the provisions of the Act, and not to drive parties to an expensive mode of proceeding, frequently to result in irritation. The portion of sect. 34 to which I refer is, "That if a party-wall or party-arch cannot be built without pulling down such buildings, and so laying parts thereof to each other; and if in *defunit* of the consent of all proper parties, the official reference &c."

referecs, &c." After having made this communication without having sufficiently looked into the matter, and finding that I had confined my objections to their authority more exclusively as to intermixed property, I took occasion on the following day again to address them, extracts from which, and copies of the letters to the "building owner" and district surveyor, will perhaps best tend to explain my views. I would here remark that the wall is a suf-ficient and sound one. Even in such cases the "building owner?" may take down such a wall, under form of notice, No. 14, which is headed "Notice to be given (three months before commencing operations) by an owner to an adjoining owner, where no survey is required," which survey is dispensed with in consequence of the liability of the "building owner" by sec. 26 "to reinstate and make good all the internal finishings and decorations of the adjoining premises;" my ground of complaint, therefore, is that in each case the proceedings are ab initio wrong, as a costly mode of proceeding.:-

(Extracts from Second Letter to Official Referees.)

"Since taking the liberty of addressing you yesterday, I have met Mr. —, who proceeded with his survey, the surveyors on either side taking no part. My grounds of objection have been further strengthened by closer at-tention to the subject and a bar tention to the subject; and as I am satisfied it is not your desire to overstep the powers intrusted to you, I would draw attention to my further reasons for the opinion yesterday ex-pressed, that parties might assent by private arrangement. I now hold that any proceedarrangement. I now noid that any proceed-ings taken in moving your office or calling in the district surveyors is, as a primary step, illegal (I use not the term offensively, but merely as being repugnant to the express provisions of the Act). "My ground of complaint, as expressed in a letter to Mr. ______ is, that as in the case of

letter to Mr. ----, is, that as in the case of party-walls, each section is read as complete and conferring authority per se, whereas I read them as contexts to sec. 20, which first declares the various points treated of in the subsequent sections, and after setting them all out, and describing the characters or denominations of the respective parties, says, ' that if the adjoining owner shall have consented thereto, or if without such consent,' which is a looser term, fully, however, strengthened a few lines further by these words-' and subject to the provision for supplying the want of consent of the owners.' It is perfectly un-necessary to repeat these words in the sub-sequent sections, as such sections can only come into operation in default of such consent; and sec. 24 provides for 'supplying want of consent of adjoining owners,' necessarily im-plying the necessity of first seeking this consent.

"I am aware that you may in rejoinder say,

every person is bound to know an Act of Parliament, and to read for himself; but I feel equally satisfied that you would desire to render a complicated Act as intelligible as possible, through the medium of the large and novel powers intrusted to you."

(Copy of Letter to District Surveyor.)

"Dear Sir,-Since meeting you this morning, I have given the subject somewhat more consideration, and understanding that you have paid much attention to the subject, I can only express my surprise how plain language can possibly be so misinterpreted. I have again written to the official referees, stating, in my opinion, that they, or the district surveyor moving in the matter, is thoroughly illegal with respect to any matter until difference shall have arisen. "The mistuke you have all fullen into, is

reading a section per se, and imagining what was there directed primarily clothed you with authority. In the case of party-walls, all the sections subsequent are merely contexts of the declaratory section 20, and it would be a monstrous proposition that every party should be called upon to move the office of the referees, and through them the district surveyors and through them the district surveyors. I hold that neither the one nor the other have any jurisdiction until differences arise, and further that it is the duty of the 'building owner' to endeavour to obtain the 'consent' of the 'adjoining owner,' and this obtained, it is the duty of the district surveyor in respect of his prescribed fee, to direct the operation in accordance with the Act.

"I trust I shall, as has always been my habit, treat my professional brethren with courtesy, and pay obedience to a recognized law; but I shall oppose every attempt at undue coercion under this obnoxious Act; and you must perceive that in any, the most trifling matter, the course prescribed would imply large costs."

(Copy of Letter to the Building Owner.)

" Sir,-A notice from you, accompanied by one from Mr. —, the district surveyor, having been put into my hands, respecting property of yours intermixed with that belonging to the trustees of —— Chapel, I have sent a statement of the facts to the official referees, as it appears to me the notices have been served prematurely; inasmuch as sec. 34 states that such proceedings are to be taken only 'in default of the consent of all proper parties.' We have received no communica-tion upon the subject; had we so received it, we should have been, and are prepared to consent to carry out the operation in conformity with the Act.

" Understanding you are about to erect some houses on the ground, it appears to me desirable for both parties to come to some arrangement that would obviate the present inconvenience of the admixture of property; and I am prepared to make a proposition that appears to me to be mutually beneficial, if you will favour me by making an appointment, or refer me to your surveyor."

I afterwards received a communication from the registrar, appointing a day for hearing the matter.

This conference I shall, of course, decline. It would be but an appeal from Cæsar to Cæsar, having yet to learn that the referees are clothed with powers that will close a court of law against an appeal, that the proceedings are ab initio repugnant to the express provisions of the Act. Were such a principle ad-mitted, the triumvirate of Somerset-house or that of the official referees and registrar of Trafalgar-square, would hold a power beyond the jurisdiction of our judges in equity; no party being entitled to issue process from their courts, unless he has conformed to principles prescribed by enactment or precedent.

I am quite aware that it may be said the " building owner " moves the office of the referees at his own peril; but it would appear the more convenient course, that he should be re-quired in his application to state what steps he had taken, and that in addition to the questions already put by the official referees, the one I have suggested to them should be added viz. : if the consent of the adjoining owner had been sought? and that in default of that, no such proceedings should be taken. I regret to say there are many other points

of difficulty, some of which the district sur-

veyors declare themselves unable to solve. would suggest the importance of the subject appears to demand, that a public meeting be held, to address the House by petition at this

Acw Books.

Lectures on Natural Philosophy and the Me-chanical Arts. By THOMAS YOUNG, M.D. A new Edition with references, by the REV. P. KELLAND, M.A. Taylor and Wal-ton. London. 1845. Parts I. and II. DR. YOUNG'S lectures, delivered in the

theatre of the Royal Institution, are too well known to need commendation. The edition, of which part is now before us, will be pub-lished in eight or nine monthly parts; all the plates belonging to the original work will be given, and the text reprinted entire, with co-pious references to recent treatises on the subjects, and notes on such discoveries as may have been made since the lectures were first published. We shall recur to the work when further advanced.

Correspondence.

MISTAKES IN ESTIMATES-HERNE-HILL CHURCH.

-In your publication for January 25th, Sin you did me the favour to insert a letter of mine relating to the contract I entered into for the mason's works of the new church at Herne-hill. In that letter I complained that the quantities I had to work by were considerably more than those which were supplied for the purpose of enabling me to make my calcula-tions by, so much so indeed, that the difference in one item amounted to upwards of 1,000 feet of stone, to which may be added the labour bestowed upon it. In a note which you appended to my letter, you state that my remedy is against the party who took out the quantities; and in your number, February 1st, page 59, is a letter from Mr. Bloomfield, who states that Mr. Alexander, the architect himself, took out the quantities, and that he, Mr. B., only made copies of them for the several parties desirous of sending in tenders. Since the appear-ance of this letter, I have been weekly expecting to see in your pages some explanation from Mr. Alexander, but in this expectation I and many others, who feel deeply interested in the question on public grounds, have been dis-appointed. The omission cannot have arisen from his ignorance of the correspondence, for I by chance know that his attention was lately at Herne-hill specially directed to it; nor can I suppose that you would refuse insertion to any explanation he might send you. The points I am anxious to elicit are these : whether there were two sets of plans and specifications, namely, one to work by, the other to contract by, or whether alterations were subsequently introduced into the plans, from which the quantities which governed my estimates were taken. The difference I complain of, and which has created so much interest among the great body of master masons in the metropolis, must have resulted either from design or from accident. If from the latter, you will be conferring a boon upon a large class of your readers by assisting to unravel the mystery, for in so doing you will draw atten-tion to the rock on which I split, and thereby warn others; but should it be found to result from design, I trust that you will not be wanting in that bold and unflinching spirit which has hitherto characterized your journal, to expose and denounce such disreputable practices.

I am, Sir, &c., Gravel-lane, Southwark, W. SUGDEN. March 3rd, 1845.

NEW CORN MARKET, ROMFORD.

Sin,-In your last week's publication, there was a notice to a correspondent respecting the new corn market at Romford. I beg to forward you the particulars of my visit to the spot, presuming that you will favour the members of the profession by the insertion, leaving it to their option to avail the mselves not of the advantages presented by the advertisement.

The advertiser is Mr. Harvey George, who

requires a design for a corn market, subscription room, lecture room, and sundry other conveniences, appropriating the present build-ings for the purpose, which, by the bye, I find cover a space of 51 feet frontage, by a depth of 168 feet.

To effect this, your readers are aware that it will be essential to take a plan of the premises as they at present exist. The time required to take this plan, to lay it

down on paper from the rough dimensions and sketch, and make a design for the purposes required, would, at least, occupy any one, with the assistance of a clerk, four days, besides the expenses of travelling by railway there and back, twenty-four miles. Thus I calcu-late that the "fortunate competitor" (rather a negative term, by the bye, under the circum-stances) would be a decided loser.

But the chances against this enviable position are more dreadful than at once presents itself, for Mr. George asserts that he has already received 150 designs, and I have no reason, from the authority that I quote, to doubt the truth of his having so stated; except that there must be 149 weaker men in the profession than falls to its average lot, and from the circumstance of his having in a from the circumstance of his having in a second advertisement postponed the period of receiving the designs for fifteen days, trusted to that weakness, in expecting a few more. When I incurred the first expense of going to Romford, I inferred, although not so stated in the advertisement, that the successful competitor would be chosen as architect, to carry out the work; but there I reckoned without my "advertiser," for I find that Mr. George makes no secret in stating that he has already a design of his own, which he intends to adopt, modified and doubtlessly improved by the kind suggestions of these numerous professional friends. This much in-formation did I glean at the expense of some 10s. ("5 per cent. on the *probable amount*, as we say"); but who formed the committee nobody knew. In vain 1 asked as the advannobody knew. In vain 1 asked, as the adver-tisement suggested, "for full particulars" of of Mr. Harvey George, and, as my own instinct prompted, of the builders in the town. The only certain knowledge I could acquire was, that Mr. Harvey George had taken the pre-mises on lease, with the option of purchasing; that he projected the scheme, and advertised it; that he intended himself to build it; and that there appeared to be but one opinion, which was, that he would be his own architect, and, like one who would be his own lawyer, that he was well worthy of being his own client.

I think that the profession deserve this cau-tion, and to vouch for its authenticity I enclose you my name. AN ARCHITECT.

MEASUREMENT OF BRICKWORK IN BARREL DRAINS.

SIR,-Will you be kind enough to inform me through the medium of your journal, how I am accurately to measure the contents of a 12-inch barrel drain,—a friend disputing my method.

In my opinion the outer circumference should be measured thus :--12 inches diameter of drain, half brick on each side == 8 inches; total 20 inches, by three times for circum-ference, gives 60 inches, or 5 feet of 4 inch brickwork, which say in 100 feet, will give 166 feet 8 inches reduced brickwork.

The other method is, to measure the diameter and one rim, making 16 inches instead of 20, which in 100 feet will give only 133 feet 4 inches, a material difference.—Your kind information will oblige

AN ENOUIRER.

[Our correspondent is wrong; the exterior and interior circumference should be added together, and the half of it taken as the mean. This multiplied by the length and divided by 3 (if the sides are half brick thick), will give the quantity of reduced brickwork. The mean quantry of reduced brickwork. The mean circumference is obtained for practical pur-poses, by adding the internal diameter to the thickness of one rim, and multiplying the re-sult by $3_{\frac{1}{2}}$. Thus 12 inches, the diameter of the drain in question, $\times 4_{\frac{1}{2}}$ inches (the rim)= 161 inches, which being multiplied by 34 gives 4 feet 4 inches the circumference. This being multiplied by the length, 100 feet, we have 433 inches or 144 feet 5 inches reduced. feet 4 In precise terms, the diameter of a circle is to the circumference as 7 is to 22.-ED.]

MATHEMATICS AS APPLIED TO CARPENTRY. Sin,-I very much wish an answer to the following :---By what means can I learn to apply Log. cos. cosec., &c., &c., to constructive car-pentry, in calculating the several weights required and thrusts produced, to calculate weakness, &c.? If in a work ou the sume, glad of the name of it.—I and, Sir, &c., A READER. ness, &c.? If in a work on the same, I shall be

SHOP-FRONTS UNDER NEW BUILDINGS ACT. SIR,-Your "Subscriber" is not bound to sin, - 1 our "Subscriber is not could to carry up an "unsightly mass of brickwork" of the same projection as the cornice of his shop-front, or an inch beyond it. The schedule requires merely a pier or corbel of "incombustible material." He can, therefore, form in the line of the party-wall a cement pilaster, 9 inches wide, with face and cap-mouldings, and cornice, similar to those of ĥf molitings, and cornice, similar to those of the wooden shop-front and story-posts, but breaking one inch before them. The pilaster and cornice would be both "pier" and "corbel;" and, especially in a continued range of shops, would be far from "unsightly." M. B. A.

I am, Sir, &c.,

Aliscellanea,

BRICKS .- A correspondent of the Mining Journal remarks, that "should the clay of which bricks are made be contaminated with fragments, however minute, of chalk or limestone, the consequences may be very serious. On transference to the furnace, the carbonate is converted into quicklime, and when the bricks are moistened, they necessarily burst, and crumble to pieces. In the case of bricks used in tunnels, this is of paramount moment, and will explain the destruction of the tunnel of Comptiel, between Belgium and Rhenish Prussia. The fault lay with the brickmaker, not the engineer. I have seen the destruction of an earthenware vessel from this cause, as soon as water was poured into it."

THE DORSET COUNTY HOSPITAL is now THE DORSET COUNTY HOSPITAL is now drawing towards completion, and, when finished, will be capable of accommodating 300 in-patients. It stands in an open part of the city of Dorchester, near the West-walks, upon ground presented by Robert Williams, Esq., of Bridehead. The north wing of the build-ing has been opened for the recention of has been opened for the reception of ients for some time. This institution is ing patients for some time. supported by voluntary contribution. When we see the number of patients within its walls, it seems surprising that Dorset should so long have remained deficient of a county hospital. Mr. Benjamin Ferrey is the architect employed.

FALL OF PART OF THE IRON ROOF OF A WAREHOUSE. - Considerable alarm was exvia the buildings of the Manchester Bond-ing Warehousing Company, Chapel-street, which for many years was used as the cotton warehousing in an antiwhich for many years was used as the cotton warehouse in connection with the mill of Messrs. Philips, Lee, and Co. The gable end of this building fronts Chapel-street. The building is about 120 feet in length and 40 feet wide. The roof was an old cast-iron one, much decayed, and was supported by two ranges of iron columns (the building being free-proof) dividing the building longitudingly fire-proof) dividing the building longitudinally into three bays. These columns were very slight, and from iron cups let into the top of these pillars very light principals of cast-iron were carried at a shallow spring to support the roof, or rather roofs, for it was in three divisions. Several workmen and others were upon the roofing, which was undergoing repairs, when, about twenty minutes before eleven o'clock, the whole of the division next the yard of the premises fell at once with a loud crash, and this, dragging the tie-rods down, dislodged the pillars on one side of the centre bay; about the third of the roof of which next fell, followed by a rather larger proportion of the roof of the other outer bay, so that in all about two-thirds of the roofing fell. Amongst the individuals on the roof was a clerk of Mr. A. Mills, architect, who escaped without injury. Upon further inspection, it has been found that nearly all the cast-iron cups in one range of pillars had been cracked or torn, apparently for a long time, by some severe shock or strain, and one of the principals was also broken .- Manchester Guardian.

RAILWAY IN SPAIN. - A railway from ALLWAY IN SPAIN. — A railway from Barcelona to Mataro has been decided on, the first Spanish line, and many of the shares are subscribed for. We cordially wish it success, believing that an improvement in the means of communication will greatly aid in consolidating this unfortunate country.

ST. MARY-LE-BONE BANK FOR SAVINGS.— The fifteenth annual general meeting of this institution was held on Thursday, the 27th ult., at the office, in Welbeck-street, Cavendish-square. It appeared from the several reports read to the meeting, that the progress of this bank continues to be of a very favourable descrip-tion, no less than 2,654 new deposits having been made in the last year. 15,124 deposit accounts remained open on the 20th November less of which 0.503 held the new deposits having last, of which 9,503 held balances averaging less than 41.5s. 10d. each. Upwards of 350,0897. was then invested with the commissioners for the reduction of the National Debt; this amount has since risen to 353,0897. 4:. 7d., and is rapidly on the advance. The continued evidence thus on the advance. The continued evidence thus afforded of the strong and growing disposition of the working classes to provide against the casualties of life, will prove a source of grati-fication to all reflecting minds. THE FOUNTAINS IN TRAFALGAR-SQUARE. The hours of the menutic here well.

The labour of the mountain has produced a mouse. After the long-heard note of prepara-tion, we looked for something, more than or-dinarily beautiful and original, and are therefore annoyed to find that the new fountains are nothing more nor less in design than might have been purchased, dolphins and all, ready-made, at any of the artificial stone shops in the Paddington-road. The beauty of the material, polished red granite, is the saving clause.

FIRES.-The late fire at Captain Duncombe's in Grosvenor square was another result of the incautious fixing of stoves. It was caused by the overheating of a hot-air stove, which com-municated with the flooring of the hall.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 3, York-street, Covent-garden.]

For completing the Works connected with the

For completing the Works connected with the enclosing and annexing certain Land lately pur-chased for the improvement of Newport Bridewell, in the Isle of Wight. March 8. For repairing the footway pavements, and pro-viding and laying new curb and other stone; for repairing the carriage-way, pavements, and pro-viding and laying new granite and other stone, during one year from Lady-day next, for the united parishes of St. Andrew, Holborn, and St. George-the-Martvr. Middlesex. March 8. parishes of St. Andrew, Holborn, and St. George-the-Martyr, Middlesex. March 8. For a supply of from 200 to 300 tons of Rails,

and from 100 to 200 tons of Chairs, for the Eastern

Counties Railway. March 10. For building a Sewer in Addle-hill, Doctors-commons. March 11.

For paving and repairing the Carriage-ways and Foot-ways within the parish of St. Paul, Covent-garden. March 11.

For supplying and laying down about 400 yards of cast-iron Pipe, of 10 inches diameter, for the Commissioners of the Southampton Water-works. March 13.

For building a Sewer in the City-road, St. Luke's, near Charles-street, in length about 401 about 130 feet. March 14. For the repairs and restoration of the Tower and Nave of St. Mary's Church, Nottingham.

March 17.

For supplying her Majesty's several Dock-yards with Riga Hand Masts and Fir Timber, Dantzic Deck Deals and Fir Timber, and Norway Spars. March 28.

For new-paving such parts of the parish of St. Mary, Islington, and repairing the paved Foot-ways, as may from time to time be required, during one whole year from Lady-day next. March 19.

For the supply of 11,000 feet of nine-inch cast-

rof the supply of 11,000 reet of mine-inch cast-iron Pipes for a new line of Aqueduct to be laid in the Island of Malta. March 31. For the supply of 11,000 feet of 9-inch cast-iron Pipes for a new line of Aqueduct in the Island of Malta. April 30. For new-naving parts of the parish of St. Mary

For new-paving parts of the parish of St. Mary, Islington, Middlesex; and for repairing and keeping in repair the paved Footways belonging thereto, for one year from Lady-day next. Also for supplying unbroken Guernsey Granite, Core, Ballast, Gravel, and clean Flintsized by GOOSIC

120

COMPETITIONS.

Plans and Specifications for Covered Ways at the Lunatic Asylum, Melton. March 18. Plans and Elevations for a new Workhouse with

the requisite offices, capable of accommodating 400 inmates, for the Canterbury Incorporation. The inmates, for the Canterbury Incorporation. The architect is requested to state the amount of premium he will require for the use of his plan and specifications in the event of the Court of Guardians adopting the same, and appointing their own sur-veyor to superintend the works. March 8. Plans for the most convenient mode of loading and physical approximation of the superinter

Plans for the most convenient mode of landing or embarking passengers, carriages, &c., &c., at George's Pier-head, Liverpool. A Premium of 2001. will be given for the Plan selected and acted upon, and a Premium of 1001. will be given for that Plan which may be deemed to be the next in utility. March 19.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

March 11 .- At Enfield : 200 Oak Timber Trees of large dimensions and excellent quality; 34 Elm and 24 Ash Trees; also 45 Oak Trees of large métings.

March 10.—Upon the Benacre Hall Estate: 1,000 Oak Stands, from 5 to 8 inches girth; 140 Ash and Elm Stands; 40 Fir Stands; 10 Ash Tim-ber Trees; also 60 Fir Trees and 12 Poplar Trees. March 11.—At New Barns Farm, Ely: 330

Ash, Elm, Beech, and Sycamore Timber Trees. They are of fine growth and quality, very straight,

of great length and good girth. March 14.—At Ellingbam Hall, near Bungay: 600 Spruce, Larch, and Scotch Firs of capital quality, and a quantity of Ash, Elm, and Willow Timbers.

March 11.—At Clay and Sand Woods, Tet-worth: A fall of prime Oak Timber Trees, very long and straight and unequalled in quality. March 18.—At West Buckland, Somerset: 833

Oak, Elm, and Ash, Maiden, and Pollard Timber Trees.

March 13.--At Corfe, near Taunton, Somerset : 210 Maiden Oak, 60 Maiden Ash, and 80 Pollard Oak Timber Trees.

March 17.—At the Abbey Farm, Eye, Suffolk : A large quantity of Poplar, Fir, Elm, Willow, and Ash Timbers; also Poplar, Fir, Ash, Spruce, and Larch Poles.

March 13.--At Dullingham, Cambridge: 2,000

Larch and Sootch Spiers. March 18.—At Waresley, Huntingdonshire : A large fall of Ash and Elm Timber Trees ; also Larch, Spruce, Birch, Beech, Chesnut, Alder, and

Hornbeam Spires, very straight, large, and long. March 10.—At Bottishem Hall, Cambridge : A quantity of very useful Ash, Elm, Lime, Chesnut, and Beech Trees.

March 12.—At the King's Head, Nazing, Essex: 2,188 Oak Timber Trees of good, and a great portion of large dimensions, and very straight and clear.

March 10.—At Fordham Abbey, Cambridge: 100 capital Timber Trees, and upwards of 300 Standa

March 11.—At the King's Head Inn, Enfield, Middlesex; 200 Oak Timber Trees of large dimen-sions and excellent quality, 34 Elm and 24 Ash

March 12 .- At Uffculm, Devon; 130 Maiden Oak and 60 Maiden Ash Trees.

By Private Contract, before the lat of April next.-287 Oak Trees, of full growth and large dimensions, suitable for all purposes, now standing

dimensions, suitable for all purposes, now standing at Woodside, near Morland, Westmoreland. Marež 17.—At Herringswell, Suffolk: 400 Lareh Trees, many of them measuring 50 feet in length, and containing upwards of a load of sound timber; 400 Scotch and Spruce Trees, upwards of 45 years' growth; 19 Isrge Willow Trees, and a very large Poplar. March 13.—At Exning, near Newmarket: 5,000 Larch, Ash, Spruce, Birch, Poplar, and Oak Poles. The Larch are fitted for building purposes. Shortly.—At Portsea: a valuable cargo of Mahogany and Cedar in Logs and Planks.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, March 10.—Geographical, 3, Water-loo-place, 81 P.M.; British Architects, 16, Grosvenor-street, 8 P.M.; Medical, Bolt-court, Fleetstreet. 8 P.M.

TUESDAY, 11.—Medical and Chirurgical, 53, Borners-street, 8¹/₂ P.M.; Civil Engineers, 25, Great George-street, 8 P.M.; Zoological, Hanoversquare, 8 p.m. WEDNESDAY, 12.-

WEDNESDAY, 12.—Society of Arts, Adelphi, 8 WEDNESDAY, 12.—Society of Arts, Adelphi, 8 P.M.; Geological, Somerset House, 8½ P.M.; London Institution, Finsbury-circus, 7 P.M.; Graphic, Thatched House Tavern, 8 P.M.; Pharmaceutical, 17, Bloomsbury-square, 9 P.M.

THURSDAY, 13. - Royal, Somerset House, 84 P.M.; Antiquariee, Somerset House, 8 P.M.; Royal Society of Literature, 4, St. Martin's-place, 4 P.M.; Medico Botanical, 32, Sackville-street, 8 P.M.

FRIDAY, 14. — Astronomical, Somerset House, 8 P.M.; Royal Institution, Albemarle-street, 81 P.M.; Philological, 49, Pall Mall, 8 P.M.

SATURDAY, 15. — Asiatic, 14, Grafton-street, 2 r.m.; Westminster Medical, 32, Sackville-street, P.M.; Statistical, 11, Regent-street, 8 P.M. (anniversary).

TO CORRESPONDENTS.

"Inquirer (Limehouse)."—Bach pane of glass should be measured separately within the rebates of the sash-bars. Of irregular panes, the widest part should be taken, and circular panes should be measured as if square. "J. W. S."-We b

-We believe the "Hand in Hand" is the oldest fire-office in London; it was estab-lished in 1696. We cannot refer to the names of the bridges at this moment; only one of them was across the Thames, the others were of less importance.

"A Constant Reader " wishes the address of Mr. Galloway, the engineer of the Cairo and Suez

Railway. "A Subscriber (Reepham)."-We don't under-

"A Subscribe, stand the inquiry. "Philoclarus," J. J. Blandy," "R. Callow," "W. Rowland," "A Land-owner,"

"Philoclarus," J. J. Blandy," "R. Callow," "Virgil," "W. Rowland," "A Land-owner," "S. M. O.," "Fairplay," next week. Received. — The Pictorial Gallery of Arts, Part II. (C. Knight) — A Report of the Pro-ceedings at the first session of the British Archæological Association, edited by Alfred John Dunkin (J. Russell Smith) — Old England, a Pictorial Museum of Popular Antiquities, Part XV. (C. Knight), The Geologist's Text Book, by David T. Ansted, M.A. (J. Van Voorst) Book, by David T. Ansted, M.A. (J. Van Voorst) -Geology as a Branch of Education, by D. T. Ansted, M.A. (Van Voorst)-Bloomfield's Poems, illustrated by Sydney Cooper, &c. (Van Voorst).

ADVERTISEMENTS.

HEAL & SON'S LIST OF BEDDING. —Containing a full description of weights, sizes, and prices, by which purchasers are enabled to judge the articles that are best suited to make a good set of Bedding, sent free by post, on application to their establishment, the largest in London, exclusively for the manufacture and sale of Bedding (no Bedsteads or other furniture being kept). Heal and Son, Feather Dressers and Bedding Manufacturers, 196, opposite the Chapel, Tottenham-court-road.

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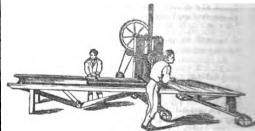
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HATCHER'S BENNENDEN TILE-MACHINE, Manufactured and Sold only by COT-TAM and HALLEN, Engineers, Agricultural Implement Makers, &c., 3, Windey-street, Oxford-street, London.



This is the most efficient Machine that has been invented for the purpose of making Drain Tiles. Any shaped Tile can be made by merely changing the die, which can be done in a few minutes. It requires but few hands, viz., one man and three boys. With this amount of labour, the pro-duct of a day of 10 hours is as follows, viz:--' inch diameter of [12] inches diameter of Tile, 11,000 [2] ..., 3.200 12, ..., 8,000 [2] ..., 3.200 14, ..., 8,000 [2] ..., 3.200 15, ..., 8,000 [2] ..., 3.200 15, ..., 8,000 [2] ..., 3.200 16, ..., 8,000 [2] ..., 3.200 17 The Machine is moreable down the drying-sheats, so that it requires no extra boys to carry the Tiles, nor are shelves required in drying. It has been in full operations for upwards of four months at Hempstead Park, Decar Cran-brook, Kent. No charge made for Patent days or licence. The purchase of the machine includes free use of it. Digitized by GOOgle



SATURDAY, MARCH 15, 1845.



--

NE of the great objects of the "Metropolitan Improvement Society," when it was established in January, 1842, was to point out the evils which have arisen from

considering the improvement of different parts of London only in detail, with a view exclusively to the wants of a local district,-and to urge upon the legislature the importance of looking forward ten or fifteen years, and of employing fit and qualified persons to prepare a plan, founded upon an accurate survey, of all the improvements required in the metropolis which might be carried into effect within the period named. It was believed justly, that this would tend to the realization of various plans, which, however excellent in themselves, had failed because brought forward as private questions, and not as part of a general measure which could alone receive public support, and would prevent the adoption of inferior or inefficient schemes, which private views and influence might otherwise thrust upon the public.

When a deputation from the society waited on Sir Robert Peel, he said that his own opinions coincided with the views of the deputation; that he considered it desirable that an efficient board should be appointed to institute proper inquiries, and take a broad and comprehensive view of the whole subject; and promised that a general plan of the metropolis, on a large scale, should at once be prepared from actual survey as an indispensable first step.

The Metropolitan Improvement Commission was issued soon afterwards, but though three years have nearly passed away, the survey is not commenced, and the commissioners have effected nothing.

We are induced to recal these circumstances to the memory of our readers, and to arge on the premier the performance of his promise, by recent proceedings in West-The necessity for alterations there minster. has long been felt, and numerous plans have from time to time been proposed ; but each and all have been set aside, and the much needed improvement, including the drainage, the ventilation, the health, and the morals, of the distriet, prevented by private interests and the equabbles of rival claimants for public How much longer this is to be approval. carried on is uncertain, but it seems clear that the question is now as open as ever, and that unless the public or the Government come forward to obtain a settlement of it, will either remain so, or be closed in such a manner as to effect much less good than ought to be the case. Parts of Westminster are at this time the very sinks of iniquity, hot-beds of crime, and the birth-place of disease; whence vice and death are brought to all the quarters of the metropolis ;---none of it is well-drained, little of it well-ventilated, and it is of course to ameliorations in these respects, and to obtain good leading thoroughfares for the advantage of the whole community, that public money should be applied. It is not to be wondered

at that individuals who may know that their property will be more benefited if the new street be formed in this way than in that, should exert themselves so to regulate its arrangement, and every consideration should of course be shewn to private rights and interests, but certainly these ought never to be allowed to outweigh the general good, and prevent important public improvements.

THE BUILDER.

Mr. Wason's plan, as it is called, which has been introduced in the House of Commons with the sanction of Government, was opposed, our readers will remember, by some of the inhabitants of Westminster, and a public meeting was held, whereat a committee was appointed to obtain and examine other plans, and to draw the attention of the legislature to that which they considered the best. Wednesday last was the day named by advertisement for receiving plans from any parties who might be disposed to submit them, and several are now before the committee; it remains to be seen what other steps will be taken. The majority of those who oppose the present plan do so, it cannot be denied, on personal and interested grounds; Mr. Hindley, M.P., and others, assist them because they think that many of the existing inconveniences will not be removed, and that drainage, ventilation, cleanliness, and health may be better advanced by some other plan. If so, and we will not now go into this part of the question, it is of course desirable that the plan should be altered; but we beg these latter gentlemen not to be made the means of opposing all plans, and so of still further driving off the long-required improvements. The matter should be looked at in a broad and comprehensive manner, individual interests weighed. but the public good chiefly considered. If no plan is to be carried out that does not meet the views of all the inhabitants, as was urged at the meeting, Westminster will long remain in its present dreadful state-a disgrace to the metropolis.

The chief defect of the intended line, as it seems to us, is the hend made to avoid the workhouse of St. Margarets. The consequence of this will be, partially to build out of sight the western front of the Abbey, of which, otherwise, an uninterrupted view would be obtained from a considerable distance.

At the last meeting of the Metropolitan Improvement Society, it was resolved to make a second application to the commissioners to induce them, if possible, to embrace the present opportunity for effecting a complete inolation of the Abbey. Plans were produced shewing that, by a slight deviation from the intended line, the road-way might be brought on the south side of the Abbey, leaving the cloisters untouched, and terminating with the Victoria Tower of the new Houses of Parliament. The south front of the Abbey is now wholly lost to the public, and yet it is from the south that all buildings should be viewed, from the superior play of light and shade produced by the direct rays of the sun. If the Abbey were thrown open on the south side, the effect to the public from its novelty would be almost equivalent to a new architectural creation in the metropolis. The cloisters would appear as an appropriate and picturesque foreground to the elevation; but a new façade would be required to the existing cloister bounding wall. The buildings to be removed to effect this object (belonging to the Dean and Chapter) are of an inferior class, and

more eligible sites could be found for them on ground at present unoccupied, but which in the case supposed, would enjoy a valuable frontage.

In a neighbouring district, Chelsea, considerable improvements are contemplated, and the necessary steps have been taken to enable the parish to get an Act of Parliament during the present session. It is proposed to open a variety of new roads, and to widen old ones : including two new communications between the King's-road and the Fulham-road (one in the line of Battersea-bridge, to lead direct to Kensington, and the other opposite the World's End public-house), and straightening the King's-road between Park-place, where it now turns awkwardly to the south, and Stanleybridge. To effect these improvements, they ask power to raise 30,000% by a local rate. The greater part of Chelsea has been ruined by being injudiciously laid out; and the fact that the inhabitants now feel it necessary to tax themselves to amend their past errors, should serve as a warning to other districts not yet covered.

In connection with this movement the parishioners have forwarded, or are about to forward, two memorials; one to her Majesty the Queen, and the other to the Commissioners for Metropolitan Improvements. The first sets forth that with a population of 40,000, in consequence of the rapid increase of buildings, they have no open space for recreation, and prays that the grounds in front and rear of the Royal Hospital may be planted and thrown open to the public. "In soliciting this boon," say the memorialists, "they are not aware that they are asking any thing inconsistent with the interests of the institution. Viewing it as a national asylum for the invalid veterans in the royal service, it seems more consistent with those interests that the whole of the grounds (with such exceptions as might be necessary to secure the privacy of the officers) should be thrown open to the inmates for healthful recreation, and that the public should be admitted to participate in their enjoyment, and to witness how they are cared for, than that the inmates and public should be restricted to the limited portions of the grounds now accessible to them." The second memorial is to urge the Commissioners to use their exertions so that the embankment of the Thames may be carried out without delay, and will be found at length in another part of the journal.

Among other suggested improvements in London is an arcade, to be called the Gresham Avenue, commencing in Lothbury, at the end of Bartholomew-lane, opposite the northern entrance of the Royal Exchange, and terminating at the corner of Moorgate-street, with a branch to Finsbury-circus. We have seen a prospectus, too, for the formation of an under-ground avenue through London and Westminster, to connect the various railways, but are not in a position to do more than allude to them. A very circumstantial statement appeared in the daily papers a short time since, to the effect that a new line of street, extending in continuation of St. James'sstreet and Albemarle-street, direct from St. James's Palace to the Regent's Park, was to be proceeded with without delay, at the express desire of her Majesty. Although this has been since pronounced a hoax, we should not be very much surprised to find some truth in it, for we happen to know that surveyors have been employed in that direction for some time past.

COMPETITION PLANS FOR BATHS AND WASH-HOUSES.

IT gives us much pleasure to relate that the various plans submitted in competition to the committee for obtaining baths and washhouses for the labouring poor, were ex-hibited to parties more especially interested in them on Wednesday and Thursday last, and that arrangements are in progress for the further exhibition of them to the public. The committee have acted most wisely in ulti-mately coming to this determination, notwith-standing they had previously resolved that the plans should not be seen, and deserve the best thanks of all who desire that architectural competitions should be well and honestly conducted. It is so seldom that committees will retrace a step once taken, however wrong the direction may be, that this praiseworthy exception should not pass unnoticed. The designs exhibited are twenty-one in

number, from eighteen competitors, and are developed in 137 drawings; twenty-two sets were submitted; but one competitor refused to allow his drawings to be seen, and withdrew them. Of course this gentleman will not think of examining the drawings that are exhibited.

The names of the competitors in the order in which the plans are hung are as follows, together with the estimated cost of carrying out their designs :-

| - | |
|-----------------------------|---------------|
| 1. George Truefitt | E10,000 |
| 2. Wigg and Pownall | 13,207 |
| 3. J. H. Taylor and Son | 14,000 |
| 4. P. Prichard Baly | 11,700 |
| 5. Cope and Eales | 20,000 |
| 6. Arthur Mee | |
| 7. John Tarring | 9 ,963 |
| 8. Charles Parker | 16,500 |
| 9. Lee and Burnett | 12,974 |
| 10. Savage and Foden | 9,272 |
| 11. Scott and Moffatt | 11,778 |
| 12. William Brooks and Son | 10,125 |
| 13. Garland and Christopher | 10,000 |
| 14. Owen Jones | 16,000 |
| 15. John Barnett | 9,915 |
| 16. Sylvester and Miles | 8,487 |
| 17. F. J. Francis | 6,800 |
| 18. James Harris | 12,540 |
| | |

Thus ranging in amount from 6,800%. to 20,000/.

Nos. 9, 12, and 14 have each two sets.

Feeling, after a general examination of the plans, how difficult it was to estimate properly their relative merits without very long and careful examination, we took some pains to learn the course which had been pursued by the sub-committee to whom they were re-ferred. We were informed that they met daily eighteen or nineteen times, and examined every plan in relation with a series of what they thought the most important points to be considered. The extent of agreement or otherwise, of each design with these various requisites was then registered in a very ingenious table, which, when the examination was completed, presented at one view the merits and demerits of the different plans, and enabled the committee to weigh one against the other.

The first and most important deduction said to have been made was, that not one of the designs agreed in all respects with the published instructions. No. 1, for example (which is nicely drawn, by the way), is on a smaller scale than was required, while one near it, although on the proceeded account of the second although on the proper scale, occupies considerably more area than was prescribed, and so on, through the whole twenty-two. The selected design, No. 4, by Mr. Baly, is in several respects at variance with the instructions, so that to justify the choice, the first assertion must be admitted.

We are not disposed at this moment to doubt it, but reserve to ourselves the right of expressing an opinion when we have examined the drawings more fully. Mr. Baly has given much consideration to the subject, and has produced an elaborate set of drawings, sixteen in number, entitled to great commendation. Every part of the design is fully explained, and in none, so far as we could see, are the arrangements for ventilation, and for economically carrying on the business of the institution, more perfect. The plan is square, with a high tower in the centre, used chiefly for the supply of fresh air and the removal of that which is vitiated. The area occupied is 11,600 feet, for which the estimate, accidentally of

course, is 11. per foot. The elevation is plain, but appropriate; and here it may be remarked, that architectural effect has not been aimed at in the designs generally; nevertheless, some of them display considerable skill. Next to the selected design, No. 8 (Mr.

Parker's) is perhaps the most elaborately worked out (consisting of twelve drawings), and has many points of excellence. No. 3 and No. 9 are both clever designs; but we may not pretend to particularize without a fuller

examination than we have yet given. Our thanks are due to Mr. Stonhouse Griffith, the secretary, for the manner in which he answered inquiries.

THE THAMES AND ITS EMBANKMENTS; WITH REMARKS ON THE MOTION AND ACTION OF EUNNING WATEE.

BY JOHN PHILLIPS.

On entering the valley of the Thames from the sea, and tracing its winding course upwards, it appears that there is not a situation upon its banks that offers a more salubrious, extensive, and commodious position for a town, than the locality where the city of London is situated: therefore the selection of the spot whereon this great city is erected was eminently judicious. The proximity of its situation to the deep, wide, and magnificent river flowing before it, and from which its natural surface has an easy and convenient elevation; with the wide ex-panse and undulation of the country to the north of the city, renders this peculiarity of position the most favourable for a number of human beings to congregate together in com-munity. Historians tell us that for a considerable period antecedent to the invasion of Britain by the Romans this site was covered with the rude huts of the ancient Britons; with the indeed, that such was the case there can be but little doubt, as its peculiar and favourable position, and also its natural facilities, made it a conspicuous and easy landing-place from the river, which, at the same time, presented an excellent and safe anchorage for the numerous craft frequenting its shores. After the subju-gation of the Britons by the Romans, the wisdom and good taste of the latter were peculiarly exemplified in their retaining this spot for a station, and for the purpose of building their residences. The Roman domi-nation in Britain lasted somewhere about 476 years, and during their occupancy of the city of London, they greatly improved its situation, the extent and limits of which were more clearly defined by the wall they built around it, the remains of which are in ex-istence to the present day.

Antecedent to the occupation of London by the Romans, very many and vastly extended tracts of land contiguous to it were inundated by the flowing and rising of the tide up the Thames, thus forcing and ponding back the river waters. There is no doubt that considerable portions of the surface of the ground, on the south side of the river from Wandsworth to Woolwich, belted by the Surrey and Kent hills, and also a great portion of the lower part of Westminster, extending beyond Fulham, as well as the whole of the surface of the present broad meadows opposite Woolwich, stretching from the river Lea eastward up to the Essex hills, were entirely inundated during the times of the high-water of the spring-tides; and from the elevated position of London, the whole expanse, looking towards Wandsworth, and to beyond Woolwich, appeared as an extensive lake, and London a promontory jutting out from the main land. Maitland, in his "History of London," says that "the greatest marshes on the south side of the river Thames, before the embanking of the said river, reached from Wandsworth in the west to Woolwich in the cast." Pennant also says that "all the land round Westminster Abbey was a flat fen, which continued beyond Fulham;" and "the Surrey side was, in all probability, a great expanse of water or lake;" and that "the expanse of water might have filled the space expanse of water or lake;" and that "the expanse of water might have filled the space between the rising grounds at Deptford and those at Clapham, and been bounded to the south by the beautiful Surrey hills." These appearances would most certainly indicate that the valley of the Thames was anciently an arm of the sea, and thus presented more the appear-ance of an extensive estuary than that of a river. The surface-soil of the lower part of Westminster, the Isle of Dogs, and the Essex marshes, on the north bank of the river, and

the whole of the extendive marsh-land, upon which Battersea, Lambeth, Southwark, Bermondsey, Rotherhithe, and Deptford are stand-ing, on the south bank of the river, is composed of alluvial matter, brought down by the river Thames, and the many collateral and subsidiary streams and water-courses flowing into it; and the alluvium, held in suspension and driven along by these waters, was de-posited, in consequence of being spread over these spaces by the flowing of the tides.

By what race of inhabitants, or at what period of time these extensive tracts of prolific marsh-land were acquired history does not inform us. That they were gained during an age of very remote antiquity is evident, from age of very remote antiquity is evident, from the fact of no mention having been made by any one in reference to it; neither do our au-thentic records reach back so far, or throw any light whatever upon the subject. It is not prolight whatever upon the subject. It is not pro-bable that the construction of the embankments which were thrown up at the edges of these marshes were the works of either the ancient Britons, or of the Saxons who suc-ceeded them. The former could not, by any possibility, have produced a work of this magnitude, bearing evidence of advancement to so high a state of civilization, as they were a people at once ignorant, barbarous, and not in any vay conversant with the mechanical arts of a civil state; and although the latter were some-what farther advanced in the scale of civilization, yet they had not the talents and skill to invent, much more the tact to direct and car out, these stupendous constructions. It would appear, therefore, but just to attribute the em-bankment of the Thames to the east and west of London, to the Romans. 'The well-known enterprising character of that people, their great discipline, industry, and thorough know-ledge of the arts and sciences, as evidenced by the remains of all their works, point to them as the authors of these great and noble con-structions. In fact, there is no doubt that the reclaiming of these extensive marshes on both sides of the Thames, by embankments, pretty nearly in the state we now see them, and by these means as well, producing something like an uniformity and regimen to the river, were effected by the superior knowledge and talents of the Roman legions, to whose perseverance and proficiency in the science of civil engineering at that time we are indebted for these The histogreat and admirable works. rian Tacitus, who very probably was in Eng-land at the time, affirms that the Britons were employed by them " in sylvis et paludibus emuniendis, i.e. in clearing the woods and banking the fens;"† and that while thus engaged they frequently complained of the great toil and extreme severity of the labour of such works.

From time immemorial the preservation and reparation of the Thames embankments, as well as of all others throughout the realm of England, was considered of the utmost importance, and in consequence their defence was strictly enjoined. Nevertheless, the extensive marsh, pasturable, and arable lands, and other low grounds adjacent to these embankments low grounds adjacent to these embandments and rivers, "heretofore through politic wisdom won and made profitable for the great com-monwealth of the realm," from the flowing, reflowing, and violence of the tides, and from the neglect of those whose duty it was to have maintained and repaired them, were occasionally very disrupt, and allowed to fall to decay. The first mention of any thing in Charta, The Great Charter, A.D., 1225, 9th Henry III., wherein, amongst other things, it is ordained that no person should be called upon " to make bridges nor banks, but such as of old time and of right have been accustomed to make them in the time of King Henry, our grandfather;" and that from hence-forth "no banks shall be defended but such as were in defence in the time of King Henry, our grandfather, by the same places and the

same bounds, as they were wont to be in his time." As was previously observed, the re-claiming of the immense marshes to the north and south of the Thames was anterior to all our authentic records. But it appears that the first commission of sewers issued in England for the express purpose of viewing and land for the express purpose of viewing and repairing these embankments, of which our public records take notice, was in the year 1295, 22nd Edward I. This commission was directed to his beloved and faithful, John de Metingham, and William de Carleton, who were authorized to view the banks, ditches, gutters, sewers, &c., and repair the same be-tween Lambeth and Greenwich: and about three years afterwards, through the neglect of main-taining the banks at Rotherhithe, considerable breaches were made in them by the violence of the tides, such that a great part of the adja-cent marshes was inundated. From time to time other commissions were issued for the repair of the embankments betwixt Lambeth and Greenwich. In the year 1329, 13th Ed-ward II., John Abell, and John de Evredon, were appointed to view the said banks, and to supply speedy remedy for their repair; and six years afterwards another breach took place in those banks, which occasioned great damage in the neighbourhood.

In the neighbourhood. Commissioners were also appointed to view and take order for the reparation of the banks, ditches, &c., for the protection of the marshes lying between Dartford, Woolwich, and Greenwich, the first mention of which occurs A.D. 1324, 8th Edward II., John Abell and John de Hortone being appointed commissioners to view and repair these banks; and early in the following year another commission was issued for the protection of the same banks and marshes. Six years after, from the violence of the tides, a considerable breach was made in the bank between Greenwich and Woolwich. Commissioners continued to be appointed from time to time for the purpose of maintaining and repairing these banks. In the year 1341, 15th Edward III., Robert de Sadyngton, Thomas de Blaston, and Gervase de Wilford, were the first appointed commissioners to view and order the repair of the bauks on the north side of the river between a place called the Neyt and Temple Bar, within the precincts of Westminster and the parts adjacent, the said banks having become broken and decayed by the force and violeuce of the tides. Concerning the extensive marshes of Essex, the first mention of them is in King John's time, Roger de Crammavill being then attached to shew cause why he did not stand to the determination made in the said King's Court, by a fine with the prior of St. John of Jerusalem, touching the banks, gutters, and ditches to be

In ancient times the conservancy of the river Thames was most strictly attended to, and our forefathers were very jealous of maintaining and preserving the purity of the Thames water; and so intent were the authorities of old times on preventing the river from becoming contaminated by any foreign or noxious matters, that in order to preserve its purity, many enactments were made by Parliament, as well as orders by the Common Council of the City of London, in pursuance of those enactments. In the sixteenth year of the reign of Richard II., A.D. 1392, it was enacted, "that no person do throw, or cause to be thrown, or laid, any filth, or ordure, muck, rubbish, or laystage, in the said water of Thames, of the one side or the other, between the Palace of Westminster and the Tower of London, on pain of the forfeiture of 10*l*.; and butchers or others are prohibited from casting entrails, &c. into the river, on penalty of 40*l*." An Act of Parliament was also passed in the twenty-seventh year of the reign of Henry VIII., A.D. 1535, in which it was enacted, "that if any person or persons do, or procure any thing to be done, in the annoying of the stream of the river of Thames, by casting of dung, or rubbish, or other thing into the said niver, he shall forfeit for so offending the sum of 100 shillings."

During the period of nearly two centuries, the bed of the river has always afforded an abundant supply of most excellent sand and gravel. The sand from this source has always been preferred by builders, and has been and is now being procured with much avidity, in consequence of its sharpness and cleanness, which are the most essential properties in the

composition of mortar. From the bed of the river considerable quantities of gravel have also been and are now being procured for the purpose of forming the modern composition of concrete, and for ballasting very many of the numerous outward-bound shipping. In order to supply the demands for these materials, and for the purpose of removing shelves or accumulations which obstructed the channel, a system of constant dredging has been going on during this period, and this has had great influence in making and maintaining a more uniform and much deeper channel. In pursuance of the last-mentioned enactment Parliament, the Common Council of the city of London, during the year 1667, first issued an order allowing and authorizing any "person or persons to dig, carry away, and take away sand, gravel, or any rubbish, earth, or any thing lying and being in any shelf or shelves within the said river of Thames, without lett or interruption of any person or persons, and without any thing paying for the same, and after that to sell the same away, or otherwise occupy or dispose of the said gravel, sand, or other thing, at their free liberty and pleasurc." And moreover, with reference to the jurisdiction which the city authorities exercised over tion which the city authorities exercised over the city and the grounds adjacent, they also ordered " that all paviours, bricklayers, tilers, masons, and all others that occupy sand or gravel, shall endeavour themselves with all diligence to occupy the said sand or gravel, and none other, paying for the same reasonably, as they should or ought to pay for other sand or gravel digged out of other men's grounds about the said city, which after is filled again with much filthy things to the great infection with much filthy things, to the great infection of the inhabitants of the said city, and all others repairing to the same." The noble and majestic river Thames, running east and west through what may now be called the middle of London, and whose waters were formerly of a London, and whose waters were formerly of a pure and pellucid character, is now the *Cloaca Maxima* or main drain of London, as the stream after passing Putney-bridge becomes loaded and contaminated with the outpouring filth discharged from the various sewers

It appears that through the apathy of the constituted bodies under whose care the conservancy of the river Thames was subsequently placed, very many encroachments upon the channel, on both banks by the advancement of the wharf lines, were permitted from time to time by those bodies. The encroachments were, with few exceptions, never formed with a view to the improvement of the navigation of the river, and in consequence many of the projections that were thrown out into the stream formed direct obstructions to the passing currents, which reflected their motions, produced eddies, deposits, and accumulations of mud and silt at the sides, as well as shoals of sand and gravel upon the bed. While the flowing of the tides up the river Thames was left to their own undeviating

While the flowing of the tides up the river Thames was left to their own undeviating course, and before any obstructions were formed, either by embankments or otherwise, the channel of the river must have been considerably shallower than it is at present, for the various embankments must have had considerable influence in deepening the channel to which the flowing of the river was confined, the contraction of the stream producing a greater velocity, and consequently an increased scour upon its bed. That the river was anciently much shallower than at present is evident from the numerous fords which existed, where persons could cross from one side to the opposite on foot as well as on horseback at the time of low-water, whence the Horseferry, by Lambeth Palace, takes its name; and Maitland says that he discovered an ancient ford "about 90 feet west of the south-west angle of Chelsea College Garden, and at lowwater it was only 4 feet 7 inches deep;" and in consequence of the strong winds downwards the previous day the water was not so deep by a foot; and he also says that, "it is probable that at such tides, before the course of the river was obstructed, either by banks or bridges, it must have been considerably shallower."

it must have been considerably shallower." The learned and indefatigable Camden in bis "Brittania" says, "that the Thames receives the tide about 60 Italian miles from the mouth. And there's no other river in Europe that I know of, where the tide comes up so many miles, to the great advantage of those that live by it. Whether it be, that from this place (Shene) there

are hardly any crookings, but 'tis carryed eastward in a more direct channel, generally fenced with higher banks, and opens a wider mouth than other rivers to let in the sea." But since the removal of old London-bridge the tide has risen much higher and runs upwards to a farther distance, in consequence of the increased velocity imparted to the flood, which causes a greater quantity of water to flow in the same time.

flow in the same time. Although the surfaces of the streets and roads of the whole of London have been artificially raised and will of necessity be getting higher, still a considerable portion of the lower part of Westminster, Wapping, and the whole of Lambeth, Southwark, Bermondsey, and Rotherhithe, are now under high-tide level. These places are protected from inundation by the embankments, and by the flaps to the mouths of the sewers; hence the great importance of maintaining such defences, and of keeping them in good repair. But there are times, especially at spring tides assisted by strong north-east winds, when the embankments are overflowed, inundating the streets, premises, and cellars, to the great detriment and annoyance of the inhabitants.

Hence a question arises as to what effect the contemplated embankment of the river Thames may have by the abstraction of water-space in raising the high-tide level above its present height. The momentum of the tidal wave height. The momentum of the tidal wave flowing up the channel of any river receives a considerable check, which is proportional to the acclivity of the channel. Immediately that the tidal wave arrives at and enters the river, the issue of the ebb is in consequence restrained and forced backwards. The check it receives continues to operate upon the dis-charge from the mouth of the river upwards to the highest point of the reach of the tide; for the tidal wave in meeting and striking the downward current of the river water causes a retardation of both streams, and, in con-sequence, a rising of the waters is produced. A contracted channel accelerates the velocity of both the flood and ebb tides, and in propor-tion as the momentum of the one strikes that of the other, the height of the water will increase and will be dependent; for whatever produces a retardation of the natural velocity of a running stream, either from the cause already suggested, or the irregularities and resistance of the channel, has a considerable tendency to augment the height of the stream. The force of the efflux of the river water running through a contracted channel is sometimes such, that its momentum is much greater than that of the flowing tide; therefore, during freshes the former may be running along the channel in the direction of the discharge, while the latter, being reflected and checked by the superior power, flows in imperceptibly on the top; and the narrowed section may be the means of causing the rise to be somewhat higher than the natural elevation of high-water from the tide alone. The surface of high-water in a river is always much higher upwards than the natural elevation in the open sea, the increased rise being assisted by the shelving shores, the acclivity of the channel, and the pent-up river water.

The velocity and motive power of the water of both the flood and ebb, all along their course, should be as equable and regular as possible; but in order to produce a scouring action on the bed, the longer the duration of ebb-tide lasts beyond that of the flood, the greater will be the prevention of accumulation of silt and mud. The extension of the ebb beyond the duration of the flood in the Thames is produced by the flood-tide ponding back the river waters. The matter held in suspension by the water of tides is nearly in a constant state of oscillation, and the scour of many ebbs is necessary before the *debris* discharged into the river can find its way to the sea. Nearly the same quantity of matter carried downwards is forced up again with the return of flood, but not to the same distance, so that it gradually works downwards, and thus the discharge of ebb ultimately carries it out to sea. The conjoint force and action of the back-water in combination with the river water, more especially during freshes, have a greater mechanical effect as a means of scour when the channel is fixed and limited in its transverse section. But the limit to compression should not interfere with the admittance of a sufficient body of tidal water upwards, for the purpose of

acting as an efficient scour in its descent. Every change in a river whose channel is in a state of regimen, produces a change in the relative velocity, which, again, is attended with a loss of power. It is well known that a series of alternate expansions and con-tractions of the channel of any running stream of water materially retards the velocity and quantity of discharge. If a uniform channel be in any way expanded in parts, the expense of water will be diminished; those parts where the channel is expanded imparting a much greater degree of friction, eddies are produced, and the hydraulic mean depth is also lowered, which together diminishes the velocity, and consequently the discharge. And a negative quantity of dis-charge will also be the result when a uniform channel is contracted at parts. For whatever may be the form of the section of any contraction or obstruction which is presented to the run of the tide, it more or less checks the velocity and free flow of the currents, raises the height, and causes reflected motions and eddies, which produce deposits and accumulations. The quantity of water discharged through any section of a stream running in train along a regular and uniform channel would be equal in the same time, because the velocity of the stream, from the equality of friction and hydraulic mean depth would be uniform, and the declivity of surface would be equal throughout its length. But immediately that the section is narrowed at any part and continued for some distance, the previous uniform velocity is destroyed, the height of the stream will be somewhat augmented behind the point of contraction, and the check thus produced will diminish the velocity backwards. The increased velocity at the contracted part does not make up for the diminution of velocity behind, as might be supposed, for under the circumstances, the same quantity of water passes through the compressed section, as through the larger. would appear, therefore, that a retardation of both the velocity and quantity of water would be the result of a contraction, independent of the abstraction beyond, for as the velocity backwards is diminished, the velocity, mul-tiplied by the section, gives the discharge through that section.

When a dam or sluice is placed across a stream running in train upon a channel which the action of the water has adapted to it, it is very remarkable to witness the diminished effect that is produced in the velocity of the upstream. The declivity and form of the channel which accelerates the motion of the water is destroyed, and the height of the stream is immediately augmented until it adapts itself under the circumstances to the discharge. When the channel of a stream or river is contracted, an im-mediate augmentation of the height is produced, which is quickly followed by an in-creased velocity. Both the flux and reflux of the tides between the parts to be embanked, will receive a permanent augmentation of velocity, in consequence of the contraction of the channel and the uniformity of its width; and the velocities of the stream will vary in in-verse proportion to the areas of the transverse sections, increasing where the channel is contracted, and diminishing where it expands. For the quantity of water discharged through a given area, A, with a given mean velocity, is evidently proportional to the area and velo-city conjointly, or to $A \times V$; and as the area remains constant, the velocity also remains the same; therefore, when the area, A, varies, the quantity of water being the same, the mean velocity, V, also varies inversely as the area; and if a given quantity of water pass through any other area, a, with a given mean veloany other area, a, with a given mean velo-city, v, $a \times v$ must also vary in the same time; consequently, $A \times V = a \times v$; and A:a::v:V. Ex, let A = 17,000 sup. ft.; a = 21,000 sup. ft.; v = 4.583 ft. per sec.; then V = 5.6014 ft. per sec. For as 17,000:21,000:: 4.583: 5.6614; and \therefore (17,000 \times 5.6614) = (21,000 \times 4.5622) and $(17,000 \times 5.6614) = (21,000 \times 4.583)$ = 96,243 cubic ft. per sec. = the discharge. So that the same quantity of water passes through each section in the same time; in fact, this must always take place, in order to keep up a regular discharge. Now the depth of a running stream is dependant upon the de-clivity of the channel and the form and width of the transverse section. The consequence of allowing the tidal waters of a river to expand over extensive lateral tracts of land adjacent to the main channel, is to produce in some is the architect.

degree a depression of its depth, and both the flux and reflux will, from this cause, be of a diminished velocity. But immediately that the spaces of those lateral tracts of land are abstracted, and by embankments the transverse section of a river is narrowed, the waters will flow and reflow with an augmented velocity throughout the whole of the confined channel, but more especially at the surface in the middle of the greatest run of the stream; and at the same time the stream will increase in height. An enlargement of the transverse section, therefore, as at present, produces a diminution of depth and velocity, and as the section increases, the amount of water is augmented in much greater proportion; and conversely by contracting the width of the channel at that part an increased depth and velocity will be imparted to the stream, and a somewhat less quantity of water will be forced up by the tide. This must have the effect of plac-ing those situations on the banks of the Thames in jeopardy which have hitherto been barely out of its influence, and a solid em-bankment of the river Thames would have a considerable tendency towards producing this effect. But the excellent plan proposed by Mr. Page can only cause an increased height in a very slight degree, providing the tide be al-lowed to flow regularly in and out of the docks; as the cubical contents of the wall itself, and the spaces proposed to be filled up in front of Whitehall and the Temple-gardens, would be the only abstraction of water-space, and this abstraction is to be compensated for by dredging above low water mark, bringing the low water line to the base of the terrace.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AN ordinary meeting was held on Monday evening last (the 10th), Mr. H. E. Kendall in the chair, when Mr. Charles Freeman was elected a fellow, and Mr. William Beck, Mr. Thomas Hayter Lewis, and Mr. Edwin Nash, were elected associates. Amongst the donations was a curious edition (from Mr. Webb), of Cæsar's Commentaries, translated by Palladio. and published at Venice in 1518.

of Cæsar's Commentaries, translated by Palladio, and published at Venice in 1518. Mr. R. W. Billings then read a paper on the carving machine patented by Mr. Samuel Pratt, and exhibited a number of specimens executed by it. We shall notice this very valuable invention in the ensuing week.

The honorary secretary announced that the medals of the Institute would be awarded next year to the authors of the best essays on the following subjects :---

1. On the adaptation and modification of the orders of the Greeks by the Romans and moderns.

2. On the history and manufacture of bricks. And that the Soane medallion would be awarded to the best design for a royal chapel, with seats for five hundred persons, inclusive of the suite, attendants, and choir; the building to be detached, and in a classic Roman, or Italian style. The drawings of the elevations and two sections to be to a scale of one-quarter of an inch to the foot; the plans and perspective view to one-eighth of an inch to the foot, and tinted with India ink or sepia only.

We are anxious to draw attention to these premiums, and express a hope that some of our readers may be induced to enter the lists and carry off the prize. The competition is not confined to members of the Institute.

DAS MAURICHE BAD. — A very extensive structure in the Moorish style has recently been erected at Kaunstadt, in Wirtemburg. It consists of baths, picture-galleries, rooms for balls and assemblies, and spacious conservatories furnished with the choicest plants, and disposed in the most tasteful manner. It is constructed of stone of two different tints laid in alternate courses, and all the architectural members and ornamental details are said to be faithfully rendered from the finest specimens of Arabian architecture in Spain. One conspicuous feature in the design is a copper dome richly gilt; and the octagon conservatories, whose sides are composed of lattice-work filled in with glass, have also gilded domes. Its name is not yet determined upon, so at present it is known only by that which it has obtained from the public of "Das Mauriche Bad," or the Moorish bath. Zanth is the architect.

INSTITUTION OF CIVIL ENGINEERS.

MARCH 4.—Sir John Rennie, President in the chair.

The paper read was "A description of the Great Britain steam-ship, with an account of the trial voyages," by Mr. T. R. Guppy, Assoc. under whose superintendence the vessel and engines were constructed. The paper first gave an account of the origin of the Great Western Steam-ship Company, by a few of the proprietors of the Great Western Railway, who thought that when their railway was completed, Bristol would become the natural port for a direct line of communication with New York; hence the building of the Great Western steamer, which succeeded beyond the expectation of the proprietors, with the single exception, that, like many other steamers, the machinery and fuel occupied so great a space, comparatively with that devoted to passengers and goods, as to operate prejudicially in a pocuniary point of view. The company then projected a second ship, and after much consideration, decided upon building it of iron, with peculiar direct acting engines, and in consequence of the apparent success of the experimental "Archimedes," they determined upon using the screw propeller. The details of the given; of the latter, as they have so repeatedly been published, it will suffice to mention only a few;—the length of keel, 289 feet; length aloft, 322 feet; main breadth, 50 feet 6 inches; depth of hold, 32 feet 6 inches, tonnage, 3,444 tons. The weight of iron used in the hull is 1,040 tons; the weight of woodwork in decks, &c., is 370 tons; weight of the engines and boilers without water is 520 tons; the total weight is therefore 1930 tons. She will take 1,000 tons of coal, and 1,000 tons of measurement goods, at a draft of 17 feet of water forward, and 17 feet 6 inches aft.

The engines employed to drive this screw consist of four cylinders, each 88 inches in diameter, with 6 feet stroke, working with steam at 44 lbs. pressure, and cutting it off at § th the length of the stroke. The connecting rods act directly in pairs upon crank pins at either end of the main shaft, 17 feet long by 28 inches in diameter. Upon the main shaft is a toothed drum 16 feet diameter, around which work four pitched chains, encircling also a lower drum 6 feet in diameter upon the propeller shaft. The chains work quietly and smoothly, and when the engines are making eighteen revolutions per minute, the speed being nearly 2.95 to 1, the screw makes about fifty-three revolutions per minute. A considerable portion of this shafting was 30 inches diameter, hollow, and formed of two courses of plates § inch thick rivetted together.

The account of the trial trips in the Bristol Channel, and the voyage from Bristol to London, abounded in curious facts. It appeared that with the engines making 183 revolutions, the speed of the vessel would be 113 knots, and the slip of the screw 13 per cent. : even during the voyage round, with a heavy gale dead against her, she made upwards of 93 knots. The ship behaved remarkably well, steered well, and although disadvantageously loaded, with no weight in her bottom, she rolled easily. In the heaviest weather the engines worked uniformly, and never made those variations in speed which are observed in steam-boats when the puddle-wheels are alternately plunged deeply, and then nearly out of the water.

RAILWAY IN INDIA.—A company has been formed to construct a 'railway to connect Bombay with the mainland, and ultimately with the city of Poonah, and the Deccan. Government has expressed its willingness to allow a free passage through its lands, and has recommended an Act of incorporation. The leading native landholders have also come forward to declare their concurrence to grant a free passage through their lands. There are no remarkable difficulties for the engineering department between the fort of Bombay and Tamah, and the traffic in goods, produce, and passengers is very great. Of the advantages of the railway there is not the smallest doubt; the direct trade from Bombay into the interior has no other line for a road.

CAMBRIDGE CAMDEN SOCIETY.

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At the last meeting of the society, held March 6th, five new members were admitted, and the following report was read by the secretary :---

"The committee have to announce the publication of the sixth part of the 'Instrumenta Ecclesiastica;' which contains working-drawings of a parclose, a bier, coffin-lids, a lichgate, and a font-cover.

gate, and a font-cover. They have also put in hand the sixth number of the 'Illustrations of Monumental Brasses,' which will complete that series in a single volume. The subjects chosen for illustration are a priest, from S. Margaret's, Horsmonden, Kent; a judge, from S. Peter's, Gunby, Lincolnshire; a knight and a priest, from S. Mary's, Broadwater, Sussex.

Grants of money have been made towards the restoration of S. Mary's, Stogumber, Somersetshire; S. Mary's, Rampisham, Dorsetshire; Holy Trinity, Rudgwick, Sussex; S. Peter's, Frome, Somersetshire; and a small grant has been given in token of approbation of the design for a new church at Chapeltown, in the parish of S. John, Ecclesfield, Yorkshire.

A third part of the Transactions is in progress.

They would take this opportunity of making known that the Messrs. Powell, of the Whitefriars Glass-works, London, have applied themselves to the manufacture of flowered quarries from the designs put forth by the society in the 'Ecclesiologist,' Nos. 25, 26, and the 'Instrumenta Ecclesiastica,' Part III. The manufacturers have secured a patent for their process. The removal of the tax upon glass will now enable church-builders and restorers to bring flowered-quarries into general use.

The committee give notice, in pursuance of law 16, that at the next meeting, on April 24, they will propose that the 16th law of the society be suspended on the anniversary meeting of May 8th, in order to facilitate the general discussion of the recommendation from the committee which will then be submitted to the members.

They have further determined that nonresident members shall be allowed to vote on that occasion by proxy. Forms of proxy will be furnished to each member at an early opportunity."

To be, or not to be, is still the question; and the advocates of either side are actively canvassing for supporters on the day of trial. The admission of proxies is considered by some to have nearly settled the doubt, and they look upon the society as re-established.

We are not quite so certain of this ourselves, as we know that many of the non-resident members have regarded with sorrow the proceedings of the association. Fully impressed as we are, with a knowledge of the improvement in church architecture which this society has materially aided in effecting, we would rather see it completely dissolved than that it should be permitted to pursue the dangerous path into which, by insidious hands, it has been guided,—a path, the end of which is too plainly visible.

MABBLES OF NORTH DERBYSHIRE. — There still exists a considerable portion of ambiguity respecting the ancient trade and commerce of England. The district of North Derbyshire, from the difficulty of its approach, being nearly surrounded with mountainous ridges, and intersected by deep defiles and mountain passes—is equally difficult. These combined features give that part of North Derbyshire denominated the High Peak, a duth, heavy, isolated character. Nevertheless, a district like North Derbyshire, abounding as it does with the useful ores of lead and iron, with other natural productions, would necessarily have some intercourse of trade in early ages. There is sufficient evidence to prove that a very large and considerable quantity of Derbyshire marble, and fluor spar were objects at that time of exportation. At the different spar manufactories in Derby, Matbek, &c., this elegant material is worked into a variety of ornamental and useful articles; such as vases, cups, necklaces, ear-drops, &c. Thousands of these are exported to foreign markets.

FREEMASONS OF THE CHURCH.

MARCH 11th, 1845.—The Rev. G. Pocock, LL.B., in the chair. The minutes of the last meeting were read and confirmed. Mr. W. P. Griffith, F.S.A., was elected secretary. The following additional vice-presidents were elected: Lord John Manners, M.P.; Sir Walter James, M.P.; C. Baring Wall, Esq., M.P.; Benjamin D'Israeli, Esq., M.P.; and C. Newdigate Newdegate, Esq., M.P.

M.P.; Benjamin D'Israeli, Esq., M.P.; and C. Newdigate Newdegate, Esq., M.P. Mr. W. G. Rogers exhibited a specimen of ironwork from Hampton-court Palace, consisting of a portcullis and a porter's guard: also a portrait of George IV. in mosaic, from the picture presented to Pope Pius VII., the only Protestant portrait in the Papal palace. Mr. J. W. Archer exhibited a cast from a seal of Bramber Castle, Sussex, found lately underground.

On the motion of Mr. W. P. Griffith, it was resolved that a deputation, consisting of the Rev. Hugh Hughes, B.D., Rector of St. John's, Clerkenwell; the Rev. G. Pocock, LL.B.; Messrs. C. H. Smith, T. Dighton, W. G. Rogers, and Mr. J. Finn, should wait upon Messrs. Reid and Co., to endeavour to dissuade them from disfiguring St. John's Gate, Clerkenwell, with compo, now commenced, and if successful, that the secretary should call a public meeting to adopt immediate measures for its careful restoration. Mr. J. W. Archer then read a discourse

Mr. J. W. Archer then read a discourse upon the existing monumental brasses of England.

The lecturer explained, that monuments described by the conventional term brasses, were composed of various alloys, some of which he described. He then spoke of the knowledge of the principles of architecture and of the arts, generally cultivated by churchmen of the middle ages, and ascribed to them the design of some of the monumental brasses. This was followed by some description of the process by followed by some description of the process by which a brass was executed, and the work-manship was ascribed to the goldsmiths of the time; the tombs of Richard II. and Queen Eleanor were as evidence of the combined operation of the goldsmiths, and en-gravers' work. After this, the lecturer touched upon the arts of the thirteenth century, and produced arguments in support of the existence of an original school of art in England previous to the revival in Italy. Some circumstances indicating the introduction of certain features of Greek art during the thirteenth century were mentioned, and seve-ral brasses of the fourteenth, fifteenth, and sixteenth centuries described. In the examination of certain tombs a resemblance was discovered between the appearance of the body and the effigy on the tomb. A monumental brass, recently found in the city, was men-tioned, as affording evidence of the use of colour, and the nature of the material. The destruction of brasses, both before and after the Reformation, was commented upon, and some suggestions were thrown out with regard to the possibility of brasses, which had been concealed in troubled times, being discovered.

The lecturer, in conclusion, spoke of the utility of the monumental brasses, as guides to historical painters for costume, &c.; described the decline of the art, and its ultimate disuse, and delivered some reasons for its revival, which he had undertaken and made some progress in. He expressed a hope that, in the awakened inquiry now going on relative to church architecture and decoration, the beauty and religious character of the old nonumental brass might entitle it to due attention and an appropriate place among the accessories of pointed architecture.

ORPHAN WORKING SCHOOL, CITY-BOAD.— The great increase of claimants upon the benefits of this charity have induced the committee to ercet a larger and more commodious building, which is now being carried into execution at Haverstock-hill, Hampstead-road, under the superintendence of Mr. Ainger, who has furnished the design. In a circular issued by the committee, it is stated that 6,200*l*., out of the benefactions of deceased governors and friends, have already been expended, by order of the general court, in the purchase of the ground. About 14,000*l*. are required for the completion of the plan.

MUSEUMS OF ART.

MB. EWABT a few evenings since obtained leave to bring in a bill to enable town-councils to establish museums of art in corporate towns. The advantages that must arise from encouraging a taste for the arts by the means proposed, are so great, so various, and so evident, that no diversity of opinion was expressed in the House.

In introducing the subject, the hon. member took occasion to say that there existed peculiar circumstances at the present time for affording facility in the diffusion of works of art throughout the country. By the railways, specimens might be sent down to the different large towns, and it would be the fault of the Government if there should be one without a museum of such a character as would give a sound taste for the arts, and thus enable the people to apply the skill they thereby attained to manufactures. He trusted, therefore, that before long he should see the system of schools of design generally perfected throughout the country. But exhibitions of works of art were moreover necessary to educate the eye of the people. It was well known that until the Romans had an abundance of specimens, and, as it were, were educated by the eye, they never themselves made any great progress in the arts.

Mr. Wyse, in seconding the motion, pointed out the number of contingencies to which voluntary institutions were subject, and how difficult it was to guarantee the continuance of them if they depended solely on the disposition of the inhabitants of large towns.

Sir Robert Peel suggested, that instead of giving the town-council too extensive powers to tax the people for the purposes contemplated, they should first endeavour to obtain by voluntary contributions, sufficient money to provide the museum; the edifice being erected by such means, on the clear understanding that it would be henceforth maintained by local taxation. Such a plan would insure the permanency of the museum, and afford a guarantee and an encouragement to the rich and liberal to come forward in order to establish the museum. The same experiment had been tried successfully in respect to the endowment of new churches. If the town-council should obtain the power proposed, he hoped they would thus make it subservient to local liberality and improvement. He had no doubt that the effect of such a plan would be to lead many of the resident gentlemen of each neighbourhood not merely to assist in rearing the edifice, but in supplying it with valuable presents.

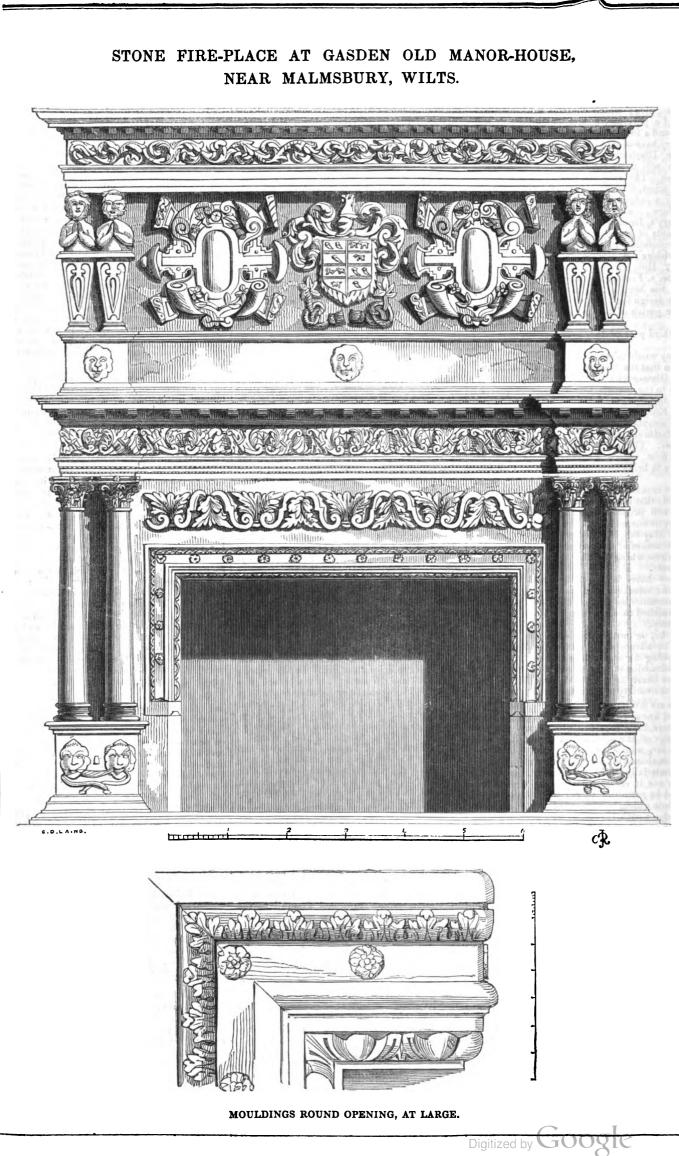
Mr. Brotherton submitted a calculation he had made with regard to a large town with which he was connected, by which it appeared that a tax of one halfpenny in the pound would be sufficient to raise a building which should cost 50,000*l*. He further stated, that it was much better to cultivate a taste for the arts at the public expense, than to raise a large amount of taxation for the prevention and punishment of crime.

Mr. M. Gore thought that the proposed step would tend not only to raise the arts and sciences to a loftier eminence, but at the same time, while improving the morals and purifying the spirit of the people, it would extend the basis on which rested the foundation of peace, security, and national prosperity.

Mr. Labouchere observed, that the proposed measure would afford a very important assist-ance in the promotion of the objects of the school of design, which was extending its ope-rations throughout the country, and accomplishing the greatest good in many branches of He thought it to be of great manufacture. importance that the people should have opportunities of seeing models of works of art of the highest class; and without it all schools of design would labour in vain to diffuse a correct taste in art and drawing. The very best models happened to be those which could be supplied at an extremely cheap rate-casts of the best statues of antiquity and bas-reliefs. The late Sir F. Chantrey, who, to his honour, raised himself from humble circumstances, used to be a constant attendant in the School of Design, and often regretted that he had not had his mind trained and his eyes educated by being accustomed to such works of art from an earlier period of his-life.

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THE BUILDER.



STONE FIRE-PLACE AT GASDEN OLD MANOR-HOUSE, NEAR MALMSBURY, WILTS.

THE fire-place represented on the adjoining page, is in my opinion, a much better example of the architecture of James I. than either of those from Hickes's Hall* or Boston House.+ This is in the great chamber of the old manorhouse at Gasden, in Wilts, situated near the picturesque village of Charlton, and is entirely of stone.

The building, which is now occupied as a farm-house, contains little else worth notice, excepting one or two good ceilings, and some very rich iron turn-buckles to the lead casements. I have not been able to meet with any history of the building, neither can I get much information respecting the shield of arms in the centre of the firstly of arms in the centre of the fire-place; it appears to contain the arms of Oldgrave or Owlgrave, and Colt (the latter was a Wilts family); the former bore azure, a fess engrailed between three owls argent; Colt bears argent, a fess azure, between three horses courant sable. These are apparently the arms, but repetigree shews no connection between them. It must remain conjectural as to whom the shield belonged.

C. J. RICHARDSON.

THE PARISH OF CHELSEA, AND THE METROPOLITAN IMPROVEMENT COMMISSIONERS.

THE inhabitants of St. Luke's, Chelsea, have addressed a memorial to the Improvement Commissioners to the following effect; we hope the example will not be lost sight of by other parishes :-

"That, looking upon London as the centre of the monied world, and, as a necessary con-sequence, the place where the business of the United Kingdom, its colonies, and dependen-cies, and the business of the whole world, to a great extent, must be concentrated; viewing it also as the seat of Government, the focus of literature, art, and science, it is obvious that it must, with its present extraordinary and daily increasing facilities of communication, go on attracting larger and larger numbers to it from all parts of the world.

That successive governments, foreseeing this, and bearing in mind the increase of traffic which must necessarily spring from it, have, with a wise forethought, which is greatly to be admired, done all in their power to improve the leading thoroughfares of the metropolis by widening them where practicable, and making more direct communications, and opening up new ones, where required.

That by these means the city and the spproaches to it from all parts, have been im-proved to an extent which would have been deemed impracticable half a century ago.

That, notwithstanding these great improvements, however, it is obvious greater facilities of communication will soon be required; and since little more can be effected in the formation of new lines of thoroughfare than is now being effected, or about to be effected, the question naturally arises, what other arrange-ments can be made to meet the expected increase of traffic?

That, in the opinion of your memorialists, there is no other mode of making this provision but by rendering the river Thames, which runs through the very heart of the metropolis, more available for steam-boat traffic.

That, considering the wonderful increase of traffic by these boats of late years, and the advantages they hold out in point of cheapness, celerity, and comfort to the passengers, there is little doubt they would become the common means of transit to all persons residing along the densely-crowded shores of our river, provided proper stations were made at convenient spots along its banks, and proper accommodation were provided at them for passengers whilst waiting for embarkation.

That by this mode it appears to your memorialists, provision might easily be made for an increase of traffic to any conceivable extent, not only to the great relief of the main thoroughfares from the vehicles that would otherwise be crowded therein, but the great advantage of the public. That, important as this provision for the

* See page 562, vol. ii. † See page 570, vol. ii.

growing traffic of the metropolis would be, commercially considered, there is another point of view in which it would be of equal, if not greater, importance; viz. as a means of cheap and ready conveyance to the large multitudes of the working population who reside in the densely-crowded neighbourhoods on both sides of the Thames, to open spots on the banks of the river beyond the metropolis, which might now be easily secured, for their exercise and healthful recreation. That, considering the rapid rate at which the

suburbs of the metropolis are extending in all directions, and the distance people must consequently travel from the centre of the metropolis, through crowded thoroughfares, before they can reach the open country for air and exercise,— the importance of providing larger open spaces on the banks of the Thames as places of resort to the working classes, cannot possibly be overrated.

That, under this impression, your memo-rialists have heard with great delight the inten-tion of her Majesty's commissioners to recommend an embankment of the Thames, so as to form a handsome road from Vauxhallbridge to Battersea-bridge, considering as they do, that such embankment, with a broad and handsome foot and carriage way attached to it, would not only be one of the greatest orna-ments of the metropolis, but a great advantage to all classes therein, and in particular to the working classes before referred to.

That to make such embankment, however, of the greatest public utility, your memorialists humbly submit that the means of continuing it onward to Fulham ought at once to be secured. if not rendered immediately available. They would, therefore, strongly urge upon your bonourable Board the necessity of purchasing a belt of land along the banks of the river, of a sufficient breadth for carrying out the three following purposes :- lst. The formathree following purposes :- 1st. The forma-tion of ornamental walks next the river, for the use of the myriads of working people, who would avail themselves of the convenience and cheapness of steam-boat transit, to enjoy the pure air and delightful scenery that would be thus afforded them. 2nd. The construction of a handsome carriage-drive from Chelsea to Fulham, for the use of the upper classes. And 3rd. The erection of a series of villas along that line of road, the sites of which would, in the opinion of your memorialists, sell for more than would pay the whole expense of the purchase of the land in its present state, and the formation of the embankment.

That if this noble undertaking were carried out in the style in which the Government has hitherto been accustomed to carry out its plans, your memorialists confidently believe that it would excel in real utility and beauty of design, any thing which has yet been ac-complished in any city in Europe.

That your memorialists, besides forming part of the of the community to be benefited by the admirable work, conceive they have an especial claim to urge its execution, inasmuch as they are inhabitants of a parish containing a population of upwards of 45,000 persons, who have been paying for many years the extra duty of 8d. per ton upon all coals brought into London, and have thereby contributed towards the carrying out the improvements in other parts of the metropolis, while they have as yet derived no advantage from any improvement effected in their own locality.

That your memorialists, contemplating the improvement which would be effected by the embankment upon a part of their parish, have been induced to seek the aid of the legislature, for the purpose of effecting improvements in other parts of the parish at their own expense, and a bill for that purpose is now before Parliament.

That as a parish in the vicinity of the royal palace, struggling to emancipate itself from the very degraded position in which it has been left for many years, your memorialists confi-dently look forwards to the embankment as a work that would have a greater effect in stimulating improvement in their neighbourhood, and raising it in the scale of metropo-litan districts, than any thing else that could be devised.

For these reasons, therefore, your memo-rialists earnestly entreat your honourable honourable Board that you would be pleased to use your best exertions to cause the embankment of the Thames, from Vauxhall-bridge to Battersea-

bridge, on the Middlesex side, to be carried out with the least possible delay, and also to insure the continuation of the same onward to Fulham in the mode above referred to as soon as practicable.

And your memorialists will ever pray. &c."

LAYING OUT STREETS AND ALLEYS.

-I will further intrude on your columns SIR upon the remaining question in the circular of the official referees concerning streets, quoted in your leading article of the 25th January. Upon this point the opinion of the referees is thus given :—"Streets formed after the passing of the Act must be built in conformity with the provisions of the Metropolitan Buildings Act, see section 52, and that the mere setting or laying out will not be sufficient to take them out of the Act." Feeling that in some cases out of the Act." Feeling that in some cases this might press hardly, they say, "If parties are prejudiced by the enactment, they must seek relief under the 9th or 10th sections." Did this proposed relief exist, it would be but an appeal to them from their own previous decision, expressed by sanctioning the issuing of a summons; but by some oversight they have quoted sections that have literally nothing to do with the matter ; these sections referring exclusively to parties who have entered into agreements by which they were permitted to form streets and alleys of a dimension and form proscribed by the Act, to assess the amount of damage they sustain as against their landlord; and consequently can have no effect in relation to parties having laid out such streets on their own land, or under an agreement or lease where no such operation formed part of the consideration.

To make the matter intelligible, it may be well to state, the date of the passing of the Act was 9th August, 1844, set up by the dictum of the referees versus 1st January, 1845. I am the referees versus ist January, 1943. I am aware of the difficulty of proving a negative, but their assumption of a particular date (the passing of the Act) would tend affirmatively to prove that in their opinion streets formed previous to that period might be built upon; and for the term "built" I thank them very much.

I object to the substitution of the 9th August for the 1st January, for this reason: the public had permission given them to do certain acts before 1st of January, amongst others, by section 2, under the head "Hereafter to be built," we find "to apply to all streets or alleys not laid out before the said 1st day of January, or which, being laid out, shall not be rendered fit for use within twelve months thereafter." Here is a positive enactment, in my opinion, not at all controlled by section 52, which, being uncertain, would not be per-mitted to over-ride such positive permission. It is stated in section 52, "Be it enacted with regard to such streets and other ways hereafter formed, so far as relates to securing a sufficient width thereof." I contend this precedent formed, so far as relates to securing a sufficient width thereof." I contend this precedent paragraph, by the word "hereafter," applies to section 2, "already built," as above quoted, and then comes "That from the passing of this Act all the conditions, regulations, and directions contained in the schedule (I) to this Act annexed shall be duly observed and performed;" here is at least contradiction against previous, positive, and intelligible permission.

This brings us to the discussion in what yay such streets or alleys laid out before the 9th August, or 1st January (as the case may be decided), may be built upon. It is quite clear that parties may now, as heretofore, at any time lay out streets or alleys, of what form and size they please, provided no attempt is made to build upon those not in accordance with the Act. The referees have negatively admitted that such streets and alleys may be "built" without reference to the new Act, if formed (as they state) previous to the passing of the Act. As practical men, they saw, being of the Act. As practical men, they saw, being under the head "already built," it implied erections to be put thereon, and not the mere forming the street; this will remove a world of doubt as to what a "commencement" is. It appears to me evident that any party having so laid out a street or alley before 1st January, and completing the same within twelve months, may cover it with buildings perfectly irremay cover spective of the new Act.

In your leading article of 25th January, Digitized by GOOGLE

you quote, as the opinion of the official referees, "as to the mode of erection which may be pursued with regard to buildings so commenced" (*i. e.* duly commenced before January 1), "we are of opinion that as to such buildings within the operation of the old Buildings Act (14 Geo. 3, c. 78), they must be built according to the provisions of that Act, since these proceedings, commenced or taken under that Act before the 1st January, are not repealed." In the case stated in my letter 22nd February, I feel that I owe the referees an apology for venturing to assume they had overlooked this exception; but with this knowledge included in the circular to the district surveyors, how came the district surveyor, having received admitted legal notice under the old Act, to issue the summons? And still more startling is it that the referees, in opposition to their own dictum, appointed a hearing of the case, attended on our part by three surveyors and witnesses. Who is to pay

Having now touched upon each point in the circular from the referees, I propose for the present to intrude on your columns with one further letter only, proposing concisely to set out the points at issue—to bring the whole matter by a kind of abstract before your readers, that such course may be taken as shall be deemed expedient. It must be evident the referees cannot notice such statements; and being but the opinions of an individual, they can lead to no practical result. In my last letter I stated my intention of declining the proposed conference with the referees; upon consideration, I felt I was not justified in so doing, inasmuch as the interview was not proposed to discuss the merits of the case (another day being named for the hearing thereof), but simply to discuss my allegations of irregularities in the proceedings. I am really glad that I attended the meeting; and have much pleasure in stating that in an extended conference, free discussion was permitted on the smallest point, and an evident desire evinced to elicit the truth.

Although I do not feel myself at liberty to give to the public the details of the discussion, it has enabled me to arrive at a conclusion in my own mind of what the duties were intended to be, and as my allegations and the reply of the district surveyor, whom I met, have become public records, I do not feel the same hesitation in bringing them forward in illustration of my arguments in my promised concluding letter. My present impression is, that the duties of the official referees are more defined than we have imagined, but that difficulty to some considerable extent, will arise from a want of controlling power to prevent parties unnecessarily calling in the district surveyors, and through them moving the office of the official referees. My present view is, that the machinery once put in motion, there is no alternative but to proceed; but it would be a disgrace to the intelligence and science of the present day to imagine that a well-constructed drag might not be adapted to check a body impelled by the most fearful impetus; and I have a glimmering of hope that a safety valve may be constructed through the medium of the Com-missioners of Works and Buildings, by the power delegated to them by sec. 11, upon a fair and candid representation being made to them of difficulty having arisen in the construction to be put on certain clauses.

GREENWAY ROBINS.

THE CHURCH.—At a meeting, held two weeks ago, of the Incorporated Society for promoting the enlargement, building, and repairing of churches and chapels, grants were voted towards building two new churches viz. at Seer Green, near Slough, and at Sandown, in the Isle of Wight; and towards rebuilding, with enlargement, the churches at Croxdale, near Durhan; Illogan, near Redruth; Puttoxhill, near Silsoe; Runcorn, Cheshire; Goytreas, near Pontypool; Bradpoole, near Bridport; and Woolfardsworthy, near Crediton. And likewise towards the enlargement or otherwise increasing the accommodation in the following churches—viz. Whimpole, near Honiton, Devonshire; Market Bosworth, Leicestershire; Haverfordwest, South Wales; and Coombe Bisset, near Salisbury.

WORKS IN THE PROVINCES.

Ar Bury St. Edmund's, a move has already been made towards establishing a museum of art in that town. The chamber over the abbey gate has been suggested as being welladapted for the purpose, both as regards size and locality. A correspondent of the Bury and Suffolk Herald states, that from the well-known liberality of the Marquis of Bristol, but little doubt exists of his willingness to grant it for the object proposed.

At the great Highland gathering, in August next, in celebration of the "forty-five," and which is to take place in the centre of one of the most wild, beautiful, and picturesque scenes in the Highlands, a magnificent celtic cairn is to be erected to the memory of the author of "Waverley." Every individual present, of whatever country, will have the opportunity of "adding a stone to the cairn" of the mighty wizard.

At Liverpool, a new observatory has recently been erected by the corporation. It is near the south-west corner of the Waterloo Dock, and a few yards from the river wall. The building is of hewn red free-stone two stories in height. The principal front is to the south, with a central semi-circular projection. There is a smaller frontage to the west, affording a fine view of the river and the Cheshire shore. The chief apartments consist of the chronometer room, the transit room, and the equatorial room. The primary object of the observatory is not so much for general astronomical observations, as for the practical purposes of ascertaining *true time* for the accurate rating of ships' chronometers,—in other words, for the immediate use and benefit of the port, in this respect, a desideratum which has long been felt.

Application will shortly be made to Parliament for an Act to construct certain reservoirs at the head of the river Kent, in Westmoreland. It appears from a petition lately presented to the House of Commons from the inhabitants of Staveley, that the falls of water on the river have been the great source of trade, and, by the drainage of land and a lake called Kentmere Tarn, the river is more easily influenced by floods and drought, so that many have suffered severely from the want of water in dry seasons. That many falls are still unoccupied by mills whose value would be increased by a constant supply of water. That coal is very dear, and consequently water is the only power obtainable in the neighbourhood; and that unless reservoirs are constructed, the river Kent will become altogether unprofitable for manufacturing purposes.

unprofitable for manufacturing purposes. At St. Ives, the new National Schools are progressing very fast towards completion; the style is Gothic, and the building will be ornamental to the town. The master is appointed, and the schools will be opened this spring.

At Goventry, a commodious and substantial new school-room, belonging to Bailey's charity, has recently been erected at the back of the old premises in Little Park-street. It was opened for the first time on Sunday morning last, in the presence of the school trustees and several clergymen.

A public meeting was held last week at Rotherham, Yorkshire, for the purpose of adopting measures for the establishment of public baths. A company has in consequence been formed, and the necessary funds are to be raised by the issue of shares of 5/. each. A provisional committee was appointed to canvass the town and neighbourhood for subscribers, to look out for an eligible site, obtain plans and estimates, and to report to a future meeting of subscribers at the earliest possible opportunity. A letter was read from Mr. Buller, one of the secretaries of the London committee for forming public baths and washhouses, offering any aid which might be in his power to facilitate the object of the meeting.

A public company has been formed for the purpose of improving the outfall below Lynn, in Norfolk, and for reclaiming from the sea 30,000 acres of land, part of the estuary called "the Wash," between the counties of Norfolk and Lincoln. To carry out the object, it is proposed to raise a capital of 500,000/. The trustees consist of Earl Fitzwilliam, Sir Thomas Hare, Bart., Earl of Orford, Lord George Bentinck, M.P., William Bagge, Esq., M.P., and W.W. Chute, Esq., M.P. The Duke of Portland has subscribed 5,000/. towards the undertaking.

At Deal, the Commissioners of Pavement have determined upon purchasing the houses at the south of the Esplanade, and throwing the sites thereof into the street. The town will be considerably improved by this judicious step on the part of the trust.

At Northampton, a dispensary is about to be erected in commemoration of her Majesty and Prince Albert passing through that city on their late visit to the Marquis and Marchioness of Exeter, at Burleigh House. The noble marquis, as lord lieutenant of the county, has addressed a communication to the Mayor of Northampton, signifying her Majesty's consent at the intended new establishment bearing the name of "The Victoria Dispensary."

the name of "The Victoria Dispensary." At Exeter, the members of "The Episcopal Free Church" have purchased a site on tha east side of Southernhay, nearly opposite the entrance to the cathedral close, for the purpose of erecting a sacred building.

entrance to the cathedrai crose, so and of erecting a sacred building. At Hull, the Victoria Promenade is progressing most favourably, although little has lately been heard of it. Lord Fitzwilliam, Lord Milton, and the Hon. Mr. Fitzwilliam, have recently become shareholders. The promoters have had their attention up to the present time almost entirely directed towards procuring the requisite land. The committee of the Church Building Fund have fixed upon the neighbourhood of Kingston College as an eligible site for the proposed new church at Hull. The church is to be dedicated to St. Paul.

The proposal to build a bridge over the Mersey has been revived, and Mr. William Stuart, a Scottish engineer, has submitted a very ingenious plan for carrying the project into effect.

The political friends and admirers of the late Lord Holland have subscribed 5,000*l*. for a monument to his memory, to be placed in Westminister Abbey. The committee of management have intrusted the execution of the work to Mr. Baily, the Royal Academician.

The Earl of Shrewsbury has just concluded a treaty with a building company in Cheshire, by which his lordship receives 35,000/. for 85 acres of his extensive property in that county.

An important project is in contemplation, which, if carried out, will prove of immense advantage to Maidstone and the surrounding country. The proposition is to deepen and widen the River Medway, so as to make it navigable up to Maidstone.

navigable up to Matastone. The Council of the United Service Institution, in Scotland-yard, have lately purchased the adjoining house of Lord Stuart de Rothsay, for 3,500*l.*, subject to a ground-rent of 250*l.* **a** year. The purchase has been made with the view of enlarging the museum, and constructing a capacious lecture-room. The Earl of Arundel, who is vice-president, has contributed the liberal donation of 100*l.* towards the contemplated improvements.

templated improvements. It appears that Prince Albert was so much delighted with the game of tennis whilst at Brighton, that it is his Royal Highness's intention to build a tennis court at Buckingham-palace.

ARLES.—Plans have been made (says the *Constitutionnel*) for the restoration of the Amphitheatre of Arles, and the Church of St. Ouen at Rouen. The estimated expense of the first is 400,000f. and of the second 1,400,000f.

WALLS BUILT OVER WELLS. — A short time ago, when a shepherd's wife at Aspenden, near Buntingford, was sitting with her children before the fire, the fire-place, hearth, stove, the children's seats, and every other article in the vicinity disappeared, sinking down, as through a trap-door. It turned out that the fire-place sunk into an old well that had been built upon for more than half a century. The aperture left is about six feet in diameter, and the depth, as far as can be ascertained, for the debris, sixty feet, and containing a great quantity of water. About seventy years since the premises were in the occupation of Mr. Penn, a brewer, and it is supposed that the well was not arched over when built upon. Very recently we observed a new party-wall built upon oak planking over a well, without an arch. It is to be hoped the above recorded narrow escape may serve as a warning against

such a practice OOSIC

Rew Books.

The Geologist's Text Book. By PROFESSOR ANSTED. Van Voorst, London: 1845.

A KNOWLEDGE of the principles of geology isalmost essential to engineers and architects In making roads and canals, tunnelling, the selection of sites, and the materials for buildings, digging for water, and draining lands, it will be found of the utmost value. It is not to be expected, neither is it necessary, that every architect should be a professed geologist; but knowledge of he should have such a general the science as shall shew him where to go for information when the special occasion arises, and how to avail himself of it efficiently.

The publication before us is not intended for those who have no previous acquaintance with the study, but as a companion in the field or closet to a student who has been taught the principles, but is not yet familiar with the practice, of the subject. In fact, it is an analysis, and a very able one, of a larger work on geology by the same author,—a summary of the actual condition of the science, and an intimation of how far conclusions in vogue may be admitted as sound, and acted on with confidence. It is an able work, and may be safely consulted.

A Report of the Proceedings of the British Archæological Association, at the first Ge-neral Meeting held at Canterbury. By ALFRED JOHN DUNKIN. J. Russell Smith, London : 1845.

THIS volume, of which only 150 copies have been printed, contains a full and very correct account of all that occurred at Canterbury in September last, and cannot fail to be ac in September last, and cannot fail to be ac-ceptable as a record, to those who attended. Sir William Betham's paper, "On the origin of Idolatry;" the Rev. J. B. Deane's valuable essay "On the early sepulchral remains extant in Great Britain;" Mr. Lowe's paper "On the Pelham Buckle;" and the result of Mr. Stapleton's erudite researches illustra-tive of the succession to the barony of William of Arques; are given at considerable length. The most interesting part of its contents to us is the translation of Gervase's account of the burning of the ancient cathedral of Canterbury in the year 1174, and its re-erection in 1175-1184, by Mr. Edward Cresy, jun.; to which we may perhaps return on another occasion. The editor states in the preface, what is pro-bably true, that "he had no pecuniary object in printing this report, else he might have realized a large sum by extending the im-pressions;" but was actuated solely by a desire to pay a tribute to those gentlemen who either actually attended at Canterbury, or by their papers or gifts contributed to its success.

The future fate of this association is somewhat doubtful; unfortunately at this moment there are two committees in existence carrying on its business, and we all know the insecurity of two stools. Those who wish well to the association will endeavour to remove existing difficulties, aid by persuading each party to yield something, and in effecting an harmonious coalition.

CONTINENTAL ARCHITECTURE. --- Professor Gartner of Munich, is about to follow the examples set by Schinkel and Klenze, in publishing a series of all the principal buildings he has executed. The professor succeeded Klenze as the king's special architect, and has erected most of the recent monumental structures in the Bavarian capital. The work will doubtless be an interesting and valuable addition to the architect's library. PRINCE ALBERT.— His Royal Highness

continues to manifest considerable interest in matters of science and art. A few days since, after presiding at a meeting of the commission for promoting the fine arts in the rebuilding of the Palace of Westminster, the Prince went over the new structure with Mr. Barry and the con-Highness visited Lord Northaupton and the feilows of the Royal Society, and examined with much apparent pleasure, the various inventions and works of art which were ex-bibited. We should like to see the Prince occasionally call around him at the palace some of our poets, artists, and men of science. The names of such, strange to say, are never seen in the list of the " royal dinner party."

Correspondence.

THE OFFICIAL REFEREES.

SIR,-The letter of your correspondent "Censor" will, I think, justify me in troubling you with a few remarks upon the subject of the manner in which business is conducted by the Trafalgar-square "Board." "Censor," it would appear from his letter, expects that the referees and the registrar should be con-tinually on view to any person who may wish to look at them. On this point, since reading his letter, I have thought much, and on look-ing to "the Act" I find that one of its pri-mary objects is to prevent, for the future, the "diversity of practice" that has hitherto ex-isted. Now, Sir, I should like to ask "Censor" whether if he were to be permitted at all times to see the referees, this object would not in all probability be defeated; it could not be ex-pected that they should be always together, and if they were not so, it would be quite possible for a man to obtain orders diametrically opposing each other from the "referees;" and and it were possible for these gentlemen even if (they being in the same profession) always to see things in the same light, what is to be done about the registrar? he has the power of refusing to sanction their proceedings if, in his opinion, they are contrary to law. Assuming, therefore, that I am correct in my pre-mises, what arrangement can be better than that all matters should be determined by the referees and the registrarsitting as a board ? In this manner the chances are, that diversity of practice will not, at all events, find its way to head quarters. Again, the Act requires that all cases should be registered; how, I would ask, could this be done if the business were half transacted in the private rooms of the referees, without the knowledge of the registrar? It should also, I think, be borne in mind that the referees are referees, and that in consequence it would be highly improper for them to hold any conversation with one person, upon a matter whereon they may afterwards have to decide as *judges* between him and others. If 1 understand "Censor," he would have us believe, that so great is the desire to obtain *fees*, that even the clerk cannot be seen without a fee. This uppears to me to be a particularly unfair part of his letter. The professional character of the gentlemen in question ought to have protected them from such a charge; but has "Censor" really been made to pay for his conversation with the clerk? If he has, he has been treated very differently from myself or any of my acquaint-ances : a scale of fees hangs up in the waitingroom, but no unnecessary allusion thereto has ever been made to me by the gentlemen that I have seen. Much more might be said upon the subject of "Censor's" communication, but I fear that my letter has already exceeded the limits that will enable you to give it a corner in your valuable journal. I am, Sir, &c. FAIRPLAY.

COMPETITION-CANTERBURY WORKHOUSE.

SIR,-The profession are, I think, more indebted to the articles in your valuable pages on the subject of competition, than to all the other sources they now have of obtaining or diffusing information. May I request you to have a vigilant eye on the Canterbury Incorporation.

I first saw the notice in your number of February 22nd. A fortnight only was given to prepare the plans. Not too much, if an architect has any thing else to do. I accordingly wrote by the same night's post for infor-mation, and waited day by day for an answer, till, in fact, I gave the matter up. However, on Saturday last, I received (too late to be answered by that night's post), a letter from Canterbury, wherein I was informed that the writer had enclosed me a sketch of the ground and all other particulars. Well, I thought this civility came rather too late, for it only left me four days to make my designs, as on Friday they must have gone down to be opened on Saturday; but fancy my dismay, Sir, when I went to look further, there was neither sketch, nor particulars, in the envelope. In fact, all I had was, "Sir, I have the honour to enclose" —and the enclosed was—nothing !!—Now I must have written again to Canterbury, ex-plaining the mistake, and must have received

my answer back, and I should like to know what time I should then have had left. Pray keep your eye on the Canterbury Incorpora-tion ;--there will be something curious in that tion ;--there will be something curious in that matter before they have done. The official, whoever it was, takes half the time allotted to do all the work to answer a letter ; and then he sends me a nice little parcel of moonshine. Again I say, pray keep your eye on the Can-terbury Incorporation !!--I am, Sir, &c.,

AN ABCHITECT.

IMPURE AIR FROM SEWERS.

SIR,-In THE BUILDER of Feb. 15, I was pleased to read a communication by Mr. G. Hawkins, at the Institute of Architects, on the subject of sewerage. Much credit is due to that gentleman for his valuable and gratifying information; but a great, if not the greatest, evil was unnoticed,—that is, with regard to the most efficacious means of preventing the effluvia, and impure air or gas, arising or escaping from the sewer through the gratings in the street

The reports of the most eminent physicians prove that during the time the cholera raged in England, the greatest number of victims to that disease was to be found in the immediate neighbourhood of open sewers, and near those gratings from which escaped the impure air, or gas, generated in the covered sewers which are formed under our streets. My attention was first seriously drawn to this subject by my occupying a house near one of those gratings, from which the effiuvia arising frequently com pelled me to close my windows in the summer. I propose, where the gratings now are, to insert an aqueduct which will admit all fluid to pass an aqueduct which will admit all huid to pass freely, while it entirely prevents all impure air from ascending from the sewers; it is of trifling cost, and cannot be put out of order: also to erect ornamental or plain shafts at also to erect ornamental of plane suitable places, 15 feet or 20 feet high, through which the impure air may escape. With your permission, I will send you a model of an aqueduct, and hope soon that the inhabitants aqueduct, and hope soon that the innaomanus of the metropolis (especially of some parts of it) may not have to complain of the ill-effect produced by the noxious gas arising from the sewers. I am, Sir, &c., W. ROWLAND.

14, Passmore-st., Pimlico, Feb. 26, 1845.

CHELSEA HOSPITAL.

SIR,-As an old inhabitant of Chelsea, also SIR,—As an old inhabitant of Cheisea, also a constant reader of your valuable publication, I was much pleased with your illustration on page 102, having frequently admired the iron lamp-posts of the hospital, for there are two of them; one is in the east court, which is sur-rounded by shrubberies, and seems to have escaped the observation of your contributor, who has given us so perfect a sketch of the one who has given us so perfect a sketch of the one in the west court; they are, however, facsimiles of each other.

I should like to draw the attention of "C." or Mr. C. J. Richardson, who has given us a proof of his skill in such works, to the chimney-piece in the state-room of the hospital, which is an exquisite work of military trophies, carved in oak. "C." having stated the opinion of several

having stated the opinion of several architects of the chapel's superiority over that of Greenwich, it is to be lamented the commis-sioners suffer it to remain in the very dirty state in which it is at present. A few years back there was a magnificent sounding-board over the pulpit, of inlaid woods, similar to the altar-piece, but this has been removed, and converted to a much more ignoble purpose by the present clerk of the works for his own

There are some remarks in another paper by " E. H." that room might be found in the hos-"E. H." that from might be found in the hos-pital for some of the monuments of the Abbey. I think it cannot be known to the commis-sioners that a beautiful painting by West now lies rolled up in the gallery of the great hall, for want of room, it is said, to hang it; it was hung for a short time, on its first arrival, on one side of the hall, against the windows. The heat of the sun causing the paint to blister, the picture was taken down and placed in its present position, where, if not speedily released, it will rot unseen: the subject is, I believe, the victories of the Duke of Wellington, and its size 35 feet by 20 feet. I am, Sir, &c., W.

COMPETITION DRAWINGS, KING'S ROAD, READING.

Sis,-The letter which appeared in your number of the 15th instant, signed Fairplay, on the subject of the architectural competition for laying out ground in the King's-road, Reading, contains such distinct allusions to the part which was taken by me in the manage-ment of that competition, that I feel sure you will favour me by the insertion of these few remarks in your next number. And that the win layour the by the inscitton of these two remarks in your next number. And that the utmost fairness and attention may be given to Fairplay's strictures, it may be well to premise, that I was not previously aware that the deci-sion of the designs had appeared to any per-son at all acquainted with the subject " to have produced any thing but satisfaction;" on the contrary, no such impression has been con-veyed to me by any individual except by one of the competitors, who stated his opinion to be, that his were the only drawings that were in accordance with the instructions; unfor-tunately for that gentleman, his designs did not obtain a single vote from any other com-petitor. I do not, therefore, feel it incum-bent upon me to say any thing in answer to that opinion, as it will occur to your readers, that towards those persons who have thought themselves right and all the rest of the world wrong, it is not usual to address the ordinary wrong, it is not usual to address the ordinary mode of reasoning, in order to convince them of the fallacy of their views. All other perdeclared themselves perfectly satisfied with the adjudication of the premiums, and gratified that some scheme has been successfully adopted which could secure the advantage of com-petition without those evils which so gene-rally accompany it.

To the first question then of your cor-respondent, "Was there any standard laid down for the judges to go upon ?" he gives an answer in the same sentence, namely, "A set answer in the same sentence, namely, "A set of rules was printed for the guidance of the competitors in preparing their designs, which, it is stated in the preamble, the proprietor will require to be adhered to by those who intend to compete." Again, he charges, that "two great mistakes appear to have been made by the promoter of this competition. In the first place a set of rules were printed, &c." Is this one of the mistakes that rules were printed for the guidance of the competitors? I would ask your correspondent what fair play there guidance of the competitors? I would your correspondent what fair play there id hum here in lumi ask ask your correspondent what fair play there would have been in leaving every competitor to his own fancy in preparing his designs? I believe such directions are invariably adopted in fair competitions. What the other mistake is into which the promoter of this competition has fallen wour correspondent does not inhas fallen, your correspondent does not inform us.

Now with reference to the conditions in the set of rules referred to, no other answer is ne-cessary than that those designs which were not in conformity with those conditions were rejected by the adjudicators, and the designs to which the premiums were awarded are strictly in accordance with the instructions. On this in accordance with the instructions. On this point all parties had an opportunity of satisfy-ing themselves at the public exhibition of the designs at Reading; there were, I doubt not, many drawings at variance with the conditions, and as such, were very properly excluded from the premiums by the appointed judges. It is quite true that several of the competitors did not attend to give their works, but had their

did not attend to give their votes, but had their plans been chosen, of course they would not have received a premium; this I presume is the "distinction which ought to have been made between those who complied with the made between those who complied with the rules and conditions, and those who did not." The calculation, however, of the number of those who did not attend at Reading to give their votes is very erroneously stated when it is computed at fourteen, for several of the competitors sent two or more designs, not-withstanding which they were permitted only to give one vote. The question in conclusion, "Where is the use of having rules printed for a competitors whether they abide by them or competitors whether they abide by them or not, as has been done in the present instance?" scarcely needs the reply, reject the plans which are not in accordance with the condiwhich are not in accordance with the condi-tions, and take care that the accepted ones are conformable thereto, as has been done in the present instance. I cannot think that the pro-position of a set of questions, one of which should be "Whether such plans were in ac-cordance with the printed instructions,"

would have given much more satisfaction: surely, I had no right to assume that the in-structions would be unobserved while I had a reasonable ground for concluding that the ad-judicators, from their personal interest in the competition, would take care not to lose sight of so important a feature in the claim to re-ward the designs. I cannot consider the publication of the votes as any breach of confidence, for as the name of the competitor is not attached to his motto, no competitor could know which is the motto of any other individual.

In conclusion, although "Fairplay" says his only object in addressing you is to state what he considers ought to have been the course adopted, yet he does not appear to be quite clear as to whether he would have sub-mitted the drawings to the adjudicators or taken the matter in his own hands, had he been the proprietor of the land; but it has been my object to avoid the latter mode of awarding the premiums in the present instance, and until some more pertinent remarks than are made by your correspondent come under my notice, I see no reason to suppose that any thing besides universal satisfaction has been the result of this competition; and for the information of your readers, I have only to add (in direct con-tradiction to the statement of your anonymous correspondent, who would have shewn more fair play had he formed his own judgment on fair play had he formed his own judgment on the plans), that the designs to which the pre-miums are awarded, are not "got up very elaborately, and tickled up so as to attract the eye," nor are the "buildings deeply back lined in dark lake colours, and the grounds all laid out in walks and beds of different colours," but as far as I am able to judge, they are in conformity with the instructions, which will be a sufficient reply also, to the letter signed "Veritas" in your last number. I am, Sir, &c., J. J. BLANDY.

Reading, February 28th, 1845.

CUTTING AND POLISHING MARBLE.

SIR,-In THE BUILDER of the 8th February, your correspondent "J. H." (Pontypool) inyour correspondent "J. H." (Pontypool) in-quires the materials used for polishing marble, &c. I have copied the following from page 801, of Dr. Ure's "Dictionary of Arts, Manufactures, and Mines," which may be useful to him.—I am, Sir, your obedient servant, C. II. C. C. II. C.

" Cutting and polishing marble.—The marble saw is a thin plate of soft iron, continually supplied during its sawing motion with water and the sharpest sand. The sawing of mo-derate-sized pieces is performed by hand, but that of large slabs is most economically done

"The first substance used in the polishing process is the sharpest sand, which must be worked with till the surface becomes per-fectly flat. Then a second and a third sand of increasing fineness is to be applied. The of increasing increases is to be applied. The next substance is emery, of progressive degrees of fineness; after which tripoli is employed; and the last polish is given with tin-putty.• The body with which the sand is rubbed upon the marble is usually a plate of iron; but for the subsequent process a plate of lead is for the subsequent process, a plate of lead is used with fine sand and emery. The polishing rubbers are coarse linen cloths, or bagging, wedged tight into an iron planing-tool. In every step of the operation a constant trickling supply of water is required."

BVILS OF NEW LAWS.

SIR,—In the *Times* of February 24, 1845, there is a report of a cause in the Vice-Chancellor's Court (Ellice v. Goodson), in which Sir Thomas Wilde makes some ob-

which is in Thomas whice makes some ob-servations on a new law relating to the matter in question, which, I think, are particularly applicable to the Metropolitan Buildings Act. Sir T. Wilde.—" Legislation on such a subject should have been as cautiously entered on as the repair of an old house; before a beam is removed, it should be ascertained what it supports. Under the old law we knew to say the least, it is not so." His Honour the Vice Chancellor.—" Every

one understood what was meant by the

* White Oxide of Tin.

old fictions, and yet they were abolished because they were fictions, and a new fiction substituted."

This last, by changing the word "fictions," into *faults*, will be quite pertinent, I believe, to the new Buildings Act; and I trust it will not be considered impertinent to say so, and to predict of it, "Opera parit opus."—I am, Sir, &c., PHILOCLARUS.

HERNE-HILL CHURCH.

SIR, - My attention has been directed to Sig. — My attention has been directed to several letters which have appeared in your valuable publication relative to the contracts of Herne-hill Church. The inconvenience at-tendant upon the assertion of ex-parte state-ments of this kind is so evident, that I am sure I need not enlarge upon it. With re-, ference to the statements I have only to say they are untrue. I am. Sir & c. they are untrue.—I am, Sir, &c., G. Alexander.

6, Clement's-Inn, Strand, March 11, 1845.

SIR,-Having been a clerk to Mr. Alex-ander at the time the estimates were made for Herne-hill Church, I beg to say that on Mr. Broomfield noticing the time was short that was allowed for their preparation, Mr. Alex-ander went himself to the Church Commisander went nimself to the Church Commis-sioners to get the time enlarged, which was not done. Mr. Broomfield then asked as a favour to be allowed to inspect Mr. Alex-ander's estimate, which was at first refused, but on Mr. B.'s again applying, Mr. Alexander remarked that as he understood that on the Great Western Railway contractors were allowed to see the enrineers' cuantities he the Great Western Kallway contractors were allowed to see the engineers' quantities, he saw no objection to allow the inspection of his abstracts and dimension books to compare; but I distinctly told Mr. Broomfield that in no way would Mr. Alexander be responsible for the same, and Mr. Alexander also distinctly repeated the same to Mr. Broomfield. I am positive no sltartions were made in the aposi positive no alterations were made in the speci-fication, of which a duplicate was lodged with the Church Commissioners, and could no doubt be seen; besides one of the builders tendering made a copy of the specification. As to the drawings, there was but one set, and there was no alteration made in them.

I am, Sir, &c., Joskph Gibbins.

6, Portland-place, Hammersmith-gate, March 11, 1845.

NEW CLAY FOR MODELLING.

SIR,—I have much satisfaction in bringing to your notice the discovery of a new clay, or conversion of an old clay, for the purposes of modelling, and which promises to be of essential service to the modeller, and may not be unimportant also to the builder.

be unimportant also to the builder. In my paper read at the Society of Arts, on Wednesday last, March 5, "On the Construc-tion of Models for Ethnographical Purposes," I have alluded to it, and at the same time produced some beautiful models in this clay by Mr. Sangiovanni, an artist who has made use of it with much success for some years past, and who has never found it to perish or crack, sais the case with clave in ordinary use

as is the case with clays in ordinary use. It has all the appearance of hard stone or metal when oiled over the surface, and in this

state is not affected by moisture. Its component parts are of the ordinary clay of London and ground slate, in the propor-tion of three or four of the former to one of the These must be well amalgamated till latter. brought to a proper consistence for working. I am, Sir, &c., Edwin Dalton.

5, Fitzroy-street, Fitzroy-square, March 10.

BLISTERS IN LIME.

BLISTERS IN LIME. SIR,--I have not seen the question of "H.S.S.," page 35 ante, fully replied to yet. Your query in the note must be answered doubtless in the negative. The lime in question should have been run. I presume "H.S.S." to be neither a plasterer, nor a plasterer's labourer, or he would not have asked the question; I shall, therefore, explain the term run. The lime is put into a tub or cistern, water is then added as it slakes, until the whole is converted into thick paste or

Miscellanea.

SOCIETY OF ARTS .- March 5th. Joseph SOCIETY OF ARTS.—March 5th. Joseph Hume, Esq., M.P., V.P., in the chair. R. Bowie and Jos. Bennett, Esqrs., were elected members. The secretary read a paper, by Mr. E. Dalton, "On the construction of models for an Ethnographical Museum, and the materials heat suited for the purpose." the materials best suited for the purpose." The design for an ethnographical museum, for the illustration and study of mankind, originated with the author more than a year ago, and the object of the present paper was to bring forward the general advantages of such an institution, and the result of inquiries and experiments as to the material best suited for the construction of models suitable for carrying the construction or models suitable for carrying out this important design. The possibility of casting *entire* from the living model is not perhaps generally known. The late Sir Francis Chantry effected this upon a negro man. The specimen is lodged at the College of Surgeons, and presents a faithful representation of the original. The moulds of this cast are in the possession of Mr. Weeks, the sculptor, to whom Sir Francis left the greater portion of his studies. The model of a New Zealander, of the Ngatiawa tribe, now in London, was exhibited to the meeting, as an example of the illustration of the different races of man, proposed to be collected by the ethnographical society. The head and arms of this specimen consist of wax, and were cast separately, and then attached to the body. The hair is removable, so as to allow of an inspection of the conformation of the scull. The time required for completing this model was about fourteen days; and its cost including costume is estimated at 20%; whereas a similar model, completely undraped and cast entire, would amount to about 401. The wax of this model had been painted in oil colours, so as to represent the tints of the flesh, and render it capable of being cleaned. A new clay was proposed by Mr. Dalton for such models: a notice of it by the inventor will be found in another page.

DIFFICULTIES OF VENTILATION .--- A laugh able conversation took place in one of the committees of the House of Commons a few days since, relative to the temperature of the room, which had much annoyed hon. members during the day. Mr. Barneby, on entering the room, wished the hot foul air to be expelled, but the valves had not long been open for that purpose, when the chairman complained of the coldness of his legs. Dr. Reid was at last sent for; and on Mr. Aglionby stating to him the nature of his complaint, said that if air was expected to go out, air must be let come in-a statement which the chairman did not dispute, but nevertheless did not seem to think any good reason why his legs should suffer. If that were ven-tilation, the less of it they had the better. Dr. Reid remarked upon the difference of temperature desired by hon. members. Some said they were too hot-others complained of the cold. If they would select any hon. member as their index, he (Dr. Reid) could adapt the thermometer to his particular satisfaction. Where extremes existed, it was evident that an adaptation of a medium could not be effected. Mr. Aglion by had a decided objection to the process of adaptation being carried on against his legs; and Mr. Buller said, that instead of bon. members' feet being warm and their beads cool, their feet were cool and their heads warm. Several members having commented upon the rarying state of the thermometer, and ex-pressed their individual opinions as to the temperature, Dr. Reid gave orders for the cold air valves to be closed, and stated that he would send in hot air as soon as the furnaces were heated. We have yet much to learn on this important subject.

FLOATING DOCK .- A floating dock has FLOATING DOCK.—A floating dock has been invented by a Mr. Lennox and submitted to the Admiralty. The Director of Works at Woolwich yard has been ordered to prepare detailed drawings of the scheme. HOUSE OF COMMONS. — The new com-

mittee-rooms are now completed, with one or two trifling exceptions. During the past week the doors were hung, and fires placed in each apartment to allow them to be properly aired. The rooms vary in size, some of them being very spacious, with a view of affording accommodation to a great number of witnesses and others who are engaged on important bills. The tables are also so arranged, that the confusion so much complained of at present will be entirely obviated, ample space being allowed between the tables and at the sides for the persons in attendance.-Globe.

THE ROYAL ACADEMY .--- As we were the Academicians had resigned the public that the Royal Academicians had resigned the privilege of each exhibiting *eight* pictures as heretofore enjoyed, and limited it to six (although our excellent contemporary the Art-Union fancies he learnt the fact form a previously and he learnt the fact from a provincial news-paper), it is necessary we should state that the resolution has been since rescinded, and that the old right of hanging eight pictures has been re-established. We lament this step on the old right of hanging the lament this step on the part of the Academy very much, and fear they will have cause to repent it. They seem to have made up their minds that reform shall come from without; how much wiser would it be for themselves to render it unnecessary.

Tenders.

TENDERS delivered for the erection of a New Church in Charlotte-street, Fitzroy-square.—Hugh Smith, Architect, Bedford-row.

| Messrs. Piper | £7.470 |
|-----------------------------|--------|
| Messrs. Cubitt | 7.398 |
| Messrs. Locke and Nesham | 7.363 |
| Messrs. Pearse and Guerrier | 7.277 |
| Mr. Winsland | 6.879 |
| | , |

TENDERS delivered for Building a Factory for John Gadsby, Esq., in Bouverie-street, City.--Mr. C. S. Richardson, Surveyor, opened in the presence of the parties.

| Waterman | £1.374 |
|----------------|--------|
| Chapman | 1,365 |
| Ternan and Son | 1,293 |
| Waterlow | 1,262 |

For the Erection of Bristol Barracks.--Messrs. Read and Baker's Tender for 60,000*l*. was accepted. The Works to be completed in two years.

For Enlarging the Bristol Docks, near the Cumberland Basin.—Messrs. Renie, I Tender for 18,000/. was accepted. -Messrs. Renie, Logan, and Co.'s

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the repairs and restoration of the Tower and Nave of St. Mary's Church, Nottingham. March 17.

For new-paving such parts of the parish of St. Mary, Islington, and repairing the paved Foot-ways, as may from time to time be required, during one whole year from Lady-day next. during on March 19.

For paving and repairing certain streets and ways in the parish of St. James, Clerkenwell, for o year, from the 25th inst. March 20.

For supplying her Majesty's several Dock-yards with Riga Hand Masts and Fir Timber, Dantzic Deck Deals and Fir Timber, and Norway Spars. March 28.

For the supply of 11,000 feet of nine-inch cast iron Pipes for a new line of Aqueduct to be laid in the Island of Malta. March 31.

For the erection of a new Workhouse at Stratton St. Margaret, about Midway between Swindon and

St. Margaret, about Midway between Swindon and Highworth, Wiltshire. April 2.
For the erection of a Church in the parish of St. Thomas, Winchester. April 5.
For constructing the fourth division of the Great Southern and Western Railway. April 8.
For submitting a plan of a Tread-wheel, and con-structing the same in the Common Gaol of Great Yarmouth, Norfolk. April 24.
For laying out the grounds of the Victoria Park Cemetery and draining the same, with plans and sneeifications. to include making the roads. paths.

specifications, to include making the roads, paths, and finding all necessary trees, shrubs, materials, &c.

For the supply of 11,000 feet of 9-inch cast-iro Pipes for a new line of Aqueduct in the Island of Malta. April 30.

For new-paying parts of the parish of St. Mary, Islington, Middlesex; and for repairing and keeping in repair the paved Footways belonging thereto, for one year from Lady-day next. Also for supplying unbroken Guernsey Granite, Core, Ballast, Gravel, and clean Flints and clean Flints.

COMP ETITIONS.

Plans and Specifications for Covered Ways at

Plans and Specifications for Covered Ways at the Lunatic Asylum, Melton. March 18. Plans for the most convenient mode of landing or embarking passengers, carriages, &c., &c., at George's Pier-head, Liverpool. A Premium of 200%. will be given for the Plan selected and acted upon, and a Premium of 100%. will be given for that Plan which may be deemed to be the next in utility. March 19. to be the next in utility. March 19. A Plan, Specification, and Estimate, for a Pier,

Slip, or Jetty, to be erected at Weston-super-Mare, Somerset. Twenty-five guineas is offered for the most approved plan. March 24.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

March 17.—At Herringswell, Suffolk: 400 Larch Trees, many of very large dimensions, mea-suring 50 feet in length, and containing upwards of a load of sound timber in a tree; 19 large Willow Trees; a very large Poplar; and 400 Scotch and Spruce Trees, upwards of forty-five years' growth.

March 17 .- At Herringswell, Suffolk : March 17.—At Herringswell, Suffolk: 400 Larch Trees, many of them measuring 50 feet in length, and containing upwards of a load of sound timber; 400 Scotch and Spruce Trees, upwards of 45 years' growth; 19 large Willow Trees, and a very large Poplar. March 18.—At West Buckland, Somerset: 833 Oak, Elm, and Ash, Maiden, and Pollard Timber Trees. 400

Trees.

March 18.—At Waresley, Huntingdonshire: A large fall of Ash and Elm Timber Trees; also Larch, Spruce, Birch, Beech, Chesnut, Alder, and

Hornbeam Spires, very straight, large, and long. March 18.—At Waresley, Huntingdonabire; a large Fall of Ash and 'Elm Timber Trees, and Larch, Spruce, Birch, Beech, Chesnut, Alder, and Hornbeam Spires and the straight and the solution of the solution of

Larch, Spruce, Birch, Beech, Unternut, Autor, and Hornbeam Spires, very large, straight, and long. March 19.—At Rufford Hall, near Ormskirk, Lancashire: 223 lots of Timber, consisting of Ash, Alder, Birch, Beech, Elm, Sycamore, Willow, &co. &c. The Timber is chiefly of from thirty to

forty years' growth. March 28.—At Garraway's Coffee-house, Corn-hill: 350 loads of Red Pine Timber; 700 loads of Baltic; 10,000 Colonial Deals; and 10,000 Baltic and Swedish Deals.

March 28.—At Moor-house Farm, Denham, Bucks : 3,591 Oak Trees and Saplings ; 220 Ash;

136 Cherry; and 3 Alder Trees. March 31.—At 7, Store-street, Bedford-square : several thousand Yellow Deals, Pine and Sprace

several thousand Yellow Deals, Fine and Sprace ditto, Battens, Planks, and Boards, Ash Felloes and Planks, and other seasoned Wood.
March 24.—At Bradley's Wood, Halsted, Essex: 500 good Fir Trees; 5,700 capital Hurdle and Hop Poles; 54 Loads of Wood, &c.
March 31.—At Down Hall, Bradwell, Essex 310 Oak Timber Trees, standing with Tops Lop; and Bark; 213 Ash, 157 Elm, and 78 Beech Trees. Trees.

The last week in March, or the first week in April next.—A large quantity of Oak and Elm Timber, of superior quality and large dimensions, principally growing in the woods on the Orchard-leigh Estate, near Frome, Somerset.

By Private Contract, before the 1st of April sext.-287 Oak Trees, of fall growth and large dimensions, suitable for all purposes, now standing at Woodside, near Morland, Westmoreland. April 1.-At Chelmsford, Esser; a very valua-

April 1.—At Chelmaford, Essex; a very valua-ble, extensive, and well-assorted stock of Dry Wood in great variety, comprising fine Spanish and Honduras Mahogany, mostly cut between six and seven years; particulaly fine Zebra Wood, English Oak, Pencil Ceder, Birch, Beech, Elm, Borserand is Rosewood, &c.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, March 17 .- Statistical, 11, Regent-MONDAY, March 17.—Statistical, 11, Regent-street, 8 p.m.; Chemical (Society of Arts), Adelphi, 8 p.m.; Medical, Bolt-court, Fleet-street, 8 p.m. TUESDAY, 18.—Linnæan, Soho-square, 8 p.m.; Horticultural, 21, Regent-street, 3 p.m.; Civil Engineers, 25, Great George-street, 8 p.m. WEDNESDAY, 19.—Society of Arts, Adelphi, 8 p.m.; Microscopical, 21, Regent-street, 8 p.m. SATURDAY, 22.—Royal Bolanic, Regent's Park, 4 p.m.

4 P.M.

THE BUILDER.

TO CORRESPONDENTS.

"R. Callow."—No bill for the embankment of the Thames has been brought into the House of the Inames has been brought into the House of Commons during the present session; nor has any formal notice of an intention to bring in a bill for such purpose been given. Lord Lincoln stated in the House sent time time. the House some time since, that he should proba-

bly do so. "A Constant Reader."—The London address of Mr. Galloway is Galloway, Brothers, West-street, West Smithfield. Mr. Galloway is at present in Egypt.

W. C." (Winchester).-The Health of Towns

""W. C." (Winchester).—The Health of Towns Commission includes, the Duke of Buccleuch, Lord Lincoln, Mr. Robert A. Stanley, Mr. George Graham, Sir Henry De la Beche, Dr. Lyon Play-fair, Dr. Reid, Mr. Richard Owen, Captain Deni-son, Mr. J. R. Martin, Mr. James Smith, Mr. Robert Slephenson, and Mr. William Cubitt. "A Landowner" should make an arrangement with some respectable solicitor. From two to three guineas for agreement and copy, and seven guineas for lease and counterpart if on one skin (in both cases exclusive of plan) would be reason-able charges. If the lease require two skins, eleven guineas.

guineas. "Holloway Congregational Chapel."—A com-petitor wiskes to know if a design has been selected.

selected. "Architectural Modelling."—Frederick Wether-all, 114, Great Park-street, Kennington-cross, who modelled the gates of the Triumphal-arch at Hyde-park-corner, the frieze at Buckiagham-palace, ornaments of Sun fire-office, &c., being oul of employ and in distress, has appealed to us to who he come known make the same known.

make the same known. "Vigil."—Our present impression certainly is that, notice having been given of the erection of the buildings as shops under the old Act, and no alteration made, that a fresh notice is not called for. As, however, we understand that it has been ruled differently, we must give the question further consideration consideration.

"A. B. O."-A communication is lying at the

office. "R. B. W." (King's Langley), and "W. P." (Woodbridge), under consideration. "T. L." (Pentonville Prison).-We are much

obliged by the loan of the drawing, and propose to

engrave it. "C.T.L." wishes to know the best mode of coating plaster of Paris Agures, so as to give them the appearance of marble. Received: "W. J. S.," "Scrutator," "G. Ridley, and "I. L." (Temple).

Received : Second Report from Health of Towns' Commissioners-Prospectus of Victoria Park Cemetery Company.

ADVERTISEMENTS.

NOTICE. -- INVENTORS desirous of NOTICE, — INVENIORS desirous of obtaining LOANS ON or of SELLING their IN-VENTIONS, or Patents, should apply to Mr. M. JOSCELIN COOKE, at the OFFICE for PATENTS, 20, Half Moon-street, London, where English and Foreign Patenta are ob-tained, and Designs registered. An INDEX is kept for inspection of all Patents granted for the last century; also copies of every Patent of importance. Instructions to Inventors and a list of charges gratis on application.

IMPORTANT TO INVENTORS AND PATENTEES.

IMPOBTANT TO INVENTORS AND PATENTEES. PRACTICAL ASSISTANCE GIVEN to parties taking Letters Patent, by Mr. J. WILSON, Engineer and Patent Agent. Every description of business relating to or connected with Patents, Registration of De-signs, Patent Agency, &c., conducted at his offices, 16, CHANCERY-LANE, opposite Carey-street. Negotiations entered into with parties wishing to dispose of or purchase patented or registered inventions. Every necessary infor-mation may be obtained at the offices as above, where also may be had printed instructions (gratis), to which Mr. W. begs particularly to draw the attention of parties about to take out patents. Mechanical drawings of every description, original designs for machinery, models, &c., executed with dispatch and executed.

TO ARCHITECTS, BUILDERS, &c. TO be disposed of a large quantity of good, sound, well-burnt Red Kiln Bricks. A spe-cimen to be scen, and particulars obtained at Mr. F. C. M. SPEARMAN'S, Auctioneer, &c., 77, Old Broad-street, Royal Exchange.

BRICKS.—A large quantity of New White, and Red Bricks of the very bast quality for Sale. Samples may be seen, and prices known, by appli-cation to Mr. George Knight, Auctioneer and Commission Agent, Crosby-hall Chambers, Bishopsgate-street.

TO BUILDERS and Others.—A cheap substitute for high priced bricks, well worthy the attention of speculative gentlemen, and other capitalists who intend building this season. This article is stone, which may be worked with great advantage. It is in pieces from 3 to 5 inches in thickness, and averaging from 14 to 20 pounds in weight; it is about the same weight as bricks, and will be sold in London at 12s. 6d. per ton. Any quantity may be had from 100 to 200 tona per week; not more would be guaranteed per week, as it will come by railway. A fair sample of 10 or 12 tons may be seen at the proprietor's at any time.—Addreas, JAMES PERREN, 1, Victoria-place, Surrey-square, Walworth.

E G.'s TRACING-PAPER.—It is warranted to take Ink. Oil, or Water colour, and is sold by MESSRS. ROBERSON AND CO., SOLE AGENTS, 51, LONG-ACRE, at the following cash prices:—

THIN TRACING-FAPER. 60 by 40, at 14/. 0s. par Ream, or 15s. 6d. per Quire. 40 by 30, at 7/. 0s. ,, 7s. 6d. ,, 30 by 20, at 3/. 15s. ,, 4s. 0d. ,,

THICK TRACING-PAPER. 40 by 30, at 14/. 0s. per Ream, or 15s. 0d. per Quire. 20 by 20, at 7/. 10s. ,, 8s. 0d. ,,

N. B.-Every sheet is stamped with the Initials of the anufacturer.

This beautiful and unequalled article is allowed to be the cheapest and most useful Paper hitherto introduced to the public, as will be best proved by a trial.

PAINTING BRUSHES OF SUPERIOR QUALITY. TO PAINTERS, BUILDERS, &c. J. J. KENT AND CO., MANUFACTURERS.

MARUPACTURES, 11, GREAT MARLBOROUGH-STREET, LONDON, Offer to Painters, Builders, &c., Painting Brushes of a quality far superior to those generally offered for sale, to which they beg to call the attention of all who prefer quality and durability to apparent cheapness.

000000.-7 in. Dusters. 000000.-7 in. ditto, extra. 0000.-Ground Brushes.

0000.-Ground Bruanes. Plasterers' Brushes. Distemper ditto. Ground and Unground. Sash Tools, and Common Tools. Tar Brushes and Masons' Brushes, and all other Brushes used by Painters and Artists.

Lists of Prices of Painting Brushes, and of all other kind of Brushes, forwarded on application. Established 1777.

E. WOLFF & SON'S NEWLY-INVENTED

MATHEMATICAL PENCILS, FOR

METHEMATICIANS, ARCHITECTS, & ENGINEERS,

METHEMATICIANS, ARCHITECTS, & ENGINEERS, Warranted to retain a very fine Point. E. WOLFF AND SON, in introducing their Extra Hard Lead Pencils for Mathematical and Architectural purposes, beg to draw attention to the advantages resulting from their adoption in preference to the ordinary Pencils. They are made to six distinct sizes, by which means they can be fitted to all instruments, and are so constructed that each Pencil seach of a length, and most convenient for use, and obvirating the difficulties existing with respect to the ordinary Pencils. E. W. and Son have also half-round Pencils, suitable for the Spring Bow, thus preventing the necessity of dividing the Pencil down the centre. They are made of extremely Hard Lead, of the finest quality, which will retain a very fine point and give a clear , even, and distinct line.— PATTEEN OF SIZES.

6

PATTERN OF SIZES. -

A Sample of each size will be sent by Post to any part of the Kingdom, on the receipt of Postage Stamps equal to the amount. Drawing Pencils of the best quality, for Architects and Engineers, warranted free from grit: the HHH and HHHH are particularly recommended.—Price 5s. per dozen.

May be had of all Instrument Makers and Stationers, od at the Manufacturers', 23, Church-street, Spitalfields, ondon.

FOX'S PAPER VARNISH, 6s., 8s., and FOX'S PAPER VARNISH, 6s., 8s., and 13s. per gallon; satin size, 21s. per ewt. Carriage Varnish, 10s. per gallon, warranted to stand for outside work; every description of gilders' and decorators' materials. Burnish gold size, 1s. and 1s. 6d., oil gold size, 3s. and 4s. per lb., warranted; burnishers, pencils, tips; gold, 5s. per 100. Grainers' colours kept ground; badgers, combs, &c.— At the manufactory, 50, Old Compton-sirect, Sobo. Prices lower than any other house. Strong and clear size always ready. N.B. Country orders attended to with dispatch.

Composition which Measure Geo, and Those Wallis have the satisfaction of introducing to the trade, possesses the im-portant qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and dis-figuring the paint above. Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without auccess. Measure Wallis therefore feel much plea-sure in offering to the public an article so long and anxiously called for.

called for. In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Measrs. G. and T. Wallis, Varnish, Japan, and Colour Dianufacturers, No. 64, Long Acre. Price 20s. per gallon,

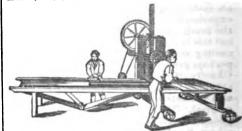
WARNISH.—It has long been a desideratum amongst the consumers of Varnish to obtain a good and genuine article : brilliancy, facility of drying, hardness, and durability are the qualifications necessary, but these are seldom if ever found united. The experience of a life-time devoted exclusively to the manufacture of this article, the great and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled Messra. George and Thomas Wallis to produce Varnishes (both oil and apirit) unrivalled in every respect, and they confidently recommend them to the trade, as deserving of notice both in price and quality. rice and quality.

price and quaity. Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unadulterated article, Fine Oil Varnish, from 10s. per gallon; best White Spirit Varnish, 21s. ditto; Best Spirit French Polish, 20s. ditto; White Lead, Oil, Turps, and Colours of every description at the very lowest prices.—WALLIS'S Varnish, Japan, and Colour Manufactory, 64, Long-acre, one door from Bow-street. Established 1750.

TO BUILDERS A ARCHITECTS.-LAND may be had for building, under circumstances of a peculiarly favourable character, in the immediate vici-nity of a railway, and with is hours' distance from the metropolis. It is the object of the proprietor to establish a town of some of the most eminent men in the trade, to make the success of the project certain, and to secure very great profit to those who embarst in the undertaking. Full particulars will be explained, and plans and elevations of the intended buildings will be exhibited, on application at the offices of G. H. Wathen, Esq., architect, Carlton-chambers, 13, Regent-street, or to Sir George Stephen, 17, King's-arms-yard, Coleman-street.

yard, Coleman-street. HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., dif-ferent colours; roofing; in Greein or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No see the sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No see the sundry wall-coping, surden-borders, chimney-tops; also tubular and other flues of meculiar material. No see the sundry wall-coping, surden-borders, chimney-tops; also tubular and other flues of peculiar material. No see the sundry wall coping, surden-borders, chimney-tops; also tubular and other flues of peculiar material. No see the sundry wall coping, surden-borders, chimney-tops; also tubular and other flues of peculiar material. No see the sundry wall coping, surden-borders, chimney-tops; also tubular and other flues of peculiar material. No see the sundry wall coping, surden-borders, chimney-tops; also tubular and other flues of peculiar material. No see the surdent of tubular and see tubular direct of any inland place; or to the Mersey for the coasts, the colo-nies and elsewhere.

HATCHER'S BENNENDEN TILE-MACHINE, Manufactured and Sold only by COT-TAM and HALLEN, Engineers, Agricultural Implement Makers, &c., 2, Winaley-street, Oxford-street, Loadon.



This is the most efficient Machine that has been invented for the purpose of making Drain Tiles. Any shaped Tile can be made by merely changing the die, which can be done in a few minutes. It requires but few hands, viz... man and three boys. With this amount of labour, the pro-duct of a day of 10 hours is as follows, viz...

duct of a day of 10 hours is as follows, viz :-1 inch diameter of Tile, 11,000 14, , , , , 8,000 14, , , , , 8,000 The Machine is moreable down the drying-shedt, so that it requires no extra boys to carry the Tiles, nor are shelves required in drying. It has been in full operation for upwards of four months at Hempstead Park, near Crea-brook, Kent. No charge made for Patent dues or licence. The purchase of the machine includes free use of it.

LIFE ASSURANCE.

THE BRITISH MUTUAL LIFE AS-SURANCE SOCIETY entertains proposals of any description from 20. upwards, involving the contingency of human life, and offers the following advantages to its mem-

Ders. A BONUS ANNUALLY (in shape of low Premiums), equal to those of other offices, granted every three, five, or seven years, and

seven years, and THE PROSPECT OF A LARGER BONUS than can possibly be obtained at those offices, in the peculiarly bene-ficial mode adopted in the distribution of the surplus. Prospectuses and every information may be had on ap-plication at the office, 17, New Bridge street, Blackfriars.

SPECIMEN OF TABLES.

| Age. | Annual Pre- mium for £100. | Age. | Annual Pre- mium for £100. | Age. | Annual Pre- mium for £100. | |
|------|----------------------------------|------|----------------------------------|------|----------------------------------|--|
| | £1. 15s. 8d. | | | | | |

CHARLES JAMES THICKE, Resident Secretary. w Bridge-street, Blackfriars. 17, New

WESTERN LIFE ASSURANCE SOCIETY,

OFFICE, 49, PARLIAMENT STREET, WESTMINSTER. Directors.

| H. Edgeworth Dickheil, Esq. | Dames trains, trade |
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Messrs. J. L. Bicknell and J. C. Lethbridge. The attention of the unassured portion of the community cannot be too pointedly drawn to the unusual advantages offered to the Fublic by this Society over those of many others, as it enables all classes to effect life assurances in the manner most convenient to themselves, and amongst other of its popular features that of allowing the Assured (by Table 2) to leave HALF THE ANNUAL PREMICHS unpaid for serve years, will not be found undescript public attention. Interdiate and deferred ANNUTIES, and every description of Life ASSURATE ANNUAL PREMICHS of this Society. Prospectuses and all other requisite information will be furnished on application to the Secretary, or the Country Agents of the Society. EDWARD T. RICHARDSON, Secretary.



SATURDAY, MARCH 22, 1845.



E have received from several quarters an inquiry to the following effect :-- "I am about to fix the shop-fronts to some houses commenced before the 1st of January

last, and admitted up to this time not to be within the control of the new Act. Due notice was given to the district-surveyor under the old Act, and I intend to carry out the plan and elevation to which he then assented. Is it necessary I should now give him notice under the new Act, and make my shop-fronts in accordance with its provisions?"

On inquiry we are told, that the districtsurveyors have obtained information that this course is to be insisted on. They are advised, we learn, that the provisions in schedule E, entitled "Wooden shop-fronts and shutters," apply generally to all buildings, whether already built or not; and in regard to already-built houses, that all projections specified in the same schedule, as not forming part of the external wall, if not completed before the lst of January, must be conformable to the Metropolitan Buildings Act.

Having great confidence in the opinion of the referees and registrar, we are disposed to think our information must be incorrect, or that the district-surveyors misunderstand their instructions. Whether so or not, however, we cannot avoid saying, called on as we are to express an opinion upon the question, that we do not coincide with this reading of the Act. If it were asked us, Is it better that all shopfronts now to be put up should be in accordance with the provisions of the new Act than as heretofore permitted? we should say certainly yes; insomuch as those provisions are for the public safety. Party-walls are insufficient to prevent the spread of fire if there be a continuous wooden entablature to carry it from house to house; and the clause in the new Act which provides that this communication shall be cut off by the interposition of some incombustible material or otherwise, has been long called for.

But this is not the question now raised. The question simply is, whether or not the provisions of the Act which relate to shop-fronts extend to houses built before the 1st of January, when the shop-front was not put up before that date? and with the greatest deference to authorities, and a proper consciousness of the possibility of overlooking the force of portions of a document so voluminous and so recent as the Buildings Act, we venture to express our belief that they do not, provided the house be made fit for use before the 1st of January, 1846. We will tell our readers why.

The fifth section of the Act (which makes the schedule referred to operative), " for the purpose of regulating the building and the rebuilding upon sites of former buildings, and the enlarging and altering of all buildings of what nature soever," enacts, " with regard to every such building hereafter to be built" (with certain exceptions named) "so far as relates to building the same, and with regard to every such building either already or hereafter built" (with aforesaid exceptions) "so far as relates to the rebuilding and the enlarging or altering the same," that every such building shall be

THE BUILDER.

built. rebuilt. enlarged, or altered, in conformity with the rules and directions set forth in certain schedules, one of which is the schedule (E) in question.

From this it is perfectly clear, that if we build a new house or rebuild an old one, or if we enlarge or alter either an old or a new house, this must be done in accordance with the Buildings Act. But surely nothing here calls upon us, when we have no desire to alter, to pull down any part of an old or new structure, not in accordance with the Act, and forthwith to make it so? The provisions of the Act do not come into operation until we of ourselves begin to alter the building.

Now, the house duly commenced before the lst of last January is, in the eyes of the law, already built; the shop-front, if shop-front were intended, and be necessary to make the house complete, is, in the eyes of the law, already up; and we find nothing in the Act to force us to take it down. If one shop-front has been put up, and we remove it, the case is changed, and the new front must be in accordance with the directions given in the schedule. because the Act provides that no building already built shall be enlarged or altered but in accordance with those directions.

The clause in schedule E, relating to "Wooden shop-fronts and shutters," says no more than the clause in schedule D relating to "brestsummers;" yet it is not asserted that an intended brestsummer of a house duly commenced before January 1st must be put in in accordance with the directions contained in that schedule.

It is true, that in schedule E, the fourth paragraph says, "with regard to buildings already built or hereafter to be rebuilt, as to bow-windows, or other projections of any kind, such projections must neither be built with nor added to any building on any face of an external wall thereof, so as to extend beyond the general line of the fronts of the houses, except so far as is hereinbefore provided with regard to porticoes projected over public ways, and with regard to projections from face-walls and shop-fronts," &c.

This refers to "projected buildings beyond the general line of buildings, and from other external walls;" it is so headed, indeed, and would seem to have nothing to do with wooden shop-fronts. But even this contemplates an alteration or addition ; it does not enact that a bow-window, if bond fide commenced before the 1st of January, must be taken down. Such a bow-window, in the eyes of the law, is then built, and this clause refers only to those which are to be built with a new building, or added to an old one.

The longer we consider the subject, the clearer it seems to us that, as before stated, the regulations in schedule E, do not control shopfronts forming a necessary part of buildings bond fide commenced before the 1st of last January, provided they are finished before the lst of the ensuing January.

The correctness of this view of the question is made even more apparent, as it seems to us, by an examination of these regulations (headed "Wooden shop-fronts," &c.), for it is there further set forth, that if the street in which the shop-front is situate be less than 30 feet in width, no part of such shop-front must be higher than 15 feet. Now it may happen that a carcass was carried up before last January, in a street less than 30 feet wide, prepared with brestsummer, &c., for a shop-front (like one on Ludgate-hill for example), 18 or 20 feet high, with the concurrence, too, of the district-surveyor under the old Act. And surely that same

district-surveyor would not consider himself authorized by any thing in the new Act, to prevent the completion of such a shop-front and insist upon an alteration (which would probably entail the pulling down of the upper part of the house)? because that would be a manifest injustice to the owner (who had complied with the existing law), and would be directly contrary to the evident intention of the new Act, wherein such an injustice is carefully provided against by the arrangement, that if a building were even commenced before the Act came into operation, the provisions of the Act should not affect it. Yet, if the doctrine said to be held by the district-surveyors be maintained, such a proceeding might unquestionably take place.

THE NEW HOUSES OF PARLIAMENT.

IN consequence of inquiries in the House of Commons as to the total estimated cost of the building, the following particulars were laid upon the table by Lord Lincoln a few days ago :-

| Sum stated by Mr. Barry in evidence before the select committee of the House of | £. | 8. | d. |
|---|-------------|----|----|
| Commons of last session Deduct for purchase of pre- mises and miscellaneous ex- | 1,016,924 | 12 | 9 |
| penses | 90,605 | 6 | 6 |
| Add for alterations at Vic- | 926,319 | 6 | 3 |
| toria Tower, &c. | 80 0 | 0 | 0 |
| And for residence of Clerk of the Crown | 1,794 | 0 | 0 |
| Estimate of the total cost of the building, according to | 928,913 | 6 | 3 |
| the latest plan approved | 928,913 | 6 | 3 |

The works are proceeding satisfactorily, and it is asserted that the new houses will be ready in 1847.

The centre and curtain portions of the river front are roofed in. The north wing is up in readiness for the roofs, part of which are already fixed, and the remainder are being put on. The south wing is nearly up to the level on. The south wing is hearly up to the lovel of the roofs, which are prepared, and in readi-ness for being fixed. A considerable portion of the north flank of the building is now being roofed in, and the south flank is up to the level of the roof, which is being prepared, and will soon be ready for fixing. The remainder of the north and south flanks, together with the the present year. The Victoria Tower is car-ried up to a height of 38 feet, and the clock tower is at a height of 38 feet, and the clock tower is at a height of 36 feet above the ground. The House of Lords is roofed in, and the ceiling and other fittings of that chamber are in hand. The central tower is carried up to a height of 28 feet above the ground. The House of Commons is about 30 feet above the ground. The other portions of the building are, upon an average, 30 feet above the level of the ground, some of which are in readiness roofs (now nearly ready for fixing), for the while others are being roofed in. A contract has been entered into for the finishings of the entire building, and those of the House of Lords, and the rooms provided for the business of that House are in hand.

Mr. Barry states, that some delay has taken place in the fixing of the iron-work of the roofs, owing to the unsettled state of the iron trade, and difficulties with workmen, and that the stone for the exterior of the building is still continuing to be supplied in great abundance,

and of most excellent quality. The iron roofs used are exceedingly light and elegant. They are covered for the most part with large slates from Valencia Island county of Kerry, where quarries of considerable extent have been opened recently, and afford employment to a large number of people. Much iron is used throughout the building,

and this material will probably be more em-ployed elsewhere in consequence. The roof of the House of Lords is composed wholly of wrought and cast-iron galvanized. The joists and flooring of this House are also of iron, and are now in progress. We sincerely wish Mr Barry health to carry out his fine design,

THE THAMES AND ITS EMBANKMENTS: WITH BEMARES ON THE MOTION AND ACTION OF BUNNING WATER.* BY JOHN PHILLIPS.

The action of running streams upon their , and the channels depends upon the declivities channels depends upon the declivities, and the nature of the soil; but the action of the aug-mented velocity at the parts to be embanked will ultimately produce an increased depth of the channel, as the scour will continue to act with greater mechanical effect, more par-ticularly upon the bottom of the channel in the middle of the run of the stream, until the resistance offered by the hardness and tenacity of the soil, and also the diminished declivity, and becomes somewhat equal to the velocity and the abrading action of the water. It is im-possible that the resistance of any material, mathematically considered, can ever be equal to the power exercised by the abrasion of the water; but in order to produce and retain an uniform channel, and by these means a regimen artificial, have generally an influence, and are brought in to aid this purpose. The momentum of the velocity of the river water, assisted by the inclination of the bed, have considerable influence in checking and retarding, during the first quarter, the flow of the tide, as far as the action of the latter reaches; and the resistances offered by either are as the squares of their reciprocal velocities; so that whichever has the greatest momentum (the flowing tide against the reaction of the river-water, and vice versa), the other must give way to it as a matter of course; but as soon as the action of the flood from the momentum of the sea overcomes the partial resistance of the river-water, the velocity and power of the former will begin to augment accordingly. In many parts of a tidal river these conflicting actions of the streams have considerable tendencies towards producing shoals and bars across the channel. Where the downward stream meets channel. Where the downward stream meets the flood, the ripple and regurgitation of the contending waters disturb the loose sand and gravel of the bed, which being suspended, are carried away with the set of the revolving waters, and thus become deposited as shoals and bars in the eddies. But shoals and bars cannot occur where the material of the bed is such as to offer a sufficient resistance to these actions, and when the stratum is perfectly hard and indurated; and as the tidal water and the pent-up river-water act as a scour during the ebb, the detritus, such as sand, gravel, silt, and mud, will be carried outwards to the sea, and the conflicting actions of the flood and ebb being stronger at the mouth of a river, have a greater tendency to throw up alluvial shoals and hars at that point. Now the velocity and mechanical power of a uniform stream of running water are increased by the augmentation of its depth; and the actual increments of the former vary as the square roots of the hydraulic mean depths, and of the sine of inclination conjointly, and of the latter as the quantity of water and the squares of the velocities. But in the case of tidal rivers, as, for instance, in the Thames, the increase of both the velocity and the power are only partial, as is plainly observable some time before and at the time of high-water. After overcoming the resistance of the river-water, the flow of the tide increases upwards for some time (prohably about two-thirds of the time of its flow), from whence its velocity and power gradually diminish to the time of highwater.

There is a point of time too when the ebb tide has the greatest velocity, and this varies, in some degree, very probably, at every ebb. The ebb does not meet with retarding powers altogether similar to the flood. Immediately that the tide begins to recede, its velocity goes on increasing, and the mechanical action upon the channel also, until a certain time previous to low water, or when it loses that amount or body of water upon the channel, both in depth and power, which produces and con-stitutes the greatest velocity. In some degree, the precise time when the velocity is greatest will be dependent upon extraneous causes of retardation or acceleration. Thus the power of the wind acts, when ever it blows, either as an accelerating or retarding force, and, in consequence, may influence the precise or natural time of both the greatest veloci-ties, and of low or high water. From

• Continued from page 124.

observations, and by noting the fall of the tide, it appears that the greatest velocity is at about one-third of the ebb; and under ordinary circumstances the flood runs up five hours, and the ebb runs down seven hours. The gradations of the velocity and power of the ebb go on increasing from high-water up to a certain point, and then diminish to nothing down to low-water. Diagrams shewing the increments and decrements of both the rise and fall of the flood and ebb tides at every quarter of an hour, and also the velocities due to the heights of each at the same time, and during the time of full and new moon, and from new to full moon, would be of great value to all persons engaged on, or in any way connected with the river. From knowing the times of high or low water one would, by inspecting the diagram, be enabled to see how much either the flood or ebb had increased or diminished at any point and time of the tides, and also the velocities at those points and times. These could be taken at various points in the river between Putney and Blackwall, and would serve as valuable indices to the state of the tides between those points; but such experiments should be placed under scientific supervision, and verified proper accordingly.

The bed of the river between London and Battersea bridges has been considerably deepened by dredging, and by the increased volume and action of the tides since the removal of old London-bridge; so much so as to have exposed the bases of the piers of Blackfriars and Westminster bridges; and, in consequence, placed their stability in considerable danger. At the low-water of the spring-tides the footings of the north piers of Waterloo and Southwark bridges are exposed, the dredging and action of the tides having ploughed much deeper channels between them than when they were first built. Since the removal of the great obstruction to the river, old London bridge, the motive power of the ingress and egress of the tides has considerably increased beyond the tenacity and con-sistency of the soil and the stability of the channel; and there is no doubt that the conchannel; and there is no doubt that the con-templated embankment would produce a much greater change in the depth of its bed, so much so as that many of the bridges would require increased protection. The present greatest velocities of the ebb of the Thames between Westminster and London bridges increase as the breadth decreases. From the former of these points the breadth gradually diminishes to the latter, and consequently the velocities to the latter, and consequently the velocities increase inversely as the areas of the sec-tions. The following table will shew the greatest velocities of the ebb between those points :-

From Westminster to Waterloo bridges the greatest velocity at the surface is - 40 in. per sec. From Waterloo to Blackfriars, do do. - 50 ,, Blackfriars to Southwark, do, do. - 65 ,, Southwark to London, do. do. - 70 ,,

These are the velocities at the surface of the river in the run of the tide, but the water at the bottom, from the unevenness of the channel and other retarding causes, does not move with the same velocity as that on the surface. The latter is found thus: from the square root of the velocity at the surface in the middle of the stream, expressed in inches per second, subtract 103; the square of the remainder will be the velocity at the bottom; therefore, according to this rule,---

From Westminster to Waterloo bridges the velocity at the bottom is = 28'031 in. per sec. From Waterloo to Blackfriar's, do. do. = 35'295 , Blackfriarsto Southwark, do. do. = 49'513 , Southwark to London do. do. = 53'825 ,

It is of the utmost consequence attentively to consider and produce the stability and per-manency of the channel. It is observable that by contracting the channel an augmentation of the velocity is imparted to the water, and this very materially increases the mechanical action of the stream; therefore it is essential, in order to obtain a stable and permanent channel, that the increased velocity and action correspond with the tenacity and consistency of the soil which form the bed of the river. According to the nature and ingredients of the soils which forms the bed of the stream, and

Therefore and to carry or drive them along. the substances will be acted upon by a momentum, more or less, according to the various velocities of the stream. An acquaintance with the velocity at the bottom of a running stream is most essential, in order to calculate what effect it may have upon the soil forming the bed of the river. In order to preserve an equilibrium between the action of the water and the tenacity and resistance of the channel, the nature and quality of the soil must be re-ciprocal to the momentum and abrasion of the ater.

The motions of all running streams are excited and diminished in their rapidity by certain accelerating and retarding forces. The velocities which they begin to acquire in their descent would go on increasing as the square root of the perpendicular height of the declivity of the channel, and the depths of water due to their heads, were they not impeded by other retarding forces. That which makes all running streams uniform in their motions arises from the friction of the channels, and arises from the friction of the channels, and the tenacity, or the viscidity with which all the particles of the water are held together; and the velocities are owing to, and depend-ant upon, the declivities of their channels; the quantity of water discharged is also de-pendant upon the amount of the declivity; and, as was before observed, the quantity dis-abarmed is as the valoaity that the valoaity is charged is as the velocity; but the velocity is acquired from the inclination, for the surface of every fluid at rest is horizontal, and therefore cannot move until the surface is inclined fore cannot move until the surface is inclined to the horizon, when it immediately moves in obedience to the natural law of the force of gravity, as every particle of the stream en-deavours to seek the lowest state of repose. Now the vertical section of a running stream varies as the inclination of the channel, for the varies as the inclination of the channel, for the declivity produces the velocity: thus, if a stream move along a channel with a mean velocity of 5 feet per second, and have a sec-tion 3 feet wide and 4 feet high, the discharge per second would be $3 \times 4 \times 5 = 60$ cubic feet; but if the same stream run further on in a similar channel, but with an increased de-divity, which produces a mean velocity of clivity, which produces a mean velocity of 10 feet per second, the vertical section of the stream will be diminished to balf the area of the former; for $3 \times 2 \times 10 = 60$ cubic feet as before. An increased velocity of a stream somewhat diminishes the pressure on the bed, and this also diminishes the friction

and the resistance of the channel. In order to preserve the channel of a river in a state of cleanliness, and to retain its In order to preserve the channel or a river in a state of cleanliness, and to retain its uniformity, the scouring action of running water is the most efficacious mechanical agent; and this action becomes more power-ful in preventing the deposition and accu-mulation of mud, and also of shoals of sand mulation of mud, and also of shoals of send and gravel, when the quantity of running water is large, and moves with a high degree of velocity. A greater quantity of back-water is necessary in those rivers where the course is winding, for the purpose of keeping the channels free from deposits and accumu-lations than in these where course are discu lations, than in those whose courses are direct and straight; for in the former case a considerable quantity of the impetuosity and power of the moving current becomes de-stroyed by the reflected motions and eddies that are produced by striking spainst the sinuosities and projections of the banks, and from the centrifugal motions that are imparted to the stream in winding through the concave parts of the channel. Where the course of a river is of a serpentine form, it is observable that the mechanical action, from the greater velocity of the water along the concave portions of the banks, has deepened the channel much more at those parts than at the convex sides; and the abrading action of the currents upon the conceptities is constantly the concavities is constantly wearing upon upon the concavities is constantly wearing away those parts, the water carrying off the earthy particles of the soil, leaving the stony particles deposited upon the bed; because as the currents are reflected from the concavitie on the one side into those on the other, the obliquity of the motions acts upon and wear away the bottom and banks, consequently, the convex banks are always less inclined to the channel, and much wider. But the decivit of the bed of a stream, whose channel is of the weight and size of the materials that lie upon the channel, from fine sand to large stones, a certain degree of proportional power is re-quired to overcome the inertia of these bodies

proportionally to their radii, the declivity is most where the length of curve is least Now it would appear that the velocity of the stream must increase where the inclination is greatest, but the momentum of the flowing water reverses the action at those bends. A stream of water running from a straight channel into a curvilinear one, from the impetuosity of its motion, is carried onward and strikes the concave side, from which it is reflected to the opposite bank, at an angle approaching to the angle of incidence-for it cannot be equal to it, on account of the inelasticity and friction of the soil, and the viscidity of the particles of the water-from whence it is sgain reflected to the opposite bank; leaving the intermediate parts of the banks much less acted upon; and thus a series of convexities and concavities are formed along the channel. Therefore, a great portion of the momentum of the stream is expended along the concavities, from the progress of the water having somewhat of an angular motion, although not strictly so.

It has been deduced directly from observations and experiments, that a running stream of water moves with the greatest velocity at or near the upper surface in the middle of the stream, and that the velocity gradually diminishes from thence to the bottom and sides of the channel where it is the least; and the mechanical action of the water is always strongest where the depth and velocity are greatest; for in proportion as the depth and velocity decrease from the middle of the upper surface towards the bottom and sides, the mechanical action of the water upon the channel is also diminished in the same ratio. As the depth of the stream increases, the abrasion upon the channel must also increase in proportion to the pressure, but, although the abrasion increases with the pres sure, it is somewhat proportionably less for larger pressures than for smaller ones. When pressure is removed and a body of water is al-lowed to flow, motion always takes place first in the middle of the stream, for according to the general law of gravitation, the mobility of the particles of the water when set in motion presses them against each other in endeavouring to obtain their lowest position; therefore, the filament in the middle is the first that seeks to escape, and the lateral filaments by losing their stability, slide or fall towards the centre of the channel; and when the stream is constant, they are continually endeavouring to supply the places of the middle ones. It is a well as-certained fact, that the channels of rivers and running brooks, assimilate very much to the concave curve of a circle transversely to the flow of the streams. When water collects into channels, it becomes a powerful mechanical agent in wearing away and carrying along the detrited soil, and both the widths and depths of all channels are dependent upon the nature of the substances of the ground and their degrees of in-duration, the banks sloping towards the channels at angles, which are peculiar to the nature of the soils; it is evident that the outline of the channel must be influenced by the peculiar quality and induracy of the soil, but it would appear that the regime of concavity is caused by the actions of the gradations of mechanical the velocity and pressure of the several filaments upon the channel, for the regular diminution the velocities of the stream from the middle of the surface to the bottom and sides, and the proportional pressures of the water upon the base, produce a proportional diminution of abrading action upon the surface of the channel; thus, by the spontaneous operations of nature, the varying and proportional actions of the various velocities of the stream, and the proportional pressures of the water in contact with the bed, produce its curvilinear form.

In obedience to the natural law of the force of gravity when a stream of water is in motion down an inclined plane, every particle of the fluid endeavours to seek the lowest position to which it can attain, in order to find a state of repose. In pursuit of this object, every particle of the fluid from the farthest extremity of the stream at the sides towards the middle, in endeavouring to attain a central position, acts with a proportional increase of pressure against those next to it, and thus produces a maximum velocity in the middle of the stream. And in all cases the gravitating action of water by its exertion while descending to the lowest accessible level, and when collected into narrow

circular channels, produces a power which becomes a most efficacious mechanical instru ment in collecting and carrying along with it all the deposits and impediments it may come in contact with in its course, as well as the animal and vegetable refuse of towns. But in order to render the water available in lifting these excrementitious and other substances and of sufficient power for promoting the necessary transmission of this refuse, a constant and copious supply is absolutely essential. As, in proportion to the quantity of water and the energetic impulse of the stream upon the removal of these substances its channel, is mainly dependent; and the mechanical power of the water, that raises these substances and carries them along in suspension, is more or less according to the depth and quantity, as well as the velocity with which it moves; and the augmentation of the latter is dependant in great measure upon the declivity of the channel.

IIII

A considerable retardation of the velocity and power of a running stream, is produced by the resistance it receives from the friction of the surface of the channel, and the amount of friction is in proportion to the extension of the surface with which the water, while in motion, is in contact, as every point of the surface of the channel exerts a force directly opposed to the motion of the current. And it is this friction which imparts a resistance throughout the moving body, neutralizing the celerating power of gravity and abrasion of the water, and making the stream to move with a uniform velocity along its various sections and declivities. It appears from the well-known law, of extent of surface retarding the motion of water, that if a stream of water be spread out, and allowed to run, in a rectangular channel, the amount of friction and consequent retardation will be much greater than if the same amount of water be confined to a circular channel, for the perimeter of the circle is less than that of any other figure of the same area, and conversely, the circle contains the greatest area of any polygonal or rectangular figure of the same perimeter, therefore, with a given sectional area of water, the amount of the abrading surface, or friction upon the bed. increases as the surface of contact increases, and will be determined by the form and perimeter of the channel through which it flows. Circular channels, therefore, are the most advantageous, where velocity and power of running water are required, as circles have less frictional and resisting surfaces under the same area; and it is for this reason that pipes are made circular for the quick conveyance and distribution of water, gas, smoke, sound, and many other contrivances in the arts. But the applicability and adaptation of these pro-perties of the circle are the most essential in the formation of water channels, for the transmission of noxious animal and vegetable matter by the mechanical agency of suspension in running water, as for instance, house-drains, and public sewers. Now as a contracted circular channel meets the conditions of increased depth, velocity, and power of the stream, then unquestionably, according to the nature of the ground, a circular or elliptical form, with the longer axis upwards, is by far the best for of-fering the greatest resistance to external pressure with the same amount of materials, and for the quick transmission of any substances by the agency of running water; therefore, this form should in all cases be adopted for house drains, and public sewers; in fact, in a scientific point of view, that this is the best form, there cannot be the least doubt.

By observing the motions of running waters, it would appear that the particles do not move in straight and parallel lines, whatever may be the form and direction of the channel, for, in consequence of the resistance imparted to the current by the friction and asperities of the bed, the particles in contact and moving along the bottom are divided, diffused, and reflected in all directions, to distances that are proportional to the velocities of the stream; and the advancing and progressing force and momentum of gravitation of the waters turns and carries the reflected particles along in revolving and curvilinear motions: and it would appear that these conflicting motions by crossing, recrossing, and intermingling with one another, and with different velocities, retard the equal and uniform motion of the

stream throughout its or provident and the velocity increases proportionally from bottom to the upper surface, or, the velocity and action increases from the bed upwards as the resisting motions of the particles of the water reflected from the channel become expended and destroyed by the descending action of the force of gravity; for if the particles of water, from the momentum of the stream in moving along the channel, are reflected by the friction and asperities of the bed, may not each particle, however minute, be likened to any other projectile, and be subject to the same law of retardation and acceleration of gravity, and may not the diminution of velocity from the surface to the bottom and sides be thus accounted for?

In consequence of the winding courses of most tidal rivers, the channel which suits the current of the flux may be altogether different to that which suits the reflux, and the obliquity of the reflected streams of the former may not take place at the same points and fly off at the same angles as those of the latter; thus, an oscillatory and sideway motion of the soil on the bed will be produced, and the actions of the flood and ebb alternately cause shoals and ridges of sand and gravel to collect in the channel, and, in consequence of these obstructions, much of the power and velocity of the currents is checked and expended by breakers and eddies, and the water escapes and flows with an increased velocity between the channels formed by the shoals. In all tidal rivers the courses of the alternate currents, and those parts where their actions upon the channels are most strong, are peculiarly marked and observable when the cob at spring tides is at the lowest. The winding course of rivers and rivalets lengthens and reduces the declivity of the channel, and the velocities are much less and the water higher in the elbows and bends; and where the currents move with the greatest rapidity the channels are most frequently the straightest. When a stream is constrained to move in the direction of a curve, its motion and course is constantly varying, because, from the centrifugal force of its motion, every concentric filament of the stream running round the curve evinces a tendency to fly off, or quit The velocities of each conit at a tangent. centric filament will be greater or less in pro-portion as their relative distances from the centre of the circle are greater or less, and the centrifugal force increases in proportion as the radius of curvature increases; therefore, the velocity of the stream augments as it recedes from the convex side. All angles and bends very much diminish the progression of the passing currents, and the retardation increases with the smallness of the curves and the abruptness of the angles.

The viscidity of the particles of the fluid and the friction of the channel conjointly, by their action, produce a uniformity in the motion of the water; and when all the obstructions, friction, and resistances of the channel, together, become equal to the force which accelerates the motion of the water, the stream will be uniform, having then no parti-cular mechanical action on the bed, the velocity and abrading action of the stream and the sum of the resisting forces being mutual. When this takes place, and not till then, a permanency of the channel and a regimen of the river will be obtained. The disintegration of clayey and gravelly bottoms takes place by imperceptible degrees, the lesser particles of the soil being removed; then the larger ones, being left free and not held by other tenacious substances, the power of the water drives them along, and these in their progress lick away the soft and impalpable particles, and thus those bottoms not possessing resisting qualities become worn down by the superior mechanical action of the water. All soils have a certain stability consistent with the velocity of the water acting upon them; and by examining separately the effects produced by variations of the velocities of water upon soils, a know-ledge of the actions of the running waters of rivers upon their beds is obtained. As different kinds of soil constitute the bottoms of rivers, a knowledge of the various velocities which act upon and carry along different-sized bodies, is of great importance in determining the nature of the soil for the bed, which shall maintain a certain breadth, depth, and velocity of a river. Now it has been ascertained from various experiments, that water flow-

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city of

| Sinches per | second | will | work | upon | and | carry | away | |
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| Sinches per particles | of | | | | . fin | e clay. | | |

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| 6 | do. | do. | do. | fine sand. |
| | do. | do. | do. | coarse sand. |
| 19 | do. | do. | do. | fine gravel. |
| 34 | do. | do. | do. | coarse gravel. |
| 36 | do. | do. | do. | gravel 1 in. diam. |
| 60 | do. | do. | do. | ,, 2 in. ,, |
| 7 3 84 | do. | do. | do. | stones 5 in. " |
| 84 | do. | do. | do. | ", 7½ in. ", |
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It would appear, therefore, from these experiments that in order to maintain the present breadth, depth, and velocity of the river between Westminster and Waterloo bridges, very coarse gravel is required for the bed; between Waterloo and Blackfriars bridges, gravel 1 inch diameter is required for the bed; between Blackfriars and Southwark bridges, gravel 1 inch diameter is required for the bed; and between Southwark and London bridges, gravel-stones 2 inches diameter are required for the bed. This shews at once that the indurated mass of gravel and clay, of which the present bed of the river is composed, does not offer a resistance, in the greatest run of the tide, sufficient to counteract the momentum of the flowing and reflowing of the tides; and, in consequence, the reason of the deepening of the channel (assisted, indeed, by dredging), is strikingly manifested since the removal of the great dam or obstruction to the flowing and ethe jing of the tides. namely old London-bridge.

ing of the tides, namely old London-bridge. London and its environs now contain a population of upwards of two millions of souls, and nearly all the impurities that are en-gendered within this great city and its suburbs are permitted to be discharged into the sewers by drains; almost every dwelling or other premises may now be drained, as sewers, which are of comparatively modern construction, are arranged and placed at such depths below the surface of the lower floors of buildings as are considered sufficient to afford perfect drainage from the various tenements. It must be obvious that the impurities, when discharged into the sewers, should not be allowed to deposit and accumulate within them, but should be carried off to the river as fast as engendered, and with the greatest possible speed. The same prin-ciple is also applicable to the discharge of the impurities, when received into the river. Nearly all the sulliage matter, as it is dis-charged by the Westminster, the City of London, the Tower Hamlets, and the Surrey sewers, into the river, becomes deposited upon banks. Between Putney and London its bridges the river is of a serpentine form, and its banks are of very unequal width. At low-water, vast quantities of mud and *living* corruption are exposed to view, at those situa-tions upon its banks which are flat and wide. These accumulations are by far more frequent on the north shore of the river, and are the deposited matters brought down and discharged into the river by the various sewers. Numer-ous accumulations of it may be seen between Battersea and Blackfriurs bridges, and the shore at low water in several places is of a reddish colour. When examined, the cause of this colour is found to arise from myriads upon myriads of small red living worms, em-bedded in the mud, and entwined together for several inches in depth. At one place between the Horseferry and the new Houses of Par-liament, there is an extensive bauk of mud, varing in depth up to 5 feet, and the surface of this bank is nothing else than a congeries of worms entwined together, and exceeding a foot in depth. When disturbed, the heaving of the mud is very perceptible, and the stench from them is noisome in the extreme.

In front of Whitehall-gardens, the accumulation of matter from the sewers is nearly 6 feet deep. Nearly the whole of the surface at this point is of a reddish colour, and is also covered with myriads of worms; and at lowwater, carrion-crows may very frequently be seen feeding upon them. In warm weather streams of exhalations are evolved from these extended heaps of abomination; and the effluvia being mixed with the atmosphere, are wafted into the streets and dwellings, and, of course, are inhaled by passengers and by the neighbouring inhabitants. The residences of the Duke of Buccleuch, Marquis of Ailsa, Earl of Harrington, and Sir R. Peel, are situate in this locality; and these noblemen and gentlethus living surrounded by a bog, and most nauseous descrip-

men are inhaling air of the

GOTHIC TRACERY PRODUCED BY MACHINERY.

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WE mentioned last week that Mr. Billings had brought under the notice of the Institute of Architects, Pratt's patent carving machine. From the time of the revival of pointed architecture in England to the present day, archi-tects, even when they had skill (too seldom alas !), have been trammelled in their efforts to produce works approaching in excellence to those of the middle ages, by the great cost at which alone it was to be effected. At this are better understood than they ever were, and but for the circumstance just mentioned we might hope to see structures raised equal in beauty to the wonderful productions of our forefathers. In designing an edifice in this style, however, the inquiry, now ever present to architects is, what can be done without -how much decoration can be omitted, and yet the characteristics of the style be retained? and so they are compelled to pare, and shear, and leave out, and necessarily fall very short of the early works, which were usually the result of a long period of time, and were effected without regard to the total cost. A variety of expedients in the shape of imitations have been resorted to, but are now very properly abandoned.

By the machine recently patented, and which we have examined with great satisfac-tion, the difficulty here alluded to will be considerably lessened, insomuch as by its means, the most elaborate tracery can be carved out of the solid wood or stone with great rapidity, and for about one-third of the sum it would cost if executed by hand. It is capable of working any form, however elaborate, even to the tracing of a map, and is yet so simple in its operations, that a few hours' practice will enable any mechanic to work it. It may be described as presenting a union of the lathe, drill, and pentegraph. A small cutting tool is made to revolve very rapidly by means of steam power, while, at the same time, it is enabled to pass over the lines of a pattern (formed of cast-iron) which is fastened down on to the wood or stone that is to be A further motion is given by means carved. of the table on which the material is placed; and it is in the production of these various motions that the invention chiefly consists. The tool is said to make 3,000 revolutions in a minute, and, as it presents eight cutting edges on its circumference, 24,000 cuts. The hardest oak, the softest pine, and the most brittle stone are equally operated upon; and the largest spandrel of a roof, or the smallest screen-work can be produced. The patterns being inexpensive, it is stated that every panel of a screen may be different without much increasing the cost. The machine was invented by a Mr. William Irving, and was used in the first in-stance simply for inlaying floors, &c. The credit of its application to carving and other architectural purposes belongs, we believe, to Mr. Pratt, who, discerning its capabilities, effected an arrangement with the inventor, and patented the machine. He has executed, amongst other works, a roof for Ravensworth Castle, and a screen for Great Malvern Church.

We cannot avoid regarding this invention as a most important occurrence for the interests of architecture, and anticipate from it the best results. It has not even the disadvantage which in the first instance usually attends machinery, that of superseding manual labour: on the contrary, it will probably increase the occasion for it, by introducing a description of work not hitherto within the architect's means; and, as the artist's hand is required for the bosses, crocketts, and other enrichments (which the machine merely blocks out), may call into operation a school of carvers.

PROTECTION OF WORKS OF ART.-- A bill for this purpose has been brought into the House of Commons by the Solicitor-General.

ROYAL ACADEMY OF ARTS.—A notice has been issued to the effect, that all works of painting, sculpture, or architecture, intended for the ensuing exhibition in Trafalgar-square, must be sent in on Monday the 7th, or by six o'clock in the evening of Tuesday, the 8th of April next, after which time no work can possibly be received, nor can any works be received which have already been publicly exhibited. BRICKS A BRICKMAKING.

IN one of the previous numbers of THE BUILDER, the Whiterobserved an extract from the Mining Jots/Mal, relative to the manufacture of bricks, in which it was stated that an admixture of chalk with the clay from which they are made is injurious to the quality and strength of the bricks; this to a certain extent is true, but not so much so as the author of that paragraph would lead us to infer. Some soils used in the manufacture of bricks are so loose and incohesive, that unless they are held together, as the workmen term it, by an intermixture of chalk, it would be scarcely possible to make them into bricks of any value, either for the market or for building. It must, however, be admitted, that if there is an over proportion of chalk thrown into the clay, more particularly if the chalk is not well mixed, the bricks so made must of necessity be bad both in appearance and quality.

mate must of necessity be bad both in appearance and quality. And as it mostly happens that chalk is accessible to brickmakers, they do not fail to employ a very considerable quantity of it in their process of manufacture, which, being badly prepared and improperly used, unquestionably deteriorates the useful value of their bricks; so long, however, as they can contrive to keep them of good colour, they are satisfied even if they possess no other recommendatory quality; because they can always dispose of their stock to cutting builders, who care but little for the quality of the material they use in any kind of building, the speculative, of course, not excepted. Good clay is a great thing in brickmaking; but *time* and *labour* are as great, if indeed not greater, for indifferent clay with plenty of time and labour will make quite as good bricks as the best clay improperly used; if the labour in either case is stinted, the quality of the bricks will be injured one way or another.

If pure argillaceous earth is to be used, it should always be mixed with chalk and sand, care being of course taken not to put in too much of either ; the sand should be as clean and free from impurities as possible, and the more silex it contains the better, as it will then harden the bricks when they are burnt; if, however, there should be too much silicious matter, they will either fuse and run together into clinkers, or else they will turn out too brittle and shaky to be of much service to the builder. If too much chalk is put in, the builder. If too much chalk is put in, the bricks will be rotten and porous, for it appears to have the effect of preventing the intimate union of the sand and clay when being burnt, but if properly applied, it improves the bricks both inquality and colour. To make good bricks, it is essential that the earth should be exposed freely for some time to the action of the atmosphere, after it has been first dug out of its native bed, and if it be subjected to the action of frost for some weeks before it is ground up, so much the better for the quality of the manufactured article; the more the clay is pulverized and beaten, the better will it be tempered, so that labour, as I before observed, is one of the very best materials in the whole range of brick-making, as it is with every thing else; but time and labour being of high price, the brick-makers of course avoid high price the use of them both as much as possible. Good silicious sand when mixed with the clay fuses when at a red heat, and incorporates itself intimately with the other particles of matter in the bricks, and, like most other fused ingredients, it solidifies on cooling into a hard, ingredients, it solidifies on cooling into a hard, close-grained, compact body, capable of re-sisting the alternate changes of the atmosphere longer pehaps than any other material not of similar production: it is the silex that gives the brick the sharp sonorous ring when struck together, and if there is not too much of it, and it is not too highly scorched in the clamp or kin, the brick will be more durable than most of the stones used for building purposes. If chalk is mixed with clay merely in a broken state, without being washed and ground, the bricks are sure to turn out more or less faulty; the best way of using chalk is to grind it in the large mill, and reduce it to a kind of hydrate, and then pour it over the clay, previously pre-pared to receive it; as soon as it has settled, the superfluous water should be run off, and after a little time, allowed for the remainder of the water partially to evaporate, it should be intimately mixed with the clay by digging, pounding, and raking, and the more thoroughly it is incorporated with the clay the better.

I have seen bricks so carelessly made with respect to the use of chalk, that on dropping one of them, it would break to pieces, and exhibit the chalk in large solid lumps; in such case, if the bricks should be saturated with water, after being passed through the clamp, they will heat, swell, and crack in all directions, in consequence of the chalk having been converted into caustic lime, by having its carbonic acid expelled when being fired in the clamp or kiln.

Bricks vary as much in colour as they do in quality, which is attributable to a number of causes, the two principal, however, are the nataral quality of the component parts of the clay, and the mode in which the bricks are treated in the process of manufacture; some clay contains a very heavy trace of iron in different shapes, varying in colour from deep brown to light yellow, according to local circumstances; it is not unfrequently tinged of a greenish blue by the presence of the silicate of iron, which causes the clay to be mottled in its appearance in the pit. Great care is required in burning bricks to produce them of a good uniform pale yellow colour, which is the favourite of the London market, for if they are burnt too rapidly in contact with a free supply of atmospheric air, they are liable to be of a dingy red colour, alternating into a coarse dusky brown; whereas if they are carfully burned with but a moderate supply of air, say just enough to turn the iron into a peroxide, it will colour them of mearly a uniform sulphur yellow, which is the preferable colour according to present notions.

One great cause of the inferiority of bricks is the unwarrantable haste in which they are made; the field is now often bought, the earth prepared, and the bricks made ready for use in a few weeks; in fact, as many months are required to prepare the earth properly as we now take only weeks to make them complete. It is a very common matter now-a-days for a contractor to take a field near where his work lies, and make the bricks in the spring that are to be used in summer. The great falling off of the quality of modern bricks is a very probable cause of the decadence of the art of bricklaying, which has sunk from a high degree of perfection to its present miserable condition.

Where are we to look at this time for such brickwork as the builders of Wren's day produced? The highest ambition of a bricklayer is now torun a few arch-heads and window-crowns in "fine stuff," never daring to come into honourable rivalry with the glorious work—neat, elean, close, and smooth—of their worthy, plodding, but not to be beaten, great grandaires.

I will conclude these few words by repeating, that until our brick-makers give more time and more labour to the manufacture of their materials, it is hopeless to look either for good bricks or good brickwork.

JOSEPH LOCKWOOD

EFFECT OF SEA-WATER ON CAST-IRON.

MR. FARADAY has addressed the following observations on this subject to Sir Byam Martin, chairman of the "Harbours of Refuge and Defence" commission :--

"Sir,-I hasten to reply to your note, though not, I fear, with any certain knowledge, for infirm health has prevented me from taking up the consideration of the action of sea-water on iron, as my observations will permit. conclude that the question is of cast-iron in sea-water. Between these two bodies there is a vigorous action. As far as I have been able to observe, it is the greatest in the water near the surface; less in deep water, and least of all when the iron is buried in sand, or earth, or building materials (into which the water may penetrate); for then the oxide and other re sults formed are detained more or less, and form sometimes a cement to the surrounding matter, and always a partial protection. Soft cast-iron, as far as my experience goes (which is not much), corrodes more rapidly than hard cast; soft cast-iron, as far as my experience goes, more rapidly than the brittle white iron. As to the amount of corrosion in any given time, I have not had the opportunity of ob-serving any good and satisfactory cases of illustration.

"In estuaries and the mouths of rivers it is very probable that great differences of corrosion will arise from the different circumstances

of ariable saltness; the soil of the river if near a town, the metallice, will much effect it; thus a wharf of cast-iron might occasionally be greatly injured by making fast to it vessels that are coppered using iron cables.

"As to the protection of iron, and first by a coating; the permanency of a coat of paint, or of tar, or bituminous matter, can only be ascertained by reference to experience. Of this I have none, except in a case where coated iron sheathed for vessels was brought to me. I was much impressed with the thorough adhesion of the coat to the iron. The process was patent, and I cannot remember whose it was. Zinced iron would no doubt resist the action of the sea-water as long as the surface was covered with zinc, or even when partially crusted with that metal; but zinc dissolves rapidly in sea-water, and, after it is gone, the iron would follow.

"As to voltaic protection, it has often struck me that the cast-iron piles proposed for lighthouses, or beacons, might be protected by zinc, in the manner Davy proposed to protect copper by iron; but there is no doubt the corrosion of the zinc would be very rapid. If found not too expensive the object would be to apply the zinc protectors in a place where they could be examined often, and replace them when rendered ineffective. In this manner, I have little doubt that iron could be protected in sea-water. It is even probable that, by investigation and trial, different sorts of iron might easily be distinguished and prepared, one of which would protect the other; thus soft castiron would, probably, protect hard cast-iron, and then it would be easy to place the protecting masses where they could be removed when required.

"Hence, though iron be a body very subject to the action of sea-water, it does not seem unlikely that it might be used with advantage in marine constructions intended to be permanent, especially if the joint effects of preserving coats of voltaic protectors were applied. Perhaps engineers are in the possession of practical and experimental data sufficient to allow the formation of a safe judgment on this point. For my own part, I am not, and therefore am constrained to express the above opinions with much doubt and reserve."

ON FIXING CLOSE STOVES.

SIR,—IN consequence of the numerous fires that constantly occur from the *careless* manner in which close stoves are generally fixed, I beg to offer the following remarks for insertion in your popular journal, with the hope that they may lead to some improvement.

may lead to some improvement. Nearly all stoves of this kind, if not properly attended to, are dangerous from getting over-heated, and consequently should be securely be securely fixed away from any combustible material. If the stoves are placed detached in the open space of a room or workshop, the wood floors should be cut away, and trimmed to at least 12 inches in length all around the stove ; an arch of brickwork should be turned under in cementand a piece of stone laid to a level with the floor, which, to the extent of 18 inches further, should be lined with lead, and the stove placed in an iron pan. If the horizontal pipe is carried into the chimney opening, the latter should be filled up with brickwork (or sheetiron) with a trap-door, so that the soot may be removed, which frequently falls down; several fires have arisen from this cause alone. If the pipe is used for heating gluepots, drying timber and other materials, the whole of the stove and pipe should be embraced by an iron fender, about 3 or 4 inches higher than both of them, or at least a trough of iron running the whole length of the pipe, leaving a space of 7 or 8 inches round the And they might in manufactories, same. workshops, &c., where appearance is not much considered, be placed on three or four courses of brickwork covered with a piece of stone having an iron rim to form a fender round its edges; another method might be adopted, and perhaps the more convenient, leav-ing the chimney open, and having an elbow to the end of the horizontat pipe with a length of perpendicular pipe up the flue, which should be filled up just above the level of the mantel with brickwork or slate, having a trap, so that the chimney might be easily swept. With this arrangement, the stove might at any time be

removed and a register grate be placed in the recess. When a stove is close to a chimney opening within the confines of the stone hearth either of the above plans with regard to filleither of the above plans with regard to hil-ing in the chimney opening may be employed, having a liberal quantity of sheet-lead spread on the floor round the same. Many flues are fixed with the horizontal pipes running through wood partitions, having holes cut just the size of the pipe; the pipe from want of cleaning gets rad, her and sate fire to the of cleaning, gets red-hot, and sets fire to the woodwork. It would be better in all such cases to take out the wood panel, and insert an iron one, which would prevent such accidents, and when painted to match, would make the whole complete in appearance. In no case should stoves or pipes be placed within less than 12 inches from any woodwork, unless it be lined with lead; and in confined places, running through cupboards, &c., there should be double pipes, leaving a space for a draft of air to pass freely between them. Lead is the best ma-terial to be employed, the cheapest, and most durable, and being pliable, may be easily dressed round mouldings and other pro-jections, and when well nailed on the floors, is less likely than iron to be turned up by the traffic of the feet. It is of the utmost importance that all stoves should be safely fixed, not only for the security of the party setting them up, but that of his neigh-bours; a few pounds laid out in the first instance would produce a saving in the end, seeing how many fires arise from them, and that the offices charge from 1s. to 5s. addiinsurance tional premium, according to the number and nature of the stoves. No extra charge is made

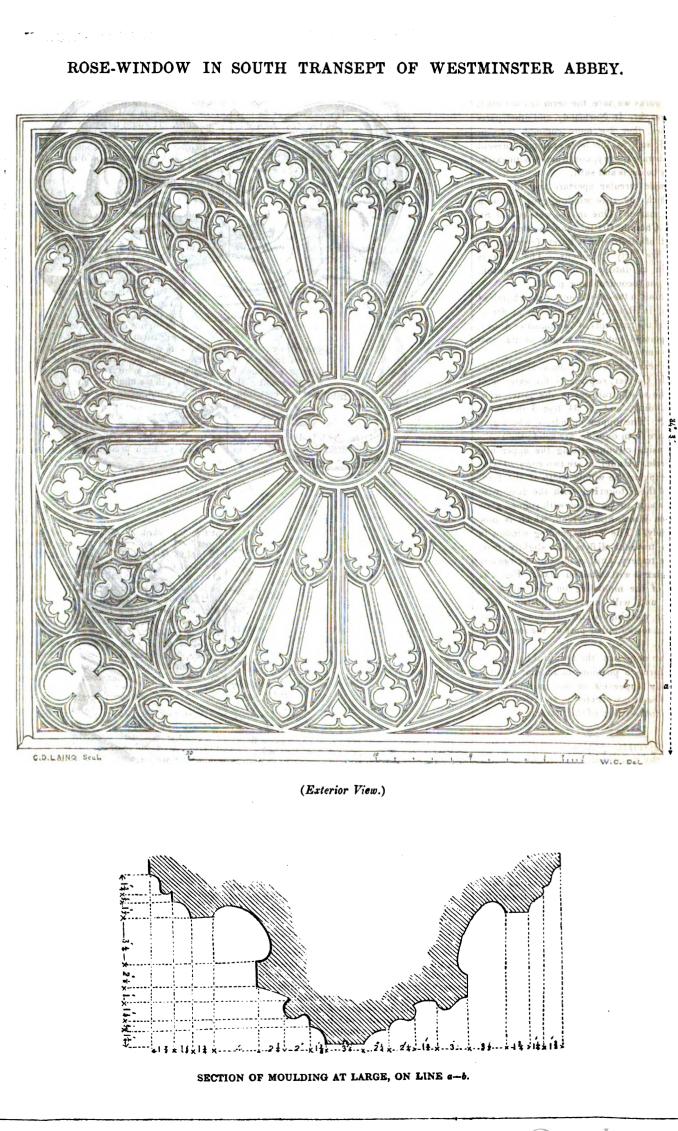
when they are properly fixed and attended to. I do not offer these suggestions as new, but as likely to prevent accidents by fire, and the infliction of high premiums by the insurance offices. W. J. S.

[Schedule F annexed to the Buildings Act, contains the following clause :---

"Close Fires.—And as to every oven, furnace, cokel, or close fire used for the purpose of trade or manufacture, it must be 6 inches at the least distant from any party-wall, and must not be upon nor within a distance of 18 inches of any timber or wood-work. And the floor on or above which such oven, furnace, cokel, or close fire shall be built or fixed, must be formed and paved under, and for a distance of 2 feet all round the same, with stone, brick, tile, or slate, at the least 2 inches thick, or other proper incombustible and non-conducting materials." It likewise provides that no metal or other pipe or funnel for conveying smoke, heated air, or steam, shall be fixed on the inside of any building nearer than 14 inches to any timber or other combustible material. —ED.]

RAILWAY NEGLICENCE.—At the Maidstone Assizes last week, two actions were brought against the South-Eastern Railway Company, to recover the value of certain stacks and farm buildings which were destroyed by fire, originating in sparks emitted from the chinney of a railway engine. Proof was adduced that means had been taken upon other lines of railway, by placing a wire guard over the top of the chinney of the engine, or by using a plate perforated with holes in front of the smokebox, to prevent the burning coals or ashes issuing from it; but that upon this line these precautions had been altogether neglected. Verdicts were returned in both actions for the respective plaintiffs; in the first, the damages amounted to 800%, in the other to 894%. 14s.

ATMOSPHERIC RAILWAY.—On the motion of Mr. Shaw, a committee has been appointed by the House of Commons, to inquire into the merits of the atmospheric system of railway propulsion. The right hon. member stated, that Sir John Rennie, Mr. Cubitt, and other eminent engineers were confident of its success; and the Messrs. Maudslay, of Westminster-road, were willing to contract for keeping the apparatus in repair at an expense of not more than 5 per cent. per annum, whereas the cost of repairing the ordinary locomotive engines was 50 per cent. per annum; and the first expense of the atmospheric railway was not greater per mile than that under the present system. Sir Robert Peel consented to the appointment of the committee.



ROSE, OR CATHERINE-WHEEL WINDOWS

CIRCULAR windows are found in the buildings of the 12th, 13th, and 14th centuries in England, France, and Germany. As well as rose, or catherine-wheel windows, they are sometimes called marigold windows; and in French works we have the term cil des ailes, rosa vitrea, &c. In Normandy, and other parts of France, they are more common than in England; and; id the later examples, present very elaborate tracery, constructed with extraordinary boldurss and skill.

A simple circular aperture was the germ from which the rose window grew to be a masonic marrol. One in the west end of St. James's Charich, Bristol, and another in the east end of Bastreston Church (recently restored), are early specimens. The latter is shewn in an interior view of the church, given in our second volume, p. 265.

And those in the west front of the church of St. Ouen, in Rouge, the cathedral at Strasburgh, and the transepts of Westminster Abbey, may be pointed out as examples of its most complete and perfect state.

The annexed sugraving, from a careful drawing by Mr. Osveler, represents the exterior of one in the south transept of the latter wonderful building, and is 34 feet 3 inches in diameter. The upper spandrels, which give it the square form outside, are solid; the vault-ing withinside circussoribing the upper half of the circle. Under it are two rows of winof the circle. User is are two rows of win-dows, occupying the whole width of the tran-sept; and these together with the rose win-dow, are shown in the filed with stained glass by Messer. We and Nixon, which is now nearly ready. The corresponding window in the north transpt differs but slightly from this in the tracery, and, as most of our readers know, is glazed with stained glass. Fig. 2 is a section of the moulding on the line, a-b, at large, and will serve to illustrate suffi-ciently the winking of the window. It may be ascribed to the latter part of the fourteenth century. century.

For some notes on the beautiful building of which it forms a portion, in addition to what has recently appeared in our journal (p. 98 and p. 110, ante), we refer to an article on the abbey in another part of the present No.

GOTHIC ORNAMENTS FROM THE CATHEDRAL CHURCH OF YORK.

In continuation of our series, we present two other examples from this beautiful building.

Fig. 7 shews one of two compartments in the spandrels formed by the arch of the door at the west end of the north aisle, and the cill of the window above it. The door in the opposite aisle has two similarly shaped compartments in the same position, but the sculpture is different in each of them. The panel shewn, represents (at the same time) two passages in the life of Samson. It is about 2 feet square, and is in high relief. The other three are much defaced: they represent various conflicts.

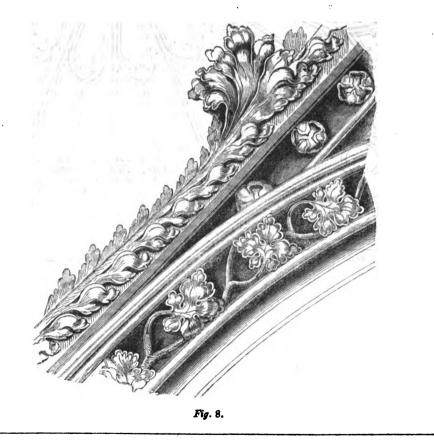
Fig. 8 represents a crocket on the lower part of the pediment of the great west door, with part of the mouldings of the arch. It is l foot 8 inches long. The crockets on the upper part of the pediment are different.

• In Rouen Cathedral there are three, 50 feet in diameter. There is a fine example in the west front of Rheims Catheiral. Amongst the earlier specimens in Norn andy are those in the Abbaye aux Hommes, Caen, and the Ducal palace in the same town.

GOTHIC ORNAMENTS FROM THE CATHEDRAL CHURCH OF YORK.



Fig.



SOCIETY OF ANTIQUARIES.

A MOVEMENT has taken place in this ancient and valuable society which is likely, we think, to have a good result. In a discussion caused to have a good result. In a discussion caused by a proposal, that in future no meeting of the society should be suspended in commemora-tion of the death of King Charles I. (Jan. 30th), it was admitted by members of the council that they scarcely ever met, and that, through neglect, the business of the society had accumulated, and was now in a complicited state. The accessing of subscript

made, and, together with the original proposition, were referred to the council, to be reported on at the anniversary

1. That the president of the Society of Antiquaries of London be requested to attend at the next anniversary of the society, and to deliver an address to the members, which may comprehend the names of the members de ceased during the past year; the number of new members; the state of the finances; the state of the arrears due to the society; the adtions amounted to more than 2,000. The following suggestions for the future conduct of the society, amongst others, were then

parts of the world; together with such obserations as he may be pleased to combine with them,-such addresses being delivered by the presidents of the Royal Society, the Geographical, the Geological, the Astronomical, and the presidents of other enlightened modern societies of London.

2. That the auditors, in their next annual report, be requested to explain the charge of 4477. 10s. allowed as salary to the officers of the establishment; and to specify the sum paid to each of them,—a practice observed by audi-tors in other societies.

3. That the librarian be allowed hereafter a competent salary in lieu of fees; and the payment to the librarian of 2s. 6d. by each member on receiving each volume of the Transactions be abolished.

4. That a general opinion having been expressed that the office of president should not always be filled by the same individual, how-ever accomplished and erudite he may be; that no person be allowed to hold the office of preno person be allowed to hold the office of pre-sident in future beyond the term of four years.

5. That if the authors or contributors of papers deemed worthy of being read be fellows of the society, they be requested themselves to read them (unless such authors or contributors prefer that these papers he read by the secre-tary); and that immediately after the reading of each paper, the members of the society be invited by the chairman to make observations upon the contents of each paper.

6. That the council do meet for the despatch of the business of the society at the usual place, at three o'clock, on the first Wednesday of every calendar month, except in September and October; and that this meeting be not ad-journed unless by the votes of a majority of two-thirds of the members present.

A CHAT ABOUT WESTMINSTER ABBEY AND GREAT MEN'S MONUMENTS.

BY G. GODWIN, F.R.S*

"They dreamt not of a perishable home Who thus could build. Be mine, in hours of fear, Or grovelling thought, to seek a refuge here; Or through the ailes of Westminster to roams, Where bubles burst, and folly's dancing foam Melts, if it cross the threshold-"

Oun metropolitan minster (west of Bt. Paul's) is perhaps without exception, the most beautiful and instructive sight in London; and yet how many inhabitants of this great city there are who but for the accidental vielt of a country cousin, which led them to seek the Lions, had never seen it ? and how many more to whom it is still unknown ground? They have travelled, perhaps, to York, to see They have travelled, perhaps, to York, to see the Minster there; they have sought objects of interest at Cologne; they have thrown their eyes round the Cathedral of Strasburgh—but Westminster Abbey, close at home, has es-caped their investigating gaze. Let them lose no time in seeking it out. We feel persuaded that few can visit this wonderful museum of skill, genius, noble thoughts, and memories of good deeds, without an elevation of mind, an improvement in taste, and a chastening in feeling which must tend in a greater or less degree to good. Walk through it, examine it, study it, as often and carefully as you may, you will ever find some fresh claim on your attention, some beauty before overlooked, or some evidence of unpretending piety, which makes you prouder of humanity and more determined to do nothing derogatory in your own person. It is, indeed, a spot "where folly's dancing foam melts if it cross the threshold;" where thoughts that are unboly die: where that are unholy die; where the past great ones of six centuries speak powerfully to you -it is to be hoped, not uselessly.

"Thinke how many royall bones, Sleep within these heap of stones. Here they lie, had realmes and lands, Who now want strength to lift their hands, Where, from their pulpits seal'd with dust, They preach, "In greatnesse is no trust !" Here's an acre, sown indeed With the richest royall'st seed That the earth did e'er suck in, Since the first man dy'd for sin."

The multitude of monuments which it contains, from that of King Henry III. upwards (omitting, for the present, any remarks on the destructive effect produced by those

erected in modern times), render it an index to English history, and a commentary; while the specimens of the workmanship of different epochs in wood and stone, and glass and metal, which these and other portions of the building present, make it a lecturer on British art, and a record of its progress. Edward the Con-fessor's chapel, at the east end of the choir, is alone a sufficient reward for a pilgrimage of a hundred miles. Here, where old Time seems to have secluded himself from the garish present, and reigns over remnants of the past, are ranged memorials of our early sovereignsthe pious Edward, Queen Eleanor, Edward I. Henry III., Queen Philippa, Richard II. and his Queen, and the gallant Henry V. It has nothing in common with the present time : it alone, and cannot be realized in the stands mind of any one of the thronging thousands, who are passing at so short a distance from the apot, if they have not visited it. Examine the pavement, examine the shrines—the chantry of Henry V., the screen next the choir, covered with minutest sculpturing-and see how the powers of art have been lavished in honour of God. Our forefathers were not satisfied with the decoration of the mere face of the part in human sight-the highest exercise of their powers was deemed hardly worthy of the temple; and so long as any portion, however remote or hidden, remained capable of improvement, so long was it deemed incomplete and requiring alteration.

Strange changes have occurred since a sacred edifice first occupied this site! What if it be not true that the Romans had a temple to Apollo here, or that Peter the Apostle raised the first chapel in the "Thorney Island," as the place was once called? There is good reason to believe that old Sebert, king of the East Saxons did, quite at the commencement of the 7th century: and this will give us a good 1200 years to talk about.

It was at first but a small building: Edward the Confessor perhaps made it larger. "With-out the walls of London," says an ancient scribe, "uppon the river of Thames, there was in times passed a little monasterie, builded to the honor of God and St. Peter with a few Benedict monks in it, under an Abbote, serving Christ: very poore they were, and little was given them for their reliefe. Here the king (Edward) intended (for that it was neare to the famous cittie of London, and the river Thames, that brought in all kind of merchandizes from all partes of the worlde) to make his sepulchre:" and so commanded that the tenth of all his possessions should be applied to its re-construction. This was probably about 1050. Hardly 200 years afterwards Henry III. went to work upon it, and erected much of what we now see, and at his own cost be it remarked, if the chroniclers speak truly. By the eighth Henry the monastery was suppressed, and Thorney Island became a city, the

abbey church, its cathedral. Of the elegance of the Abbey as a structure it is almost needless to speak; it may be termed the finest example of the pointed style of architecture ever executed in England, and remains the most complete, with the ex-ception of the cathedral at Salisbury. The combinations which its various parts form, especially at the eastern end, are as numerous as they are striking, and serve to impress a strong conviction on the mind, of the skill of the old builders, and the power they possessed of so arranging their structures as to excite pleasurable and lotty emotions. Amongst the most stiking of these combinations. Amongs the presented when standing beneath the porch of Henry VII.'s chapel, the gloom in which, most artistically devised, serves to render the full flood of light, to be found in the chapel itself, striking and effective in the highest degree. Burke remarks, in his essay on the sublime, "I think that all edifices, calculated to produce an idea of the sublime, ought rather to be dark and gloomy; and this for two reasons; the first is, that darkness itself, on other occasions is known by encourse the on other occasions, is known by experience to have a greater effect on the passions than light. The second is, that to make an object very stiking, we should make it as different as possible from the objects with which we have been immediately conversant; when, there-fore, you enter a building, you cannot pass into a greater light than you had in the open air: to go into one some few degrees less luminous, can make only a trifling change; but to make the transition thoroughly striking, you ought to pass from the greatest light to as much darkness as is consistent with the uses of ar-chitecture." This the architects of the middle "dim religious light," and accordingly built their ecclesiastical edifices, for the most part, with comparatively few openings. When, however, as in the case before us, the style When, adopted rendered larger windows necessary they reversed the arrangement, and so still obtained the required effect.

Many of the striking combinations to which we have referred are now sadly interfered with by the modern monuments, with which the Abbey is lumbered up-monuments for the most part so absurd that they would make us laugh if they did not make us sad. Mouldings, pillars, and adornments of all descripions have been ruthlessly cut away for them; openings have been interfered with, and even several of the spaces between the large clustered columns in the side aisles and chapels are blocked up to the top with tasteless and incongruous masses of stone and marble, alike unsuitable and discordant in colour and design.

The sculpture of the best periods of the middle ages has an entirely distinct and original character, prompted by the spirit of the time and carried out by genius. It is in no way imitated from the master-pieces of Pagan art, which might have been used as models; but is nevertheless full of feeling, and appeals to the sympathies rather than to the eye. In the ancient tombs at Westminster, as else-where, the sculpture is seen to be a portion of the building, conceived in the same spirit, and displaying the same feeling of reverence. All the figures are in repose, all are devotionalthere is no flutter, no action even, certainly no worldly action; they do not seek to record, in vain self-glory, any moment of the past, but carry us forward to the great hereafter, and inculcate humility. Alas! how sadly this con-trasts with those of more recent date, where every man " for his own hand," has worked in his own way, careless of the general effect, and has not worked well. Mountains of most material clouds, urns, flames, figures in ill con-ceived and violent momentary action, accurate models of periwigs and whiskers, the evanescent fashions of a period of universal bad taste, form the staple—but why endeavour to prove what nearly all seem to acknowledge?*

As the writer has elsewhere remarked, in reference to the tasteless tombs and monureference to the tasteless tombs and monu-ments with which all our cathedrals and churches have been gradually encumbered and overladen: — "Like some frightful fungus, they have spread insidiously over all parts of these structures, destroying alike their pro-priety, beauty, and stability." No more lament-able example of this evil is to be found than in Wastminton A bhow and it is the head about Westminster Abbey; and it is to be hoped that efforts will be made, not simply to prevent the increase of this abomination, but, as opportunities occur from time to time, to remove the excrescences now deforming this fine pile, and so restore its harmonious proportions and ori-ginal integrity. The triforium might be made to contain many of the monuments, as has been done at the Temple Church. Perhaps, too, the Chapter House, which is about to be cleared of its present contents (dirty shelves and presses), could receive some without injury to itself, so as gradually to restore to our

venerable Abbey its former appearance.† In spite, however, of the contemptible charater of the records, who can look around the south transept,—the poet's corner,— without emotion? Dryden, Cowley, Chaucer, Ben Jonson, Spenser, Butler, Gay, Thompson, Goldsmith, Gray, Dr. Johnson, Shakspeare, and a score of other heroes (heart-teachers, peaceful conquerors) marshal themselves before us, although not all buried here, and people the quiet aisles.

Nothing tends more strongly to elevate and refine the mind, to incite to virtue, or to deter from vice, than the contemplation of the burialplace of one who has rendered himself in either of these particulars an object of regard. The

Pallas, a heathen goddess, To lift her shield, come to protect Lord Stanhope ?—this most odd is.**

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See Mr. W. Tooke's admirable edition of his poeme, 1844. † This suggestion was originally published by the writer in April 1843. It has been since urged by others.

[•] One of Churchill's earliest effusions (before 1750) was rompted by these incongruous monuments. It commence " In famed cathedral who'd expect

power of association is great: and the merest memento of a wise, enterprising, or virtuous man,-of one who has advanced the cause of civilization, or desolated countries to gratify a restless ambition,—is often sufficient to in-duce long trains of wholesome thought. When, however, we see his burial-place, his last and narrow home, the man himself passes before the mind's eye; and the impression made, the lesson inculcated, is much more powerful. If a conqueror, we see him bereft of his pomp and power, to obtain which the blood of his dependants had been lavishly shed, and conirisking enduring happiness for that which hardly is before it is not; while, at the same time, the mind is rendered more contented with its sphere; reminded, that whether powerful or weak, rich or poor, all will find the same earthly goal,—the grave; and that the time which intervenes is so short, as hardly to be worth consideration :-

"A little rule, a little sway, A sunbeam in a winter day, Is all the proud and mighty have Between the cradle and the grave."

Do we contemplate the remains of a good man? All his noble sacrifices, all the fine results of his exertions; the family saved from ruin, the generation advanced in knowledge, —pass vividly before our eyes. The heart involuntarily acknowledges the example, and good seed is sown. If these reflections be correct, it is important to a state that the mouldering remains of all men who have distinguished themselves above their fellows should be preserved and pointed out; and when party-feeling or prejudices lead to their disregard in one generation, it should be the business of the next to repair the omission.

If this were done, we should have statues, obelisks, busts, and temples at the corner of every street, in the centre of every square, and on the parapets of all the bridges. Rivals to Phidias and Praxitiles might arise amongst us; love of the beautiful and the good would be encouraged in the masses, and great changes in society would be effected. The time for it is approaching. This, however, is rambling beyond the Abbey walls. The present state of the ancient monuments there is denlocable. Those who

This, however, is rambling beyond the Abbey walls. The present state of the ancient monuments there is deplorable. Those who are in authority say they consider these monuments very sacred things, not to be touched without great care and consideration, as more harm than good might be done in attempting to improve their appearance. This is quite true, but there is nevertheless a limit to that forbearance, and this limit has been reached; if steps are not taken in several cases forthwith, nothing will be left to guide the restorer. We should be right glad to see a perfect restoration of the Abbey commenced, including the completion of the centre tower or spire, and the removal of the ugly western towers put up by Wren, who knew little of Gothic architecture, and liked it less. Relative to the erection of these towers, he wrote to the Bishop of Rochester:---"I shall speedily prepare perfect draughts and models, such as I conceive proper to agree with the original scheme of the architect, without any modern mixtures to shew my own inventions." Unfortunately, to do is not so easy as to know what ought to be done.

Amongst the earliest improvements to be made in the Abbey is the introduction of stained glass in the rose-window, and twelve lower openings of the south transept. The impulse which has been given lately to glasspainting in England is a pleasant sign, and cannot be too strongly aided. So firm was the belief that English artists in this department were inferior to foreigners, that the Chapter, it is said, had nearly determined on sending to Germany for the work in question; luckily, however, one or two members of it were staunch friends to English arti, and succeeded in appointing an English artist; the result of which, it is to be hoped, will fully justify them for so doing.

them for so doing. We have not yet looked into the chapel of Henry VII., orbis miraculum, as Leland calls it—one of the most beautiful specimens of the last period of Gothic architecture which England or any other country can boast.⁶ From its roof, "pendent by subtle magic," to the floor, the whole presents a rich lace-work of decoration. Of the roof, indeed, descrip-

* Commenced A.p. 1503.

tion can give no adequate notion. It is literally-

"Self-poised, and scooped into ten thousand cells, Where light and shade repose, where music dwells

Lingering—and wandering on, as loth to die, Like thoughts, whose very sweetness yieldeth proof,

That they were born for immortality."

The lover of architecture after studying the perfect development of the pointed style in the minster itself, \dagger with its acutely-pointed arches, its lofty attenuated columns, its infinite divisions, finds here the style which succeeded it when the arch was becoming more horizontal, and when a love of decoration threatened, as indeed did soon afterwards happen, to overwhelm good taste, and lead to the abandonment, for a time, of pointed architecture altogether.

As relates to sculpture, Henry VII.'s chapel presents one of the finest illustrations of early art in England, in the series of figures which fill the countless recesses in the walls. It is said they were once three thousand in number, but this is perhaps doubtful. They display admirable feeling for art, and deserve attentive examination. The carving, too, in the stalls here, is good, and leads us to express regret that so little encouragement is now given to this branch of art in England.

There are a considerable number of artists employed in it at this time, but unfortunately such is the dominion of fashion (another word for caprice)—it is chiefly, if not wholly, in the imitation of old work, to be afterwards stained and sold as such. The upholsterer is the *arbiter elegantiarum*, and the result is exactly what might be expected under such circumstances. The remedy for this, and many like evils, is to make artistical knowledge more general, and to induce the multitude to talk and think on the subject. With an increased public—an extended circle of admirers and employers—the powers of the artist will be more fully called into play; and the more critical that public is, the more strenuous will the efforts of the artist be to maintain himself superior to his judges.

INSTITUTION OF CIVIL ENGINEERS.

MABOH 11th, 1845.—Sir John Rennie, president, in the chair.

The discussion was renewed upon the relative merits of the screw and paddle-wheels as methods of propulsion, and was extended to so late a period, that no papers could be read. It was stated that the Napoléoa screw-

It was stated that the Napoléoa screwsteamer, in the French post-office service, made on an average, quicker voyages than any of the paddle-wheel steamers of the same power on the station; that in smooth water the latter vessels would make some way, but in rough weather the former was decidedly superior. The same result had been noticed with the Archimedes. When steaming down the river, she was frequently passed by merchant steamers, but by the time she had arrived at Dungeness, if there was any sea up, she had regained her place, and was s-head of the paddle-wheel steamers.

It was thought, however, that with the feathering paddles, invented by M. Cave, and equal power, the Napoléon would have done quite as good work as with the screw.

equal power, the Napoleon would have done quite as good work as with the screw. The peculiarities of the steaming qualities of the Rattler, in spite of her bad build, were fully described. It appeared that in heavy weather, when sailing and steaming, and when it was thought that she was dragging the screw through the water, the dynamometer shewed a very effective exertion of power, and that the slip was extremely small : that when the royal yacht was obliged to shorten sail, because of losing speed by the heeling over of the paddles, the Rattler was enabled to use all her canvas and engine power together, and to gain way in the same proportion as the other vessels lost it. The general impression appeared to be that the experiments were very satisfactory, and if the Rattler had been a well-formed ship, and the power on board had been greater.

A good adaptation of the screw was mentioned in the two schooners the Margaret and Senator, built by Messrs. Pim, at Hull, and

† Commenced A.R. 1920.

trading between that port and London. They were fine schooners of 242 tons burthen, fully rigged, but having near the stern two engines, each of fourteen-horse power, connected by wheel-work with a screw propeller. The result of a trial between the Senator and the Shannon, the latter being a regular paddle-wheel steamer of good power, was, that in the voyage between Dublin and London, the Senator arrived in London only ten hours after the Shannon, having consumed only eighteen tons of coal, while the Shannon had used ninety tons; proving that for mercantile purposes, where extreme speed was not essential, but that punctuality was desirable, the screw-propeller, adapted to sailing vessels, was calculated to be of essential service.

A curious letter was read from Lady Bentham, proving, by extracts from documents, that half a century ago, the late Sir Samuel Bentham, to whom was intrusted the building of several men-of-war, was the originator of the introduction of water-tight bulk-heads, dividing vessels into compartments, for preventing accidents from leaks, and also for stiffening them. Sir Samuel was aware of the plan having been used by the ancients, and also that the Chinese use the plan now. He also invented the wrought-iron water-tanks, and the metal casks for storing the powder, both being fitted to the shape of the ship. The letter containing these interesting facts, was remarkable for the clearness of its expression and for the accuracy of demonstration, when it was considered that it proceeded from a lady in her seventyfifth year.

Correspondence.

TO GIVE PLASTER OF PABIS FIGURES THE APPEABANCE OF MABBLE.

SIR,—I am always pleased to communicate to others any item of useful information which I may have gained either in the way of my business, or otherwise; and I often think that THE BUILDER might be made extensively useful, if parties would make a more frequent use of its pages for that purpose.

use of its pages for that purpose. In answer to the request of "C. T. L." in THE BUILDER of last week, I hope he will find the following methods satisfactory for the purpose of making plaster of Paris casts look like marble. I am, Sir, &c.,

CHARLES NEWNHAM.

Put into four lbs. of clear water one ox. of pure curd soap, grated and dissolved in a wellglazed earthen vessel; then add one ox. of white bees'-wax cut into thin slices; as soon as the whole is incorporated, it is fit for use. Having well dried the figure before the fire, suspend it by a twine, and dip it once in the varnish; upon taking it out, the moisture will appear to have been absorbed; in about two minutes' time stir the compost, and dip it again, and this generally suffices. Cover it carefully from the dust for a week, then with a fine soft muslin rag, or cotton wool, rub the figure gently, and a brilliant gloss will be produced. Or, Take skimmed-milk, and with a camel'shair pencil lay over the model until it holds out, or will imbibe no more. Shake off, or

Take skimmed-milk, and with a camel'shair pencil lay over the model until it holds out, or will imbibe no more. Shake off, or blow off, any that remains on the surface, and lay it in a place perfectly free from dust. When dry, it will look like polished marble, and this mode answers equally well with the former, except it be exposed to the wet weather.

N.B. The milk must be well skimmed, or it will not answer the purpose.

COMPETITIONS .- LUNATIC ASYLUM FOR THE County of Somerset.

SIR,—As you have expressed your desire to assist the efforts of architects in obtaining a better system of competition than at present exists, 1 beg leave to contribute my mite of experience on the subject.

I am much surprised that the profession can submit to be tricked with false pretences of rewarding the most meritorious (when it is well known that in four cases out of five favouritism has been shewn), without making some effort to bring their taskmasters to account, and thereby prevent them from attempting to make fools of them, and availing themselves of their gratuitous labours.

ing themselves of their gratuitous labours. I believe it is generally admitted that architects as a body are particularly selfish, and

possess the spirit of rivalry even to weakness. I have known many architects who, having blindly entered into competition, when they found themselves deceived, consoled themselves that their names were not made public, fell back on their more certain dependance, and resolved never more to waste time by entering resolved never more to waste time by entering into competition, unless they had some certain interest with the parties; and instead of stepping forward and calling around them their fellow sufferers, to probe the matter, they feared to mix themselves up with those beneath them, or to be regarded in the light of disappointed persons. So we go on from year to year, and competition is now become as a snare laid by the fowler to catch hungry small birds only; for in four cases out of five if the prize is not awarded to some favourite, it is sure to be given to some person who has studied the art of making bad compositions pleasing to the eye, and blinding the umpires with a few splashes from their brush.

I beg to suggest to the profession, to form a society, to be named "the Anti-competition Association," and to address every member of the profession in the United Kingdom, requesting their signature to the principles of questing their signature to the principles of the society, and that of all persons employed under them; viz. never to engage in any com-petition in which security is not guaranteed, that impartial justice shall be done in awarding the premiums, and naming the judges who are to decide on the respective merits of the designs submitted; and, at the same time, some architect of high standing as a referee in case any doubt should arise.

These thoughts have been called forth by my having recently entered into a competition for a lunatic asylum for the county of Somerset, and devoted a whole month in making the drawings, having no person to assist me. The manner in which the affair has been conducted is, to say the least, to me full of mystery! In the first place, the advertisement required a design for a lunatic asylum, including farmbuildings, lodges, estimates, and specifications, and a personal inspection of the site; all to be done in the space of fourteen days, in the depth of winter. After repeated applications from many architects to extend the time, they consented, within two days of the date fixed, to allow a month longer; but, at the same time, requested those gentlemen who had pre-pared designs to send them in by the time first stated. (Query: for what purpose, after the extension of the time?) I determined on competing. My drawings, and I presume those of the other competitors, were sent back in five days after delivery, accompanied with a two letters, one to the committee, and one to the clerk of the peace, requesting to know the names of the successful competitors, and of the visitors, and am refused any information on the subject. Should any of your numerous readers think, like myself, that justice has not been done in this case, and be able to give any information on the subject, by so doing they will oblige a subscriber to your work, who is

A FREEHOLDER OF THE COUNTY OF SOMERSET, AND A FREEMAN OF THE CITY OF BRISTOL.

March 14th, 1845.

COMPETITIONS-THE CLIFTON UNION.

SIR,-Architectural competition is a subject entertained by a great number of your readers, and it would be conferring a favour on me, as well as many others, if you would make public what has transpired in the *Clifton Union* competition, or whether it is yet made known who the successful architect is. We hope better things of this than the generality of competitions.-I am, Sir, &c.,

A SUBSCRIBER

COMPETITIONS-HOLLOWAY CONGREGA-TIONAL CHAPPEL.

-In answer to the inquiry of "A Com-SIR. petitor" and for general information, I beg to state, that the successful competitors in the Holloway congregational chapel competition are Messrs. Emmett and Chadwick of the Adelphi, whose plans are stated to have been distinguished by the *letters* E. D. O. (See THE BUILDER, No. 106, page 84.) The committee have refused to exhibit the

drawings (even to competitors), and have de-clined to give any further information. Should any of your readers be acquainted with more particulars, I (and no doubt the rest of the disappointed) shall feel obliged by their giving them publicity.

their giving them publicity. At the same time, I would suggest that in this, and all similar cases, the remedy is in a great measure in the hands of competitors themselves. Let them all units to exhibit their emselves. Let them all unite to exhibit their designs themselves, and surely the successful candidates would (if for no purer motive), for very shame join them.

I am, Sir, &c., Another Competitor. March 17th, 1845.

BUILDING SOULETIES.

-I have carefully reviewed the whole SIR. of Mr. Wiltons remarks on this subject which appeared in your journal, and, in my opinion, they have left the question in a worse position than it was; for this reason—in defiance than it was; for this reason—in defiance of the positive evidence of such societies having been in successful and beneficial operation at Liverpool for nineteen years, Mr. Wilton denounces them in toto; and that upon assumed grounds as thoroughly errone-ous as the fallacies he proposes to expose. You have termed it an "abstruse subject;" for such a reason, would it not be a disgrace to the intelligence of the present day that these societies should not be placed upon an intelli-gible footing? Mr. Wilton has evidently bestowed much attention on the matter; and agreeing as I do with him that the London and Westminster society is a most thorough bubble, he has not touched one of the practical objections to it; and it appears to me to be quite open to any advocate of that society to shew that he has created giants to slay them,--having assumed as data, propositions that have no existence in their scheme. If this be true, it must, to a great extent, relieve from blame those respectable parties who have lent their names to these bubbles, it being aside their babits to investigate an "abstruse subject" even to the extent Mr. Wilton has done. It is evident, that however palpably incorrect the statements of an opponent may be, if the subject is intricate and the arguments used as intended to prove the fallacy are themselves open to objection, the hand of the opponent is thus strengthened. I probably should have been unable to divine the whole matter had I not adopted the course of going down to Liver-pool and thoroughly investigating the subject. My objections to many of the details are just as applicable to the Liverpool as to the London societies, and at Liverpool were by intelligent men, admitted as objections.

My object is to propose the *juste milieu* between existing details and the intention of the legislature. Without entering into any details of figures (although I have made millions upon the subject) which are oppressive to the minds of parties unaccustomed to such details, I will confine myself to the evident broad objections of the London bubbles, charging with positive blame those who have with knowledge put forth such erroneous statements. I will, therefore, in this letter, only put forth such a statement as to period of duration (the broad charge against the London societies) that the commonest understanding may comprehend. If comprehended and admitted to be true, parties may then be imper-ceptibly led into further development of details, as a glimmering of truth (which you seek) will lead to an interest in a further discussion. These societies were intended for the benefit of our humbler neighbours, and, under proper regulations, would be highly beneficial. Such parties receive as true, statements sanctioned by respectable men.

The history of the transaction, as by the prospectuses proposed to them (for the mo-ment putting aside the 101 other fallacies), is this: they are told that a certain amount rill be advanced to enable them to buy or build a house upon an annual payment per share, of which 6% is termed subscription, and 2% 8s. redemption. I contend that this is neither more nor less than an annuity of 8/. 8s. A party granting an annuity naturally inquires the period for which it is to be paid, before he decides the amount (controlled by the discount he bids) he is content to receive in respect

thereof. The parties UPon whose dictum he depends distinctly declare ten years; and in some prospectuses, to establish the fact, a quotation is made thus :- "The following is an extract from the tenth and final report of the extract from the tenth and final report of the Liverpool Building Society, which terminated successfully in ten years from its commence-ment." I admit it terminated in ten years, but what were the conditions of this society? Is it not intended, an inference should be Is it not intended, an interence should be drawn, that they were *pari passu* with the pro-posed London Societies? What were the facts? In this quoted Liverpool Society, the monthly payments were 12s.; redemption-money, 8s., and thirteen payments, or lunar months, to the year. So that a party borrow-ing in the Liverpool society, paid an annuity of 13/, whilst a member of a London society would near only 8/. So, the value of abares in of 13%, whilst a memoer of a London society would pay only 8%. 8s., the value of shares in each society being 120%. This having been put forth with knowledge of the facts, would appear to be little short of a fraud. I will put forth with knowledge of the facts, would appear to be little short of a fraud. I will endeavour to elucidate this by a very simple operation of figures, and for the present there leave the question, with this remark, that the error into which Mr. Wilton and others appear to have fallen is, treating it as a purely financial question. Upon such a ground it needs no lengthened argument or complexity of figures to prove that parties proposing to lend money at 4 per cent. cannot by any process have a return made to them of their capital in ten years with 20 per cent. per annum profit. There is no doubt that these societies were originally established upon a rational theory of mutual benefit; accomplishing, by the com-bination of numbers, that which was impracti-cable for individuals. If your columns are permitted to be open to the subject, I pledge myself to prove to demonstration, that such societies may be formed upon, and existing societies conformed to, scientific and mathematically correct principles. The course I propose to adopt would be to point out the objections to existing details *seriatim*, and suggest the remedy, without embarrassing the subject with complexity of figures. I am, Sir, &c.,

đ • • • • • SOCIETIES. 30,126 8,766 13,400 ş Ń = d. • 2 2 4 • • . • • OML B,000 : 1,340 ŝ 80 ş Ń THE ÷ • : : d, • 50 i Ń 3 <u>a</u> Liserpool Sociely. 200 Shares, 13 months, at 13s., or 7/. 16s. subscrip-tion. For years For years 200 borrowers during first six years, additional re-demption 8. per share, or 4. 16s. per annum... • REVEN **Society** 5 Liverpool STATEMENT 8 farour onuo Asi COMPARATIVE .8 6 borrowers, du demption, 4a. oi For an a Total rev Revenue members, 1 For ye Total 2 8

G. R.

It will be perceived that with nearly 41 per cent. less revenue, the London society proposes to accomplish similar results in a like period. In the Liverpool society eighteen members only received 120%, and the evidence is distinct, that borrowing ceases at the end of six years.

[We have already devoted so much space to this subject, that we cannot comply with our correspondent's request. If "the objections to existing details" are not already known by our readers, they never will be .- KD.]

FURNITURE TO ACCORD WITH THE BUILDING. SIR,-Observations contained in a recent number of your publication lead me to think that an account of the manner in which the Conservative Club-house has been furnished, will be gratifying to your feelings as a man of

taste, and a sealous advocate of consistency in design and architecture.

The committee of the club has just set an example highly creditable to the order to which it belongs, and which is calculated, if followed by other bodies, or by wealthy individuals, to encourage the art of design more than any thing that has yet been done in this country.

Inis country. Disregarding the old practice of allowing upholsterers to give designs, they, instead, employed and paid a professional artist to make the required drawings, under the direc-tion of the architects of that mansion; and the result has been eminently successful, the furniture being thoroughly in keeping with the architecture, and contributing greatly to the effect and beauty of the interior, according

to the opinion of every visitor. The novelty of this plan forms a striking contrast to the principle laid down by a committee of Purliament, appointed to examine the charges for the furniture of Windsor Castle, manufactured by Messrs. Seddon; they struck out all charges for designing and drawings, setting forth as a reason that a manufacturer should be his own designer. Comment is superfluous—but the result was most mischievous, and most injurious and degrading to designers, for manufacturers could no longer charge for designs without fear of having them struck out of their estimates or charges; besides every manufacturer was, as it were, privileged by Act of Par-liament to consider himself a man of taste and a qualified designer, and quite independent of professional artists. However, brighter days are at hand, and

the public hegin to be sensible of the fact, that many years of hard study in the art of design, and exclusive attention to it, can alone make a I am, Sir, &c., D-square. H. WHITAKER. designer.

40, Brompton-square.

Miscellanea.

DECORATIVE ART SocIETY .--- On Wednesday, the 12th inst, a paper was read by Mr. Dwyer "On the interior decorations of the Royal Exchange." He referred to a former paper read in December last, and contended that the decorations did not improve upon further acquaintance; that the ceilings and public evidence of the first second seco walls contrasted painfully with the floor and pilasters; and that, admitting the style of decoration to be an approved taste, this incompleteness in such a building was much to be regretted. He suggested that an ornamental or a mosaic pavement in the ambu-latornes, comprehending in its design decided lines assisting the perspective, would tend to improve the whole effect of the interior. That the walls might have been adorned with representations from the history of commercesuch as the signing of important treaties, or by portraits of celebrated men, who have been connected with the rise and progress of our commercial greatness; and that these works ought to have been by our leading English artists, as offering to them a public gallery artists, as offering to them a public gallery for their productions. A question was put respecting "the vehicles used for the wax or encaustic painting" at the Exchange, but no satisfactory reply was obtained, and in-formation was again solicited upon this im-portant point, which, in fact, marks the distinction between encaustic and distemper painting, between durability and that which is not durable. The invention (patented by Mr. not durable. The invention (patented by Mr. Dicksee), of compressed glass mossics for pavements, for mural decorations, or for fur-miture, was explained, and some beautiful specimens exhibited in the room; this led to some further remarks on the exclusiveness of the Gresham Committee, to whom this inventor had applied to be allowed to shew his specimens, but no notice was taken of the request. It was thought that had there been a competition afforded to artists generally, much better results in the decorations of the Exchange would have been realized.

CITY BRICKLAYER.—A vacancy having occurred in this appointment, caused by the death of Mr. Cartwright, several parties have announced themselves as candidates. The appointment is in the gift of the lord mayor, aldermen, and common council, and when contested is determined by vote.

THE ELECTRIC TELEGRAPH .--- The speed of railway communication, wonderful as it seems, is infinitely eclipsed by another nobler invention, the gift of science to the useful arts, and which may be pronounced little less than miraculous: we mean the electric telegraph. A motion made at one end of the line, extending from London to Portsmouth, a distance of 88 miles, was conveyed to the other without any sensible lapse of time. It is not doubted that by similar apparatus, consisting simply of wires with powerful magnets at each end, intelligence could be conveyed in the same instantaneous manner from London to Edinburgh, or Inverses. The expense for the 88 miles was only $\pounds 24,000$, or rather less than $\pounds 300$ per mile. There is little doubt that they will be extended to all the more vulnerable extremities of the land; and it is easy to see how vastly this beautiful invention, combined with railways, will add to the se-curity of the kingdom, both from foreign invasion and domestic insurrection. The electric wires, extending over the island, may be compared to the nerves ramified over the body, which give instant notice of the slightest movement in the most distant member. The government seated in the sensorium will enjoy, when danger threatens, a sort of omnipresence. It will be able to communicate with the remotest parts in a few seconds, to know what is passing in these parts, and to direct, without the loss of an instant, the measures which the conjuncture requires. The danger known, the railways furnish immediate and gigantic powers to meet it. With their aid, a march, which in former times occupied a month, is contracted to a day; and supposing ten thou-sand soldiers to be stationed in London, they could now be sent to York in less time than would have been spent on the march to Windsor seven years ago.—Scotsman. PRESSING WORKMEN.—Our contemporary

the Literary Gazette says, a curious document has been lately published by the Comité Historique of Paris, concerning the comple-tion of the Louvre and the Tuileries. It belongs to M.A. Lenoir, and was once in the office of the Grand Provost of France. It appears from this paper that all masons and other handicraft men could be forced to work upon the king's buildings, by order of the provost, to the exclusion of all other buildings, which they were obliged to abandon for the time being. The king (Louis XIV.), after ordering all due preparations to be made for the collecting of stone, &c., commands that, while these palaces shall require the aid of a considerable number of hauds, no workmen in Paris shall be allowed to work on any other edifices whatever; and further, that no person shall presume to erect any building in Paris and within ten leagues round, under penalty of 10,000 livres fine for the first offence, and the galleys for the second. It is observed that in certain cemeteries of France-and it is known to have been especially the case within the cloisters of monasteries - there exist lofty crosses of stone, with a stone pulpit attached to them. This cross is styled the Hosannah cross, because on Palm-Sunday a procession was made thither from the church; certain prayers were offered up there, and the "Hosan-nah" sung.

ENLARGEMENT OF KING'S COLLEGE HOS-PITAL.—A public meeting was held on the 13th instant, at Willis's Rooms, King-street, St. James, under the sanction of the council of King's College, for the purpose of originating a subscription for the above object. His Grace the Duke of Buccleugh presided, and was supported by the Bishops of London and Lichfield, Lord John Russell, Sir Robert Inglis, the Governor of the Bank of England, Mr. Alderman Copeland, &c. 15,0004 is the sum required to complete the increased accommodation proposed. The contributions announced at the meeting amounted to upwards of 2,0004. The Queen sent a donation of 1001., and the Queen Dowager one of 1501. mains to be raised 13,0001. There still re-

ROYAL COMMISSION OF FINE ARTS.--Inconsequence of applications from sculptors request-ing to be allowed to exhibit in Westminster Hall specimens of their art, a notice has been issued inviting artists to send models for statues or groups, during the first week in June next, to Westminster Hall, to be there exhibited, subject to the regulations and conditions which were published relative to the former exhibitions.

RAILWAY UNDER THE THAMES .- At the annual meeting of the proprietors of the Thames tunnel, held last week, the chairman, in answer to a question whether there was any truth in the report that a proposition had been made for the construction of a railway through one of the adits of the tunnel, stated that "A plan was submitted by the late Mr. Samuda, who proposed to form a railway through the tunnel, for the conveyance of carriages and carts, one side being for footpassengers, and another for vehicles. The apparatus for the railway would cost about 10,000%. When it was sufficiently matured, the plan would be laid before the proprietors.

MASTER CARPENTERS' SOCIETY .--- A meeting of this society will be held at the Freemusons' Tavern, on Wednesday evening, the 26th instant, when, the usual business being disposed of, new members will be admitted. Several of the clauses in the New Buildings Bill will be brought before the board and discussed.

ART UNION OF LONDON .--- We draw the attention of our readers to the advertisement of this widely-spread institution in another part of the journal. The subscription lists will be closed on the 31st inst., and the general meeting for the distribution of the funds will be held on Tuesday, the 22nd of April.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, & c., are to be addressed. For the convenience of our rescens however, they are entered in a book, and may be seen on application at the office of "The Builder," S. York-street, Covent-garden.]

A Plan, Specification, and Estimate, for a Pier, Slip, or Jetty, to be erected at Weston-super-Mare, Somerset. Twenty-five guineas is offered for the most approved plan. March 24.

For the supplying and erecting a Water-tank for the Sheffield and Manchester Railway Company. March 25.

For supplying her Majesty's several Dock-yards with Riga Hand Masts and Fir Timber, Dantsic Deck Deals and Fir Timber, and Norway Spars. March 28.

For the erection of Waiting-rooms, &c. for a Steam-boat Pier, at the Market-quay, Blackfriarsbridge. March 28.

For supplying the Commissioners of the Great Dover-road district, Newington, Surrey, with the best-tooled York Paving-stone, and the best Guern-sey Granite; also for labour and mortar in taking up, squaring, and relaying old pavement-stone. March 28. March 28.

For the supply of 11,000 feet of nine-inch cast iron Pipes for a new line of Aquedact to be laid in the Island of Malta. March 31.

For the supply of Rails and Chairs for the Eastern Counties Railway. March 31.

For the erection of a new Workhouse at Stratton,

For the erection of a new workhouse at stratton, St. Margaret, about Midway between Swindon and Highworth, Wiltshire. April 2. For certain repairs to Snake Bridge (over the River Alde), Suffolk. April 2. For Lighting Camden-town, St. Pancras, with coal-gas for five years, from the 24th of June next. April 3.

For the erection of a Church in the parish of St. Thomas, Winchester. April 5. For the erection of a Church, in the parish of St. Thomas, Winchester. April 5.

For cutting, forming, and completing a new line of Private Carriage-road, one mile in length, from Whitehaven Castle, Cumberland, the seat of the Earl of Lonsdale, to the Turnpike-road, between Bransty toll-bar and Lonsdale-place, near the town

of Whitehaven. April 7. For constructing the fourth division of the Great Southern and Western Railway. April 8. For about 250,000 Railway Sleepers not less than 9 feet long, for the Chester and Holyhead Railway. April 9.

For erecting at Alreaford, Hants, between five and six thousand feet superficial of new Brickwork, to be either neat flat, joint-pointed with white mortar, or neatly tuck-pointed. The parties to find labour and the erection of scaffolding only. April 10.

For the restoration of the Parish Church of

For the restoration of the Parish Church of Grays Thurrock, Essex. April 12. For submitting a plan of a Tread-wheel, and con-structing the same in the Common Gaol of Great Yarmouth, Norfolk. April 24. For all the Works to be done in the erection and completion of the new cast-iron Bridge over the Haven of Great Yarmouth, including the find-ing of labour, certain materials, &c. April 26.

For the construction of the third and fourth divisions of the Chester and Holyhead Railway. April 28.

For the supply of 11,000 feet of 9-inch cast-iron Pipes for a new line of Aqueduct in the Island of Malta. April 30.

For new-paying parts of the parish of St. Mary, Islington, Middlesex; and for repairing and keeping in repair the paved Footways belonging thereto, for one year from Lady-day next. Also for supplying unbroken Guernsey Granite, Core, Ballast, Gravel, and clean Flints.

For the execution of the Works necessary for the Drainage and Improvement of Lough Carrib, in the counties of Galway and Mayo. For the supply of Rails, Chairs, Sleepers, and Bolts, for the Taff Vale Railway.

COMPETITIONS.

Plans, &c., for the erection of a Commercial Middle School in connection with the committee of the Manchester Church Education Society.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

March 24.—At Bradley's Wood, Halsted, Essex: 500 good Fir Trees; 5,700 capital Hurdle and Hop Poles; 54 Loads of Wood, &c. March 24.—At Drayton, Somerset: 240 Oak Trees, almost the whole of which are sound clean

Timber of superior quality. March 27.—At the Hyde, Edgeware-road: 37 Butts of fine Elm Timber, felled and lying by

the side of the Edgeware-road. March 28.—At Garraway's Coffee-house, Corn-hill: 350 loads of Red Pine Timber; 700 loads of Baltic; 10,000 Colonial Deals; and 10,000 Baltic and Swedish Deals.

 March 28.—At Moor-house Farm, Denham,
 Baltic and Swedish Deals.
 March 28.—At Moor-house Farm, Denham,
 Bucks: 3,591 Oak Trees and Saplings; 220 Ash;
 136 Cherry; and 3 Alder Trees.
 March 28.—At Kesgrave Hall, Suffolk; Ash,
 Elm, and Birch Trees, Elm Pollards, Stock Birch,
 Bilm, Chesnut, and Alder Stands, and other Poles.
 March 31.—At 7, Store-street, Bedford-square t
 several thousand Yellow Deals, Pine and Spruos
 ditto, Battens, Planks, and Boards, Ash Felloes
 and Planks, and other seasoned Wood.
 March 31.—At Down Hall, Bredwell, Essex;
 310 Oak Timber Trees, standing with Top, Lop,
 and Bark; 213 Ash, 157 Elm, and 78 Beech Trees. Trees.

Trees. Trees. The last week in March, or the first week in April next.—A large quantity of Oak and Elm Timber, of superior quality and large dimensions, principally growing in the woods on the Orchard-leigh Estate, near Frome, Somerset. By Private Contract, before the lst of April next.—287 Oak Trees, of full growth and large dimensions, suitable for all purposes, now standing at Woodside, near Morland, Westmoreland. April 1.—At Chelmsford, Essex ; a very valua-ble, extensive, and well-assorted stock of Dry Wood in great variety, comprising fine Spanish and Honduras Mahogany, mostly cut between six and seven years ; particulaly fine Zebra Wood, English Oak, Pencil Ceder, Birch, Beech, Elm, Rosewood, &c. April 3.—At Whitley, near Baythorne End,

April 3.—At Whitley, near Baythorne End, Suffolk : a large quantity of Fir Timber.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, March 24. - Medical, Bolt-court

Fleet-street, 8 P.M. TUBBAY, 25.—Medical and Chirurgical, 53, Berners-street, 84 P.M.; Zoological, Hanover-WEDNESDAY, 26.—Pharmaceutical, 17, Blooms-

bury-square, 9 P.M.; *Ethnological*, 27 A, Sack-ville-street, 8 P.M.

THURSDAY 27 .- Numismatic, Somerset-house, 7 P.M.

SATURDAY, 27.--Westminster Medical, 32, Sackville-street, 8 P.M.; Institute of the Fine Arts (Society of Arts), Adelphi, 8 P.M.

TO CORRESPONDENTS.

"An Old Surveyor," "Vigil," and "W.H." will find an ensuer in our leading article. "Architectural Drawing Schools."—We often receive inquiries as to the best school, and are unable to afford satisfactory information. We should be glad to learn what establishments of this bird there are in the material. kind there are in the metropolis. "B. F." (Minories).—There is no such class at

present. "H. N."—We shall be happy to receive his communication on the subject of Limes. "A Constant Subscriber" must give notice to himmey_stack or

the district surveyor before any chimney-slack or fues be pulled down, cut into, or altered.

"R. B. W." (King's Langley) is thanked for the offer of his very nice drawing. We regret that we cannut avail ourselves of it, having already provided similar examples. We hope to hear from

him again. "W. P." (Woodbridge).—We are indebted for his enclosure, but consider the subject hardly of sufficient importance to be engraved. It is left as

directed. "R. B. R." (Fleetwood).-We thank our cor "R. D. R." (FIGETWOOD).-We TRANK OUR COr-respondent for the sketch, but cannot promise at this moment to engrave it. The ordinary mode of obtaining copies of "brasses" by means of heel-ball, is cleaner and more simple than that sug-gested by "R. B. R." "G. P." (Preston) is thanked. The drawing shall be engraved shorthy.

"G. P." (Preston) is thanked. The drawing shall be engraved shortly. "R." (Sudbury). — The fluid to supersede Indian ink, of which he asks, is sold by Stephens, 54, Stamford-street, Blackfriars-road. We can-not answer for its goodness, not having tried it. "Herne-hill Church Estimate." — The insertion of "Mr. Broomfield's" letter would subject him to an action at law. we must decline datas

an action at law : we must decline doing so.

"H. W." (Brompton).—We shall shortly ex-amine the building in question, and shall probably be glad to avail ourselves of the offered tracings. "One of the Competitors" (Holloway Chapel).— We cannot listen to anonymous charges without

proof. "A Plasterer" and "W. G. Lock."—Next week.

"N. B." wishes to know if Windsor Castle will be open to the public on Whit-monday. "H. C."—The question is too general for us

to annuer.

" Clay for Modelling."-Mr. Dalton wishes us

to state, the clay mentioned [in our last number was first used for modelling by Mr. Sangiovanni. "Scrutator's "communication is declined with many thanks for kind intentions. It is left for him at t e office.

ut the optice. Received. — "C. E. G." "E. G. B." (Oxford); "P. T."; "A Fair Tradesman," and "The Illus-trated Family Journal, No. 3." A good two-pennyworth.

ADVERTISEMENTS.

EMBARRASSED CIRCUMSTANCES. -PERSONS IN DIFFICULTIES being desirous of availing themselves of the Benefit of LORD BROUGHAM'S HUMANE ACT. are requested to apply to MESSIB. GRAND AND CO., of 54, Coleman-street, City, where every information may be obtained, FREE OF EX-PENSE, or arrangements can be made with Creditors, by which means the painful necessity of resorting to BANKRUPTCY or INSOLVENCY may in many cases be avoided.--N.B. Partnership accounts adjusted.

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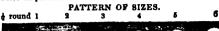
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the Kingdom, on the receipt of Postage Stamps equal to the amount. Drawing Pencils of the best quality, for Architects and Engineers, warranted free from grit: the HHH and HHHH are particularly recommended.—Price 5s. per dosen. May be had of all Instrument Makers and Stationers, and at the Manufacturers', 23, Church-street, Spitalfields, London.

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called for. In the application, skill is not required; a boy can use is as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

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VARNISH.—It has long been a desideratum amongst the consumers of Varnish to obtain a good and genuine article; brilliancy, facility of drying, hardness, and durability are the qualifications necessary, but these are seldom if ever found united. The experience of a life-time devoted exclusively to the manufacture of this article, the grest and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled Mesars, George and Thomas Wallis to produce Varnishes (both oil and spirit) unrivalled in every respect, and they confidently recommend them to the trade, as deserving of notice both in price and ouality.

recommend them to the trade, as deserving of notice both in price and quality. Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unadulterated articles, Fine Oil Varnish, from 10s. per gallon; best White Spirit Varnish, 21s. ditto; Best Spirit French Polish, 20s. ditto; White Lead, Oil, Turps, and Colours of every description at the very lowest prices.-WALLIS'S Varnish, Japan, and Colour Manufactory, 64, Long-acre, one door from Bow-street. Established 1750.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., dif-ferent colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chinnep-tops; also tubular and other flues of peculiar material. No agent, but a depôt at WHITEFRIARS, and 22, WATER-LANE, FLEET-STREET, LONDON, under Mr. PEAKE'S per-sonal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality. The TILERIES. TUNSTALL, STAFFORDSHIRE, are

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colo-nies and elsewhere.

HATCHER'S BENNENDEN TILE-MACHINE, Manufactured and Sold only by COT-TAM and HALLEN, Engineers, Agricultural Implement Makers, &c., 2, Winsley-street, Oxford-street, London.



This is the most efficient Machine that has been invented for the purpose of making Drain Tiles. Any shaped Tile can be made by merely changing the die, which can be done in a few minutes. It requires but few hands, vis., one man and three boys. With this amount of labour, the pro-duct of a day of 10 hours is as follows, viz:--

BUILDER. THE



SATURDAY, MARCH 29, 1845.



HE Commissioners for pro-moting the Fine Arts, in moting the Fine Arts, in connection with the new Palace of Westminster. passed a resolution previous to the late exhibition of

works of decorative art in King-street, St. James's, to the effect, that those persons who might be selected for employment on matters of that description, should, if the commissioners thought fit, be required to produce a specimen of their art, to be completed under such conditions as the commissioners might stipulate.

They afterwards selected certain artists who had submitted carvings, and singled out one (very justly, so far as the works in his name were considered) as pre-eminently deserving to be employed in the new Houses.

On this the wood-carvers in London held a meeting, eighty were present, and, first approving the principle laid down in the resolution of the committee referred to, expressed their conviction that the artist thus distinguished was not competent to produce works equal in delicacy of execution to those exhibited in his name, and called on the commissioners to require him to execute a specimen under such regulations as might remove all doubts of his right to the position in which he had been placed. Further, they pointed out that a second artist selected by the commissioners was not a carver, and was incapable of producing work equal to that exhibited as bis, and suggested that the practical ability of all the gentlemen selected for employment as wood-carvers at the new Houses of Parliament should be tested.

A memorial, founded on resolutions passed at the meeting, was signed by ninety-three wood-carvers in London, five in Bristol, five in Warwick, three in Leamington, and three in Peterborough, and was presented at the close of last year. To this they have recently received the following reply :--

Whitehall, 1st March, 1845.

Sin.-I have to acquaint you that a petition, signed by various wood-carvers, and forwarded by you to Benjamin Hawes, Esq., M.P., to be presented to her Majesty's Commissioners on the Fine Arts, has been submitted to them accordingly, and that I have received their commands to notify to you in reply, that they are resolved in every case to satisfy themselves that artists are fully competent to execute with their own hands the works that may be allotted to them.

I am, Sir, your obedient servant,

C. L. EASTLAKE, Sec. Mr. W. G. Lock, Hon. Sec.

We have purposely avoided naming the artists alluded to, as it is to be hoped they will be able to satisfy their brother carvers of their right to the position given them : we deal simply with the principle involved.

The resolution arrived at by the commissioners is a good one. It is of the utmost importance to get rid of the third person standing between the public and the artist: until this be done, he remains simply a mechanic, and cannot hope to raise himself, any more than we can hope he will aid in raising his profession. Wood-carvers in England have been long kept down, and we

are most anxious to see the opportunity of encouraging carving, offered in the re-building of the new Houses of Parliament, made available to the utmost extent.

"We have very little opportunity of designing," said Mr. Mitchell, a wood-carver, to the Committee on the fine arts in 1841. "We are generally, which I consider the principal evil of the business, under the dominion of upholsterers; so that we very seldom design any work, or have any opportunity of doing so. The higher part of our profession is not encouraged. So far as regards the encouragement we receive at present, it is very little, or rather it tends to depress us from proceeding in any way as respects improving ourselves; for the generality of our work we receive from upholsterers, whose business it is to curtail the price as much as possible. And further, an intermediate person being employed is injurious, not so much that it affects the remuneration for our labour, as that it destroys every opportunity of rising in our profession." And this, all who have watched the effect of the system both on carving and glass-painting, and other decorative arts, must at once admit to be true, and be desirous to remedy.

We are glad to find the carvers bestirring themselves to obtain a proper place in society; still more so that they are anxious as a body to fit themselves to maintain it. In the association which they have formed, books on their art, specimens, and prints, are eagerly studied, and we fully believe that nothing but opportunity is wanting to develope some first-rate artists.

Being much interested in the subject, we have taken pains to learn the condition of this society, and find that there are now 108 members, fourteen of whom are employed in the country, and exempt from subscription, and that the number is steadily increasing. During the last three months several works have been purchased by the society for the use of its members, and a fine cast of a Saviour, from a crucifix executed in box, at Rome, for Napoleon. The last quarterly return shewed that there had been, in the preceding three months, 131 loans of books or prints from the collection, including forty-three works on Gothic designs, eighteen Elizabethan, seventeen French, six heraldic, five Greek and Roman, &c. &c. ; shewing a great demand for Gothic in proportion to other styles. Halfpenny's York Minster has the largest circulation of this class, next follows the Glossary of Architecture, and then Pugin : in the same three months there were sixteen loans of casts. They subscribe regularly to the Art-Union of London. About three years since the Society sustained a severe loss by one of the trustees absconding with more than 20%, otherwise it has prospered and increased from its formation; still, the contribution being small, few purchases can be made, and we venture to suggest to our readers that donations of prints and books would increase its usefulness.

Among the most recent carvings executed in England, the patterns for the gates of the Fitzwilliam Museum, at Cambridge, designed by Mr. Basevi, are well spoken of.

LIGHTING BY ELECTRICITY .- Mr. Weekes's plan for lighting towns by electricity is about to be carried into effect in America. The editor of the Cincinnati Mechanic states that an experiment he lately witnessed was per-fectly successful, that the apparatus is by no means costly, and that for lighting Cincinnati, two towers, it is considered, will be sufficient to illuminate the whole city. Mr. Weekes's plan was first published in this country as far back as 1831.

GLASS AND GLAZING.

"By some fortuitous liquefaction," remarks Dr. Johnson in the 'Rambler,' " was mankind taught to produce a body at once in a high degree solid and transparent, which might admit the light of the sun, and exclude the violence of the wind—which might extend the sight of the philosopher to new ranges of existence, and charm him at one time with the unbounded extent of the material creation, and at another with the endless subordination of animal life; and what is yet of more importance, might supply the decays of nature, and succour old age with a subsidiary sight. Thus was the first artificer in glass employed, though without his own knowledge or expec-tation. He was facilitating and prolonging the enjoyment of light, enlarging the avenues of science, and conferring the highest and most lasting pleasures; he was enabling the student to contemplate nature, and the beauty to behold herself."*

The removal of the duties from this very adaptable and important material has induced considerable stir in the glass trade, and cannot fail to lead to many advantageous results. T٥ the shares of glass companies it has imparted sudden value. Manufactories long since shut up have been opened again, and in other places where they have continued in operation, are forthwith to be enlarged. The Birmingham Plate Glass Company, who relinquished business two years ago, are about to renew their operations, we are told, which will have the effect of giving employment to hundreds of persons. The manufacture is to be revived in Cork, where it went to decay after the imposition of the duty. Works for after the imposition of the duty. Works for the production of glass are talked of in Worcester ; and in Sunderland Messrs. Hartley and Co. have commenced building three new glassbottle houses, which will give occupation to nearly a hundred men. Moreover, pernearly a hundred men. Moreover, per-sons heretofore in the habit of importing Bohemian glass in large quantities are about to discontinue doing so, and to turn their attention to the manufacture of the material in this country.

Sir Robert Peel asserted in his financial statement, that the square of glass which now costs one shilling would be reduced to fourpence; but, in reality, the reduction will not be quite so great, and when put into our windows the difference to the consumer will be even less, as the value of the glaziers' labour remains the same, and forms an important part of the cost of a square of glass. Common glazing in sashes will be done probably for 7d. per foot.

The immediate reduction in cost, however, although this will be considerable, is not the ultimate advantage of the alteration. The working of the present system (next week we shall be able to say, of the old system), is troublesome and oppressive, as it entails the constant presence of an exciseman, even when glass is produced in very small quantities, merely for the sake of experiments; and has had the effect of preventing efforts to improve its manufacture, and of rendering the application of additional skill and ingenuity almost

impossible. It cannot be doubted that in a very short time considerable improvements will follow the removal of restrictions, and that the actual cost of glass will be lessened very considerably. That it will be applied in numerous ways at present unthought of, seems certain. The premier spoke of the superiority of a balance-The spring of a chronometer made of glass instead of steel; and alluded to pipes of glass now being manufactured in France, for the con-veyance of water, which cost 30 per cent. less than pipes manufactured of iron, and would bear a greater external pressure than iron.

Since then we have heard of glass bells for churches, glass mountings for weavers' looms, glass pavements for streets and halls, glass milk pans, and various other novel applications of it. A provincial paper speaks of a "picture frame of common wood, the front of which is overlaid with slips of glass beautifully mottled, so as to produce the effect of veneered wood

^{*} Pliny gives the following account of the discovery of manufacturing glass. — A merchant vessel, laden with *nitrum* (salt or soda), being driven on the coast of Palestine, near the river Belus, the crew sacidentally supported the kettles on which they dried their provisions on pieces of the *nitrum*: the sand about it was virified by its union with the alkali, and produced glass.

THE BUILDER.

of the finest kind. The effect is, in act, in some respects, superior to that of the finest vencering used in framing prints, for while every description of wood may be imitated in this manner, the brilliancy and polish of the material affords a great advantage both in beauty and durability. In cheapness also, a very important point, the superiority of the new adaptation will, we imagine, be no less apparent over the working of the more ex-pensive woods." Picture-frames too, of all sorts, will be in greater request, for the cost of glass being lessened, drawings and prints will be framed and hung up more universally then fearmach. than formerly.

To horticulture the alteration will be of the greatest service; and many persons will now be able to enjoy the pleasure of a conservatory, or hot house, who have been prevented up to this time by the cost of maintaining such structures. The duty being levied by weight, and crown-glass sold by measure, the manufacturer has been led to reduce its substance as far as possible, and the result is that much glass is used which will hardly bear its own weight, or keep out the wind; and in green-houses and such erections the breakage is a constant and heavy expense.

Glass, besides being cheap, will now be more durable, for the materials of which it is composed are so inexpensive, that the manufacturer will be led, as lessening the risk to him-

self, to make the glass much stouter. There is yet a more important consideration in connection with the removal of this impost, and that is, as it concerns the general health. A prohibition of light is a direct encouragement of dirty habits, disease, and immorality. Light is as necessary as air and food, and a deficiency of it leads to numerous disorders.

So long as the infamous window tax is continued, the cheapening of glass will pro-duce in this respect but little improvement; but as that tax must ultimately be removed, or so altered as no longer to offer a premium for unhealthy arrangements, we may anticipate at no distant period most important advantages. Want of ventilation, deficiency of light, and a corrupt atmosphere, hurry thousands to a pre-mature grave, and unfit even a larger number for the due enjoyment of life. A writer in the Lancet says :---

" The fact of the multiplicity of windows being an immense advantage for health, is most important, and should be strongly im-pressed on the public mind whenever the onnortunity offers. It must not either he foropportunity offers. It must not, either, be forgotten, that in this respect we have not only the window-tax to contend with, but architectural prejudices. "Our ideas of architectural beauty are prin-

cipally derived from the buildings of southern Europe, where the intensity of light is so great, that it has rather to be avoided than courted, and where it is less necessary to favour its admission into dwellings, from the inhabitants spending so much of their time in the open air. The result is, that among architects a multiplicity of windows is considered a defect instead of a beauty, and studiously avoided. We trust, however, that no such doctrine will be allowed to exercise a permanent sway in a climate to which it so little applies, and that, however detrimental to architectural beauty windows may be considered to be, their importance in a hygienic point of view, will be the paramount consideration."

We will conclude our present notice with a brief reference to the history of glazing windows, comparatively a modern application of the material. Artisans were brought from abroad in the 8th century, to glaze the church windows at Weremouth, in Durham, and glass continued to be used partially from that time. For some centuries, however, it was considered a moveable luxury, not necessarily part of the house. In 1505 it was held in law that though the windows belonged to the heir, the glass was the property of the executors, and might therefore of course be removed by them, because the house was perfect without the glass.

So late as 1567, an entry then made in the minutes of a survey at Alnwick Castle, the seat of the Duke of Northumberland, shews that the glass casements were taken down during the absence of the family to preserve them from accidents: and even at the end of the 17th century, that the lower rooms in the royal palaces in Scotland were without them,

and had simply wooden shutters to exclude the air, and, at the same time, the light.

The first regular window-glass manufactory of which we have any account, appears to have been commenced in Crutched Friars, London, in the year 1557. The first sheets of blown glass were made at Lambeth in 1663. In 1691, the glass made at the Bear-garden on the Bankside was called "Crown window glass, exceeding French glass in all its quali-fications." The same manufactory was afterhcations." I he same manufactory was after-wards removed to Ratcliffe, and the glass be-came celebrated as "Ratcliffe crown glass." This and the other glass-houses in London were ultimately abandoned, on account of the expense of fuel, and at this time we believe there is not one left. Newcastle-upon-Tyne, Stourbridge, Bristol, Liverpool, Warrington, Birmingham, and Leeds, are the chief seats of the manufacture in England.

The duty on flint-glass is very inconsiderable, 7s. per cwt., as compared with that on crownglass, and for some time little difference will be found in the price of cut-glass articles; hereafter, however, for reasons before stated, its cost will, without doubt, be considerably lessened. Crown-glass differs from flint-glass simply in this respect, that it does not contain lead nor any metallic oxide except manganese, and occasionally a minute portion of oxide of cobalt, to destroy colour. This they do by what at first sight seems paradoxical, namely by each imparting colour. The manganese gives a slight tinge of red, the cobalt of blue, while the sand and alkali produce a yellow tinge; but the colours neutralize each other, and the result is an almost perfectly transparent material. The glass manufacturers, when the alteration was first announced, were alarmed by a state-ment, that no drawback would be allowed on the stock in hand. Several deputations at-tended the minister, to shew the injuries they would sustain by the removal of the duties, and in consequence, arrangements have been made to meet their views. The following is a copy the order issued by the excise :-

"The board have received instructions from the Lords Commissioners of her Majesty's Treasury to allow drawbacks on glass on the following conditions :

1. Warehouses at the cost of the manufacturers or dealers must be provided, and being approved by the excise, put under our lock. These warehouses to be at the different manufactories, and in each town where we have a

supervisor. 2. That no glass be warehoused excepting under the same regulations as if for export.

3. That no quantity of crown or German sheet glass less than 10 cwt. be received at the same time from any individual.

4. That each package be marked with the net and gross weight, and with the name and abode of the depositor. 5. That the bottle on the manufacturing

premises of such of the bottle makers as re quire it shall be taken account of and warehoused, or secured by the excise.

6. That on the repeal of the duty on crown, German sheet, and bottle glass, the quantities so under the excise locks shall be delivered to the respective owners, precautions being taken to ascertain that such quantities correspond with those deposited.

7. That so soon as the re-deliveries shall be completed, and the accounts have been examined and certified at the head office, owners shall receive documents authorizing them to claim the sums to which they would have been respectively entitled by way of draw-back on exportation, deducting 25% per cent. 8. That on the 5th day of April, the stocks

of plate-glass, whether in the rough, smoothed, or polished state, be taken; and on all rect-angular pieces of 6 inches by 4 at the least, and not less than 1-8th of an inch in thickness, the sum of 1s. 101d. per square foot be al-lowed, and on such as is polished and not 1-8th of an inch in thickness, the sum of 41. 4s. per cwt.; if unpolished and under 1-8th in thickness, no allowance."

HEALTH OF TOWNS .- Mr. Mackinnon has postponed his motion relative to the Health of Towns until the first Monday after Easter.

BATHS AND WASH-HOUSES.—An exhibition of the competition designs for the first model establishment will take place at Mr. Rainy's gallery, 14, Regent-street, on Monday next, and the three following days.

CONSTANTINE'S BRIDGE OVER THE RHINE AT COLOGNE.

of our readers have, no doubt, MANV visited the bridge of boats thrown across the Rhine from Cologne to Deutz; and many of them have most probably been informed by the "cicerone" that a stone bridge once united the two towns, the remains of which (as he asserts) are still to be seen at the Beyen Thurm, at the southern end of the town, and to which, as an object of interest, the traveller is generally conducted. That a stone bridge across the Rhine, or, at

least, the foundation of one, did once exist we have every reason to believe; but that the projection at the Beyen Thurm formed a part it (and which a casual observer would of it (and which a casual observer would readily suppose) is a decided fallacy. The projection, which juts at that point into the Rhine, formed the foundation of a screen, entitled "die Arck," on which two guard-houses were built, and under which was an arch for the passage of small vessels at such times as the Rhine was barred, as was the case in the years 1414 up to 1463, when Cologne was in league with the Duke of Berg against its Archbishop Dietrich von Moers. This projection was connected by a wall with the Thurm or tower. In October, 1556, the town council decided that this projection should be demolished, being of opinion that the stream was thereby fored towards Durts. This was thereby forced towards Deutz. was thereby forced towards Deutz. This order was, however, not carried into execution (although repeated in 1583) until the seventeenth century. At the northern end of the town a similar projection with tower existed, and was, in like manner, connected by a wall with the Cunibert's Thurm, the lower part of which is still standing; so that here, as at the Beyen, ingress and egress to the town could, when required, be prevented. The above has been clearly proved by historians; and by visiting St. Gereon's Church, a picture may still be seen under the altar-piece, repre-

still be seen under the altar-piece, repre-senting the projections, and shewing clearly the use for which they were designed. We have said that we have every reason to believe that a stone bridge, or at least the foundation of one, did exist. That the Roman emperor Constantine caused it to be built has been doubted by many. In 1766, the water being very low, the engineer Rheinhart en-deavoured to discover its remains, and after a lengthened search found, in the bed of the Rhine near the Salzgassen Gate, massive stone columns, as of arches, still standing. He states the distance of these columns from each other to have been 7 Ruthen, 4 inches Rheinland (86 feet 9 inches English), and the breadth of the bridge 36 feet 8 inches Rheinland (37 feet 9 inches English). Many other historical grounds may be given in favour of our opinion, and it may be safely said that Constantine commenced this bridge, but most probably did not succeed in finishing it. We read, however, that the Emperor Otto I. quarrelled with his brother Bruno I., Archbishop of Cologne, owing to the latter having caused the old Roman bridge to be demolished in the year 950, in order to make use of the materials for building the church and cloisters of St. Pantaleon. This would lead us to of St. Pantaleon. This would lead us to believe that the bridge was really finished, or why this quarrel?

According to Wallraf,* the Roman bridge, commenced at the Old Mars Gate, passed over the left or smaller arm of the Rhine, and was guarded by two towers at its connection with the Rheininsel. This assertion is not only in direct opposition to the discoveries of Rheinhart, but is also entirely ungrounded, and cannot be proved either historically or otherwise, no writers having spoken of it, and no remains having been ever found on or near the spot.

From an inscription found in St. Heribert's Abbey, in Deutz, we are led to believe that Constantine caused a tower to be built on the eastern bank of the Rhine to guard the bridge, and from which Deutz took its origin. The authenticity of this inscription is, however, greatly to be doubted. It is possible, and more than likely, that Constantine caused a castle or tower to be built on that bank to guard the passage across the Rhine from the attack of neighbouring enemies, but that this tower was a part of the bridge still remains to be proved.

• See Wallraf's "Beiträge sur Geschichte der Stadt Köln."

We have written the above to guard the continental tourist in his researches, from placing too much faith in the assertions of his accompanying "cicerone."

Cologne. W. H. PEPYS, Jun.

CHURCH OF ST. PETER'S, HOWDEN.

A STRONG appeal for funds to restore this A striking appear to have to relate the edifice has been issued; we sincerely hope it may be responded to satisfactorily, notwith-standing that it is dated "Feast of all Saints," and bears, unfortunately, other party badges. From the document in question we learn the following particulars of the early history of the

building and its present state :--"Before making an appeal on behalf of the church of St. Peter's, Howden, perhaps it will not be uninteresting to give a rapid sketch of its early history.

There was a church and priest at Howden at the time of the Domesday survey. In the days of King Edward the Confessor, the manor, church, and lands were wrested from manor, church, and lands were wrested from the monastery of Peterborough, and being in the king's hands, William the Conqueror gave them to the Bishop of Durham, who gave them to the monks of Durham. The church was first a parochial chapel, in the patronage of the priory of Durham, and A.D. 1267, Archbishop Walter Grey ordained five prebendaries, one of whom as an heb-domary to orderly keep his turn, and serve the cure of the parish by his turn, and serve the cure of the parish by his respective priest, and further ordained that the prebendary of Howden should be the first prebendary, and free from all cure of souls.

The great patron and architect of this church was Walter Skirlaw, Bishop of Durham, to whose taste and spirit we are indebted for one of the most glorious ecclesiastical edifices in the kingdom. It is true, in extent and proportion it may find many not only to compete with, but also to surpass it; but it will bear the severest comparison with the most enriched, in elaborateness of detail and finish. Like many similar structures, it has been the work of successive periods, though probably in its general construction the completion of one original design.

By reference to Hutchinson's 'History of Durham, vol. iii., we find copies of the charters, &c., of Howden, from which it appears that A. p. 1268, the church was made collegiate. It is, therefore, more than pro-bable that the re-building is posterior to that date. Indeed, we may conjecture it to have been in the following order, and the architec-tural evidences of the building confirm the supposition :-

I. The nave, transepts, and tower, up to the

leads ;

II. The choir and chapter-house; and III. The lantern-tower and school.

The whole may be included in the period from A.D. 1280 to A.D. 1400. (Bishop Skirlaw died 1405.) The particular dates it would be bazardous to fix, nor is it necessary.

At present the choir is in perfect ruin, as also, in great part, the chapter-house. The portions of the building now in sufficient repair for the purposes of Divine worship are the nave and transepts. And here it is not too much to say, that it would not be possible to over-rate the zeal and honourable pride of the parishioners, which have led them to no or-dinary sacrifices in order that their house of prayer should not lie waste. And first and foremost have stoud forth the respected vicar and his excellent churchwardens, who, mindful of the high responsibilities of their office, and with the true spirit of worthy sons of the church, have counted no sacrifices too great, and no exertions too severe, which could prove the means of putting this sacred fabric into a condition so as securely to stand the admiration and delight of four centuries to come, as it has been of the four which have passed away.

The appeal on behalf of this church is made as for a great national undertaking, to preserve and restore an edifice which may serve as a school and model for present and future instruction to the admirers of ecclesiastical architecture, which might well excite pride in our forefathers, but we fear, in these days of coldness, will be the object of our envy rather than our imitation."

SUPPLY OF WATER TO THE METROPOLIS.

At a recent meeting of the Statistical So-ciety, Mr. J. Fletcher, the honorary secretary, gave an outline of the present system of supplying the metropolis with water. London, in the first instance, derived its supply of water from shallow wells, from the Walbrook in and other streams descending from the north, and from the Thames itself, by direct carriage. In the reign of Henry III., the corporation obtained liberty to bring water from Tyburn, which they did by means of a six-inch leaden pipe carried to Charing-cross, and thence to several conduits in the city. In 1438 the corporation brought water from Highbury to a conduit opposite Cripplegate Church. to a conduit opposite Cripplegate Church. In the following year the supply to the cisterns. at Tyburn was augmented by the waters of some springs at Paddington, obtained from the Abbot of Westminster. This continued to be the only great source of supply until the middle of the sixteenth century, although the water of various springs in the neighbouring fields were brought to supply noticular, build fields were brought to supply particular build-ings or localities in the city; the conduits at Holborn-cross and on Snow-hill deriving their water from the springs collected into Lamb's-conduit, near the present Red Lion-street; that at Aldgate from springs at Hackney; one in Lothbury from springs between Hoxton and Islington; the Charterhouse from White Conduit-fields, and Christ's Hospital from the Devil's-conduit, north-cast of the present Brunswick-square. In 1543 an Act was passed to enable the corporation to bring water from Hampstead Heath, St. Marylebone, and Hackney. Nor was it until 1568 that Thames water was raised by machinery for the supply of London. The New River Company supplies all the

metropolis north of the Thames from Charingcross, Tottenham-court-road and the Hampstead-road, on the west, to the Tower, Shorestead-road, on the west, to the Tower, Shore-ditch, and the Kingsland-road, with Dalston, on the east; the East London Waterworks Company, all those portions which lie to the east of the City, Shoreditch, the Kingsland-road and Dalston, extending their mains even across the river Lea into Essex, as far as West Ham; the Chelsea Waterworks, the whole of Ham; the Unelsea waterworks, the whole of Westminster and the suburban parishes, south and west of Charing-cross, Pall Mall, St. James's-street, Park-lane, and the Uxbridge-road, as far as Kensington palace; the Grand road, as far as Kensington-palace; the Grand Junction Waterworks Company, the great square of town included by Oxford-street, Princes-street, St. James's-park, the Green-park, and Hyde-park, the Park-square dis-trict, between the Edgeware-road, the Ux-bridge-road and the Regent's Canal, and a considerable district in the angle formed by the western end of Oxford-street and the the western end of Oxford-street and the southern end of the Edgeware-road; the West Middlesex Waterworks Company, all that portion of the town lying west of Tottenham-court-road and the Hampstead-road, and north of Oxford-street, the Edgeware-road and the Regent's Canal, with the exception of the part near the junction of Oxford-street and Edgeware-road, which is supplied by the Grand Junction Waterworks—the West Middlesex Waterworks also supply Bayswater and the suburban parishes of Kensington, Fulham, Hammersmith and Chiswick; the Southwark Waterworks, nearly the whole of the parishes of St. George and St. Saviour, Southwark; the Lambeth Waterworks Company, the whole of the parish of Lambeth and parts adjacent; the South London Waterworks Company, which is also called the Vauxhall Waterworks Company, it was calculated in 1830, supplied above 300,000,000 of gallons. In addition to the works mentioned, there are the Kent the works mentioned, there are the Kent Waterworks, which supply Deptford, Green-wich, Woolwich, and Rotherhithe. The quantity of water raised by the eight great metropolitan companies in 1833 appears to have been equal to 357,288,807 imperial barrels; the number of houses and buildings supplied 191,066; and the average daily supply above 35,000,000 of gallons, or, 183 gallons to each person served. on the average. each person served, on the average.

WESTMINSTER IMPROVEMENTS. -- The committee have plans now before them from Messrs. Tarring, Donthom, Lapidge, Lewer, Alders, S. Smirke, Bardwell, H. H. Russell, and Abraham. The plan of the latter gentle-man is that known as "Mr. Wason's."

THE SMOKE NUISANCE.

THE preamble and chief enactment of the "Bill to prohibit the nuisance of smoke from furnaces or manufactories," introduced in the House of Commons by Mr. Mackinnon are as follow :

"Whereas great loss of fuel arises from the mismanagement of the fires of manufactories, and much injury to the health and comfort of the people is occasioned by the smoke issuing from the furnaces and chimneys thereof, and of the furnaces and chimneys of plying steamboats on rivers within the jurisdiction of towns boats on rivers within the jurisdiction of towns or populous places, and the same can be re-medied by proper care and attention; be it enacted by the Queen's most excellent Ma-jesty, by and with the advice and consent of the Lords spiritual and temporal, and commons, in this percent Berliament excembed and be in this present Parliament assembled, and by the authority of the same, that from and im-mediately after the passing of this Act it shall be lawful for the justices of the peace for any county, riding or division, usually acting in any special sessions division, and for the justices of the peace for any city, borough or place at any special sessions respectively, from time to time to appoint any police officer or other proper person, and they are thereby re-quired so to do, to be inspector of smoke nui-sances within the limits of such special sessions division, city, borough, or place, or any part thereof respectively; and such appointment from time to time to alter or cancel, as such justices in special sessions shall from time to time think fit, and to allow to such inspectors, or any one or more of them, such salary as the said justices in special sessions shall from time to time think fit; or in the case of any such inspector being a paid policeman, to require him to perform the duties of inspector of smoke nuisances, without any additional salary; every nuisances, without any additional salary; every such salary to be charged upon and payable out of the county rate, or such fund as is charged with the salaries of policemen for the district for which any such inspector is ap-pointed; and if there be more than one such fund, then in such proportions as the said fund; then in such proportions as the said justices in special sessions shall from time to time think fit.

And be it enacted, that from and after the first day of January, one thousand eight hundred and forty-siz, it shall not be lawful for the occupier of any furnace or chimney to permit opaque smoke to issue from such chimney for any longer period of time than is necessary for the kindling of the fire of such furnace in connection with such chimney, and previous to the running of any engine connected therewith, which time allowed for kindling such fire shall not exceed fifteen minutes during one day.

And be it enacted, that from and after the said first day of January, one thousand eight hundred and forty-siz, it opaque smoke shall be suffered to issue from any such chimney for any greater number of minutes than is bereinbefore limited in that behalf, the occupier, or any one of the occupiers of such chimney, shall for every first offence forfeit and pay any sum not exceeding forty shillings, nor less than twenty shillings; and for every second offence, any sum not exceeding pounds, nor less than forty shillings; and for

every additional offence, any sum not exceed-ing pounds, nor less than pounds; to be recovered in a summary way

before any two or more justices of the peace, in and for the county, riding, division, city, borough or place, wherein the offence shall be committed: provided always, that if such defendant shall charge that the offence mentioned in such summons was committed, if at all, through the negligence or wilful misconduct of any other person, it shall be lawful for any justice of the peace of the county, riding, division, city or place, on the applica-tion of such defendant, to summon such other person to attend at the hearing, before two or more such justices to answer the charge of such defendant in that behalf; and such charge shall be heard and determined as the justice of the case may require; and if the defendant shall satisfactorily prove that the offence mentioned in the original summons was wholly or in part caused by the negligence or wilful misconduct of such other person, the justices by and before whom the charge so brought by the original defendant is heard and determined, shall order the whole, or such part as they shall think fit, of the penalty and costs,

if any, which are adjudged against the Original defendant, to be reimbursed to him by such other person, to be levied in like manuer as penalties under this Act may be levied upon any original defendant: provided also, that if at the time of any such order being made as is last mentioned, such other person be in the receipt of or entitled to receive any wages from such original defendant, or any coparinership of which such original defendant is a member, it shall be lawful for the said last-mentioned justices to authorize such original defendant to deduct the sum, if any, so awarded to be reimbursed to him as aforesaid, out of the wages then or thereafter to become due from him or his co-partnership, to such other person as aforesaid, either in one sum, or by such instalments as the said justices shall, in any such case, think fit to award."

When Mr. Mackinnon moved the second reading of the Bill a few evenings ago, the Earl of Lincoln said he thought it would be the better course to pursue, and would tend very much to more satisfactory legislation on this matter, if Mr. Mackinnon would consent to postpone the second reading of his Bill until after Easter. He had promised that he would look into this subject. He had done so, and was still continuing his inquiries amongst scientific gentlemen as to the best mode of curing this evil of snoke in towns. It was only within the last two days that he had received additional information on the matter, but which he was not then prepared to communicate to the House. The House was already aware that a measure of a nature somewhat similar to that contained in the present Bill, but on a much larger scale, and of much greater importance to the country, was under the consideration of the Government, and he could not help thinking that it might be more advisable to consider this question in connection with the other. He would, therefore, ask his hon. friend to postpone the second reading of his Bill until after Easter, when both measures could be considered with greater propriety. Several honourable members expressed opi-

Several honourable members expressed opinions upon the Bill, and it was ultimately deferred until Wednesday, the 2nd of April. We understand that in Birmingham from

We understand that in Birmingham from eighty-five to one hundred owners of steamengines have adopted sufficient remedies to ensure the consumption of their smoke.

WORKS IN THE PROVINCES.

At Lyme Regis, very extensive improvements are in contemplation. The inhabitants have lately petitioned Parliament on the subject. The petition sets forth that the customhouse and other places in the town having been destroyed by fire, it would be advantageous to the inhabitants if a new street were formed from the east end of Broad-street to Charmouth-road; a bridge over the river Lyme; a new street from the middle of Broadstreet to the sea shore; and a reservoir for supplying water to houses not at present properly supplied.

A few weeks since a public company was formed at Chippenham for the purpose of supplying the respectable householders, and the poor gratuitously, with water, of which they are at present greatly in want. It was also intended to erect a fountain in the centre of the town, and to provide, in different parts, thirty plugs, for a supply of water in case of fire. This excellent determination has, for the present, been frustrated hy Joseph Neeld, Esq., who represents the borough in Parliament. He intimated his determination to oppose the bill unless provisions were made in it for the drainage and sewerage of the town by a tax on the *tenants* of houses, of which Mr. Neeld possesses about sixty.

In Manchester, a proposal is made to roof with glass two neighbouring streets to the Exchange, for the convenience of the congregated merchants. It is to be called the Peel Arcade.

A new Independent Chapel has lately been erected at Shrewsbury, the cost of which was 2,300/.

At Liverpool, the wealthy admirers of the Rev. H. M'Neile, are about to build and endow for him a spacious and handsome church in the park. It is stated to be the intention of the promoters of this undertaking to vest the presentation in the same reverend gentleman.

The new town of Crewe is well lighted with gas, not only in the streets, but in its cottages also. The directors of the Grand Junction Railway a short time ago gave instruction to carry gas into all the cottages, somewhere about four hundred, at Crewe, allowing one burner for 7s. 6d. per annum. The amount subscribed for the restoration of

The amount subscribed for the restoration of Chester Cathedral is nearly 3,000%, including a second donation during the last week of 100% from the Marquis of Westminster. The cost of the works already contracted for and in progress is 2,504%, and the complete restoration of the choir, it is expected, cannot be effected for less than 5,000%.

We stated a short time since that a bridge was about to be erected over the Tay, at Mugdrum. An Edinburgh paper states, that at a meeting of the town-council of Perth, on Monday, an official announcement was read from the Admiralty, intimating that the Lords Commissioners had resolved on not giving their consent to the plan of a bridge over the Tay, at Mugdrum, for the Edinburgh and Northern Bailway.

The old Market-house of Killarney is to be razed to the ground, and a Temperance Hall built in its stead. The Earl of Kenmare has given 50% towards this project. The restoration of the chancel of St. Mary's

The restoration of the chancel of St. Mary's Church, Nottingham, has been entrusted by Earl Manvers to Mr. H. M. Wood. Mr. Cottingham superintends the restoration of the other parts of the edifice.

On Monday last, the foundation-stone of a Roman Catholic Chapel was laid at Pontypool, by the Rev. W. Woollett. Mr. Scoles, of London, is the architect, and Mr. Hunt, of Newport, the builder.

The Duke of Cleveland, who expended about 2,000% last year on the improvements at Raby Castle, is about to make further large additions and alterations. The baron's hall is to be enlarged, and the circular room newlyfaced, and the Chinese dining-room is to be remodelled.

A new dock, with an area of nearly four acres, was opened at Adrossan, last week. It has been formed at the expense of the Earl of Eglintoun. Fifty ships can be accommodated in it.

A new fort is to be erected in Liverpool, at a cost, inclusive of the site, of 27,000%.

The feofees of Barnstaple-bridge are about to make a great improvement at the lower end of High-street, by pulling down the Boot-inn, and the unsightly buildings adjoining, and erecting two handsome houses with shops, designed by Mr. Gould, architect.

Seven hundred men are employed night and day on the construction of the Birkenhead Docks, and in April it is supposed there will be nearly 2,000. It is expected the docks will be partially opened within two years, and completely within three. The Dock Warehouse Company have commenced making fifty millions of bricks in order to begin building their warehouses the moment their Act is obtained.

The erection of the new schools at Magdalene College, Oxford, is delayed in consequence of a claim said to be made by the city to have the sons of freemen admitted should the proposed plan be carried out. It has been proposed to substitute stained-glass windows in the College Chapel of Magdalene, in place of the present chiaro oscuro paintings, and one of the Fellows (Mr. Roundell Palmer) has offered to resign the proceeds of his fellowship to assist in this.

in this. The dilapidated state of the parish Church of Baddesley Ensor, in Warwickshire, renders it necessary to build an entirely new place of worship. The estimate for the new church is 2,500/. to accommodate 400 persons. Towards this amount W. S. Dugdale, Esq., M.P., has subscribed 500/., Lady Sykes 50/., and the incumbent, the Rev. W. Bradley 50/. There is still wanting 1,900/.

The foundation-stone of the Cyfarthfa Rolling Mill was laid on the 18th instant by Mrs. Crawshay, of Cyfarthfa Castle, in the presence of a large concourse of spectators. The welkin rang with the vociferous cheers of the assembled workmen. They were afterwards regaled with a plentiful supply of *cwrwda*. The building will cover an area of 3,066 square yards, being 193 yards in length, and 143 in breadth.

A clear moiety of the amount required by the Ecclesiastical Commissioners for Eng-

land as a public ^{henefaction}, before they would erect a pars^{On}age house for the Incumbent of St. John's Church, Cornish-Hall-End, Finchingfield, having been raised by subscription, orders have been issued for the commencement of the works. Mr. Johnstone, of Grinstead Green, Halstead, has obtained the contract.

At Scarborough, the improvements on the South Cliff are rapidly and widely extending. The Crown Hotel, with its lofty pediment and Corinthian columns, forms an imposing feature in the great façade.

The subscribers and shareholders of the proposed Colchester Literary and Scientific Institution, have deemed it advisable to suspend proceedings until the Legislature shall have decided on Mr. Ewart's Bill for the establishment of Museums of Art in the provinces.

We have already stated that St. Patrick's Cathedral, Dublin, is about to undergo very extensive repairs. Dean Pakenham, during the past week, has addressed the Editor of the *Times* on the subject of these repairs, and the expenses incident thereto. He says, "My purpose is, first, to repair the dangerous defects in the building. The cost may be about 4,000*l.*, of which I have as yet obtained but about 2,700*l.* Then, if means increase, it is intended to lengthen the choir by moving the organ back about 20 feet into the great aisle, and keeping it on such a level as to give a view of the whole roof from west to east. This will make it necessary to groin the great aisle, which at present shews the unsightly substructure of modern slating. The west front of the organ must also be gilt. 'Tis now but a worn-out piece of bad scene painting. Forty windows, including their stone casements, must be aired, and then the beautiful arches which look into them, and which are now built up and defaced with galleries, may be re-opened without injury to the congregation. The woodwork also requires much."

In a late competition at Edinburgh for a Free Church College, Messrs. Matthews, of London (secretary to the Association of Architectural Draughtsmen), and Mackenzie, of Elgin, have been awarded the first premium, and Messrs. Clark and Bell, of Glasgow, the second premium. The committee called in the services of Mr. Barry to decide upon the best designs. The premiums were 100*l*., and 50*l*., and the proposed cost of the building is about 25,000*l*.

ARCHITECTURAL COMPETITIONS. CLIFTON UNION WORKHOUSE.

SIR,—You are no doubt aware that the guardians for the Clifton Union issued in January last an advertisement inviting architects to send plans for their new union workhouse, holding out as an inducement thereto, that the architect furnishing the best design should superintend the building at 5 per cent. on the contract, and that 25 guineas should be awarded to the next in merit.

In consequence of this, thirty-one architects of the metropolis and other parts of the kingdom, set their wits to work to devise certain accommodation for the paupers, at an expense to themselves varying from 20% to 70% each. Now, let us observe the result. From the

Now, let us observe the result. From the whole waggon-load of designs two are selected, but it is not at first decided which is to be fm building. Up to a time all is shrouded in mystery, for it is firmly and conscientiously believed, that there never was an instance in which any one of a board of guardians could even guess at the real name and address contained in the sealed envelope. At last the important secret is solved; and, who would have thought of such a coincidence? it is the very architect who has been already employed by the board, and who has also devoted much of his time in concocting certain notions of certain persons for months previous. The other belongs to an unknown and a nameless man; but many tasteless individuals had taken a fancy to it, and thought it looked rather more like a house of charity than a prison; but these, as it proved, had very mistaken notions. The battle now commences in earnest, and

The battle now commences in earnest, and calculations are entered into enough to bother the head of Sir Robert Peel; when, in the midst of the mystification, it is thought desirable that the opinion of an architect of known respectability should be taken, in order to decide the knotty point as to which is really the best design. This is done—with 1 suppose the parish to pay,—yet atter all, his opinion proves worthless, for the stupid man persists in reporting most favourably of the stranger's design; it is therefore found ridiculous and absurd to expect a professional man to possess in the state of the either taste or judgment in a matter of this kind, and a cry being raised that the nameless individual's plan had not more than enough room, and that the other had, it was finally settled that the unknown should be sent about his business.

Thus you see, Sir, 900% to 1,000% have been expended by us foolish people in complying with the wishes of the guardians, which we might just as well have kept in our pockets, had those few gentlemen who were aware of the fact before been so good as to inform us they possessed such a jewel of an architect at Bristol.

While confessing myself the fortunate winner of the very liberal premium of 25 guineas, I must own to have committed one great error, for which I here beg to offer my apology. Whether it was from some vague notions of having heard of such things as sham competitions, wherein some evil-disposed persons, for the eake of taking in the unwary, threw dust in the eyes of their colleagues who happened to be roo honest, or whether it was from not having the proper fear of the guardians before my eyes, or perhaps some old-fashioned notions, that where honesty exists there is no need for concealment, however this may be, I actually had the temerity to ask permission to see the successful design, in order that I might inform my professional brethren from ocular demonstration that they never had and never would have a chance of success in Bristol again. Would have a chance of success in Dristor again. I am sorry I did it now, but fortunately there was no danger of its being complied with. I was met by a peremptory refusal; and now I reflect on it, what right have we to inquire if faith has been kept with us; is it not sufficient that we are allowed to expend our time and money upon the faith of their advertisement? It must have been thought grossly impertiment in me, or any other of the comfitors, to make such an inconvenient request. retitors, to make such an inconvention of the board, however, speedily brought me to my senses, otherwise I might have been led to doubt if the man who obtains ny money under false pretences is the best judge of honour and integrity. There will, I fear, be some persons wicked

enough to believe, notwithstanding the protestations of the authorities to the contrary, that they have been duped, and that the whole affair has been duped, and that the whole affair has been a rank job, perhaps others may call it by an epithet not quite so polite; but these are easily put down,—call them disap-pointed people, and the thing is done. In adding my testimony to the perfection of the system of competition, I cannot but express my decided admiration of that pursued at Clifton, which, for the guidance of all those who wish the arts of the country to flourish, may be reduced to the following receipt. Take a large portion of the ordinary stuff of society, mix them up with a few gentlemen who are far above suspicion of doing any thing at all, but they must not be omitted, as they act as decoys; drop in then one or two shrewd, clever, but not over-scrupulous fellows, don't be atraid of their sinking, for their lightness of chastatuter will always keep them at the top; simmer the whole together until the scum begins to rise, and it is done. This, I assure begins to rise, begins to rise, you, is the finest mixture tects that can be procured. I am, Sir, &c. THOMAS ALLOM. u, is the finest mixture for catching archi-

March 18th, 1845.

CONGREGATIONAL CHAPEL AT HOLLOWAY.

SIB,-A well-conducted press can have no more legitimate object than the exposing abuses with a view to their removal. Your strictores upon the abuses to which competition in the fine arts is liable, prove that you are willing to lend your valuable assistance to destroy as far as possible the evil of the sys-tem, and to retain what is good. Competition of this kind, although not exclusively con-fined to architectural design, is resorted to more for that than any other object, both on account of the greater demand for subjects, and

the greater numbers of persons willing to supply that demand.

Architectural competition, in itself excellent. is rendered debasing by the manner in which it is conducted. Capable of eliciting the finest works, it has frequently produced the very worst. Interest, not talent, gains the prize; and acquaintance with a committee-man is better than knowledge of the five orders. Architects have frequently themselves to blame; young men anxious for employment compete for every thing that offers, and thus often become the mere tools of designing speculators; but what shall we say when ar chitects themselves, as is too frequently the case, become partners in the fraud.

Nothing will more effectually tend to remedy this great, this crying evil, than an exposure of every individual case in which there is the slightest appearance of trickery, or a want of manly straightforwardness; not a doubtful anonymous charge to which currency is given under the guise of "vistor" or "scrutator;" but a plain statement of facts to which for the public benefit, the writer will suffer the little inconvenience which may attach to subscribing his own name.

At the present time we think the following slight history of the competition of the Con-gregational Chapel at Holloway, will be accep-table to many of your readers. Allured by the fairness of the advertisement, we were tempted to become competitors, and on application to the quarter mentioned in the advertisement, were duly supplied with a printed paper containing very full particulars of all that was required, drawn up in the most business-like way possible; this excited inquiry, and inquiry produced the discovery that a Mr. Emmett, an architect, was a member of the committee. We immediately set to work with redoubled vigour, feeling convinced that if not ourselves successful, we should only have to succumb to greater talent, or more fortunately directed efforts, and that a committee so ably guided in the straight path, would do nothing at which the most censorious could cavil. Still doubts would intrude-we endeavoured to crush the obnoxious thought at once; could we, follow-ing in the course of that calumniator Dickens, believe there were Pecksniffs in the profession ? Never! But the still small voice would not be quieted, it had been done, and might be done again, and perhaps after all Mr. Emmett did intend being a competitor himself. To satisfy all doubts, we applied to Mr. Emmett for information respecting the arrangements necessary for the proper performance of wor-ship in a congregational chapel, our knowledge thereof being somewhat defective. The answer meagrely but civilly gave the information required; this was sufficient, more was not expected from a member of a committee, pledged to do equal justice to all. It was apparently good proof that he did not intend competing, as in that case he should certainly have stated that he himself was a competitor.

Being much engaged we made an application to Mr. Brooks, the managing member of the committee, for an extension of the time, such being frequently granted; but it was re-fused, and very properly so if not allowed to others. The drawings were sent in on the day named in the instructions, and we heard nothing more of the matter until the llth instant, when, in reply to an inquiry on the sub-ject, we received the following epistle from Mr. Brooks :---

"Lansdowne-place, Holloway, "11th March, 1845.

" Mr. Brooks's compliments to Messrs. Lahee and Mabin, and begs to say the plans of Messrs. Emmett and Chadwick, of the Adelphi, have been selected, and that the others can be obtained upon application to Mr. Bartlett, of 26, Paternosterrow.'

Thus not even deigning the empty courtesy of thanks for trouble taken; it is true one does not expect eider-down from thistles, nor sweet savours from a pole cat, but civility might have been anticipated from persons, to gratify whom some pains had been taken. In reply to further inquiry as to whether "the report is correct that Mr. Emmett is or was a member of the committee appointed to judge of the designs presented, and also whether the selected design might be seen," the following answer was received :---

" Lansdowne-place, Holloway, "19th March, 1845.

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"Mr. Brooks's compliments to Messrs. Mabin and Lahee, and, in reply to their note, begs to say that the successful candidate (Mr. Emmett) ceased to be a member of the committee from the moment he determined upon submitting a design, and ever since has been exactly upon the same footing as the rest of the candidates; he is sorry to say that this is only one of the many falsehoods promulgated in this affair. As respects shewing the successful design, he begs to add that the committee have declined doing so.'

We have little more to add; yourself and the public are informed of all the facts as far as we know any thing of them, and comment is unnecessary. We write solely on public grounds; feeling little or no personal interest in the matter. Messrs. Emmett and Chadwick's design may have been the very best presented: a full 2,500% worth of beauties, turreted, pin-nacled, plastered, and stuccoed, in the most approved style; at any rate, they certainly enjoyed peculiar advantages for understand-ing the particular tastes and requirements of the Committee, and ought to have produced something more in accordance with their wants than any other persons: but the question is not so much whose plans are the best, or whose the worst, as whether the conduct of the Committee is just and correct, and such as those who have expended time and money, confiding in their honour, have a right to expect. 'We are, Sir, &c., MABIN and LAHEE.

16, Manor-place, North King'sroad, Chelsea.

CANTERBURY WORKHOUSE.

-In your last number you were re-SIR.quested to have a vigilant eye on the Canterbury for a short time, made all the inquiries I could, as I like fair play in every thing, parexerted for the public good, ought to be tested by competent persons. Now, Sir, there were twenty-two designs sent in from various parts, agreeable to the advertisement; and I should say the average time that was given to the architect to get up these plans was only a fortnight. How is it the guardians are pressed for time? Are they so very desirous that the inmates should be enjoying the comforts they intend giving them in the new house, or is it they wish to be sitting in the new board-room, that they are so fast? As there were twenty-two plans and specifications to be examined, will any of your readers inform me what reasonable time it would take for moderate judges to investigate and select three of the best in detail?

1 will inform you how long the eleven Canterbury guardians were in doing so; not class-ing these with other persons, as you will find by the time they took, they were never equalled. They met at eleven o'clock in the forenoon: and, unclosing the twenty-two sets of plans, examining them very carefully in all their details, reading the specifications, and comparing the estimates with the same, --will you believe me when I tell you it, occupied in all but three hours; they left at two o'clock with the three best plans selected, so that you find they are men of extraordinary skill, and I do think that in justice to the most active and skilful of the eleven guardians, their profession and call-ings should be known, as it must tend very metasimily to relieve the discussion integration materially to relieve the disappointment the architects feel on having their plans returned "not accepted" to know they have been fairly and carefully treated, and I have only to name

their professions for you to be satisfied. The most skilful amongst them is a baker, a pastry-cook from Germany; how many unions he has seen in Germany I do not know, but it is doubtful if he ever was in one in England. Another is of the Jewish persuasion, who, no doubt, has studied unions of the Gentiles. One is a horse doctor; another is a land-surveyor and auctioneer. I have been told there is one or two of them blind, and that one mostly looked at the drawings wrong side upwards.

I shall see by your next if you wish any further information. If you do, I am in a situation to send it you. The London architects ought to stir, they have been used very ill. A FAIR TRADESMAN.



THE above elegant specimen of a carved chair, drawn by Mr. C. J. Richardson, was brought into England from Germany by Messers. Pratt, of Bond-street, and now belongs to Thomas Baylis, Esq., of the Pryor's Bank, Fulham. In the back of it are the arms of Saxony; and it was stated in Germany to have been the electoral chair. The date is about 1620. It is of walnut wood, and the em-broidery in the back and seat is of most

ON THE CONSTRUCTION OF THE HAND-RAILS OF STAIRS.*

THE rules for our guidance in obtaining the moulds requisite for the formation of the hand-rail of a staircase with a level landing, hand-rail of a staircase with a level landing, are governed by the same principles as those for a winding staircase. In fig. 13, we have laid down the development of the inclination of the central line of the rail; the line il, in the triangle P, shews the position of the butt joint contiguous to the straight portion of the hand-rail, and the line gd, in the triangle O, gives the position of the joint at the end of one-half of the twisted part. The lines af, be, and dc, are the three heights by which the position of the cutting plane through the cylinder is obtained; and the line A B C is a line taken through the middle of the rail upon its plan. its plan.

its plan. In fig. 14, the line abc is the same as ABC in fig. 13, and the lines am, bl, and ck, are respectively equal to half the heights of the lines af, be, and cd; in fig. 13, the line am in the present case is drawn parallel to ck, from which by the line kmn, intersecting a line drawn through the points ca, we determine the point n of the insecting line AC'; and the point o of the same line is obtained by the

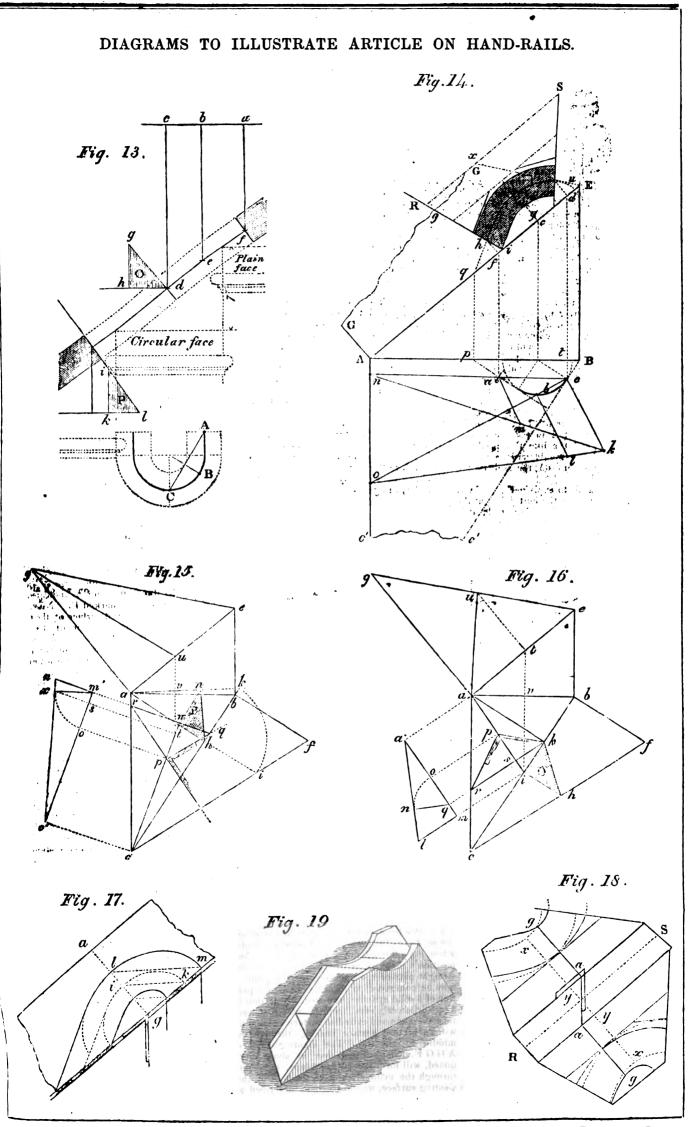
* Sce page 9, ante.

intersection of lines drawn through the points cb and kl. The line A B is drawn through the points angles to AC', and is taken in this case through the centre of the plan of the rail. The triangle A B E is conceived to be turned The triangle A B E is conceived to be turned up, and to stand perpendicularly over the line A B; the point d in the line A E is made equal in height to the line cd in fig. 13, and the point f (measuring from the base line A B) is equal in height to the line af in fig. 13. The surface A E G G is conceived to be turned over as on a hinge upon the line A E until the line A G rests upon the line A C'. We have, in a former article, explained the mode of obtaining the section of a cylinder A C'. We have, in a former article, explained the mode of obtaining the section of a cylinder when cut obliquely by a plane given in any position; the circular line δc , joined with the straight part of the line towards the point a, may be conceived to form the base of a por-tion of a solid cylinder, annexed to a portion of a quadrilateral solid, which, when united, forms a plane and cylindric surface coinciding with a vertical surface passing through the middle of the rail. The slanting surface, A G G E, when turned over as above men-tioned, will form the cutting plane, or section through the cylinder, and as the foot of this slanting surface, which we have described as its intersecting line with the plane of the base, has been determined by lines drawn down has been determined by lines drawn down

over the points k^{n} and kl, to the points n and o on the plane of the base, the slant-ing surface will plane of the base, the slant-resting points each respectively equal in height to the height of the lines af, be, and cd in fig. 13; from which the intersecting line A C, in fig. 14, was determined. Upon this slanting surface, which is here shewn in ledgement, the face-mould is laid down, first by ascertaining (as we have already noted) the centre line of the mould, which will rest imme-diately over the centre line on the plan, and the inner and outer curved lines which form the width of the face-mould are made parallel

diately over the centre line on the plan, and the inner and outer curved lines which form the width of the face-mould are made parallel to the central line, and the ends of the moulds determined in the manner which we shall point out below, and which we think is preferable to the methods propounded in our last arti-cle. In this figure the line R S represents the back of a block of wood used in forming the jointing-box, which we shall enter upon in our explanation of fig. 18. Figs. 15 and 16 are required for explaining the theory of the butt-joints: at first sight they seem difficult and complicated, but when care-fully examined and clearly understood, they are easy and simple; both of these figures represent a theorem well known during the last two centuries in ascertaining the bevels for the back of the hip-rafter of the roof of a house, or the bevel of a mill-hopper at right angles to the arris formed by the intersection of two of its surfaces. In hand-railing, the inclined surfaces of the

house, of the barris formed by the intersection of two of its surfaces. In hand-railing, the inclined surfaces of the face of the plank and the face of the butt-joint of the rail, intersect each other, and may be said to form a hip, similar to the intersecting surfaces of the hipped roof, or the angle of the mill-hopper. Let the lines $a \ b, a \ c, a \ e,$ and $b \ e,$ in fig. 15, represent the corresponding lines A B, A C, A E, and B E, when reduced to a smaller scale; let the line $a \ b$ be drawn at the same angle or bevel to the line $a \ b, a \ c, a \ t$ in fig. 15, draw the line $b \ c$ square to, or at right-angles to $a \ h$. By looking carefully at the direction of the line $h \ a$, in fig. 14, it will be seen to range in the position of a vertical plane passing down the middle of the straight portion of the rail, which plane we have shewn in fig. 13, at the end of the development of the circular face, and on which also is drawn the inclination of the butt-joint, as indicated by the shaded pitch-board marked P. Now, having the foot of the inclined surface of the plank in the line $a \ c$, and that of the inclined surface of the butt-joint in the line $a \ c$, when turned up, as on a hinge, until it stands immediately over its base line $a \ b$; and having likewise the inclina-tion of the surface of the butt-joint, taken on a plane standing perpendicularly on the line $a \ b$, as shewn by the pitch-board, P, on the same plane standing perpendicularly on the line $a \lambda_{a}$ as shewn by the pitch-board, P, on the same surface in the development, fig. 13; the lines surface in the development, fig. 13; the lines a c and b c may therefore be compared to the figure of the eaves of a house, where the pitch of the slanting surfaces are shewn by the lines a c (fig. 15), and l i (fig. 13). We are next to find the bevel of these two surfaces at right angles across the arris of their intersection. Let the line b c, when turned up perpendicularly upon the point b, be considered to represent the perpendicular of a triangular plane standing upon the line b c as a base; also let the line b f represent the same perpendicular line and f c the hypothenuse of the same triangular plane, which is now conceived to be turned down as on a hinge upon its base line b c. down as on a hinge upon its base line bc. The perpendicular line hi on the same plane will be the height of the surface of the plank, immediately over the point h of its base; and a line conceived to be drawn from the point ia line conceived to be drawn from the point iin this position down to the point a will agree with the inclination of the surface of the plank, when taken in the direction of the line ah. Let us then conceive this vertical plane upon the line ah (which, as we have already noted, is the same vertical plane, as described in fig. 13, as ranging down the middle of the straight portion of the rail), to be turned down as on a binge upon its base line ah, we should then have the triangle ahk, wherein the hypothenuse ak represents the slope of the plank in the direction of the line ah; it is also in this plane that we have the inclination of in this plane that we have the inclination of the butt-joint; we must, therefore, determine the point of intersection of the two inclined planes of the face of the plank, and the face of the butt-joint. 'Thus, let the pitch-board



marked P, in fig. 13, be placed with its base klto coincide with km, in fig. 15, the point *i* of the pitch-board will intersect the line ak in the point *n*, from which let fall the perpendicular nm, and draw the line *m c*, which is the base of the hip or arris of the two intersecting surfaces; hence then let the line *m'c'* be the base of a plane passing vertically through this arris *m'n'*, its height over the point *m* and *n'c'* is the line of the hip; from the point *m* draw the line *xm'* at right angles to *n'c'*; and with the point *m* as a centre, describe the circle *x o*, and let fall the perpendicular *op*; draw *r q* through the point *m* at right angles to *m c*, and draw also the lines *r p* and *pq*; and the angle which *p q* forms with the line *pr* is the bevel for the joint across the end of the face-mould, as shewn by the line *h* R, in fig. 14, let fall a perpendicular from the point *x*, in fig. 15, through *s* down to the point *t*; draw the line *t v* at right angles to *ab*, until it meets the line *a g* in the point *u*; and from the point *u* draw the line *ug*, having first drawn the line *ag* being made equal to *ae*; if the triangle *ab e* is again turned up on its base, and the arris formed by the intersection of the surfaces of the plane of the plank, and that of the buttjoint; moreover, the point *u* would coincide with the point *x*, if turned up, and placed vertically upon its base line *m e*. Having obtained the bevel which the line *u g* forms will be the applied to the line A E in fig. 14, and made to pass through the point λ in the face-mould to the point R; and the line R λ produced across the end of the mould will be the direction of the butt-joint on the face of the plank.

The use of fig. 16 is to explain the mode of obtaining the bevels for the butt joints at the middle of the twisted portion of the rail; it is much simpler in its details than that of fig. 15. In fig. 16, the same trihedral is taken to work upon, but instead of placing the pitch-board P upon the plane standing on the line ah, which ranges down the middle of the straight portion of the rail, we make use of the pitch-board O, which is applied on the plane surface standing upon the line bc, which is directly at right angles to the plane on the line ag, in fig. 15. Hence then, after having the base abc, the vertical plane abe, which is at right angles to the intersecting line ac, and the plane bcf, as in the former figure, begin by making ak in the same position as ah in fig. 15. Let the point d of the pitch-board marked O, fig 13, be applied to the point k on the line bc, fig. 16, when the slanting edge of the pitch-board will be found to intersect the line fc, in the point h;from h let fall the perpendicular hi, and draw the line ai, which is the base of the hip or arris of the inclined surfaces of the planes of the plank and that of the butt joint; draw any line m'a' parallel to ai, and make a'm' equal in length to ai, make the perpendicular ml equal to hi, and draw the line a'f, which is the line of the hip, standing immediately over its base line ai; from the point k, at right angles to ai, draw the line kr, which produce to g, draw the line ng at right angles to al, and with the point g as a centre describe the circle no; parallel to gs, draw the line op, join pr and pk, and the angle rpk is the bevel for the joint across the end of the plank. Care must be taken that these bevels are applied from the upper surface of the plank when the straight end of the twist is at the lower level. Argain, to find the line forming the end of

Again, to find the line forming the end of the face-mould, from the extreme end of the face-mould to the point s, fig 14. In fig 16, draw the line iv at right angles to ab, produce iv to meet the line ae, in the point i, draw also the perpendicular tu, cutting the line egin the point u, join au, which is the line or arris of the intersecting surfaces of the plane of the plank, and that of the butt joint. In this, as in the former figure, if the triangle abe is turned up on its base ab, and the triangle ag ebe made to turn over upon the line a u will coincide with the hip or arris formed by the intersection of the plane of the plank with the plane of the butt-joint.

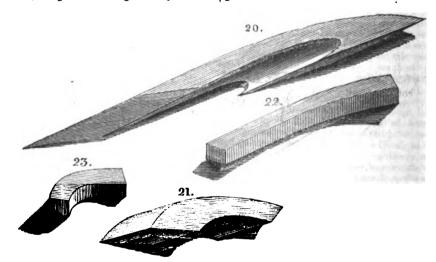
Fig. 17 shews the mode of forming the side-

moulds of the jointing-box for the purpose of adjusting the vertical sides of the wreathed rail. The central line of the side mould in this figure is the same in every respect to the central line in fig. 14, and the inner and outer curves are produced by the formation of similar ellipses, by means of the trammel, as pointed out in the earlier part of this subject. The mode of obtaining the lengths of the major axes of the inner and outer ellipses are shewn by dotted lines drawn parallel to $i \lambda$, the width from the central line to the point *l* being made equal to half the width of the hard-rail. The bevel from the point *g* shews the angle of obliquity at which the side-moulds are placed in their positions on the opposite sides of the jointing-box.

jointing-box. Fig. 18 shews the mode of forming the jointing-box. Fig. 18 shews the mode of forming the jointing-box. The block of wood, R S, in fig. 14, is here shewn on its back edge, and the sides of the box, which are curved to the contour of the side-moulds, as obtained by fig. 17, are shewn in ledgement on each side of the back of the block. This block is first formed of material planed true and adjusted to a thickness nearly the same as the thickness of the plank out of which the rail is cut; having squared the sides and edges of the block, mark off the points R and S on the line in the centre of the back face corresponding exactly with the point x, on the same line from this point x, square over and draw the lines x y and x y on each side of the block; with the bevel marked p q in fig. 15 adjust the end across the plank at the other end of the rail, as shewn by the line .S, taking care in bevelling the ends across the block that the length of the line R S, in fig. 14. Having thus adjusted the line R S, in fig. 14.

block in the manner here described, next proceed to fix the side-moulds on the faces of the block. In the line from gg on the back edge of the block, and in the point on the line R S, as drawn upon this edge, let the bevel of the line A E and B E be taken and applied to the edge of the block, as shewn in fig. 18, we have thereby the obliquity at which the sidemoulds are to be placed, as shewn by the points $a^{c}a$, from which draw the lines ag and ag, on both surfaces of the block; having done this, take the side-mould, as shewn by fig. 17; in applying which to the sides of the block, let the line aq on the side-mould be placed to correspond with the lines ag, as already marked off on the sides of the block; and the superfluous ends cut off and planed clean and true to bevelled ends of the block, as already obtained. and the ininting-block

bevelled ends of the block, as already obtained, and the jointing-block is complete. The face-mould in fig. 14 is applied to the plank (out of which the rail is cut), on both sides of the plank directly opposite or square to each other, and the solid is cut out without any obliquity whatever; a slight allowance is made at the ends of the solid material, so as to allow for the slight bevel required in the joint. Having cut the solid out of the plank, next place it in the jointing-box, apply to the sides of the box a pair of hand-screws, and adjust the solid, so as to agree with the average line of the curved edges of the side-mould; upon the side of the jointing-box, next proceed to adjust the inner surface of the hand-rail by means of a hollowing plane adapted to the horizontal curve of the rail, and shut the ends of each joint as in a common mitre block. Having then the inner vertical surface of the rail, and the height of the back of the handrail at each end in the centre of the solid, and also an intermediate height between these two ends, the twists of the rail may be joined to gether, and finished with ease.



Figs. 20 and 21 shew the quantity of material required in the formation of the twisted part of a bandrail, for a 3-inch well-hole with seven winders, according to the theory laid down by a former writer on this subject. Figs. 22 and 23, shew the comparative quantity of material required for the same

portion of the hand-rail, by adopting the mode we have been endeavouring to describe; the thickness of plank being the same in both cases.

The saving arising not only in the economy of material, but also in the diminution of the amount of labour, is too obvious to require comment. GEORGE RIDLEY.

THE DRAINAGE OF THE ANCHOLME LEVEL.

At the last meeting of the Institution of Civil Engineers, March 18th, a paper by Sir John Rennie on the drainage of the Ancholme level, Lincolnshire, was read. It commenced by describing the position of the Ancholme level, which consists of a low tract of land of about 200,000 acres in extent, situated on the south side of the river Humber, about 10 miles below its junction with the river Trent. The rives Ancholme runs through the centre of this level, and with its tributary streams, empties itself into the Humber at the village of Ferraby. The alluvial matter brought down by these streams formed a bar at the junction of the Ancholme with the Humber, which by preventing the discharge of the drainage waters, caused the level to be inundated with water, rendering this part of the land totally unfit for tillage. The paper then, after entering into great historical detail as to the works which

were executed at various periods from the time of the Romans, to render this tract of land available for agricultural purposes, stated that in the year 1801 the late Mr. Rennie being applied to for his opinion as to the best plan for improving and completing the drainage and navigation of the level, reported that he attributed its defective drainage to the deficient capacity of the Ancholme and the subsidiary drains to carry off the floods, to the cill of the old Ferraby sluice having been laid too high, and to there not being any catch-water drains to prevent the floods from the adjacent high lands descending into the level. As a remedy for these evils, he recommended that the main river, Ancholme, should be still further improved, by straightening, deepening, and enlarging its channel; and that two new locks should be placed upon it; also that, with a view to preventing the floods from the highlands inundating the level, two catch-water drains should be made, one on the east side, and the other on the west side of the river Ancholme,

THE IRON TRADE.

THE iron trade still continues remarkably active, and notwithstanding the recent ad-vances, it is confidently expected that the prices will rise still higher before the close of the month. Speculators are turning their attention to Welch pigs, which have not ad-vanced in ratio to that of Scotch. Welch pig is 61, 10s.: and the latest accounts from Wales, Staffordshire, and Scotland advise of further advances of 5s. per ton upon pigs, and from 10s. to 20s. per ton upon bars, rods, hoops, and sheets. Staffordshire iron of every description is particularly rising, and has within the last week again advanced 203. per ton, making a total increase of 41. per ton on last October prices. 51. 10s. is offered for Scotch pig, but few sellers are to be found; 61. is demanded. Bars have advanced, and are now selling at from 9/. 10s. to 10/. per ton; plates at from 13/. to 13/. 10s.

It may be a matter of some interest in the present state of the trade to know the probable supply and consumption for the current year. For this purpose the following table has been drawn up with much labour, assisted by practical men :-

Estimated Consumption for 1845. 2,000 miles of railways, to be made in 1845 and 1846—say, half in 1845 contracted for—

1,000 miles of railway, 250 tons per mile 250,000

- 50,000
- Add loss in manufacture, 5 per cent...
- Iron required for railways in progress, and passed in 1844 150.000
- Iron for waggons, stations, engines, tanks, &c., computed from inspection of railway companies accounts, that each mile of railway requires 300 tons per mile above the weight of permanent rails and chairs—1,000 miles will then
- 300,000 give port in 1844, 460,000 tons—say, from E the increase of railways abroad, and the remission of duties on iron by some of the continental states, it will be.... 500,000
- eneral consumption of iron in Great Britain (exclusive of railways), in bar-G
- iron, castings, water and gas pipes, in steam-engines, and the whole hard-ware of the country..... 480,000

Total Tons 1,803,500

70.000

3,500

The following estimated supply for the same period is based upon the amount actually pro-duced in Great Britain in 1844, to which is added a probable increase, induced by the high prices of the present year.

Pig-iron produced in England and Wales in 1844..... Tons 856,000

in 1844..... Ton Iron produced in Scotland, 1844..... 354,000

Total for Great Britain, 1844.. 1,210,000 Add for increase induced by high prices in 1845 120,000

Total for 1845 Tons 1,330,000

If this statement approaches the truth, there will be a deficiency of nearly 500,000 tons of iron, which must cause the suspension of many great public works. It is possible that from extraordinary exertions a greater quantity may be produced than 1,330,000 tons, but it cannot be materially greater.

NEW CHURCHES, &c .- The Society for promoting the enlargement, building, and repairing of Churches and Chapels, decided last week that grants should be voted towards the erection of new churches at Andershaw and Droylsden, near Manchester; Quarry and Droyisden, near Manchester; Quarry Bank, near Stourbridge; Warmley, near Bristol; West Fordington, near Dorchester; and Wooden Box, near Ashby-de-la-Zouch. Grants of money were also made towards obtaining an increase of accommodation, either by an extension of the building or a reby an extension of the building, or a re-arrangement of the seats, &c., in the parish churches of Whitechapel, Sedgehill, near Shaftesbury; Horningheath, near Bury St. Edmund's; Rudbarton, near Haverfordwest; Colmere, near Alton; Lindfield, near Cuckfield; Osmington, near Aylescombe Regis; and Rudgwick, near Horsham.

LIST OF NEW PATENTS RELATING TO ARCHITECTURE, ENGINEERING, &., GRANTED FOR ENGLAND.

urnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-Inn Fields. [SIX MONTHS FOR ENROLMENT.]

William Snoxell, of the Quadrant, blind manufacturer, for improvements in roller-blinds

and shutters, or this involution in rober of hinds and shutters. February 4. John Seaward, of the Canal Works, Poplar, engineer, for certain improvements in steam propelling machinery. February 5. Darius Isaac Green, of Villiers-street, Strand,

raising and moving heavy bodies, parts of which are applicable, amongst other uses, to

mines, vessels, and public works. February 8. Robert Bewick Longridge, of Bedlington tron Works, Morpeth, Northumberland, for an improved locomotive engine. February 10. Frederick Herbert Maberly, of Stowmarket, Suffolk, clerk, master of arts, for certain im-

provements in machinery or the apparatus for stopping or retarding railway or other carriages; applicable also for these purposes in regard to other engines or wheels. February 10.

. Thomas Truman, of Cromwell Lodge, Brompton, gentleman, for an apparatus, being an improvement for filtering and purifying February 10. water.

Richard Haworth, of Bury, Lancaster, engineer, for certain improvements in steam-engines. February 10. William Irving, of Regent street, Lambeth,

engineer, for improvements in the construction of apparatus for cutting ornamental forms, beads, recesses, and mouldings, in wood, stone, and other materials. February 10. Oglethorpe Wakelin Barratt, of Birming-ham, experimental chemist, for certain im-

provements in the manufacture of acids, and in treating the noxious vapours or gases given off from chimneys and from chemical and other works. February 10.

Joseph Quick, of Sumner-street, Southwark, in the county of Surrey, engineer, for an im-

provement in steam-engines. February 10. Thomas Brown Jordan, of Cottage-road, Pim-lico, mathematical divider, for improvements in machinery and apparatus for improvements ing, and engraving. February 17. James Graham, of Calvert-street, Middlesex, metal-refiner, for improvements in the manu-

facture of zinc, antimony, and brass, and in casting brass, and an apparatus for making

pots used in such processes. February 17. Samuel Hall, of King's-arms-yard, Coleman-street, for improvements in steam-engines, boilers, furnaces, and flues, in consuming fuel, preventing smoke, and in propelling vessels. February 20. James Murdoch, of Staple-inn, for certain

improvements in the manufacture of gas, and in the apparatus employed therein. February 20.

John Bottom, of St. Phillips-road, Sheffield,

machinist, for certain improvements in car-penters' stocks and braces. February 20. John Baptiste Vallure, of Oxenden-street, civil-engineer, for improvements in lamps and wicks. February 24.

REAL PROPERTY .- A return has been obtained by order of Parliament, on the motion of Mr. Villiers, shewing the total annual value of Mr. Villiers, shewing the total annual value of real property in each county of England and Wales assessed to the property and income-tax for the year ending April, 1843, distin-guishing that on land, houses, tithes, manors, fines, quarries, mines, ironworks, fisheries, canals, railways, &c. It hence appears that in England and Wales alone the grand total annual value of real assessed property amounts to the appears sum of 85 802 7351 thus subannual value of real assessed property amounts to the enormous sum of 85,802,735*l*, thus sub-divided, viz.,—lands, 40,167,088*l*. (or nearly one-half); houses, 35,556,399*l*.; tithes, 1,960,330*l*.; manors, 152,216*l*.; fines, 319,140*l*.; quarries, 207,009*l*.; mines, 1,903,794*l*.; iron works, 412,022*l*.; fisheries, 11,104*l*.; canals, 1,229,202*l*.; and railways, 2,417,609; other property not comprised in the foregoing, 1,466,815*l*. A similar return as to Scotland gives a grand total of 9,481,762*l*., viz.,—lands, 5,586,527*l*.; houses, 2,919,338*l*.; fines, 901*l*.; quarries, 33,474*l*.; mines, 177,592*l*.; iron works, 147,412*l*.; fisheries, 47,809*l*.; canals, 77,891*l*; and railways, 181,333*l*. The other property not included in the foregoing details property not included in the foregoing details amounts to 309,4804.

with separate and independent sluices at their with separate and independent succes at their junction with the Humber, by which means all the highland and lowland waters would be separated, and each body of water would thus be effectually discharged into the Humber without interfering with the other. The catch-water drains involved an important and novel principle, for in his opinion by the old Dutch method of simply cutting a series of straight drains to some convenient point, for discharging their water, the highland and lowland charging their water, the highland and lowland waters were mixed together, and the highland waters coming from a higher level with a greater velocity down upon the lowlands forced their way first to the outfall. The less rapid waters of the lowlands were thus kept back and were left to stagnate, the sluices being unable to discharge the whole body of water during the time when the tide with the Humber permitted the sluice doors to be opened, and it was thus impossible that the level could be drained; but by separating the bighland from the lowland waters, each body of water could be effectually discharged by an independent sluice. These catch-water drains would answer all the important purposes of frrigation during dry seasons, and for navigation.

The plans, which were also at the same period being beneficially carried into effect by Mr. Rennie, and on a more extensive scale, in the east and west and Wildmore Fens, near Boston, and also on the Witham, near Lincoln, were partially executed, but the works not being completed, and, for want of funds, not being subsequently kept in repair, the drainage was found very insufficient, and at length Sir John Rennie was called in to complete the system. He proposed that the plans of his father should be carried out, that the Ancholme should be further improved, and a new sluice made at Ferraby, with a cill placed at a lower level, and new bridges made throughout the line; also, that an overfall and weir should be constructed, with a large reservoir to catch the sand, which was brought by floods from the surrounding hills, and had previously blocked up the main and lateral drains. Minor weirs and reservoirs were also recommended for the smaller drains and works where they united with the level. These works having been executed, the effect was that the drainage was rendered complete and effective, and the district was converted into a tract of fine arable and. Subsequently another shuice was con-structed below Ferraby with its cill 2 feet below the low-water mark of extra springtides in the Humber. This sluice, which had three openings of 18 feet each in width, with draw-doors and self-acting gates, was perfect in its effect, discharging above four times the quantity of water in the same time that had been previously accomplished. The whole of these works were completed

by Sir John Rennie 43 years after Mr. Rennie's report, and 556 years after a regular system of drainage had commenced, and the district was freed from water without the aid of mechanical power, thus establish-ing what was contended to be the surest prin**ciple of draina**ge, the separating of the highland from the lowland waters by catch-water drains, and discharging them, independently of each other, by their several outfalls.

In an interesting discussion which ensued, the correctness of the principle was fully admitted, and it was shewn that by selecting proper localities for the outfalls, and by placing the cills of the sluices below low-water mark of spring-tides, there were not any fen districts in the kingdom that could not be drained without mechanical aid.

REMOVAL OF THE WESTMINSTER LAW COURTS.-Mr. Charles Buller has entered upon the books of the House of Commons a notice of his intention, "after Easter, to ask Courts from Westminster." New Church in Peter-street, West-

MINSTER .- A most liberal subscription has been entered into towards defraying the ex-penses incident to the erection of this church. The estimated cost of the site, including the site of a glebe house adjoining the church, is nearly 4,000!. The estimated cost of the church, which is to contain 1,200 sittings, is 6,000!. The contributions already obtained amount to 7,980!. 10s. The amount still required is 1,420!.

PARTY-WALLS, &c. – JURISDICTION OF OFFICIAL REFEREES.

SIR,-I regret that (having taken up the subject) I feel compelled to depart from my intention, expressed in your journal of the 15th instant, by discussing the question in a more extended form than I had contemplated. The cases placed in my hands, and the communication that I have had with the official referees, have induced an impression of what the powers intrusted to them and the district surveyors were by the Act intended to be; viz. that the district surveyors, as the appointed public officers, are bound in respect of their prescribed fee to advise parties about to commence operations within the control of the Act as to the mode to be pursued. This has been denied as the duty of the district surveyor, but assuming such to be his rational duty, I then hold in case of difference, arising from non-compliance with his instructions, the referees are an appellant court, intrusted with large powers to meet the difficulties of each case so brought before them; or in cases where the authority of the district surveyor has been set at naught; and it must be borne in mind that the express words of the Act thus clothing them with with equitable powers, is clear and distinct in the in-tention to afford relief to the public by ameliorating and accommodating clauses, that would otherwise, taken in the strict letter, press hardly upon an individual. This opinion agrees with that of the sensible letter of your cor-respondent "Fairplay," in your journal of the 15th instant: it cannot be expected that every explicit upon agrees applicant upon any crotchet is to expect a decision. And I am free to confess that the standing and respect obtained with their professional brethren would induce the belief that, in the course I have assumed, broad and substantial justice would be done by the official referees, as practical men, deciding upon points peculiarly within their province. My ground of complaint is, that they have departed from such a principle, and, as respects operations in progress before the 1st January, have issued their decision as to the interpretation to be put upon certain permissive clauses. Whatever their authority may be as to the necessity of a hearing before them for any matter in difference arising after the 1st of January (and I am disposed to believe as a preliminary step such a bearing is necessary), I am inclined, with all deference, to deny their power of interpreting clauses relating to matters in progress before such period. The Act is a public one, and I contend that it is competent to myself and my professional brethren to read it, and, upon our conviction of such reading, to advise our employers where it interferes with no appointed dutics of the referees.

It will be perceived from my letters in your journal, commencing 8th February, that I am at issue with the referees upon every point in their circular to the district surveyors. Upon some of these points I have obtained counsel's opinion which fully confirms my views. I have also obtained copies of awards from the records of the office, which, in my opinion, are at direct variance with the provisions of the Act. And in one award upon the question of commencement, which had pro-gressed to a height of 6 feet (although by a plan attached to the award, as made by an ar-chitect expressly sent down by the referees, it is erroneously stated as being only 4 feet high), such "commencement" is condemned, and the party having so commenced, paid 151. 11s. 8d. for the award. I am of opinion the award is insufficient for uncertainty, and if the party proceeds, another hearing at a similar cost must inevitably take place : it respects a question of which I have now many cases before me, except that these cases are still stronger, inasmuch as they are buildings of con-siderable extent, the walls erected, joists laid, breastsummers and story-posts up, and were completely roofed in last year. I was disposed to treat the notice as in error, or that it applied merely to the putting up the pilasters and entablature as coming within the operation of the Act, but such a vision was soon dispersed; upon writing to the district surveyor for full

THE BUILDER.

the statute, since it projects 7 or 8 feet from the face of a wall (see schedule E, paragraph 6)," it is also stated that it "is part of a projection added to a certain building 'already built' on a certain face of an external wall thereof exa certain face of an external wall infered ex-tending beyond the general line of the front of the houses." All this is admitted, but it was completed in carcases last year, and claimed to be finished (under the term "already built," sec. 2) fit for occupation before January, 1846. The perversion of the term "already built" in the case referred to as having been decided upon is more specifias having been decided upon, is more specifically defined by the referees as to be found in sec. 5. It must be recollected that sec. 1 merely declares the object of the Act, sec. 2 what is exempted and what is to be included in the future operation of the enactive clauses. Amongst which, sec. 5 declares that " the enlarging and altering of all buildings, so far as relates to building the same, and with regard to every such building either *already* or here-after built," are to be controlled by the various enactments and schedules, and then says, "subject nevertheless to any rules and direc tions in this Act contained in the same behalf." How men of intelligence can so misread plain language, I am at a loss to imagine, the per-missive sec. 2 clearly takes all works "com-menced before the 1st of January" out of the operation of the Act. The decision of the referees, however, is, that these are "additions and alterations to a building already built," they are buildings erected before 1st January, over which no law then had any control; but imagining any shadow of plausibility of setting up such a position, I fall back upon permissive sec. 2, and quote from sec. 5, "subject, nevertheless, to any rules and directions in this Act contained in the same behalf." In a case reported as heard at Greenwich before Mr. Jeremy, the magistrate, he stated, "He must take the clauses in their literal interpretation, he knew nothing about the intention of the legislature. As to the 5th being the primary clause on the subject, it was a bundle of absurdities and full of incomprehensibility. There was no less than three exceptions embraced in one proviso as an instance.

Further details and extracts from the award I shall be better prepared to lay before your readers in a subsequent letter. And I am anxious to draw further attention to the question of party-walls and intermixed property, as commenced in my letter, in your number for March 8th, being the only matter that can affect the interests of two parties. In the case alluded to, I feel I have much personal ground of complaint in the mode pursued, and if persevered in, it will be of serious and costly damage to parties so circumstanced. It must be recollected my charge of illegal proceedings, as stated in my letter to the referees, was upon the ground that no consent had been asked for, and that we were con-senting parties. I have since obtained the facts from the surveyor of the "building owner," thus :--He had copied from a form of notice in the Act, and waited on the district surveyor to know what course he should pursue, being merely desirous of legally putting himself in communication with us. The district surveyor told him a written notice would not suffice (although a verbatim copy of the form prescribed); he must get a printed form, and also serve two on the official referees; thus moving their office before, by sec. 20, consent of the "adjoining owner" had been sought, as before stated. When the district surveyor attended, neither of the surveyors surveyor attended, neither of the surveyors took any part in the matter; the district sur-veyor proceeded with his survey, and we shortly received copies of his plan and statement, condemning the whole matter in question. I wrote to the referees and " building owner," as set out in your number for March 8th, stating we were consenting parties, and that the pro-ceedings were altogether wrong. I was heard upon my allegations, but no decision given, but a power of appeal within seven days from receipt of the district surveyor's report; before, however, the expiration of this period, we received a summons to attend in Trafalgarsquare for a confirmation by the referees of the district surveyor's report. We had intended to, and did appeal, stating our grounds not be obtained, and that appear, stating on ground and not be obtained, and that the plan of the district surveyor was seriously erroneous; he had shewn the whole as one wall, whereas

with the simple means in the index of the simple means in the simple means in the source of the sour

In obedience to the summons, all parties attended in Trafalgar-square, when we were told there was no meeting, in consequence of the appeal, the period for such appeal not having expired when the meeting for confirmation was appointed. We then (instead of being heard upon the merits of our appeal) received a notice that one of the official referees on an appointed day would meet all the parties himself to view the premises. As we meant nothing warlike, all parties began to be seriously alarmed, and without loss of time we concluded a negotiation for purchase, which had been nearly effected the first day we met, during the time the district surveyor was amusing himself (certainly not for our benefit) by taking a plan of the premises. We immediately drew up and forwarded a joint memorial, intreating proceedings might be stayed, which was attended to. Who is to pay the large costs that must have been incurred I know not. We protested against the legality of the proceedings, and the "building owner," against his wiehes, was directed in the course pursued by the district surveyor. Being fearful I should get no decision upon my personal allegations of irregularity in the proceedings, I wrote and received an answer, and have since, at a cost of 4/. 3s. 8d., taken up the award. It may be well to mention that the necessity of endeavouring, as a preliminary step, to obtain consent, is recognized in Trafalgar-square, where in the table of fees, under the head "consents," it is thus stated:—" 14. For every application for consent to be given on behalf of absent, unknown, or incapacitated parties; and, if inquiry be involved, such further fees as are payable on an award, 5s. 15. For every confirmation of the sur-

15. For every confirmation of the surveyor's certificate as to works to which the adjoining owner does not consent (sec. 24), 11. 1s."

All the mass of papers received in the matter are headed "party-wall, party-arch, or party fence-wall in the absence of consent by the adjoining owner."

Having already trespassed to so great a length on your columns, I must defer setting out the details of the award—merely stating no heed has been paid to the ground of complaint. I am awarded to pay the 4*l*. 3*s*. 8*d*. and 1*l*. 1*s*. to the district surveyor, which I shall most decidedly resist, and take counsel's opinion whether I cannot recover 4*l*. 3*s*. 8*d*. of the district surveyor for his wrong-doing in the matter.

GREENWAY ROBINS.

SEWERS IN LIVERPOOL.—The Commissioners of Paving, &c., have just determined upon constructing in the north district of the town sewers, 3,585 yards in length, the estimated cost of which, including branches, is 5,736*l*.; and in the south district, 3,665 yards, at the estimated cost of 5,864*l*. The quantity finished in the north district, under the contracts of 1844, is 2,559 yards main sewers, exclusive of 475 yards of branches, at a cost of about 3,958*l*. In the south district the quantity finished is 3,130¹/₄ yards main sewers, exclusive of 530¹/₄ yards of branches, at a cost of about 4,928*l*.

FATAL ACCIDENT THEOUGH THE GIVING WAY OF A FLOOB....On the 17th instant an accident of the most appalling nature occurred at the Female Penitentiary, Holloway-street, Exeter. Twenty-one of the inmates had retired for a short time to a small room but little frequented, for the purpose of allowing the committee to inspect the spartment they usually occupied, when the floor of the room instantly gave way, and twenty of the unfortunates were immersed in the pestilential contents of an ancient cess-pit underneath; the other supporting herself on a part of the floor still remaining. The cries and appeals for assistance soon brought to their aid the committee, who succeeded in releasing the woman sustaining herself on the broken part of the floor from her perilous situation, and dragging the others from the pit. In five of these, however, we regret to say, life was extinct. The other fifteen were bruised and very ill, but under proper care are now recovering.

THE BUILDER.

Correspondence.

PORTLAND CEMENT.

SIR.-The basins in Trafalgar-square have been repaired with Roman cement: can you assign the reason they have not been repaired with Portland cement, that being the material the bottoms are laid with? If Portland cement is so superior to all other cements, how is it that they are not repaired with the same?

As this may tend to lower the estimation in which Portland cement is held, it would be well to learn the reason.—I am, Sir, &c. Kensington. A PLASTERER. Kensington.

MANUFACTURE OF BRICKS.

Sin,-If your correspondent "Mr. Lock-ood " will inform us, young brickmakers, 1st. wood What are the proper quantities of each material contained in a brick of the best quality? Does it consist of one-third sand, one-third chalk, and one-third clay; or what? 2nd. How it may be known that the materials are properly mingled together? 3rd. The mode of packing them in the kiln so as to obtain the best result? then, I think, the art of brickmaking will be benefited by his labours. Will he also tell us what may be said in favour of mixing the ash with the clay at the commencement of the winter; whether by so doing the materials would become better amalgamated, or whether an objection would exist in the ash losing a portion of its burning quality.- I am, Sir, &c., AN EABLY SUBSCRIBER.

SIB,—I have been expecting some of your numerous correspondents would have replied to the query of "An Early Subscriber," in No. 105 of your valuable publication, who "is anxious to have an analysis of a good brick, shewing the exact proportion of each material used in its composition." I should also wish to see added to it, the nature of the compound for giving bricks or tiles a durable brown colour, and the manner of laying it on, which I believe is done before burning.

I am glad to see from your last number, the Royal Institute of British Architects have offered a premium for information on this important building material.—I am, Sir, &c., P. T. Isle of Wight.

BRITISH ARCHEOLOGICAL ASSOCIATION. SIR,-Would you or some of your numerous

correspondents have the goodness to inform me, through the medium of the pages of THE BUILDER, of the simple question at issue be-tween the contending parties in the "British Archæological Society." As a member, 1 have been addressed by the supporters of each di vision, and from the apparently conflicting and almost confused statements made by each, am somewhat at a loss to understand the real merits of the respecsive claimants for my sup-port, and consequently (if there is to be a division) to which party to attach myself.

The neutrality which you, Mr. Editor, have hitherto maintained I highly approve, but think that the matter is now assuming such a decided form, that you can with much advantage to both parties, and with real benefit to the cause of archæology, step forth, in order to explain the real position of the whole case. I may also add, that your acknowledged firmness in the discussion of all matters brought before your notice will add much weight to any remarks you may make .-- Your insertion of this will much oblige your constant reader, ARCH#OLOGICUS.

. [We will endeavour to comply with our correspondent's request next week. We de-sired to see the wound healed, not opened, and so have been silent .--- Eo.]

THE PORTLAND VASE .- We are glad to be able to state, that this valuable example of ancient art has been successfully restored and will shortly be re-exhibited to the public

-The VACANT DISTRICT SURVEYORSHIP.death of Mr. Mayhew has created a vacancy in the parish of St. James, Westminster. Mr. Charles Mayhew is a candidate for the office, and as it is known that for several years, past he assisted his father in the duties of the office, it is to be hoped he will be unopposed by his professional brethren.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, & c., are to be addressed. For the convenience of our realers however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the supply of Rails and Chairs for the Eastern Counties Railway. March 31.

For the erection of a new Workhouse at Stratton, St. Margaret, about Midway between Swindon and Highworth, Wiltshire. April 2. For certain repairs to Snake Bridge (over the

River Alde), Suffolk. April 2. For certain repairs to be done to the Church of

St. James, Braithwell, Yorkshire. April 2. For Lighting Camden-town, St. Pancras, with coal-gas for five years, from the 24th of June next. April 3.

For the erection of a Church in the parish of St. Thomas, Winchester. April 5. For cutting, forming, and completing a new line

of Private Carriage-road, one mile in length, from Whitehaven Castle, Cumberland, the seat of the Earl of Lonsdale, to the Turnpike-road, between Bransty toll-bar and Lonsdale-place, near the town

Bransty toll-oar and Longuage-place, and of Whitehaven. April 7. For constructing the fourth division of the Great Southern and Western Railway. April 8. For about 250,000 Railway Sleepers not less than for about 250,000 Railway Sleepers not less than

9 feet long, for the Chester and Holyhead Railway. April 9.

For erecting at Alreaford, Hants, between five and six thousand feet superficial of new Brickwork, to be either neat flat, joint-pointed with white mortar, or neatly tuck-pointed. The parties to find labour and the erection of scaffolding only. April 10.

For paving and repairing the foot-ways and carriage-way pavements of the parish of St. Clement Danes, for one year from Michaelmas next. April 10. For the restoration of the Parish Church of

Grays Thurrock, Essex. April 12. For submitting a plan of a Tread-wheel, and con-

structing the same in the Common Gaol of Great Yarmouth, Norfolk. April 24.

For all the Works to be done in the erection and completion of the new cast-iron Bridge over the Haven of Great Yarmouth, including the finding of labour, certain materials, &c. April 26.

For the construction of the third and fourth divisions of the Chester and Holyhead Railway. April 28.

For the supply of 11,000 feet of 9-inch cast-iron

For the supply of 11,000 feet of 9-inch cast-iron Pipes for a new line of Aqueduct in the Island of Malta. April 30. For laying out the Grounds of the Victoria-park Cemetery, and for draining the same, making the roads, paths, and finding all necessary trees, shrubs, materials, &c.

COMPETITIONS.

Plans, &c., for the erection of a Commercial Middle School in connection with the committee of the Manchester Church Education Society. Plans and Estimates for a House of Assembly for

the Diet of Hungary. December 1.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

March 31 .- At 7, Store-street, Bedford-square : everal thousand Yellow Deals, Pine and Spruce itto, Battens, Planks, and Boards, Ash Felloes ditto, and Planks, and other seasoned Wood.

March 31.—At Down Hall, Bradwell, Essex; 310 Oak Timber Trees, standing with Top, Lop, and Bark; 213 Ash, 157 Elm, and 78 Beech Trees

March 31.-In the Plantation adjoining Great Chiverell Common, Wiltshire: 3,000 Fir Poles, chiefly Spruce, with a few Lots of Larch. The Poles are large, and of superior quality.

roles are large, and of superior quality. The last week in March, or the first week in April next.—A large quantity of Oak and Elm Timber, of superior quality and large dimensions, principally growing in the woods on the Orchard-leigh Estate, near Frome, Somerset. Bu Pringle Contract heafore the left of Amril

By Private Contract, before the 1st of April By Private Contract, before the 1st of April next.-287 Oak Trees, of full growth and large dimensions, suitable for all purposes, now standing at Woodside, hear Morland, Westmoreland.

April 1.—At Chelmsford, Essex; a very valua-ble, extensive, and well-assorted stock of Dry Wood in great variety, comprising fine Spanish and Honduras Mahogany, mostly cut between six and seven years; particulaly fine Zebra Wood, English Oak, Pencil Ceder, Birch, Beech, Elm, Rosewood, &c.

April 1.—At Gifford's Hall, Stoke by Nayland, Suffolk: 40 Oak Timber Trees and Standels; 100 Ash Timber Trees and Standels; 45 Elm Timber Trees; 34 Cherries; 20 Poplars, Firs, and Beeches.

April 2.-At the Golden Lion Inn, Ashburton, Devonshire: 1,022 Oak, and 103 Ash Trees. The Oak Timber is of very long lengths, large

dimensions, and superior quality. April 2.—At the Feoffee's Room, Bond's Hos-pital, Coventry: 144 Oak Trees, 86 Oak Poles, and 22 Cyphers, now growing in Birchley Heyes Wood Old Wilkengter

Wood, Old Fillougley. April 3.—At Whitley, near Baythorne End, Suffolk: a large quantity of Fir Timber. April 5.—At Bower Hall, Steeple Bumpstead,

April 5.—At Bower Hall, Steeple Bumpstead, Essex: 400 Fir, Oak, and Elm Trees. April 8.—At the Spulk House, in Dean Forest, Gloucestershire, by order of the Commissioners of her Majesty's Woods and Forests: 319 Oak Timber Trees.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, March 31.-British Architects, 16, Grosvenor-street, 8 P.M.; Chemical (Society of Arts), Adelphi, 8 P.M. (Anniversary Meeting); Medical, Bolt-court, Fleet-street, 8 P.M.

TUESDAY, April 1. — Linnæum, Soho-square, 8 p.M.; Horticultural, 21, Regent-street, 3 p.M.; Civil Engineers, 25, Great George-street, 8 P.M.

WEDNESDAY, 2.—Society of Arts, Adelphi, 8 P.M.; Geological, Somerset-house, 81 P.M.

THURSDAY, 3. — Royal, Somerset-house, 8 P.M.; Anliquaries, Somerset-house, 8 P.M.

FRIDAY, 4. - Royal Institution, Albermarle street, 81 P.M; Botanical, 20, Bedford-street, Covent-garden, 8 P.M.

SATURDAY, 5. — Asiatic, 14, Grafton-street, 2 P.M.; Westminster Medical, 32, Sackville-street, 8 P.M.

TO CORRESPONDENTS.

"A Subscriber from No. I." wishes to know the best place to obtain a communion cloth and carpet, kneeling cushions, &c. for a new chapel.

"Brewer's Coolers."-A correspondent wishes to be told the best method of making large coolers for a brewery, say from 30 to 40 feet long; the size of joists; thickness required for the floor; and the best and most effectual means of finishing them.

"A Constant Reader."—Cottingham's "Henry the Seventh's Chapel." Howard, 33, Gray's-Inn-

"Another Competitor " (Sackville-street) may see that the information he sends was in our last number.

"G. S." (Tenterden), who asks " a remedy for preventing damp affecting the paper of rooms the walls of which are rendered or plastered on the brickwork," should learn the cause of the damp: does it rise from the bottom or drive through fr the back.

A Subscriber " wishes to know where and at what price genuine Indian ink can be procured, believing that much which is sold by artists' colourmen is spurious. "W. J. S." is than

colourmen is spurious. "W. J. S." is thanked for his information. "Architectural Drawing Schools."—Mr. W. J. Lea, of 13, Ebury-street, Eaton-square, states, in reply to inquiries in our journal, that he has con-ducted an architectural drawing school for several years past, and will give particulars to any who apply. Mr. F. Mulholland, 8, Great College-street, Westminster, also gives instruction. "E. B." (Dublin)— The machine mentioned may be obtained at Messrs. Ackerman's, Reeve's, and Co.; Winsor and Newton's; or Newman's.

Soho-square : price one guinea and upwards. "W. H. P." is thanked : a copy has been sent to Earls-terrace. A notice of the progress of the works at Cologne Cathedral, present state of the churches, &c. there, will be acceptable. "Holloway New Chapel."—"W. J." and all

correspondents who favour us with their names in confidence, may feel assured that it will not be

betrayed. "J. L." (Lille).—We shall be glad to receive items of information.

"Williams's Patent Slate Ridge " shall be described next week.

escribed next week. "F. M." and "E. M." (Pimlico) next week. "W. R."—The model has been received: we

w. R. — Ine model has been received: we have not yet examined it. "N."—Asphalted Felt does not seem to be allowable for roofs under the Buildings Act. (Schedule G.)

"Herne Hill Church."-Having given a statement from each of the parties at issue, we did not propose to carry the subject further in our pages. We will, however, reconsider the various letters which have been addressed to us upon it.

"W. G. Oxford."-In parts or numbers as

may be desired. Received.—" Additional facts, having reference to Grave Yard Management."

THE BUILDER.

advertisements.

TO BUILDERS AND CARPENTERS. - IRON-MONGERY AT WOLVERHAMPTON PRICES. CLUSE and BOSE respectfully inform the Building Trade that they have opened a Ware-house at 35, CITY-ROAD (corner of Tabernacle-row, and near Old-street-road), for the purpose of supplying EVEBY DESCRIPTION OF IRONMONGERY at Wolverhampton prices.

prices. ELLIPTIC and REGISTER STOVES, KITCHEN RANGES, &c., lower than any other house in the trade. Lists of prices may be had at the Warehouse, or forwarded per post free.

ANGES, ac., jower than any other nouse in the trade. Lists of prices may be had at the Warchouse, or forwarded per post free. TO BUILDERS AND OTHERS. JAMES ELLIS, Brass Founder, 144, Houndsditch, London, Manufacturer of Pumps, Water-closeta, Cocka, &c. Sole Maker of Woodfield's Patent Water-closet, that requires neither Service Box, Ball Lever, Valve, Cranka, or whires, admirably adapted for situations where the Cistern cannot be fixed near the Closet. Any number of Closets can be supplied from the same Cistern. Brase Fittings for Slate Cisterna, Sinks, &c. ; Plumbing and Steam Work in its various branches; Gas Light Furni-ture Manufacturer and Fitter. Dever article warranted and supplied on the lowest terms for Cash. Experienced Workmen sent to any part of Town or Country on the shortest notice and most reasonable Terms. Pan Water-closet complete, 11. 108. CAUTION TO LOCK MAKERS, Concepts, &c.-I, THOMAS DAVIS, at present a prisoner confined in Warwick Gaol, upon an execution at the suit of Mesars. Charles Chubb and Son, of St. Pau's Churchyard, London, Patent Lock Manufacturers, for damages and costs recovered against me for such my offence, and the said Mesars. Chubb and Son awing, in consideration of the distressed state of my wife and family, by reason of my inprisonment, consented to my discharge, I do hereby delare that I have been justly imprisoned for such my offence, and the said Mesars. Chubb and Son having, in consideration of the distressed state of my wife and family, by reason of my inprisonment, consented to my discharge, I do hereby delare that I deeply regret having ever put their names on my locks, or having passed off locks of my make for articles of the sid Mesars. Chubb and Son having; Hornise that I will never again, under any circumstances, commit the same offence.-Dated 4th day of February, 1815. THOMAS DAVIS. Witness-Thomas Maycock, Turnky. The NULE DE S. CICOVES and FLD F LEDANS

Witness - Thomas Maycock, Turnkey.

FENDERS, STOVES, and FIRE-IRONS **FENDERS, STOVES, and FIRE-IRONS.** -The LABGEST ASNORTMENT of STOVES and FENDERS, as well as GENERAL IRONMONGERY, in the WORLD, is now on SALF as RIPPON and BURTON'S extensive warehouses, 39, Oxford-street, corner of Newman-street (just removed from Weils-street). Bright steel fenders, to 4 feet, from 30s. each; ditto ditto, with ormolu ornaments, from 60s.; rich brouzed aeroll ditto, with steel bar, 10s. 6d; ; iron finders, 5 feet, 4s. 6d; ; 4 feet, 6s.; ditto bronzed and fitted with standards, 3 feet, 9s.; 4 feet, 11s.; bright register stoves, with bronzed meants and two sets of bars, from 5 guineas, ditto ditto, with ormolu ornaments, from 91. 5s.; back dining room register stoves, 2 feet, 10s.; 3 feet, 30s.; bed-room register stoves, 2 feet, 10s.; 3 feet, 30s.; bed-room register stoves, 2 feet, 10s.; 1 fee, 30s.; bed-room from 81. 5s.; fire-irons for chambers, in 9d. per set; handsome ditto, with cut heads, 6s, 6d.; newest pattern, with elegant bronzed heads, 11s. A variety of fire-irons, with ormolu and richly-cut heads, at propor-tionate prices. Any article in furnishing ironmongery, 30 per cent. under any other house, while the extent and variety of the stock is without any equal. The money returned for every article not approved of.-Detailed cata-logues, with engravings, sent (per post) free. Established in Wells-street) 1820.

(In Wells-street) 1820. TO BUILDERS and Others.—A cheap substitute for high priced bricks, well worthy the attention of speculative gentlemen, and other capitalists who intend building this season. This article is stone, which may be worked with great advantage. It is in pieces from 3 to 5 inches in thickness, and averaging from 14 to 20 pounds in weight; it is about the same weight as bricks, and will be guaranteed per week, as it will come by rainty may be had from 100 to 200 tons per week; not more would be guaranteed per week, as it will come by rainty. A fair sample of 10 or 12 tons may be seen at the proprietor's at any time.—Address, JAMES PERREN, 1, Victoria-place, Surrey-square, Walworth.

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All communications for Money are considered strictly confidential. Letters pre-paid.

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TO BUILDERS, CARPENTERS, AND JOINERS.

TO BUILDERS, CARPENTERS, AND JOINERS. TO BUILDERS, CARPENTERS, AND JOINERS. TO LET, with possesion at Old Lady-day next, all those Extensive Premises situate in Fleet, near Holbasch, in the county of Lincoln, comprising commodious and newly-built Dwelling-house and Office, Carpenter's and Smith's Shop, Sawpit, Deal Sheds, Office and Stable, Large Yird, and well-planted Garden, now in the occupation of Mr. Robert Ellis, builder, by whom and his late father an ex-cellent business has been carried on for uwwards of half a century. For further particulars, apply to Mr. Ellis. Fleet, March 17, 1845.

Fleet, March 17, 1845. IMPORTANT TO INVENTORS AND PATENTEES. IMPORTANT TO INVENTORS AND PATENTEES. IMPORTANT TO INVENTORS AND PATENTEES. To parties taking Letters Patent, by Mr. J. WILSON, Engineer and Patent Agent. Every description of business relating to or connected with Patents, Registration of De-signs, Patent Agency, &c., conducted at his offices, 16, CHANCERY-LANE, opposite Carey-street. Negotiations entered into with paties wishing to dispace of or purchase patented or registered inventions. Every necessary infor-mation may be obtained at the offices as shove, where also may be had printed instructions (gratis), to which Mr. W. begs particularly to draw the attention of parties about to take out patents Mechanical drawings of every description, original designs for machinery, models, &c., executed with dispatch and economy.

economy.

HOLBORN AND FINSBURY SEWERS, MIDDLESEL. THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by presens about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. By the Court, STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Sobo-

nguare. NO BUILDERS and Others interested in

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by water-courses falling into the river Thames, between the city of London and the parish of Fulham. The Commissioners hereby give notice, that by an Act of the 47th Geo. 111. (chap. 7, local) it is required that, pre-viously to the making of any new sewer in any atreet, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry off or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their cirk at their office, and that such new sewer or sewers shall be directed by the said Commissioners, and not otherwise. And, in order to prevent the serious erils and inconveni-neces that must arise from ground proposed to be built upon being exravated at too great a depth, the Commissioners have directed that, upon ary lication being made as this office previous to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

be given as to the lowest depth at which the same can be drained. And the Commissioners do also give notice that, when-ever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any severs, or drains into severs, to be made for the service of such buildings. It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common severs, All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners ; and all such petitions will be called on in the order of their appli-cation, and the name of any party not present when called on to support the application will be struck out, and the pro-ceedings must in consequence be commenced de noro. All communications made with any sever without leave of the Commissioners, will be cut of, and the parties making the same will subject themselves to a fine. By order of the Court, LEWIS C. HERTSLET, Clerts.

WESTERN LIFE ASSURANCE SOCIETY, OFFICE, 49, PARLIAMENTSTREET, WESTMINSTER.

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SATURDAY, APRIL 5. 1845.



OR more than two years past a committee, appointed for the purpose of obtaining the restoration of the noble church of St. Mary Red-

cliffe, at Bristol, probably the finest parish church in England, have spared no pains to raise subscriptions, and to induce their fellow-citizens and the admirers of ecclesiastical architecture throughout the country, to assist them in the proposed undertaking.

From the estimates of the architects employed to survey the church, it appears that an outlay of 40,000% is required to complete the restoration; but, after mature deliberation, the committee were of opinion they might with perfect prudence commence the work when 7,0004. should be subscribed; and it was accordingly resolved, in January last, that when such a sum was obtained, plans and estimates should be submitted to a meeting of the subscribers for their approval.

After all the efforts made, however, only 5,400% have been raised; and expenses have been incurred which reduce the amount strictly applicable to the restoration to 4,600%. The committee found that the fabric was becoming daily worse and worse, and being anxious to induce the subscribers to allow the application of their subscriptions to the substantial repair of the fabric, a meeting was held on Friday, the 28th ult , when the Mayor, Mr. R. P. King, presided, and the following resolutions, amongst others, were carried unanimously :---

" That this meeting would see with deep regret the further decay, and perhaps irretrievable ruin, of St. Mary Redcliffe Church ; and as more extensive dilapidation can only be averted by the application of the present subscriptions to the work of repair, this meeting earnestly hopes that all the subscribers will consent to an immediate payment of the residue of their subscriptions-to be applied under the direction and control of the committee, according to the recommendation contained in their report; and that the committee be requested to make early application to each of the subscribers not now present, or otherwise consenting, for their permission to apply the balance of his subscription forthwith to the same purpose."

The mayor was most anxious to aid the views of the committee, and urged that it would be a national disgrace if the beautiful structure were allowed to go further into decay. They could hardly hope at present to see the steeple restored and the church made perfect, but substantial repairs they were bound to attend to; and he hoped the subscribers would permit the amount already raised to be applied forthwith for that purpose. Mr. W. L. Clarke, in moving the first resolution, said, although they could not effect their whole object, the subscribers who assented would have the satisfaction of handing down the church in good repair to the next generation, to receive then that complete restoration, which they themselves had desired to obtain, but unfortunately could not.

Mr. James Gibbs rejoiced that the committee had resolved to begin the work; but

deplored that, in a city of merchant-princes, whose revenues might be estimated not by

THE BUILDER.

thousands, but by hundreds of thousands, and even millions, there was any difficulty in raising the sum required. He trusted, however, as the work proceeded that additional aid would be given.

Mr. W. P. King saw no reason to despair of the ultimate restoration of their noble church; such works were not effected in one year or ten. The Cathedral of Cologne had been built bit by bit, and, in fact, had never been finished. But the present King of Prussia having interfered, a spirit had arisen, and in all Germany subscriptions were being raised for its completion. All the large cathedrals had taken many years in building, and the town of Wigan owed its name to the circumstance of such a building being so long in progress, that the expression of "We began " was so often used, that corrupted into Wigan, it became the name of the place. He thought they had only to begin, and they would go on progressing; their very scaffolding, and the knowledge that they were progressing with the work, would be their best advertisement, for they could not expect people to give large subscriptions to a work not yet begun; he did not fear but the youngest among them might live to see the restoration of that beautiful steeple, which had been thrown down by the thunder-storm.

Mr. Proctor felt himself unable to assign a reason for the want of funds. Here was a fine old church, admitted on all hands to be a credit to the city and nation at large, in the midst of a professedly Christian country, and surrounded by a population who were sending money all over the known world to build churches; yet that church was going to decay, and the means to prevent it could not be obtained. The amount already subscribed might appear large; but was not the object worthy of it? Large as it was, it was less than had been expended on one mile of railway within the vicinity of its walls. He could only assign as an excuse, that persons did not believe the church was in so dilapidated a state as was stated; but he assured them they would find it so. In many parts it was so dangerous, that it ought not to be approached; many of the pinnacles were tottering, and large pieces of stone were constantly falling; and the roof over the chancel was in so bad a state, as to deter any person from proceeding along it. The time was come to decide whether Redcliffe Church should exist a proof of their fidelity to the trust deputed to them by their fathers, or a monument of the neglect and parsimony of the present generation. He considered the credit of England was at stake, and hoped that none would relax in their exertions.

We echo Mr. Proctor's words-the credit of England is at stake; and we hope all who feel interested in our ancient occlesiastical architecture will lend their aid to effect the restoration of the beautiful church of St. Mary Redcliffe. If it be allowed to fall into ruin, a disgrace will attach to Bristol, which will be hard to remove. Its beauty as a work of art, its antiquity, and its peculiar associations, render this church equal in interest to any structure in the kingdom. Well might the elegiast of Canynge, who built the greater part of the present church, and died in 1474, inscribe on his monument :---

The buildings rare that here you may behold To shrine his bones, deserve a tomb e of gold : The famous fabricke that he here hath donne, Shines in its sphere as glorious as the sonne.

What needs more words, the future world he soughte.

And set y^e pomp and pride of this at noughte : Heaven was his aime, let heaven be still his station,

That leaves such works for others imitation."

The committee have acted wisely in determining to commence the repairs forthwith, and is every reason to believe that when there they begin in earnest, additional funds will be forthcoming. We give them "God speed ye" in the good work, and shall report progress from time to time. Such monuments are the property of the nation, and should be the care of the nation. If we cannot build such now. a-days (or at least, do not, which is the same in effect). at all events let us religiously preserve those our forefathers have left us.

BURIAL-GROUND PRACTICES.

THE revolting occurrences in the Spafields burying ground, to which we assisted to direct public attention, have produced so strong an impression generally, that, whatever may be the immediate result of Mr. Mackinnon's long-expected motion for preventing interments in large towns, we may expect considerable mitigation of the evil before long. A true bill has been found against two managers and the lessees of the burying-ground in question, and the audacity of Mr. Bird in question, and the audacity of Mr. Bird in writing the letter which we admitted into our columns, is fully shewn.

At St. Saviour's, Southwark, on Easter Tuesday, the parishioners in vestry assembled, resolved to discontinue burying the dead in the grave-yard of that parish, in consequence of its over-crowded state. And it is to be hoped that the inhabitants of several parishes in the city which we could name, will forthwith determine that no more shall be added to the mass of corruption engendering disease, over which they sit some hours every week. It will scarcely be believed that an analysis

of a gallon of water from the pump in Spafields ground, lately made, shewed that it contained 160 grains of human matter.

Throughout the discussion of the subject, which has recently taken place, we have not observed that sufficient allusion has been made to the gentleman by whose exertions, almost unaided, and at considerable expense to himself, the fatal evils of the system generally, and the atrocities committed in the Spafields ground in particular, have been made known to the public. Mr. G. A. Walker has applied himself for several years past to point out the evils attendant on burying in towns, and to the reformation of abuses of the practice known to exist, and it is to be hoped that some public acknowledgment of his services in this respect will be made. It is too often the case that those who have really fought the battle are forgotten in the moment of victory.

ENCROACHMENT ON HYDE PARK.

WE view with extreme jealousy any steps tending to contract the few open spaces set apart for the enjoyment and healthful recreation of the people. The parks are the Lon-doners' privileges, the Loudoners' salvation; they are properly called the lungs of the metropolis, and as we all know what an important part of the body the lungs are, should be guarded with the greatest care, and preserved instact at any cost. We are led to make this remark by the preparations which are in pro-gress, apparently to enclose a portion of Hyde Park, between Albert-gate and Hyde Park Corner, and call loudly on those who have power, to lend their aid to prevent this en-croachment. If the intention be persisted in, a public meeting should be called, and a memorial therefrom presented to the Metro-politan Improvement Commissioners, and the Health of Towns Commissioners, soliciting

politan Improvement Commissioners, and the Health of Towns Commissioners, soliciting their interference. No time should be lost. "The true danger," says Burke, if we re-member rightly, "is when liberty is nibbled away for expedients and by parts;" and so it is with our parks. If we quietly permit this fresh slice to be taken off (as was done a few """ shall have years since next Park-lane), we shall bave the precedent followed all round its confines, even if it stop there; and afterwards the same authority which encloses, may please to plant villas and cottages in the pleasant parterres thus created. Digitized by Google

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YORK MINSTER; ITS FIRES AND RESTORATIONS. BY JAMES WYLSON.

In attempting to give an account of the present condition of York Minster, we naturally turn to take a retrospect of those memorable calamities which led to the extensive operations that have been carried on of late years in that magnificent fabric. Premising, then, that, in pursuance of a survey and report thereof, made by Mr. Carr, a York architect, in 1770, the minster was put into a general state of repair by 1778; that from funds realized from minster properties, the Dean and Chapter afterwards maintained a steady counteraction to the insidious influence of time, expending therein, say 1,000% a year, it will be understood that only the occurrence of such destructive events as those to which we refer rendered necessary those public appeals, and the exercise of that munificent co-operation, by which this noble structure has been preserved from becoming a crumbling rin.

served from becoming a crumbling ruin. About seven o'clock in the morning of Mon-day, the 2nd of February, 1829, a boy named Swinbank, one of the choristers, while passing through the minster-yard, accidentally stepped upon a piece of ice, and was thrown on his ack; before he could recover his footing, he saw, in his upward view, smoke issuing from the roof of the minster. On his giving an alarm, and the doors being opened, it was found that the elaborate and beautiful carved oak fitments on the south side of the choir were in flames : from this the fire spread rapidly, and by half-past eleven o'clock the rich wood work (cathedra, pulpit, prebendal stalls, misericordia, pews, and orgau, with their exquisite canopies, tracery, and tabernacle-work), as well as the choir-roof, about 222 feet in length, was entirely consumed, the fire having been communicated to the latter from the organ. Happily, the gorgeous stone rood-screen, containing statues of our monarchs from William the Conqueror to Henry the Sixth, and which sustained the organ, occupying the lower part of the great arch between the transept and choir, and serving thus as one of the confines to the v ast furnace which raged within, sustained but little injury, as may be also said of the east window, which, from its beautiful glazing and noble dimensions, has been distinguished as "the glory of the cathedral," and "the finest window in the world;" the splendid sepulchral shrine of Archbishop Bowet, and other monu-ments were demolished, or considerably injured, as were the clustered piers of magnesian

limestone, carrying the great side arches. Upon an investigation taking place, a suspicion was found to attach so strongly to one Jonathan Martin, that a reward was offered for his apprehension. This man was a native of Hexham, in Northumberland, was a brother of the celebrated painter of the same name, had been apprenticed to a tanner, was subse-quently a sailor, and, about the time of his committing the act by which he acquired so much notoriety, obtained a livelihood by hawking about a pamphlet containing a nurrative of his life. He was taken on the Friday fol-lowing, at the residence of a relation, numed Kell. at Codlaw-hill, about three miles from Hexham, was brought to York on the Monday, examined, and committed to the city gaol; on the 31st of March, true bills for arson and felony having been found against him, he was tried at the Castle, before Mr. Baron Hullock, and, after nine hours' careful investigation, acquitted on the ground of insanity, caused by religious fanaticism. Accordingly, in pursuance of that wise regulation by which persons con-victed of serious offences whilst labouring under alienation of the mind are placed beyond the power of committing any further mischief through the mania which influences them, he was removed to London, and confined in Bethlem Hospital, where he died on the 3rd of June, 1838. It appeared that Martin, having provided himself with some tinder, matches, a penny candle, and a razor, in lieu of steel, attended evening prayers on the Sunday; then concealing himself behind Archbishop Grenfeld's tomb in the north transept, kept atill until the ringers, who were in the belfry in the evening, had left the Cathedral. **Proceeding to the belfry, he struck a light, lit his candle, cut about 90 feet from the rope of the prayer-bell, converted it into a ladder by tying knots in it at intervals, and having retraced his steps, obtained by means of the**

rope access to the choir; here he cut away the gold fringe ornaments from the pulpit, and the velvet from the Archbishop's throne, and Dean and Precentor's seats, then piled all the eusbions, surplices, and books in two heaps near the organ,—and set fire to them. His candle burnt out before he had completed his arrangements, but he procured a wax one which had been used during the service in the afternoon: it was about the middle of the night that he set about his "pious work," as he called it; he lit the fire about half-past two, stayed half an hour to watch its progress, and left the Cathedral about three in the morning, taking with him the gold-fringe, velvet, and a small bible, for the purpose, as he said, of their serving to identify him with the act. He made his escape by breaking one of the windows of the north transept, which he reached by the aid of the traveling scaffold used for cleaning the Minster, whence he looked back with great pleasure "on the merry blaze which began to shoot up." The opinions which he entertained on religion were of an ubsurd and fanatical kind, the main objects of his vituperation being the church clergy, whom he designated as "blind guides, who led the higher ranks of society astray." The writer of this article saw and conversed with him at Bethlem in 1837: on entering the day-room, he found him seated at the end of a long dining-table, reading intently in a large quarto volume; passing round to bis shoulder, and perceiving that the work which so closely en-gaged his attention was Fox's "Book of Margaged his attention was rox s "Book of Mar-tyrs," he accordingly saluted him thus :--"Good morning, Mr. Martin, that is a very in-teresting work you have got." "Ay, Sir," said Martin, launching into the topic which seemed ever uppermost in his thoughts, and expressing nearly thus : "these were the men himself that suffered for conscience' sake; when I set fire to York Minster I did wrong, and I deserved to be hung d for being guilty of trying to destroy so noble a fabric, for it was against the men and not the house that I should have directed my vengeance." When first placed there, he used to amuse himself with drawing, but his conceptions being gene-rally of the devilish order (according to the report of his keeper), the governors thought it best to deprive him of the means of exercising his talent in that way. There was a degree of wild and fervid enthusiasm in his manner, but still there seemed a seasoning of "as much rogue as fool" in his composition. He alleged that he was prompted to set fire to the minster by two dreams.

Addresses of condolence having been voted to the Dean and Chapter by the Lord Mayor and Corporation, and by the citizens, evincing the deep sympathy which was felt by all classes, a public, or rather national subscrip-tion was opened to defray the expenses of the restoration, which was intrusted to the pro-fessional experience of Sir Robert Smirke, and whose estimate of the damage done amounted to 60,000%. In two months 48,000% were collected in the county; Government gave 5,000% worth of teak from the stores of wellseasoned timber in the dock-yards; Sir E. M. Vavasour, of Huzlewood-hall, gave the stone, in noble imitation of his ancestor, Robert de Vavasour, who gave that of which the nave was built; his Grace, the Archbishop, pre-sented the communion plate; and the Hon. and Rev. John Lumley Saville, afterwards Earl of Shrewsbary, gave the organ. From the receipts of the fourth grand musical fes-tival also, which was held in the Minster on the 7th of September, 1835, the sum of 1,794/. 4s. 5d. was apportioned to the restoration fund. In consequence of a deficiency, the Deau and Chapter were obliged to borrow 8,000%, being the commencement of a mortgage on the fabric funds.

In effecting the restoration, the architect's first object was to give security to the fabric; to do this efficiently, he found it necessary to rebuild the portion of the side walls above the arches, and restore the cornice and battlements, and external screen-work on the north side. The roof he constructed entirely of teak, the extraordinary strength and durability of which, even where oak has failed, has been proved by experience; the arched ribs forming the groined vaulting he also constructed of the same wood, following in every respect the plan of the old work; but he wisely had the

interior moulded portion wrought separate, in a light American wood, a method which affords comparative facility for removing and replacing parts should circumstances render it necessary, as well as for executing the various complex curves with greater accuracy and superior finish. In the restoration of the stall-work, he availed himself of the services of Messre. Mackenzie and Wild, who had fortunately made on former occasions accurate admeasurements of the most interesting features of the Cathedral, well-seasoned oak was collected for the purpose in Holland, and the elabo-rate portion of the work was executed in London. The pulpit and throne are allowed to be far preferable to their predecessors; the former is two feet lower than the old one, and projects further into the choir : some say, that whereas the old tabernacle-work, while rough in execution, was substantial and richly clustered: the new, though sharp and richly tooled, is slight and thin, and the finials at variance with it. Exception is also taken to the known in the summer of the states of the the knots in the groining of the roof, which before presented an endless variety, but now exhibits a repetition of the same foliage. However these things may be, it is undeniable that the restoration was well carried out, and what with the drawings that existed, and the fragments found in the ruins, it was effected generally with a satisfactory adherence to its prototype. The new stone altar-screen and altar-rails are admirably finished; this screen and the oak ones which extend on either side from the pulpit and throne to meet it, have their openings filled with plate-glass, which gives at once lightness and comfort, and affords a view beyond. In August, 1830, some workmen engaged in removing the rubbish and paving inside the organ-screen, came upon some ma-sonry, the appearance of which induced a fur-ther excavation; pursuing this interesting discovery, the remains of a former choir upon a lower level, or, perhaps more properly, of a former crypt, were developed, presenting portions, as much as 7 feet in height, of massive Norman main piers, 7 feet or more in diameter, their various spiral and chequered flush-roll patterns and bases perfect; also the remains of other minor pillars, and in the foundations of the present structure, many pieces of Norman carving randomly disposed autong-t the rubble masonry. These remains, which prove the former choir to have been narrower, and to have run farther westward than the present one, were arched over with brick work to carry the paving of the choir, and are thus open for the inspection of visitors, in whom they invariably excite a deep interest : the vaults thus formed are entered from the west side of those previously known as the crypt, and descend a few steps from that level. These excavations were considered to afford confirmation of the old tradition that the Minster was founded on the site of a Roman temple, with berring-boae brickwork, being found to intersect the foundations. The bases of the massive Norman piers are curious, as being purely attic, the upper fillet of the scotia projecting under the upper torus. In the spring of 1832 the restoration was completed, having, with incidental expenses, amounted nearly to the estimate. On the 6th of May the choir was again opened for divine service

On the evening of the 20th of May, 1840, the satisfaction which the inhabitants had for eight years enjoyed in their restored Minster was agained doomed to be disturbed, and by a similar catastrophe. About half-past seven o'clock the slarm was given that a fire had broken out in the south-west tower, in which were the peal of ten bells, and the clock. The tower being much crowded with timber, the work of destruction progressed rapidly; by pine, the pest of bells had fallen-with crashes resembling discharges of artillery; the same fate had attended the clock, and the devouring element now raged through the whole height of the tower with the fury of a furnace draught-the flames issuing at every opening; by ten o'clock the fire reached the main root of the nave, along which it extended rapidly. and by twelve the whole of it had fallen in, and lay in the long aisle "like a sea of fire." The west doors being now nearly burnt through, a barricade of planks was raised against tlein, might carry destruction to the organ and choir: by this precaution, and a well-managed

direction of the water to prevent the fire burst-ing through the west window, not only was that saved, but the fire was confined to the nave, and by one o'clock all danger of further damage was over—the south-west tower and great aisle of the nave being left mere shells.

On an investigation being instituted as to the cause of this calamity, it came out that it originated in the carelessness of an individual named Groves, from Leeds, who had been engaged for some time cobbling at the clock, and had left a candle burning, a spark of which ignited the building. This worthy, on the re-cent completion of the tower, and hanging of the new bells, had the effrontery to ask perthe new bells, had the effrontery to ask per-mission to take a part in ringing the opening peal-doubtless, intending thereby to attach another laurel to his wreath, which, we believe, he wears very jauntily-regarding the men of York as in no small degree beholden to him for the superior condition to which (through his stupidity) he has been the cause of bringing the Minster.

Shortly after the disastrous event, a meeting took place in London of those interested in the county of York, and at which a subscription was commenced. On the 7th of August, a public meeting was held in York; meetings also took place there on the 31st of March and 6th of October, 1842, all of them fraught with matter of importance to the fate of the Minster. On the 25th of June, 1840, Sir Robert Smirke had reported on the damage done, and furnished an estimate of the probable cost of its reparation. On the 17th of March, 1842, Mr. Sydney Smirke, his brother, to whom the work of restoration had been intrusted, reported on the works done, and those further necessary, and, on the 29th following, on the general state of the fabric. In the former report, in reference to the work done, Mr. Smirke stated that in the interior of the tower, and there only, the fire had been more destructive than was at first supposed, much of the masonry being found to be deeply injured, and stones which appeared only discoloured, split through their whole depth; this was substantially reinstated. The tower had been permanently expanded, and seriously rent through on all sides by the intense heat,— the old cracks both in it and the west end of the nave being much increased in width: to remedy this injury it was bound together, and firmly united to the other parts composing the west front by four strong iron ties, two of them extending from its south side pcross the west front to the further side of the north tower, the two others, or cross ties, connecting these on its own north and south sides; the cracked stones were cut out and new sound ones inserted; by these means stability was given to the south-west tower and west wall. The newel stair at the south-west angle having been in two places completely broken through, and thus rendered impassable, was restored, as were also the battlements on top where damaged. The four windows on the clerestory level, as also those of belfry, had received entirely new tracery, and many new jamb-stones. The latter were filled with half-inch Welsh state loavres in lieu of the former weather-boards; in the former the glazing was in course of comple-tion, and the perforated battlements outside those on the south and west reinstated where injured, while that on the north, looking into the nave, which previous to the fire was bricked up, was now opened - new fire-proof floors occopied the places of the timber ones destroyed, those to clock and ringers' chambers com-posed of 5-inch York landings on cast-iron bearers, that to bell-chamber consisting of stone arches springing from similar bearers, with a floor of thick oak planking to receive the bell-framing. A new roof, constructed of iron and covered with lead, was also fixed on the tower: in the execution of these works about 670 tons of Huddlestone stone, and 218 of Gazeby stone, had been worked up, the latter being used where the utmost possible strength was required; the mortar was made of calcined Huddlestone stone, which affords lime of the best quality; stone dowels and iron or copper internal cramps were used, external cramps being avoided as much as possible; over the nave was constructed a new external roof of Memel oak, clad with 2-inch oak planks, and covered with thick cast lead; the parapet-gutters of lead, laid on a bed of mastic, in lieu of boarding, which is very liable to decay; the surface of the masonry

under the roof, including the wall-ribs, forming part of the vaulting yet to be done, were in progress of restoration. The work further equired comprised the reinstatement of timber rils and vaulting to nave; a portion of roof of south aisle burnt at west end; lower parts of stone piers calcined, and otherwise injured; carved masonry against walls, under windows of south aisle, mutilated at south-west angle by heat and falling of burning timbers; interior carved masonry about principal western en-trance similarly injured; doors for said entrance, and for that under south-west tower; many black and white flags forming pavement of nave broken by falling in of roof and vault-ing; and stained glass in clerestory of nave damaged.

The report on the general condition of the Minster Mr. Smirke classed under three dif-ferent heads, viz. :-- The repairs that were urgently required for the safety of the building; those of works fallen into decay, but which were not in immediate danger; and those which, however desirable for the dignity and character of this great national monument. might, nevertheless, be regarded only as orna-mental restorations. The first would comprise an entirely new roof over the centre aisle of the north transent, and reinstating in a vertical position, as far as practicable, the masonry of the western triforium there which overhung towards the west, and was the more dangerous from the whole of that side of the transept inclining also to the north; it would include also, the entire reinstatement of tracery to the southernmost window of vestibule to chapterhouse, and of three pinnacles to buttresses on the south-west of choir, with the parapets connecting them; the second referred to cracks in main walls of centre tower, to be tied with iron; decayed ends of main girders supporting roof of same, to have cast-iron shoes; the defective lead covering to be recast and laid on new oak boarding, and the gutters laid on a bed of mastic; gutters of south transcet defective and to be relaid; exterior masonry of choir (besides the pinnacles and parapet above-mentioned) requiring repair, repointing and cramping in many parts, including the other pinna-cles on both sides, and the external screen-work on the north; lead-work of roof to north aisle of nave requiring considerable repair, and gutters relaying on mastic or slate; parapet also and heads of buttresses wanting a thorough repair. Roof of south aisle still more dilapidated, carpentry ill constructed, no tic-beams, braces thrusting injuriously against south wall, above triforium, some of timbers decayed, wants early and entire re-construction; tracery of six out of seven of south clercstory windows much mutilated, should be restored with Huddlestone stone externally, the Tadcaster having proved very inferior; some considerable fractures in north west tower, should be repaired in like manner with the central tower; lead and boarding of roof much decayed, the latter should be renewed, of oak, and the former recast and relayed, the gutters to be laid on slate or mastic; louvre-boarding requiring repair, new slate louvres desirable, as adopted in south-west tower; original floors entirely gone, a stone floor with cust-iron girders, introduced near middle, would add much to the future security of the tower; upper part of south-east angle buttress of south-icest tower separated from main wall and inclining forward, wanting replacing and and inclining forward, wanting replacing and cramping; in *chapter-house* and *vestibule*, the parapets of former nearly ruinous, wants par-ial renewing and careful pointing; pin-nacles all more or less defective, two ought to be entirely rebuilt; tracery of north window! of vestibule falling into equally as bad a state as that of south one. The third class referred to evidences of decay is careful of chair on the third class referred to form. decay in exterior of east wall of choir-north pier of great east window, with its buttresses and perforated battlements in a state of general decay, requiring restoration with new work. as before done in south portion-spire of northas before done in south portion—spire of north-east pinnacle, now wanting, should be re-stored—most part of the four pinnacles at south front of south transept in a very bad state of repair; but being of modern workmanship, out of unison with the ancient work, should be replaced by others in appropriate taste. [These pinnacles, and a variety of other morceaux about the Minster, speaking a tale of sixty years since, are the emanations of Alder-man Carr's studio, and are quite à la Langley.]

The pinnacles of the three angle buttresses northern extremity of north transept wholly wanting, and their restoration greatly to be In the interior, the ornamental arcade desired. under windows of *nave*, especially towards the west, much impaired; being near the eye, the

reinstatement of this masonry very desirable, From the report of the Restoration Com-mittee, read previously to those of Mr. Smirke, it appeared that the state of their accounts and funds was as follows :---

| Disbursements Liabilities | £13,959 532 | | 7 0 |
|------------------------------|----------------|----|--------|
| Receipts : | £14,491 | 16 | 7 |
| Subscriptions | £13,545 | 7 | 8 |
| Sale of stone fragments | 35 | ō | õ |
| ,, Old lead | 318 | 16 | ŏ |
| ,, Bell metal | 437 | 19 | 4 |
| · | £14.337 | 3 | 0 |
| Subscriptions due | 91 | - | 4 |
| Deficit | 63 | Ō | 3 |
| | £14.491 | 16 | 7 |

The sum above stated for disbursements includes 3471. 9s. for the great tenor bell; that for liabilities includes 801. 10s. for the bellframe, which was ordered of such construction as to be available for the complete peal, without any alteration or removal; also 1751. for clock, and 551. for fixing same. The estimate which Mr. Smirke formed of

the works above specified is as follows :--

| | eal 1st class 2nd class | , about | 1,200 6,200 12,500 | Õ | 0000 | |
|-------|-------------------------------|-------------|--------------------------|---|------|--|
| Ditto | 3rd class | •• | 9,500 | Ō | Ŏ | |
| | | | £38.400 | 0 | 0 | |

Mr. Smirke reported also, at the same time, on the practicability of making an efficient provision against future accidents by fire, an out-line of which is as follows :- Four slate tanks capable of holding, say 1000 gallons each, to be placed in the triforium of the nave-one at each end on each side; four similar tanks and similarly disposed in the triforium of choir, and two in gallery under windows of great central tower; the tanks in the triforia to be supplied by two-inch iron service-pipes, discharging themselves by ball-cocks, or in case of firc, by engines below; the two in great tower, by two common force pumps attached to two of the former. To make use of this supply of water, a small portable engine to he kept in each triforium and one in the gallery of tower, each with an adequate length of hose. In addition to this provision, two screw fire-cocks communicating with the Water Company's main to be disposed in the choir, at the level of the pavement, that part of the Minster being more than any other ex-posed to danger. The cost, Mr. Smirke esti-mated at from 700% to 800%.—for the ten tanks, seven partable engines, four hundred feet of hose, and the requisite iron service-pipes-supposing the water company, at their own cost, to lay down the necessary main as far as the south wall of the Minster.

The remainder of this paper will be given next week.

CONSIDERATION DUE TO LITERABY MEN CONSIDERATION DUE TO LITERARY MEN AND ARTISTS.—A fortnight ago Sir Robert Peel entertained at dinner, in a kind and friendly manner, Dr. Buckland, Professor Owen, Sir Henry de la Beche, Dr. Playfair, Mr. Pickersgill, Mr. Eastlake, Mr. Wheatstone, and other scenario und estimate Ludy Peel and and other savans and artists. Lady Peel and Lord and Lady Villiers were present. This is as it should be; and it is lamentable to find occurrences of this sort so rare in our country as they are. One might almost imagine that the Premier feels ashamed of the course pursued at the palace, the want of even an appearance of sympathy there with genius and ability, and desires, so far as he is able, to supply the deficiency. His kindness lately to poor Hood, though the pension may be from the public purse,—the friendly letter which he wrote to him, will be remembered when many of his acts as a politician are forgotten. Mr. Pickersgill has just now com-pleted a portrait of Professor Owen for the Premier's gallery, and a very fine work it is, worthy alike of the painter and the subject.

ON CEMENTS, ARTIFICIAL STONE, AND PLASTIC COMPOSITIONS.

SIR.~ -Having seen much in your useful journal for and against compositions of various kinds, and as the advertisement of an article is not always to be depended on, I, as a practical man, wish to give an opinion of the merits of such materials, for much that has been said is prejudiced, far from being practical, and tends to injure a very numerous body of men. Such materials are inexpensive, compared with stone and wood; and in very many parts of a building, both for exterior and interior, in moaldings, carvings, &c., give an appear-ance which otherwise could not be attained in buildings generally with limited means; without them, we should have streets of brickfronted houses void of any architectural embellishment. But most cements, especially exterior, require great care in using them, and good sand, which is often neglected in the modern use, and hence compo may be too often classed, as one of your correspondents with dishonest materials; it 88.YS. is. and has been of late years, most shamefully ill-used by builders of crack houses, capitalists, and taskmasters, even in some of the finest streets of London, as Regent-street,—what a state that is in ! Much of the cement is sold and used at a price which prevents it from being properly done, so that it cannot possibly endurs the weather long; but when of good quality, it may be warranted to endure for a gentury. The way to do it is, pay the fair century. and make a tradesman responsible for value, the work he does; then may be obtained good work, and it will then become an honest material; but some has failed, owing to the carelessness and inexperience of workmen, an there are very many plasterers who do not understand using it in a proper manner (not even Roman cement, much more other coments). Compare some that has been done well, -- for instance, many country mansions done by Bernasconi, forty or fifty years since, -with some of the soft stones, of which much has been justly said in THE BULDER. I do not say it is better than stone, but it is better than bad stone; and where expense is no object, I do not recommend cement, but good stone, such as can be warranted to endure uninjured by the weather for a century.

Roman Cement has been in use about fifty years, and where good and properly used, remains uninjured by the weather, and is excellent for water-works and the best for general purposes: it has been in very general use, and much done by Bernasconi has had the best test of its durability on many country mansions; but this cement is the most abused, being used for cheapness' sake, so that it cannot possibly endure long, and is open to fraud, in consequence of the various prices and quality; its colour is the only objection to it for stucco, as it requires frequent colouring; but if used as a rough coat and finished with a light-coloured cement, it answers the purpose better than any other. Many have the idea that it is not so good as it used to be, but that is wrong, as the best may be had by paying the price. Atkinson's or Mulgrave Cement, is a superior

Atkinson's or Mulgrave Cement, is a superior kind of Roman cement, made from a lightercoloured stone on the estate of Lord Normanby, and is better adapted for stucco, mouldings, and ornaments; for the latter purpose, it is the best cement; but if plenty of sand is not used, it is liable to crack. Its colour is that of dark Bath stone; it was a very expensive material and not in very general use; but the price is considerably reduced lately by the agents, Messrs. Wyatt, Parker, and Co., and as it will take a greater quantity of sand than any other, it is now tolerably reasonable.

Pulham's Portland Stone Cement, or artificial stone, is so called from its near resemblance to Portland stone in colour, hardness, and durability; its natural colour is that of Portland stone, and therefore it requires no artificial colouring. It has stood the test of twenty-four years' use, and remains perfect; it has even deceived the trade, the imitation is so complete; it is excellent both for exterior and interior purposes of stucco and mouldings, and for fountains, vases, and even floors, &c.; is capable of being trowelled to a very smooth face like marble, and hardens by the influence of the atmosphere. Simple water washing is sufficient to clean it when dirty, and it does not vegetate so much as stone. It is an excellent finishing for Roman cement; its use has been allowed by the Church Building Commissioners for the exterior of a new church at West Hyde, in Hertfordshire.

Much might be done in restoring our ancient edifices and dilapidated stone-work generally in buildings; for where a stone is only decayed on the face, an inch thick of cement would answer the purpose instead of cutting out the stone; and where a stone is too much decayed it may be cut out and replaced with bricks laid in cement and covered to imitate the stone in any colour. Many of our beautiful structures are going to destruction in consequence of the great expense of restoring with stone, and it may be done to advantage at onethird or fourth the expense of stone, and answer every purpose. Much that has been done in restoring with cement has failed, owing to the incautious manner in which it has been used; nothing requires more care, especially on clunch and limestone, of which many churches are built; but I will return to my subject, although I could say much more on this point.

Inclutious manner in which it has been used; nothing requires more care, especially on clunch and limestone, of which many churches are built; but I will return to my subject, although I could say much more on this point. *Metallic Cement*, or sand, a mixture of blue lias lime and metallic powder, has been in use about ten years, and is an excellent material for exterior and interior stucco mouldings, &c. It is very hard, and promises to endure for a great length of time. Its colour is that of dark stone, and it is very suitable for waterworks and other purposes. It is almost impossible to separate stones and bricks joined with it, and is excellent for concrete. It may be used to advantage with chalk-lime for interior purposes of stucco, increases the hardness, and may be trowelled to a very smooth surface for painting on. The metallic substance improves the hardness of other limes and cements, but is best with lias lime.

Mastic or Oil Cement, has been in use about forty years, and is a material well adapted for interior purposes of stucco and plain mouldings for painting on, especially where expedition is required, as it may be painted on the next day after it has been laid on. Its tenacity is so great as to adhere to the smoothest substance, even to glass, but it will not answer for exterior purposes where exposed to the heat of the sun, as the oil is drawn out and it becomes soft and peels off. It is very expensive when properly executed, and requires to be often painted.

pensive when properly executed, and requires to be often painted. *Keene's Cement*, manufactured by J. B. White and Sons, of Milbank-street, has been in extensive use four or five years, and is an excellent material for internal purposes, where hardness is required, being as hard as stone or marble, as for dados, panelling, architraves, inlaid paving, chimney-pieces, skirtings, balustrades for staircase, &c., and for hall floors, scagliola, and many purposes of wood, it is superior; and I think it is as hard as the cement of the ancients, but requires to be worked with great care, as it has failed in places from being improperly used, especially from being put on wet brickwork. A great quantity has been used at the Hall of Commerce, Threadneedlestreet, and many other public buildings. The office of the patentee is paved with it, and is difficult to discriminate from Portland stone. It will not endure the weather, nor is it good for damp situations.

Martin's Cement is very similar and will answer the same purposes as Keene's Cement for interior work : it stands well.

Red Cement has been in very limited use several years, and is not much known: it is an excellent material for making ornamental chimney-shafts, ornamental ridges in the Tudor style, especially ridging for the ornamental or Tudor tiles and mouldings in imitation of brick, of which it is a complete imitation when pointed: it may be made at comparatively little expense. When done well, it may be warranted for a great length of time.

Maude's Portland Cement has not been in use sufficient time to test its merits, but appears to stand well for stucco and mouldings, and is of a superior colour to Roman cement: a good specimen of it may be seen in Threadneedle-street. John's Patent Stucco Paint Cement is a kind

John's Patent Stucco Paint Cement is a kind of oil cement superior to mastic; it has not been in use sufficient time to test its merits, but appears to stand well and to answer the purpose of stucco. It will adhere to most substances, even to glass, and may be used throughout the winter, which other cements cannot be: its colour is like dark Bath stone. The stucco paint appears to be very good for painting cement.

painting coment. *Blue Lias Lime Cement* is an excellent material for building purposes where it can get dry, but will not do for stucco or outside plastering, as it is very crumbly under the surface and liable to crack. The lime slacked has the same fault, but will stand for stucco in a dry situation.

Interior Plastering generally.—In writing about cements, &c., I cannot forbear saying a little in reply to an article in THE BUILDER, by a correspondent, "J. W.," who calls an ornamented ceiling a palpable falsity, and says that it contains noxious vapours, not knowing, I suppose, that there are simple means of ventilation. I should be glad to know in what re-spect it is a palpable falsity, and if it is, why has so much been done in that way in almost every house that is built, noble or simple : and most of which could not be accomplished with other materials than plastic composition of some sort. I certainly admire wood-carvings, &c. in their place, and where expense is no object; but even then, why increase the mate-rials for fire? I should be glad to see some of his (as he says) more honest and ingeni-ously and equally elaborated timber soffits by the side of an ordinary plaster enrichment, such asis used in good buildings ; it is impossible it could vie with it, let alone expense, which in wood-carving is immense. There is no material in existence that can be wrought with such relief, facility, and perfection, as plaster for decoration of buildings; and if great hardness is required, use Keene's or Martin's Cement. What can there be dishonest in a plaster ceiling? It is not intended generally to deceive or to appear to be any thing other than what it is (although mouldings and ceilings may be, and are grained to imitate oak in the old English or Tudor style, as for beams, ribs, &c.); and can any other material be made so available, and answer the purpose so well, as plastic compositions, and at so trifling a cost? and what has rendered our modern public, as well as private buildings so beautiful? Plastering endures after timber has failed, as is a well-known fact, proved in many of our ancient mansions, when plastering was very inferior, and mate-rials such as we now have unknown. As to safety, I should like to know in what way it is unsafe, and to have proof of it where re-spectable tradesmen have been employed, or an architect. It is more enduring and equally safe as wood; but the abuse of the materials, both in quality and workmanship, may well bring disgrace upon it: the manner in which some of it is done, chiefly by builders of crackhouses, capitalists, and plasterers, is scarcely notises, capitalists, and plasterers, is scarcery to be credited (London mud to wit); for when finished, it is like a man who has on a good outside or great coat,—you cannot see what is underneath. There is, I think, no trade open to more fraud than the plasterer's; where a man cares not for character or reputation, he can do work at half the price of a respectable man who warrants his work; but it is sure to be detected in a little time. The price being cut down causes bad work; but as I said with respect to cement, pay fair value and employ respectable tradesmen who understand the nature of the materials and workmanship, and then good work may be obtained. Work done badly often looks for a little time to a common observer little inferior to the other; but make every tradesman responsible for his work and the material he uses, and we shall see what plaster-work will be. This would enable a respectable tradesman to improve in his art: but I must not trespass more on your space.

I am, Sir, &c. Hoddesdon. JAMES PULHAM. *.* We do not pledge ourselves to the opinions of our correspondent, but give them place as those of a practical man.-ED.

WORKS IN PROGRESS.

Ar Bridlington, a general restoration has been determined upon of those parts of the parish church which have suffered, either from the lapse of time, or through the injudicious mode in which occasional repairs have been managed; with this view, a survey was made a few months since by Mr. Edmund This church is one of the most in-Sharne. teresting buildings, of the thirteenth century, in the kingdom; it is the Priory Church, and valuable to all who feel an interest in the history of the progress of church archi-tecture — as a building supplying the loss that the destruction of St. Mary's, at York, would have otherwise occasioned, and as affording an instance of transition from early English to decorated work of unusual character. The west end and south side are in the most dilapidated condition, and it is proposed that their restoration should be proeeded with in the first instance, particularly the west end, and the opening out of the great west window.

At Oxford, some delay has arisen in the commoncement of the new Grammar School at Magdalen College, from a doubt as to the best method of carrying out the full intentions of the founder. The plans of Mr. Derrick, the successful competitor, were exhibited at a late meeting of the Oxford Society for the Promotion of the Study of Gothic Architecture. building will be in the style of the fifteenth century, harmonising with the college, and Pugin's new Gothic entrance gateway. Many of the admirers of this splendid college will b pleased to hear that it is in contemplation to replace the present chapel windows by others in stained glass, which will add greatly to the richness of the already fine effect of the chanel.

be Queen Dowager has recently subscribed the sum of 202 towards the building fund of the intended district church at Malvern Link, Worcestershire.

The Government has purchased the lands of Broomhill, to the north of the city of Glusgow, for the erection of cavalry and infantry bar-racks. The price paid for the property is said to amount to nearly 30,000/.

The new terrace-pier at Gravesend, which is constructed entirely of iron, forms an important feature in the increasing improvements in Gravesend and Milton; the entrance is in a direct line with Harmer-street. It was opened for the first time on Easter Monday.

The breaking-up of the weather has placed the operations for the commencement of the Victoria Park in full activity, and a great many hands have been put on to commence digging for the formation of the plantations. A new and straight line of road, which will nearly reach the park, has been constructed from Grove-street, Hackney, to Old Ford, and the entrance-road across Bonner's-fields has been formed, the old erection of Bonner's Hall having been pulled down. From here the entrance to the park will be by a handsome iron auspension-bridge across the Regent's Canal.

There is every prospect of the old Tower ditch being added to the list of public walks at the east end of the town during the summer, and considerable activity is being displayed in gravelling it, a solid foundation having been laid, and the drainage made perfect. It will not be attempted to form a plantation, for which the nature of the sub-soil quite unfits it, and the vegetation will be confined to a few flower-beds. The foundations for the new barracks in the interior have made but little progress, although, in addition to the ordinary labourers, 100 soldiers are daily employed on the works, for which they receive an extra payment of 10d. per day. At Scarborough, a large number of work-

men are being employed in digging and laying out the foundations for the building of the railway station, which, agreeable to the con-tract, is to be completed by the 25th of next

month. On Tugsday, March 25th, the foundationstone of a new Catholic church was laid at Crosby, near Liverpool, by the Rev. Doctor Messre. Weightman and Hadfield, of Brown Sheffield, are the architects; and Mr. B. Holtins, of the same place, is the builder. The same architects and builder are employed in the erection of the monster Catholic church at

Manchester. Mr. Hollins is likewise erecting new Protestant church at Manchester; Mr Derick, of Oxford, is the architect.

Very extensive alterations and improvements are in progress at Poltimore-house, the seat of Lord Poltimore, in Devonshire. Hia lordship returned to this country the week before last, from Florence, to inspect the progress already made, and to give instructions respecting his newly-purchased estates in the same county. Considerable improvements are to be made on this property forthwith.

It is stated that, for internal decoration and embellishment, the Earl of Pembroke's mansion, on Carlton-terrace, will excel in splendour and taste any town residence of our aristocracy. Notwithstanding the length of time it has been in the occupation of the various artists and operatives, it will not be completed before the spring of next year.

Mr. George Baker, of London, who has taken the contract for re-forming and building additional slips and enlarging Chatham Yard, at a cost of 102,000*l*. (45,000*l*. of which sum is to be expended in the course of this year), commenced the undertaking on the 13th ult., by driving a number of piles with steam-engines. Workmen have commenced formengines. Workmen have commenced form-ing the ground on the opposite shore of Chatham Dockvard, and also clearing the mud The cost is estimated at in the harbour. about 3,000/.

Messrs. Brassey, Mackensie, and Stephenson are said to be the contractors for the Caledonian, Scottish Central, and Midland Junction lines.

ROVAL INSTITUTE OF BRITISH ARCHITECTS.

At an ordinary meeting of the institute held on Monday, the 31st ultimo., Mr. J. B. Pap-worth in the chair, Mr. John Burrell was elected fellow, and Mr. Alan Bailey, and Mr. G. S. Clarke, associates.

Donaldson presented from Mr. W. Mr. Hamilton, F.R.S., part of a wooden pin, which formerly held together, as a dowell, the *frusta* of one of the columns of an Athenian temple. It was at first said to be from the Parthenon, but Mr. Geering, who had been written to on the subject, said there were no wooden pins in this latter building, and that it was probably from the Propylæum. A letter was read from Monr. L. Serrure, of Antwerp, announcing the death of his father, who was a corresponding member, and offering his services to such mem bers of the institute as might visit Antwerp. The late M. Serrure is best known in this country by a drawing of the Antwerp Spire on a very large scale, which is engraved. Mr. Foxhall, the excellent district surveyor

Mr. Foxnall, the excentent district surveyor of St. George's, Hanover-square, read a com-munication from Mr. Thomas Cubitt, illus-trated by a model, descriptive of the chimney recently erected on Mr. Cubitt's premises at Thames Bank, and some observations on the expansion of the brickwork by heat. A the expansion of the brickwork by heat. A description of the chimney will be found in page 62 of our present volume. The paper led to an interesting conversation. Mr. Godwin reminded the meeting that pure clay, the staple of bricks, was understood to be the exception to the general rule that heat expands all bodies, and was contracted by heat, so that he was much puzzled to find this shaft expanded when the fire was in operation, §ths of an inch.

Mr. Hosking and Mr. Donaldson considered that when clay was made brick its properties were changed, and that it became amenable to the general law. Mr. Hosking remarked that the stone coping of Waterloo-bridge was expanded and contracted by change of temperature so considerably, as constantly to require pointing. Relative to brickwork, Mr. Scoles said, coke-ovens expanded considerably by heat.

Mr. Edward I'Anson, jun., then read a paper "On the Architecture of the Renaissance, in France," in the course of which he described at considerable length the Chateau of Fontainbleau, that "rendezvous of palaces," as it has been termed, and traced the progress of the style from the commencement to the end.

INSTITUTION OF CIVIL ENGINEERS.

APRIL 1st, 1845 .- Sir John Rennie, president, in the chair.

The paper read was by Mr. A. A. Croll, Assoc. Inst. C. E., "On the construction and use of Gas Meters." It first noticed the necessity for a means of accurately measuring the consumption of gas, in order that the honest consumer might not be obliged to pay for the frauds of the dishonest, as was actually the case at present, for the gas companies were obliged to charge such a price for their produce as should cover all contingencies. Then after relating many flagrant instances of frauds on the gas companies and the methods by which they were practised, the author attributed the loss of 30 per cent. of the gas produced, which was not accounted for in the consumption, rather to the fraudulent consumption than to the leakage, either from bad joints or through the pores of the iron pipes, as had been sought author's own practical observations induced him to limit the amount of leakage to under 5 per cent. If from the 2,700,000 cubic feet of gas which was distributed daily from the works of which was distributed daily from the works of the Chartered Gas Company alone, there was a leakage of 30 per cent, 810,000 cubic feed of carburetted hydrogen gas would be let free daily in a comparatively limited district of the streets of London, which would render the at-mosphere unbearable. This calculation was exclusive of the nine other large companies whose first provided the other district. The whose pipes pervaded the other districts. The paper also contended that the theory of the decomposition of the gas in the earth was inadmissible, as in that case the hydrogen would be converted into water, and the carbon, which would amount to nearly 3,000 tons annually, would be deposited in the soil.

The author then described the water-meter. as invented by Clegg and improved by Crossley, shewing its defects and liability to Crossley, shewing its defects and liability to be tampered with in dishonest hands, and the facility with which it could be made subobsolete meters of the dry-meter company, and of Sullivan, and then explained the action of Defrie's three-chambered meter, which has obtained such extensive employment, a good specimen of which, working very steadily, was on the table before the meeting. The pa closed with a description and illustration The paper Croll and Richards' dry-meter, which, in the opinion of the author, possessed superior qua-lities, being more accurate in its measurement, on account of the chambers opening by the direct action of the discs, there being no action upon the disphragm, and each chamber being completely filled and emptied at each interval.

In the discussion, these merits were con-tended for by the advocates of Croll and Richards' meters; while the partisans of Defrie's meters argued that his possessed every requisite quality, and that they had been in use for upwards of seven years with in-creasing reputation. It was admitted that the use of the leather in both meters was objectionable, but hitherto no better material had been discovered, and the attention of the makers had chiefly been directed towards diminishing the extent of leather exposed to of the gas; that either of them the action were preferable to the water-meter in its present state, and it was desirable both for the consumer and the gas-maker that accurate meters should be used, to prevent the present flagrant system of fraudulent measurement.

SONNET ON STONE HENGE.

I stoop beside the blue Tyrrhenian se And saw three wondrous monuments upre

And saw three wondrous monuments upress. Their column'd aisles 'mid desolation drear, For some forgotten cult's strange ministry— Type of man's wants and God's high majesty. Years pass'd. And now, more wondrous ous far.

appear The mighty unhewn stones that circle here

On the lone down 'mid countless tumuli. Whence came these stones? What unknown power

has riven And mov'd and rais'd them? Was it love or

dread Of God they testify? Reply, ye dead ! They do: and still the same response is given For ages have Stone Henge and Pæstum said, "Man's noblest works are consecrate to heaven." Dolman's Mayasine.



STONE ALTAR CASE. - The costs in the case have been taxed at 100%. 11s. 10d. in the Arches Court.



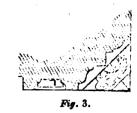
DOORWAY FROM FOULSHURST, CHESHIRE.

The ancient seat of the Foulshursts, formerly standing at Crewe, in Cheshire, was purchased by Sir Christopher Hatton in 1578, who was one of the most considerable patrons of architecture of the time, as is proved by the beautiful structures of Kirby (still standing), Holdenby, Stoke Poggis, &c. He added to or adorned the old structure of the Foulshursts ; and in 1610 he sold the estate to Sir Randulph Crewe, who was anxious to settle himself on the spot (being a descendant or connection of the Foulshursts) during the erection of his splendid structure of Crewe Hall, which was considered at the time, as it certainly remains, the model building of the style of James I. The old manor-house of Foulshurst remained standing, and was probably occupied by Sir Bandulph. In King's Vale Royal of the County Palatine of Cheshire a plate is given of Crewe Hall, shewing Foulshurst old manor-house in the distance. Several of the ornamental portions of the old building were removed by Sir Randulph to his new structure, among them the entrance doorway, represented above, which he placed leading into the carved parlour; but during the recent alterations it has been removed, and is now in



Fig. 2.

the great hall, or dibbg-room, near the staircase, a small portion of which is seen in the sketch. Fig. 2 represents the ornament at foot of jamb, enlarged; and fig. 3 gives the plan of the jamb.



A close resemblance between this doorway and those of the cinque-cento architecture of Italy, and the Renaissance of France, may be observed.

The fire-place seen through the opening forms part of the reparations made to Crewe Hall at the Restoration, the building having sustained two severe assaults during the civil wars. C. J. RIGHARDSON.

PROPOSED RESTORATION OF ST. JOHN'S GATE, CLERKENWELL.

Our readers are aware of the dangerous state into which this remnant of old London has fallen, and of the appointment of a commmittee to effect its restoration, if possible. With this end in view, the committee are about to issue the following appeal to all who are interested in preserving the arts and monuments of the middle ages :--

Architecture has its political use, public buildings being the oreament of a country; it establishes a nation; draws people and commerce; makes the people love their native country, which passion is the origin of all great actions in a commonwealth."--Waga.

ON the first of January last, the New Metropolitan Buildings Act came into operation; and in socordance with clause 40 (which requires that the district surveyor shall apply forthwith to the official referees to authorise a survey to be made of all buildings within the limits of the Act, which through neglect or other causes are in so ruinous a condition that passengers are endangered thereby), a survey was made, and a notice given to the owner of St. John's Gate to repair it. The decomposition of the stonecasing to the several sides of the building has rendered it dangerous to passers-by; and it appears that the substantial repairs alone are of so expensive a character as to prevent the present occupant from devoting any attention to a careful reparation of the exterior; in fact, the covering of the gateway with compo has been suggested. The knowledge of these facts was laid before the FREEMASONS OF THE CHURCH, a society for the recovery, maintenance, and furtherance of the true principles and practice of architecture, when a committee was immediately appointed to prevent the spuliation of the building by coment, and to adopt measures for its careful reparation. This committee consists of the Rev, Hugh Hughes, B.D., rector of St. John's, Clerkenwell; the Rev. G. Pocock, LL,B.; Messrs. Thomas Dighton (Architectural Modeller to Prince Albert); C. H. Smith (one of the examiners of the stone for the new Houses of Parliament); W. G. Rogers; James Finn; and W. P. Griffith, F.S.A., honorary secretary. Several meetings have been held, and a design prepared for the restoration of the gate.

The committee trust that all those who feel a pleasure in preserving so interesting a remnant of former times, associated as it is with so many pleasing literary remembrances, will come forward and aid them by contributing their mite, however small, and thereby save the mortification of seeing the old gate compoed, if not ultimately destroyed. Perhaps a few words, by way of refreshing the memories of those who through the cares of mercantile and other pursuits may have forgotten its existence, as well as its claims upon us for our support, will not be thrown away. St. John's Gate stands at the southern en-

St. John's Gate stands at the southern entrance of St. John's square, and is the only ancient portal now remaining of those monastic buildings once so numerous in the metropolis and its vicinity; it formed the grand south entrance to the Hospital or Priory

of St John of Jerusalem," and was completed by Prior Docwra in 1504. This prior was the immediate predecessor of the last superior of the house, Sir William Weston, and retained his office from 1502 to 1523. In 1661 a view of the gate was taken by Hollar, shewing to advantage the effect produced by the battlements, then complete, but now entirely gone. In the reign of James I. it was inhabited by Sir Roger Wilbraham; but it has acquired much greater celebrity from having been the residence of Edward Cave, the printer, to whom the literary and antiquarian world owes so many obligations, and here emanated from the press the favourite and one of the oldest and most respectable of our monthly periodicals, the "Gentleman's Maganine," which was born in the gate in January, 1731, and is still flourishing. Among the numerous visitors at that time were Goldsmith ind Dr. Samuel Johnson (Cave being his friend and early patron). Dr. Johnson's pen was continually at work, and his pampilets, refaces, epitaphs, essays, and biographical memoirs were continually published in the old gate, either by themselves or in the "Genthan two years afterwards, he wrote the Parliamentary speeches in the same magazine, and these were followed by his "Life of Savage," "English Dictionary," "The Vanity of Human Wishes," the "Rambler," and many other popular literary productions. "St. John's Gate has been in a slate of decline for years : unfortunately, the disease has now

St. John's Gate has been in a state of decline for years : unfortunately, the disease has now assumed a serious aspect, but the committee rest assured that the public taste will never allow it to be disfigured or destroyed; that they will come forward and promote its recovery, if not to so good a state of health as formerly, aill, to give it a respectable appearance of old oge; and, for once; to nullify the old saying—

Owl-like, we blink at, and direct our search To furthest Inde in quest of novelties; Whilst here, at home, upon our year threshold

Whilst here, at home, upon our very thresholds, Ten thousand objects harite into view, Of interest wonderful.

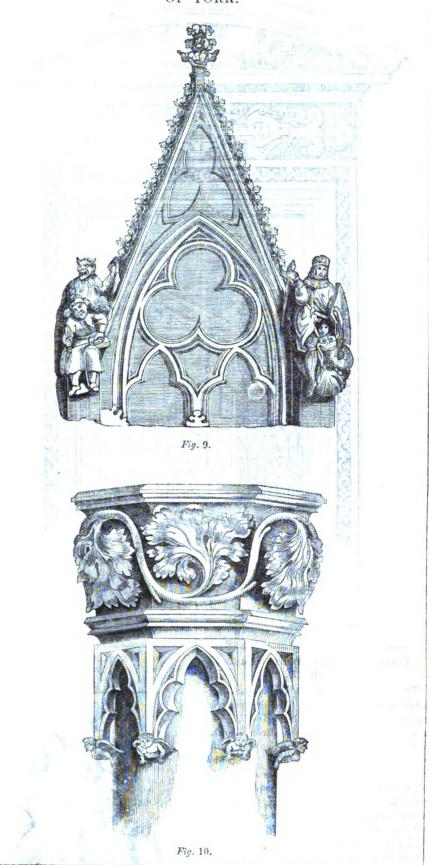
The subscriptions will be devoted to the reparation of the decorative portions of the Gate, much as tapping or testing each stone in the porth and south fronts, carefully rubbing those that are sound, and replacing those which are to much decomposed with new stone, not quared, but inserted so as to conform with the present appearance of the building. The committee recommend carrying up the embattlements in stone in front of the angular turrets and parapets to their original height, inserting new labels to the doors and windows, stringcourses and bands around, new and proper millions, with cinque-foil heads to the large windows in the north and south fronts, and removing the unsightly Roman doorway and shop-window on the south side, and placing a new window and doorway in keeping with the old gate ; and to point up the sides of the building with stone or slate set in good mortar, finished with blue ash mortar, to preserve an uniform colour.

thilorm colour. A design shewing the restoration of the gate will be presented to the subscribers to the repins, a list of whom will be printed, as well as a detailed statement of every expenditure, which it is presumed will require from 500/. to 600/. : in case of an overplus, a meeting of the subscribers will decide in what manner it is to be appropriated.

bescribers will decide in what manner it is to be appropriated. Subscriptions may be paid to Mr. W. P. Griffith, 9, St. John's square, Clerkenwell, hon, sec., and at the office of THE BUILDER, 2, York-street, Covent-garden.

Inon BEAMS. --Some of the largest plates that were ever made in Scotland were rolled at the Dundyran Iron Works a short time ago. The weight of the slab from which each plate was rolled was 1,700 lbs., and when finished, measured 16 feet in length, 3 feet two inches in width, and nearly an inch thick ; the weight of each plate varying from 131 to 14 cvrt. Nor is the weight and dimensions of these plates their greatest novelty, for they are intended to be used as walking-beams, and being lighter and more durable, will, it is likely, soon supersede the necessity of the present unwieldly cast-iron beams.

• Pounded in 1100; church dedicated in 1185; destroyed in 1561; and rebuilt about 1504. GOTHIC ORNAMENTS FROM THE CATHEDRAL CHURCH OF YORK.



GOTHIC ORNAMENTS

FROM THE CATHEDRAL CHURCH OF YORK.* On each side of the windows in the aisles of the nave an ornamented compartment is formed on the wall. Fig. 9 represents the pediment of one of these in the north aisle. The height of it from the springing of the arch to the top of the finial, as stated by Hulfpenny, is 8 feet 3 inches; from the floor to the top of it is 34 feet. The width is 3 feet 10 inches. There are fourteen of these compartments in the north aisle, fourteen in the south aisle; the figures of each are different.

Fig. 10 shews one of the capitals of the pillars in the choir, from which spring the groins of the roof. The arrangement of these capitals is peculiar and elegant; they are 2 feet 6 inches high, and 62 feet from the ground. They belong, to the end of, the fourteents, or beginning of the fifteenth century.

In connection with these illustrations of. York Minster we have given in a previous page the commencement of an article on the fires which have occurred there, and the recent restorations; and hereafter shall present to our readers accurate drawings of the new doors, designed by Mr. Sydney Smirke.

^{*} See page 139 ante.

TESTIMONIAL TO MR. JONES, R.A.

On Saturday last, the room usually al-lotted to sculpture in the exhibitions of the Royal Academy was crowded by the concourse of former and actual students of that institution, on the occasion of the presentation (by the hands of Mr. A. D. Cooper, on the part of the 100 subscribers) of a large silver Etruscan tazza, inscribed

TO GEORGE JONES, ESQ., R.A., KEEPER OF THE ROYAL ACADEMY, FROM THE STUDENTS OF THAT INSTITUTION, мавсы, 1845,

and offered in grateful remembrance of his kindly attention to their wishes, and his affectionate regard for their success and interests. Behaving as artists, the subscribers did not seek for something already manufactured, which they might purchase, but selected an antique and unusual though very excellent form; which, slightly modified, is much more orna-mental, as well as useful, than the upright vase,

the ordinary presentation cup. Mr. Jones's annual farewell to the students (this being the last night of the season) was displaced by a forcible and affecting speech, in which he mentioned that his anxiety to fulfil the duties of his post had always been so fully met by the assiduity and gentlemanlike con-duct of the students, that the gratification thence arising rendered the present token as unexpected as any support from the members of the Academy had been unnecessary. He mentioned that Mr. Mulready, who with Mr. Etty accompanied him, had been his earliest friend in that, "the antique school," and had been his competitor for the honourable office he now filled. He also expressed in words the interest he felt for the students, as brothers in the arts, and with great emotion proclaimed his hope that his senses might at the last still enable him to recall this manifestation of the feeling of the students that he had endeavoured to fulfil, and, indeed, had done his duty.

The presence of Mr. Mulready on this occasion, so creditable to his own feelings and gratifying to his friend, was marked with extreme applause by an audience much affected by the address of Mr. Jones.

REVENUE FROM BRICKS AND GLASS. An Account of the net Receipt of the Duties of Excise of Bricks and Glass during the last Ten Years.

| | | Eng- land. | Scot- land. | Ire- land. | Total. |
|-------|--------|---------------|----------------|---------------|---------|
| | | ₫. | L. | e. | s. |
| 1835* | Bricks | 391,213 | 8,561 | | 899,774 |
| | Glass | 611,718 | 20,164 | 14,754 | 646,636 |
| 1836 | Bricks | 465,189 | 9,733 | | 474.921 |
| | Glass | 593,777 | 28,268 | 10,934 | 632.979 |
| 1837 | Bricks | 429,801 | 9,463 | | 439,264 |
| | Glass | 573,452 | 35,837 | 10,060 | 619,349 |
| 1838 | Bricks | 410,823 | 7,512 | | 418,335 |
| | Glass | 619,026 | 38,137 | 9,829 | 666,992 |
| 1839† | Bricks | 450,427 | 12,999 | | 463,420 |
| | Glass | 645,761 | 34,917 | 19.343 | 691,031 |
| 1840; | Bricks | 504,881 | 18,498 | | 523 379 |
| | Glass | 668,343 | 36,198 | 9,886 | 714,427 |
| 1841 | Bricks | 431,256 | 11,762 | | 443,018 |
| | Glass | 611,582 | 40,727 | 8,250 | 660.559 |
| 1842 | Bricks | 383,700 | 9,350 | | 393.050 |
| | G1289 | 532,829 | 34,297 | 7,765 | 574.891 |
| 1843 | Bricks | 348,177 | 7,104 | | 855,281 |
| | Glass | 544,100 | 29.958 | 5,748 | 679,812 |
| 844 | Bricks | 429,183 | 10,798 | | 439.975 |
| • | Glass | 600,238 | 35,185 | 6,250 | 647.673 |

INSTITUTION OF BUILDERS' FOREMEN.-We have received the rules of this Institution, established for mutual assistance in cases of emergency, and have read them with gratifi-cation. Its object is to maintain the respect-ability of the foremen in their different branches, to provide against accidents, and to obtain an asylum for decayed members. It seems to us that the masters would do well by encouraging such institutions, as tending to induce habits of prudence and forethought, and to increase the respectability of those en-gaged by them. By subscribing one guines per annum they become "honorary members, and take part in the government of the Institution.

THE BUILDER.

CAUTION TO RAILWAY SURVEYORS. LORD HARBOROUGH AND THE PETERBOROUGH RAILWAY SURVEYORS, &c.

THESE causes all came on for hearing before Lord Chief Justice Tindal and common juries,

at Leicester, last Tuesday week. Mr. Whitehurst, Q C., Mr. Mellor, and Mr. Flowers appeared for the prosecution; and Mr. Hill. Q.C., and Mr. Macaulay for the defendants. It appeared that after two previous unsuccessful attempts had been made to survey Lord Harborough's park for the railroad from Syston to Peterborough, early on a Saturday in November last, the defendants, with seventy or eighty people, came before daylight to the park with measuring chains flag staves, &c., and distinguished by white badges, with the evident determina-tion to proceed with their survey. They were resisted by a considerable number of Lord Harborough's people, and after a severe strug-

gle and fight, were compelled to retreat. The Lord Chief Justice summed up with great clearness, to the effect that parties so assembling in the manner and under circumstances given in evidence, were clearly guilty of a riot, and were of right resisted by Lord Harborough's people, who were justified in using

the necessary force to turn them out of the park. Mr. Hill addressed the jury, who, without much deliberation, returned a verdict against all of Guilty of an assault, and they were res-pectively sentenced to be imprisoned for one month, and to pay a fine of 1s.

WARD V. LORD HARBOROUGH AND OTHERS. This was an action for trespass and false im-

prisonment, and damaging a theodolite. Mr. Hill and Mr. Macauley appeared for the plaintiff, and Mr. Mellor and Mr. Flowers for the defendants. This action arose out of the attempts to survey the park of Lord Harborough on a previous day. The servants of Lord Harborough, without any violence, after warning the plaintiff and his followers after warning the plaintiff and his followers off the towing-path of the canal running through the park, took him into custody. They permitted the plaintiff to go away in his own carriage, and used no violence; but the theodolite was pitched out of a cart and broken broken.

Mr. Mellor addressed the jury, admitting that there must be a verdict against all the defendants, except Lord Harborough, as to whom the Lord Chief Justice had already intimated that there was no evidence; but he contended that it had been proved by the witnesses for the plaintiff that the damage to the theodolite might be repaired at an expense of from 71. to 121., and that, as for damages beyond, a half-farthing would be enough. The jury found a verdict for the plaintiff, with 81. damages.

LORD HARBOROUGH V. WARD AND COPE.

This action was for a trespass on the occasion of the rigt; and after Mr. Mellor had addressed the jury for the plaintiff, the Lord Chief Justice suggested that a juror should be withdrawn, which was immediately consented to by Mr. Mellor on Lord Harborough's part. The Lord Chief Justice then sentenced the

defendants on the conviction for an assault, and stated his regret that persons of their education and profession should have permitted themselves to be engaged in a transaction which was quite unjustifiable in law, and which it was his bounden duty to visit with punishment. The sentence was, as before stated, that they and each of them should be imprisoned for one calendar month in her Majesty's gaol, but should be placed in ward No. I, and subjected to no unnecessary hardship, and should be each fined one shilling.

SOCIETY OF BRITISH ARTISTS .- The 22nd exhibition of this society, now open to the public, cannot be regarded as satisfactory. Pyne, Holland, Allen, Woolmer, Baxter, Herring, Clint, and some others, have each one or more charming pictures; but the majority of the works are, we grieve to say it, of

very indifferent character. DISTRICT SURVEYORS' FEES.—A corre-spondent informs us that a builder about to put in some putlogs, in order to point the front of a house in Lewisham, was required by the district surveyor to give him notice, and to agree to pay him a fee, on the ground that the builder was about to *cut into* an external wall!!

PROJECTING BUILDINGS-PARTY WALLS.

JURISDICTION OF OFFICIAL REFEREES.

SIR,-I would close my remarks upon the Building Act by stating, it appears to me that the referees in their official capacity become public property, and that their acts, expressed through the medium of the authority with which they are clothed, may be cour-teously open to animadversion and comment. Perchance the Act itself is not explicit; if so held, my opinions would be against the complexity of the Act, and not against the mode of carrying it into effect. Leaving, therefore, this issue to be settled, I regret to state, from what has come to my knowledge, that a more oppressive, vexatious, and arbitrary piece of legislation never emanated from our Houses of Parliament. All will agree that the portion respecting the comforts of the humbler class, as to light, air, and accommodation to dwellings in densely-populated neighbourhoods, is un-exceptionable. The remaining broad feature for public benefit was protection (as by the former Act) against accidents by fire. In the large suburban district where I live I recollect no fire in a private house for the last twenty years, and but very rarely in shops; yet now even in rural districts within the operation of the Act (except in the case of isolated buildings), adieu to ornamental barge boards, decorated eaves, Italian roofs, &c., we must now all assume the rigidity of parapets and projecting party-walls, except by adopting the prescribed egulations that all such projections shall be of the same material as the walls.

In fulfilment of my promise, I will set out some portions of the award in the case alluded to in my last letter, respecting a building commenced before 1st January, and carried up 6 feet, and this doctrine is held to be good even with such buildings roofed in. "Now we, the said official referees, do hereby find, determine, and award, that the said works are a rebuilding, enlarging, and altering of a building within the meaning of the terms of an 'already built' building, as mentioned in the said Act, and that on and from 1st January, 1845, the same came within and were subject to the suspervision of the said --, the surveyor of the said district, and that he was and is bound to see the rules and directions of the said Act strictly observed with respect thereto; and that the said works or building, if carried up on the line of the external wall now building, would be beyond the general line of the buildings on that side of such road." It then directs, "that the said — do pay the sum of 151. 11s. 8d., as and for the fees of office," being the costs for seeking an explanation of an obscure clause; my objections to the interpretation of which will be found in the subjoined

letter sent to the registrar. My reason for suggesting in the last letter that the award is "insufficient for uncertainty" is, that instead of the referees exercising their authority by ordering the alleged nuisance to be abared it is alleged nuisance to be abated, it is merely referred back to the district surveyor. Should the party be contumacious and proceed (which I hold he is quite justified in doing), the district surveyor must then commence new proceedings, and from another portion of the award he will find bimself in a difficulty. This "commencement is to a house at the corner of a street, which par-taking (as relates to the road in front) of a taking the houses beyond such street circular form, the houses beyond such street assume another "general line," the architect assume another "general line, sent down by the referees has by a dotted line elongated each of these "general lines," in-tersecting each other on the building in progress,—the result being, that if one line is adopted it would condemn only about one movely in extent to what the other would; and the referees are silent in the instructions to the district surveyor which is to be deemed the "general line." It may also be well to mention that the house to which this addition has been made, recedes from the general line 22 feet, the new building being 25 feet deep; it consequently is only 6 feet, or 3 feet (as the above dotted lines may be adopted), that is sought to be condemned.

With respect to the decision in the case of "want of consent" as to party-walls, I would refer to the subjoined letter, having expunged such portions as were touched upon in my last letter, and referring your readers to my pre-

^{*} Flint glass reduced, 10th October, 1835, from 6d. to 2d.

Finit glass reduced, 10th October, 1833, 170m 04. to 24.
 Perlb.
 Bricks, the duty on all bricks, except common, reduced from various rates to 10s. per 1000, from 22nd August, 1839, 2 Broad glass, duty increased 15th August, 1840, from 11. 10s. to 31. 13s. 6d. per cwt.
 Flint glass, duty reduced 5th July, 1844, from 2d. to 3d. per lb.

vious letters to the referees thereon in your journal of the 8th of March.

To Arthur Symonds, Esq. Registrar of Metropolitan Buildings. Sir, -I beg leave to address you, and through you the official referees, upon the subject of the award as to alleged irregularities in the count but on behalf of the public; as it is quite clear I was not bound to seek your decision, but having taken up the subject con amore, and being in that way a rara avis, willing to devote time and cost to develope the truth in any large question of public rights, I was anxious to argue upon facts. I feel, that perhaps I have no right to intrude on you, after having come to a solemn decision upon a case heard before you, nor am I at all desirous to excite a dis-Cussion in the shape of a correspondence, as (I say it not ironically, but in sober sadness) I cannot afford to write letters to be re-ceived and read at a cost of 5s, each, which leade me to the discussion of what I had im-agined to be the intention of public officers, liberally remunerated through the medium of a county-rate collected from each inhabitant householder of the districts within the jurisdiction of the Act, viz.: It being an Act ex-presely for the protection of public rights and benefits, I imagined the court thus appointed to be paid by popular contribution, was in-tended as an easy mode of carrying out its operations without in costs pressing hardly upon an individual who is in doubt as to the mode of proceeding under a complicated Act and was compelled to appeal for advice to this court. That the contrary is the fact, I would appeal to the costs in my own case of 51. 43,8d. for literally reading three letters and a confor literally reading three letters and a con-ference of one hour and a half. To the award itself I object, upon these grounds, and also to the whole proceedings. In your award, you set out the positions in which consent could not be obtained, and then you say, "or that the ad-joining owner to whom notice had been given, and the to consent but willing and was not only able to consent, but willing, and did, in fact, consent, or that in fact there was no differences between the parties concerned;" your decision being, "Then it will be the duty of the district surveyor to offer either to proceed to the survey in the presence of the parties, if they be present, without prejudice to the matter in question; or to defer making such survey until such matters shall have been determined by the official referees on a refer-ence thereof seconding to the unpublicance of ence thereof, according to the provisions of the Metropolitan Buildings Act in that behalf." In your award, you also state, " Yet the district surveyor was not bound to inquire into such matters, but on receipt of the notice of the buildings owner, he was bound to proceed mi-nisterially so far as the said Metropolitan Buildings Act has specifically prescribed on that behalf." This at once raises the question whether the district surveyor is, or is not, under the direction of the official referces, or if for any, for all purposes. The notice of survey was served late on the Saturday aftersurvey was served late on the Saturday after-noon, to meet on the Tuesday following at twelve. On the Monday, I served notices on the referees, the district surveyor, and the building owner, that we had been, and were consenting parties. We not on the Tuesday, and my reasoning sufficed to restrain the "building owner" and his surveyor from taking any part in the matter; the district surveyor remarking that, whatever his views of my arguments were, he was bound to proof my arguments were, he was bound to pro-ceed in obedience to the directions of the official referees. In lieu of exercising the discretion pointed out in your award, he for-wards plaus and statements of facts (profes-media he are available to the source would have edy, but so erroneous that a tyro would have disowned them) with knowledge of alleged irregularity. Copies of these are transmitted from you to us, headed "in absence of consent of the adjoining owner, sec. 24." I distinctly hold that the district surveyor,

se our appointed public officer in respect of the fee to be received for superintending the work, is bound to see the Act fairly carried out, and to advise as to the mode. In this particular once it appears to me he was the sole cause of all the ultimate difficulty. I contend it is his duty before sanctioning process to insist upon a declaration that "consent of adjoining owner" cannot be obtained. Thus, your

office was moved by the express direction of the district surveyor, and progressed with railroad speed in the face of our objections, distinctly stating we were consenting parties; and, I presume, in accordance with your table of fees, liable to the fee for "supplying want of consent of owners," all the mass of papers received being so headed.

The point for the public to ascertain, there-fore, is, upon ground of complaint, whether the referees have any authority over the district surveyors in this case upon my ground of com-plaint of the short notice given of the meeting. The district surveyor denied your authority to control him; but an authority has been assumed over them in the circular issued as to the course to be taken in respect of matters commenced before the 1st of January, to which authority, with all respect and submission, I demur; as I cannot find even by implication one word in the Act permitting any one to control me in reading a public Act in its common sense; and I quite agree with Mr. Jeremy, the magistrate, that if he had built a mansion before the 1st of January, but had not commenced detached out-buildings and stables necessary to complete for occupation, he would insist upon building them irrespective of the new Act. The frivolous and vexatious cases I now have in hand upon notices from district surveyors, I have advised the parties to resist, and take them into a court of law, most of them being founded on the perversion of the reading of sec. 5, a section that by the greatest ingenuity cannot be strained to apply to works commenced (being buildings erected before the general line of houses, but roofed and covered in) before lat January. The reason assigned by the district surveyors in the cases alluded to (and as, I understand, sanctioned by your authority) is that sec. 5 states " with regard to every such building hereafter to be built, so far as relates to building the same, and with regard to every such building, either already or hereafter built, so far as relates to the rebuilding or altering the same :---" this can apply only to any such operations com-menced after 1st January, as what is termed "enlarging or altering" was a building commenced before 1st Junuary, restrained by no

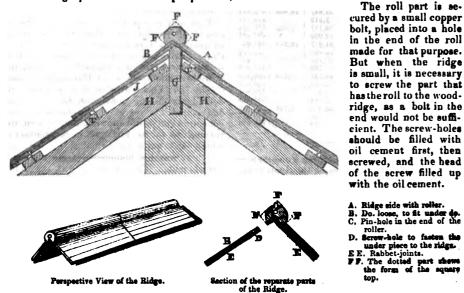
existing law. If the permissive sec. 2, is ont to be taken as defining what is "already built,"

WILLIAMS'S PATENT SLATE RIDGES AND HIPS.

THE annexed engravings will serve to explain the construction of a very efficient slate ridge, the cost of which will be found in our advertizing columns.

In order to put on the patent ridge properly, the wood ridge piece should be kept up about

an inch clear of the slating, and bevelled off on each side, so that the upper edge of the under part of the slate-ridge should bear solid on the bevel of the wood ridge, the lower end will then bear tight on the slating when screwed on. The part of the slate-ridge which has the roll should be bedded on the other in oil cement. The roll part is se-



ABSTRACTION AND SALE OF A FONT COVER.—A report having been generally cir-culated throughout the parish of St. Martin's-in-the-fields, that the curiously carved ma-hogany cover of the font, which had been for some time missed from the edifice, had been traced to a broker's shop in Drury lane, where it was exposed for sale for 30s., an investiga-

tion took place, when, at a vestry meeting held a few days since, one of the churchwardens admitted that he had sold it, as he considered it to be a piece of useless lumber, which had been lying for years in the value of the church, and its use unknown or disregarded until it had been seen at the broker's to whom it had been sold.

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I would quote another portion of sec. 5, as against the above reading "subject, never-theless, to any other rules and directions in this Act, contained in the same behalf." And it must be borne in mind that sec. 5 is merely declaratory; the enactments in each case being referred to the various schedules, when it will be found that such terms as "enlarging it will be found that such terms as "enlarging or altering" are nowhere to be met with. Every such erection to an existing building (which in common *parkance* would be termed "enlarging or altering)," is treated of in the Act as a building *per se*, regulated in its con-struction according to its rate by area and height; if such an erection be therefore for the future deemed a building, it follows that a similar erection commenced before 1st January must also be a "building already built," pro-tected by sec. 2. tected by sec. 2.

I have the honour to be, &c., GREENWAY ROBINS.

Relative to the sum of 151. 11s. 8d. charged by the referees for an award, referred to by our correspondent, we felt bound to make injunction and are in a position to state, that the largeness of the amount in this case was caused by the indiana of the parties themselves. The correspondent, we felt bound to make inquiries, proceedings of the parties themselves. The referees profess themselves to be, and we believe them, anxious to keep down the ex-

pense of application to them. We have already (page 133) stated our opinion at some length, that necessary parts of buildings commenced before the lst of last January, such as shop-fronts, bows, porches, being part of the original design, although these may be still undone, are not within the control of the Act, and do not authorize the demand of a notice by the district surveyor, if completed before January next. In a case now before us professionally, the district sur-veyor has called on the builder of a house veyor has called on the builder of a house which was roofed in before last January, to give him notice (in other words a fee), before he completes the porch, although this is as much a part of the original design as the chimney-stacks, and, in the eyes of the law, as we said of shop-fronts, is *already up*,—part of it indeed actually was carried up with the front wall of the house last year. The demand is so preposterous, that we cannot think it will is so preposterous, that we cannot think it will be persevered in : if it be, we shall of course resist it to the utmost, and have no doubt as to the result.—ED.]

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THE BUILDER.

Correspondence.

MISTARBS IN ESTIMATES-HERNE-HILL CHURCH.

SIR, -As one of your numerous readers, allow me to express my satisfaction as regards the talented manner in which your various correspondents are treating the question of archi-tectural competition, with the view of purifying future decisions, so that real merit may ultimately find its proper level. However desirable this object may be to accomplish, it should be borne in mind there are serious mismanagements in building competitions, which appear to me to have equal claim on the pages of THE BUILDER, and, in support of my assertion, refer you to that unfortunate affair at Hernehill Church.

We take for granted the matter went through a business form, and the quantities were supposed to be taken out by competent persons ; of course the builders, satisfied of the abilities of the parties so employed, proceed to prize the various items in full confidence that all are correct. Imagine the contractor's surprise when he finds out that the actual quantity of stone regained for the completion of his works exceeds the quantities furnished, by some 2,000 cubic feet or upwards. Then comes the question, what is to be done? Not allowed to throw up his contract, he is told he can fall back on the parties who supplied the quantities to make up his loss. We then have the name of Mr. Broomfield introduced to us as the person who made so serious an error. Mr. Broomfield then tells us he did not take out the quantities at all, as the time allowed was too short, but that he copied them by permistoo short, but that he copied them by permis-sion of the architect from his private quantities. The architect next introduces himself, and very politely gives Mr. Broomfield the lie direct. The principal clerk next approaches the arena of discord, and after quoting a pre-cedent io point of allowing an inspection of private. quantities on the Great Western Railway, admits that on the second application of Mr. Broomfield he was allowed to copy the privateoquantities of the architect, but at the same time was cautioned they could not be depended time was cautioned they could not be depended on as correct.

Thus it appears, if this statement be true, Mr. Broomfield supplied copies he was in-formed could not be depended on, and the architect allowed builders to tender for building this church, from quantities he knew were copies of his own, which he could not say were correct.

Yet after all these statements, we are still in the same position as regards being informed where the blame lies : neither seems inclined to own the fault, but makes vain attempts to throw

it back from one to the other. I trust, Sir, you will consider this Herne-hill Church affair to be of a serious character, as affecting builders generally, and that it demands a further notice in the columns of your journal, as the architect and builders' organ, for it is self-evident, if the truth is before us, that Mr. Sugden has encountered a heavy loss by such a system of conducting competition, and it may prevent respect-able bailders in future from engaging in competition from quantities furnished in such loose, and, to say the least, disgraceful inner. I am, Sir, &c., Lambeth. March 25th. W. A. เพิ่มที่กอา.

We have carefully considered a number of letters forwarded to us on this subject, including one from Mr. Broomfield, and one cluding one from Mr. Broomfield, and one (accidentally) unsigned, purporting to be from Mr. Sugden. None of them, however, seem to disprove the statement made by Mr. Alex-ander's clerk (p. 130, ante), that when he allowed Mr. Broomfield to inspect the ab-structs and dimension books, Mr. B. was distinctly told that Mr. Alexander would not be responsible for their correctness ; further, that at duplicate specification was lodged with the Church Commissioners, and would serve to prove that no alteration was made in it after the estimates were prepared, The architect's es-timate was probably what architects' estimates often are (and are required only to be), namely, a general one to get at the prohable cost and the mistake seems to have been, adopting the quantities, taken out perhaps roughly for that purpose, without comparing them with his specifications and drawings. We trust what has been said on this occurrence may have

the effect of inducing greater caution in future on the part of those deputed to take out the quantities for builders, and may prevent architects from allowing their quantities to be seen, unless they are quite satisfied that they are correct.-ED.]

HOLLOWAY CONGREGATIONAL CHAPEL.

SIR,-Your correspondent of last week who desires some information respecting the late competition for a new Independent Chapel at Holloway, appears (like many others) to be surprised at the mystery with which the whole affair was conducted. Secrecy in such matters never looks well, and generally defeats its own intentions, since it arouses suspicion, and, as

in the present instance, prompts inquiries. From hints unwittingly dropped in different quarters (and those versed in architectural competitions know too well how to put such together), I was led to conclude that the studied reserve, which your correspondent has salso noticed, was not casual, but a matter of prudence, inasmuch as the Holloway In-dependent Chapel Committee had not shewn themselves proof against the influence of party interest.

But now for more tangible evidence :---when I had received back my drawings, I naturally wished to know who was the fortunate candi-date, and was informed Messrs. Emmett and Chadwick, and, on further inquiry, learnt that Mr. E. was "one of the congregation." This looked very doubtful. It has since got whispered about that the above parties have not adhered to the conditions of the furnished This instructions, and that the committee have winked at the discrepancies.

That a portion of the required accommodation is provided in a gallery notwithstanding the express direction "No galleries to be erected at present," a gross unfairness towards the other competitors, who, I doubt not, to a man,

obeyed its obvious meaning. That before any of the unsuccessful draw ings were returned, it was decided entirely to alter the character of the APPROVED elevation and - That before the business was finally achieved, to make assurance certain, the plan was revised, and no time lost in setting it out on the ground.

Now, Six, there is an old saying, that truth will out, and if corroborated runiours become facts, these charges must be true; at any rate, I see no reason for disbelieving them till they are severally and officially contradicted. I am not going to querrel with the committee for wishing "one of the congregation," in the first instance a committee-man himself, to build their chapel if they can trust to his taste and abilities, but I do complain, that in conse-quence of a public advertisement so many arabilities, chitecte have been induced to expend time and labour in preparing designs, with the hope that their respective merits would be honestly weighed, when the result (if what is above stated be correct) seems to force upon us the not very palatable notion, that the real design after all was to collect a few suggestions gratis, and then make such use of them as might be con-venient in the improvement of a "cut and venient in the improvement of a dried " plan. I am, Sir, &c...

FAIRPLAY.

P.S.-I quite fall in with the idea of exhibiting the different designs, and am ready to contribute mine."

THE FOUNTAINS IN TRAFALGAR-SQUARE. Several experimental trials have lately been made to test these works, which at last have been pronounced to be complete, and ready for constant use. The fountains will be put in daily operation as soon as the basins are repaired, they having got out of order, and the cement being cracked in many places from imperfect workmanship. The fountains are to play for ten hours each day, such being the contract with the engineers of the works. The cistern from which they are supplied at the top of the engine-house in Orange-street holds 37,000 gallons of water, and the higher main at the top of the tower for the supply of the Government-offices about 20,000 gallons. The water will ascend to a height of 40 feet; but at the recent trials the jets were only suffered to play to a height of from 6 to 8 feet, as with a greater ascent the water is liable to be driven by the wind to a considerable distance across the square.

Aliscellanea.

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GLASS FOR OPTICAL PURPOSES .--At a recent meeting of the Society of Arts, Mr. Claudet submitted a communication on the improvements recently introduced into the manufacture of glass for optical purposes. The importance of this invention will be clearly understood if we reflect that upon the perfection of glass depends entirely the power and utility of the telescope, and hitherto the manufacture of a material possessing the requi-site properties in a sufficiently high degree has been a matter of infinite difficulty and uncertainty. The defects most injurious to glass employed in the construction of philosophical instruments were, the numerous filaments and lines, called by opticians " strike," and also the spots produced by the bubbles of confined These defects arose from the almost imair. These defects arose from the almost im-possibility of obtaining an intimate mixture during the fusion of the different materials composing the glass. A means has, however, been discovered by M. Bontemps, a French gentleman, founded upon an old process in-vented by a Swiss, of the name of Guinand, and it is this invention that formed the subject of Mr. Claudet's communication. By an incenious contrivance a complete mixture air. an ingenious contrivance a complete mixture of the materials, when molten, is obtained, so as to produce perfect homogeneousness and the entire destruction of all the defects in the glass. Lenses, with scarcely any blemishes, may be made of two or even three feet in diameter; and it was stated in Mr. Claudet's paper that the inventor has undertaken to furnish to the Royal Observatory at Paris the lenses for an achromatic object glass of a metre (ubout 40 inches) in diameter.

DECORATIVE ART SOCIETY .- On Wednesday, 26th ult., a paper "On the physiology of timber trees, considered with reference to manufacturing purposes" (second notice) was read by Mr. Vicary. He passed in review various theories concerning the growth and formation of pith, annular rings, medullary rays, bark, &c., the influence of soil, light, winds, and pruning; and also the evidences of health and maturity in the living tree. The tubular construction of timber, its medallary rays, &c., were illustrated by the oxy-hydrogen microscope, with transverse, oblique, and longitudinal sections of various woods pre-pared for this occasion. Sir W. Symonds, in the course of his observations, expressed his willingness to afford to inquirers the facility and advantage of examining the Government collection of woods, &c., at present under his control. Papers "On stuined glass," and "On the application of colours to manu-factures," were announced to be read at the next meeting of the society.

INSTITUTE OF THE FINE ARTS.— The monthly meeting of this body was held on Saturday evening last in the great room of the Society of Arts, 'Adelphi. The chair was taken by Mr. Wyse, M.P. A great number of members and their friends was present, the room being literally filled. The chairman addressed the meeting in a very eloquent speech, in which he took a view of the rise and pro-gress of art, and its present state and prospects. He insisted on the necessity which called upon the artists of this country to be-come the teachers of the principles of art to the people generally, and to caltivate and direct properly the taste of their fellow-countrymen. Mr. James Foggo then read a paper, in which he set forth the advantages paper, in which he set forth the advantages which would accrue to the fine arts if a national exhibition of engravings were established, and proposed that the government should be called upon to establish a gallery for that pur-pose. Mr. Park read a paper on modern sculpture, in which he made some severe strictares on the statue of the Dake of Wellington lately erected at Glasgow: after which a vote of thanks was passed to the chairman, and the meeting broke up.

BBISTOL ACADEMY OF THE FINE ARTS. —The first annual exhibition of works of living artists will be opened on or about the 14th instant. In sid of the fund now collecting for the establishment of the academy, a bazaar has been proposed, to which many who are unable to give money may be disposed to send prints, drawings, duplicate copies of books, &c. It is thought that a large sum might thus be raised.

NOVEL LOCOMOTIVE POWEB .--- A very ingenious application of the screw principle to the common locomotive has been suggested by an American. It professes to overcome inclined planes of any steepness, even though the greatest load be attached, with perfect ease and certainty. By a very simple apparatos the driving-wheels are lifted from the track on approaching the plane. A cogged-wheel of small diameter is attached to, and derives motion from, the axle. This wheel plays into another cogged-wheel of greater diameter, and that in its turn gives motion to an ever-lasting screw placed longitudinally beneath the engine. Along the centre of the track, on the inclined pluve, a series of strong wheels, moving freely on their pivots, and inclined to the horizon at the same angle with the plane, are so placed that they correspond with the threads of the everlasting screw beneath the eogine. When the engine reaches the plane, motion is given to the screw from the engine itself; and its power is capable of being increased to any point by increasing the ratio of the diameter of the cogged-wheels, turning the screw to the diameter of the wheel deriving motion from the driving axle of the engine. The inventor anticipates very great advantages from this adaptation : among others, a great saving in expense, additional safety to pas-sengers, and facilities of constructing lines in positions hitherto considered wholly unadapted for such purposes.

INPBOVED MANUFACTURE OF CAST STEEL. -The solution of the problem of producing cast-steel direct from cast-iron, without in-carring the enormous expense hitherto inseparable from the old process, has engaged the stiention of scientifio mcn, since the time of Reaumur, whose work appeared nearly a century ago, to the present time, without having produced any result of the least value. At length, however, this object is announced as having been accomplished by a gentleman, who states the apparent paradox, that he is able to produce cust-steel at a cost not exceeding that of pig iron, of a quality suitable for the manufacture of steel. Of the importance of such a discovery, supposing it brought into practical operation, some opinion may be formed, from considering that steel made in this manner may be sold at half the present selling price of that of medium quality, mad-in the usual way, at a profit of 100 per cent; and that the quality of it, according to the statement of the discoverer of the process, will be const to that now made from the most be equal to that now made from the most expensive foreign iron; it is also stated that the steel is suitable for every purpose for which steel is now used—from coach-springs to surgical instruments-and that, consequently, this process must entirely supersede all those at present in use for making the various descriptions of steel now used in the arts.

RAILWAY RESTAURANT .- A plan has been promulgated which promises to administer largely to the luxury and comfort of those who are compelled to undertake long journeys by railway. It consists in the construction of some newly-formed carriages, so as to consti-tute a sort of travelling café, or railway res-taurant, to be placed in the rear of the other carriages, which are to be so constructed as to open into one another thereby exclusion open into one another, thereby enabling waiters to travel along the train *ad libitum*. A bill of fare, shewing what the refectory contains, is to be posted in each carriage. Bells are to be at the command of the passengers to apnounce their wants to the waiter, who will travel to them along a narrow passage alongside the in-terior of the carriages constructed for the

PUTPOSE. RESTORATION OF ST. MARY'S CHURCH, BURY ST. EDMUNDS,-A detailed account of the receipts and payments connected with this restoration has just been published. It appears restoration has just been published. It appears that the receipts up to the present time amount to 2,056/. 4s. 7d., and the payments to 3,417/. 6s. 8d., shewing a deficiency of 1,361/. 2s. 1d. A public appeal for further donations has been made by the minister and churchwardens, who, for the present, have paid the deficiency. It may be mentioned, in con-nection with this restoration, that in addition to the very handsome subscriptions of Henry James Porteus Oakes, Esq., and John Fitz-gerald, Esq., the former gentleman presented astained window at the east end of the nave, and the latter, a new font.

PROGRESS OF RAILWAYS .-- Railways are messengers of civilization, peaceful locks tend-ing to bind countries in ties of closer intering to bind countries in ties of closer inter-course; as a guarantee of peace they protect from war. They are now covering the Con-tinent—extending across the Desert—about to span India from Calcutta to Bombay. Where will they stop? There is a railway now on its way from St. Petersburg towards Moscow—will it stop there? The direction of that line, if pro-longed, leads to China. Between St. Peters-burg and Pekin, there is scarcely a hill; Moscow is, therefore, but a first-class station on Moscow is, therefore, but a first-class station on the way to Pekin. We will not speculate on the date of completion of such a line yet, but return to what is imminent and in sight. From London to Southampton there is now an elec-tric telegraph. Mr. Wheatstone is on his way to Paris for the arrangement of a telegraph in France. It may soon be completed from Havre to Paris; from Paris to Marseilles there will be a continuous line of railway, and a tele-graph on it; thus we reach the Mediterranean; thence Egypt, across the Desert, and so to Bombay and Calcutta. We may cross to Bel-gium, where an electric telegraph already exists. We shall soon have one continuous line to Venice; and then across the Desert, and finally from Calcutta to Bombay as before. Does such a prospect, so clear, so certain of bringing so near home our many friends and brothers now in the other hemisphere, not bring home to our hearts the conviction that we are just entering a career of social improvement, based on scientific discovery, the beneficial effects of which it is difficult to foretel, but impossible to over-estimate? - Athenaum.

A COURT IN THE GREAT METROPOLIS .-Orchard-place is a broad court leading out of Orchard-street, Oxford-street, and close to Portman-square, Manchester-square, Grosvenor-square, and some of the first streets in the metropolis. Including two nooks, Orchard-place is less than 45 yards long and 8 broad, and contains twenty seven houses. Its inhabitants amount to 882 persons, of whom 582 are about fourteen years of age! The population of a large village or small town is here compressed into one court. Amongst these are found 222 adults who could not read; whilst most of the other adults could only read imperfectly. Only seventeen persons had copies of the Scriptures. Ten persons professed to attend Protestant worship; while the great mass of those who attend Romish worship only did so early on the morning of the Lord's-day. The parties employed in taking the statistics of the place witnessed two fights, and one woman was nearly beaten to death. The court was once supplied with copies of the Scriptures, but such was the desperate character of the inhabitants, that every copy was destroyed. Such is a brief outline of one of the heathen spots which stud the metropolis of Christian England. ON FIXING BLOWING SANDS.—I have had

occasion to try experiments upon the practibility of fixing blowing sands on the sea coast, by planting grasses and trees upon them. The experiments were made upon a tract of blowing sand of between 500 and 600 acres, on the ing sand of between 500 and 600 acres, on the sea coast, upon my property in the county of Sligo, in Ireland, and with great success; and if you should wish for any detailed informa-tion on the subject, you would obtain it by addressing my local managing agent, Mr. Lynch, Rundale Cottage, Chiffony, Sligo. I found a small quantity of bent growing upon the sands; and by transplanting annually, for many very inst. a sufficient quantity of many years past, a sufficient quantity of the younger plants, I have covered with a close coating of bent the whole surface of the formerly blowing, but now fixed and stationary sand; and the result is, that the bent affords shelter and food for young cattle, while trefoil begins to grow spontaneously on the sand be-tween the tussocks of the bent. I have for the last three or four years sown seeds of the pinus maritima, from Bordeaux, among the bent on some portion of the sand, and the young plants are growing well, though hitherto they have been more occupied in striking their roots deep into the sand than in throwing shoots I have also tried young oaks in the upwards. sand, and they seem as yet to thrive in it even better than the pine. The sand is the broken downruck of the old or lower sand-stone formation — PALMERSTON, Carlton-terrace, Fcb. 17. [This mode is adopted to a considerable extent in Holland, where the soundness of the dykes is a matter of vital importance.-Eo.]

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NAILS IN 1284. The following entry from a Roll, dated the ninth year of Edward I. (quoted by the Rev. Charles Hartshorne in the Archæological Journal for January), fur-nishes the price and names of the different sorts of nails that were then used. "For ten thousand of lath nails (*lathe nayle*), bought at Nottingham, 7s. ld., namely, 8¹/₂d. a thous sand. For two thousand and a half of board nails (*bord nayle*), bought at the same place 14. 17s. 6d., namely, 1s. 6d. a hundred. For a thousand great spike nails (magnis spikingg), bought at the same place, 3s. 4d., namely, at bought at the same place, 3s. 4d., namely, at 21d. a hundred (sic.) For two hundred and a half of wyt nayle, bought at the same place, 2s. 3d., namely, at 6d. a hundred (sic.) For four hundred of clout nails (clut nayl), bought at the same place, for the fastenings and bars (ad cyntics et barres), 4d., namely, a hundred for a penny."

Tenders.

: (1)

TENDERS delivered for creating Goble Cottage at Finchley.--F. E. Fowler, Esq., Architest, Sack-ville-street, Piccadilly.

| ac-succe, a rocauniy. | 14 |
|-----------------------|--------|
| Chapple and White | £1,840 |
| Cooper | 1,683 |
| Plaskett and Skelton | 1.672 |
| Stevenson | 1,633 |
| Burton and Son | 1.568 |
| Gerry | 1,509 |
| Elston and Co | 1,392 |
| Simmonda | 1,390 |
| 4 × | |

NOTICES OF CONTRACTS.

We are compelled by the interference of the Stamp, Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the coareciones of wir receiver however, they are entered in a book, and may be easily on application at the office of "The Builder," 2, Yorky, street, Covent-garden.]

For cutting, forming, and completing a new line of Private Carriage-road, one mile in length, from Whitehaven Castle, Camberland, the seat of the Earl of Lonsdale, 'to' the Turnpike-road,' between Bransty toll-bar and Lonsdale-place, near the town of Whitehaven. April 7. and bradescond. 16 t

For constructing the fourth division of the Great, Southern and Western Railway. April 8. For supplying the Gaol, now in the course of

ror supplying the Gaol, now in the coarse of erection at Aylesbury, Bucks, with gas-pipes, fittings, shades, and burners; locks, and other fittings; iron tanks, pumps, and piping necessary for the supply of water. April 8. For about 250,000 Railway Sleepers not less than 9 feet long, for the Chester and Holyhead Railway.

April 9. For erecting at Alresford, Hants, between five

and six thousand feet superficial of new Brickwork, to be either neat flat, joint-pointed with white mortar, or neatly tuck-pointed. The parties to find labour and the erection of scaffolding only. April 10.

For the restoration of the Parish Church of Grays Thurrock, Essex. April 12.

For the erection of a Church in the parish of St. Thomas, Winchester, April 12. For the erection and building of a Farm-house,

Barn, Stable, and other offices, at Hepworth, Suffolk. April 16.

Suffolk. April 16. For keeping Battle-bridge and Holleway-road in repair for one or more years. April 17. For submitting a plan of a Tread-wheel, and com-structing the same in the Common Gaol of Great-Yarmouth, Norfolk. April 24. For all the Works to be done in the erection-and completion of the new cast-iron Bridge over

the Haven of Great Yarmouth, including the find-ing of labour, certain materials, &c. April 26. For the construction of the third and fourth divisions of the Chester and Helyhead Railway. April 28.

For laying out the Grounds of the Victoria-park Cemetery, and for draining the same, making the roads, paths, and finding all necessary trees, shrubs, the materials. &c.

For performing the several works in building a new Workhouse at Tenterden. . May 2. For the formation and completion of a new.

Drain, being about eleven miles long, twenty yards wide, and five yards deep, for the Middle Level Drainage Commissioners. Also for the erection of a Staunch, several Bridges of wood with brick abutments, together with the necessary culverts, and other works. May 8.

COMPETITIONS.

Plans, sections, and elevations for a Terminus, rians, sections, and elevations for a terminus, and other requisite accompanying offices, for the Great Southern and Western Railway, Ireland. Plans for a Church to be erected within the Borough of Kingston-upon-Hull. May 8.

THE BUILDER.

APPROACHING SALES OF WOOD, 800. BT AUCTION.

-At the Spulk House, in Dean Forest, April 2.-Gloucestershire, by order of the Commissioners of her Majesty's Woods and Forests: 319 Oak Timber Trees.

April 5.—At Bower Hall, Steeple Bumpstead, Bases: 400 Fir, Oak, and Elm Trees. April 7.—At the Swan Inn, Alton, Hants: 270 fine Oak Timber Trees, now standing in Shaldenpark Coppics. The timber is of good size, and the greater part of unusual length and straightnes

April 8.—On the Glembam House Estate, Suffolk : upwards of thirty loads of Ash, Elm, and Poplar Timber, of good quality. Also 200 Oak Stands, and a considerable quantity of Pollard Trees, &c.

April 9.—At the Lamb Inn, Rainton, near Topcliffe, Yorkshire: 254 Oak Trees and 217 Ash, now standing at Rainton. The Wood is of large dimensions.

April 10 .- At the Devonshire Arms Inn. Martinle-Moor, near Ripon, Yorkshire: 276 Oak Trees and 12 Cyphers, new standing at Martin-le-Moor. Also 786 Oak Trees and 173 Cyphers, all standing in Martin-le-Moor Old Wood. Many of the out-

standing Trees are of large size. April 11.-On the Hoo Hall Estate, near Fram April 11.—On the Hoo Hall Estate, near Fram-lingham, Suffolk: a quantity of Ash and Oak Timbers; ditto Fir, Oak, and Ash Stands; ditto

Pollards; all recently felled. April 11.—At Wingerworth, Derbyshire: a large quantity of Oak, Ash, Beech, Alder, Elm, and Walnut Trees; in all 716 Trees and 911 Poles.

April 11.—At the Congreve Arms Inn, Alder-meston, Berks: 180 capital Oak Trees, now stand-ing in Wasing-wood; also 50 capital Oak Trees, standing in Hart's-hill Coppice. They are all sound plank Timber of large metings and of the very best quality, April 15.—At the Three Ashes, crossing near

Witham, Essex: 1185 Oak Trees, now growing in the woods and fields of Lanhams, and Crossing Lodge Farms. Many of the Trees are of large dimensions.

Some time during the present month. A large quantity of full-grown Coppice and Hedgerow Timber, now standing at Denby's, Derbyshire.

TO CORRESPONDENTS.

"J. P."-We shall be glad to see the sketches offered.

"Constant Reader and Purchaser" is thanked. Estimates of that sort do not require notice.

"W. W.," as a competing architect, offers his thanks to Mr. Allom, and Messrs. Lahee and Mabin, for their letters in our last number.

"A Subscriber " (Nottingham) wishes to know which is the best machine for crushing lime in large quantities for concreting. The ordinary crushing nill, a cylindrical store made to revolve round a fixed point, by horse or other power, on a grating fixed over a receptacle for the power, and material, answers perfectly well, we believe.

"A Country Carpenter" wishes to be told of a good stain to make deal look like old oak. As-phaltum ground in copal varnish produces a good appearance, but is not properly a stain.

"F. M."-There does not seem to be anything to prevent him "butting a timber erection against the gable end of a brick building," if the timber erection was up before the 1st of last January. The erection of such a shed as he speaks of would not be permitted now.

"W. Rowland."-The "canaliculated acqueduct" for preventing effluvia from sewers through the street gratings, does not seem to have any ad-vantage over the ordinary "trap" in use. The objection to trapping is, that by preventing the escape of the gases the sewers are rendered danger-ous. The model is left at the office in York-street for impression for inspection.

"E. M." (Pimlico).—The average (of last seven years) annual produce of the duty of 8d. per ton on coals is 87,8011. 7s. 5d.

on coals is 87,8011. 74. 5d. "The Reading Competition." — "Architectus non Competitor" effers praise to Mr. Blandy for the course he pursued, and considers with a little alteration in the details, it might be generally adopted with much advantage. "A Young Subscriber" will not find any one book to give him the knowledge he requires; it must be abtend from parious surveyse. — Could's Edition

be obtained from various sources.—Gwill's Edition of Chambers ; Stuart's Athens ; Parker's Glossary, &c. Shaw's Encyclopædia of Ornament would be Snaw's useful to him.

A Young Builder '' (Dublin) .- "The Students, Builders', and Architects' Instructor in the Students, and Practice of Measuring Artificers' Work," published by Weale, High Holborn, would pro-bably answer his purpose.

"J. R. Croft," "E. H.," "H.W. Portses." and W. J. S."-Next week.

"Messrs. Poulton and Bland " are thanked for the information respecting Holloway Congrega-tional Chapel. They will find another letter on the subject in our present number. "Lavinia" states that the old church at Wilton

will be removed when the new structure is com-pleted, and offers to send some sketches of those parts which are worth preserving. We shall be very glad to receive them. We don't know the character of the old building, and hope it will be examined by qualified persons before it is taken

uown. Received.—" A Series of Letters on Agricul-tural Improvement," by J. J. Mechi (Longman)— "Old England," part 16 (Knight), containing various architectural notices to which we shall refer shortly; and "The Pictorial Gallery of Arts," part 3.—Archi—Bricks and Brickmaking rts," part 3.—Archi—Bricks and Brickmaking -G. M.

MEETINGS OF SCIENTIFIC BODIES

MEETINGS OF SCIENTIFIC DODIES During the ensuing week. MONDAY, April 7.—Entomological, 17, Old Bond-street, 8 P.M.; United Service Institution, Whitehall-yard, 9 P.M.; Chemical (Society of Arts), Adelphi, 8 P.M.; Medical, Bolt-court, Float street 8 P.M. t-street, 8 P.M.

TUESDAY, 8.—Medical and Chirurgical, 53, Berners-street, 81 P.M.; Civil Engineers, 25, Great George-street, 8 P.M.; Zoological, Hanover-square, 8 р.м.

WEDNESDAY, 9.—Society of Arts, Adelphi, 8 P.M.; London Institution, Finsbury-circus, 7 P.M; Graphic, Thatched-house Tavern, 8 P.M; Pharmaceutical, 17, Bloomsbury-square, 9 P.M. THURSDAY, 10. — Royal, Somerset-house, 84

P.M.; Anliquaries, Somerset-house, 8 P.M.; Royal Society of Literature, 4, St. Martin's-place, 4 P.M.; Medico Botanical, 32, Sackville-street, 8 P.M.

FRIDAY, 11. Astronomical, Somerset-h

 P.M.; Royal Institution, Albermarle-street, 8¹/₃
 P.M.; Philological, 49, Pall Mall, 8 P.M. SATURDAY, 12.—Royal Botanic, Regent's-park, 4 P.M.; Westminster Medical, 32, Sackville-street, 8 P.M.

ADVERTISEMENTS.

NOTICE TO INVENTORS.—OFFICE for PATENTS of INVENTIONS and REGIS-TRATION of DESIGNS, 20, Half-moon-street, Piccadily. Patents obtained for the United Kingdom and Foreign Countries; Designa registered; printed instructions, contain-ing the chargee, forwarded gratis; and every information given by application, if by letter pic-paid, to Mr. M. Joseel.m Cooke, 20, Half-moon-street, Piccadilly.

EMBARRASSED CIRCUMSTANCES **MBARRASSED** CIRCUMSTANCES. -PERSONS IN DIFFICULTIES being desirous of availing themselves of the Benefit of LORD BROUGHAN'S RUMANE ACT. are requested to apply to MESSRS. GRAND AND CO., of 54, Coleman-street. City. where every information may be obtained, FREE OF EX-PENSE, or arrangements can be made with Creditors, by which means the painful necessity of resorting to BANKRUPTCY or INSOLVENCY may in many cases be avoided.--N.B. Partnership accounts adjusted.

LUBUILDERS and Others.—A cheap substitute for high priced bricks, well worthy the attention of speculative gentlemen, and other capitalists who intend building this season. This article is stone, which may be worked with great advantage. It is in pieces from 3 to 5 inches in thickness, and averaging from 14 to 20 pounds in weight; it is about the same weight as bricks, and will be sold in London at 12s. 6d. per ton. Any quantity may be had from 100 to 200 tons per week; not more would be guaranteed per week, as it will come by railway. A fair sample of 16 or 12 tons may be seen at the proprietor's at any time.—Address, JAMES PERREN, 1, Vietoria-place, Surrey-square, Walworth. TO BUILDERS and Others .- A cheap

Surrey-square, Walworth. HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; draino, many sizes, with plain or socket joints; paving in squares, hexagone, octagons, &c., dif-ferent colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chinney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at WHITEFRIARS, and 23. WATER-LANE, FLEET-STREET, LONDON, under Mr. PEAKE'S per-sonal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality. The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colo-nies and elsewhere.

mies and elsewhere. PAINTING BRUSHES OF SUPERIOR QUALITY. TO PAINTERS, BUILDERS, &c. J. J. K E N T A N D CO., MANUFACTURERS, 11, GREAT MARLBOROUGH-STREET, LONDON, Offer to Painters, Builders, &c., Painting Brushes of a quality far superior to those generally offered for sale, to which they beg to call the attention of all who prefer quality and durability to apparent cheapness. 000000.-7 in. Dusters. 000000.-7 in. ditto, extra. 00000.-7 in. ditto, extra. 00000.-7 in. ditto, extra. 00000... Plasterers' Brushes. Distemper ditto. Ground and Unground. Sash Tools, and Common Tools. Tar Brushes and Masons' Brushes, and all other Brashes used by Painters and Artists. Lists of Prices of Painting Brushes, and of all other kinds of Brushes, forwarded on application. Established 1777.

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CAEN STONE. UARD and BEEDHAM have a quantity of the above atone, of the best quality, direct from their Quarries at Allemange, which may be inspected as the Norway Sufferance Wharf, Greenwich. - Further particep-lam at Ms. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

BEST FARLEIGH DOWN FREE. BEST FARLEIGH DOWN FREE. STONE, CHEAPER THAN EVER, at the Wharfs of Mr. Hanson, Kensington; Messrs. Druce, Chelses; Mr. Rogerson, Pimlico; Mr. Foot, Westminster; Messri-Brown and Runy, Bank-side; and Mr. Searle, Wapping. General Agent, T. E. Weiler, Steel-yard Wharf (late Drewe's), Thames-street.

ST. PANCRAS MARBLE and STONE WORKS, near St. Pancras Church, New Road-Gentlemen, Builders, and others, in want of Marble or Stone work, are respectfully requested to apply as above for an estimate, for which no charge will be made. N.B.-A Vein Marble Chinney Piece, opening 3 fost square, 8 inch Piers and Shelf, for 31. 7s. 6d.; a faill vise Head and Foot Stone with 100 letters, fixed within 4 miles of the above-named works, for 31. 5s. Monuments, Tombs, Pedestals, &c., proportionally low.

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upening 3 meet square, and 7 inch piers, for FORTY-FIVE SHILLINGS! STONE BOX CHIMNEY-PIECES, opening 5 feet square, and 7 inch piers, Twelve Shillings; do., do., with MOULDED CAPS, and 8 inch piers, FOURTEEN SHILLINGS.

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| All other Marbles in prope | ortion. | |
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| Sawing Vein | 0s. 5d. | do. |
| Marble Chimney-pieces on hand from | | |
| Marble Baths | | |
| Upholsterers' Work from | 2s. 6d. | per foot. |
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JOHN KNOWLES, Jun. POLONCEAU'S BITUMEN PAVE-MENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Sait Warehouses. For the exclusion of Damp and Vermis in Basements it is particulary adapted, and for Roosing Dwell-ing Houses, Porticos, Balconics, and Sheds. Price 3s. 6d. per square 'ard. BITUMEN for covering the Arches of Bridges, Calverts, Re. Re. on Bailways and wher places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-read, City-road.

City-read. BASTENNE ASPHALTE and BITU-MEN COMPANY, Ofices, 31, Poultry. The Directors of this Company beg 'eave to call the atten-tion of ARCHITECTS, BUILDERS, and others, to the very beneficial results attendant on the use of BITU-MEN in the erection of buildings, &c. Its application as a FLOORING will be found eminently useful. It is also valuable for numerous other purposes, more pap-ticularly where the object sought for is the EXCLUSION OF DAMP AND VERMIN. The Directors beg to refer to the works in Trafugar-square, which have given general satisfaction. Scale of prices per foot square: - 1 inch thick, and 7d. per foot square. Concrete is charged in addition according to the thickness when required. Carriage and men's time are charged extra when works are executed attere miles from the General Poat-office. Bitmems 26 per ton, without grit. Bitumen 25 per ton, wich grit. CHARLES F. TILNTONE, Sec.

TO ARCHITECTS.

TO ARCHITECTS. In consequence of many complaints having been made to the Company, by Architects, of a sperious material having heen used in the execution of Works where the SIYSSEL ASPHALTS had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the where the

SEYSSEL ASPHALTE

SEVSSEL ASPHALTE has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Cla-ridge's Patent," and not merely "Asphalte," or "Bits-men," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. PARELL, Secretary, Stangate, near Westminster Seyssel Asphalte Company. Bridge, Jan., 1845. Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

"Interstandor, and or an energy of the above advertisement, *.* In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been escuted by Messrs. Curtis, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used. expressi be used. Digitized by Google



SATURDAY, APRIL 12, 1845.



N the present Number we have the pleasure to lay before our readers a view of the Hungerford suspension bridge for foot passengers, constructed under the di-

rection of Mr. I. K. Brunel, which will be opened publicly on Friday, the 18th of this month. The engraving shews the bridge as it appears seen from the Middlesex side, a little to the west of the market, and gives an accurate notion of its general arrangement and It consists of three arches; the form. span of the centre is 676 feet 6 inches, and that of each of the side arches 333 feet. The height of the roadway from high-water mark at the abutments, is 22 feet 6 inches; at the piers, 28 feet, and in the centre, 32 feet; so that it cambers in the whole. 9 feet 6 inches. The clear width of the roadway is 14 feet, and the height of the two towers, or piers, which carry the chains, is 58 feet above the road. These towers, which are 22 feet square, consist each of four solid piers of brickwork in cement, 7 feet 6 inches square. connected by inverted arches at the bottom, and are built on the natural bed of the river without piles. They are Italian in style, and were designed by Mr. Bunning to accord with buildings appertaining to the market.

For the foundation of the abutments, piles 26 feet long were driven in an inclined direction. On the south side this was effected with much difficulty, the soil being formed by accidental causes into concrete of very great hardness. The platform, or roadway, is carried by four chains, in two lines, with single suspension-rods on each side, 12 feet apart. The chains pass over rollers in the upper part of the towers, so as to equalise the strain, and are secured in tunnels at the abutments to two iron girders, 44 feet long and 5 feet deep, solidly embedded in a mass of brickwork in cement, further strengthened and backed up with concrete. It is bardly necessary to say, that this is a most important part of the construction, and demanded the greatest care.

The suspension rods carry two longitudinal bearers of fir, 9 by 9, running from end to end on each side of the roadway, one above the other, and between these are placed the ends of cross-beams, which beams receive a flooring of three-inch deal. The cross-beams are double every 12 feet, that is, at the point where the suspension-rod comes through; (each of the two pieces is 11 by 3, and side by side): the intermediate beams, two in each space, are 11 by 51. There is a third longitudinal bearer under the crossbeams, down the centre, 10 by 6, and the whole is trussed disgonally, from side to side, with iron. To prevent undulation is of the utmost importance in the construction of suspension bridges, as they are peculiarly liable to damage from this cause; and it has been thought that the injuries to which suspension bridges are exposed from wind arise chiefly from its action beneath the platform : to stiffen this is therefore most essential.

General Pasley urges, in a paper published in the "Transactions of the Institution of Civil Engineers" (Vol. III.), that if the platform, THE BUILDER.

which presents a large surface to the wind acting from below, be kept from undulating, it can scarcely be supposed that the utmost force of the wind could move the chains at all, having comparatively so very little surface to oppose to it, and which must be held down by the great weight of the roadway, so long as that remains at rest. The trussing adopted at Hungerford bridge by Mr. Brunel will have the effect of stiffening the platform considerably, and will be further assisted by the castiron railing on each side of the roadway. The appearance of the under side of the roadway, viewed at one end, is very curious, from its narrowness, great length, and the effect of the trussing : it resembles, in some degree, the back bones of a fish, and exemplifies in a striking manner the theory of vanishing lines.

The span of the main arch of this bridge is much larger than any other in this country. The greatest span of Hammersmith suspension bridge is 422 feet; of the Union bridge across the Tweed, near Berwick, 449 feet, and of the Menai bridge, Beaumaris, 560 feet.[•] It is only second to the suspension bridge at Fribourg, in Switzerland, the span of which, from pier to pier, is nearly 900 feet.

The first stone of the Hungerford bridge was laid in 1841. The total cost, including the purchase of property, parliamentary, law, and other expenses, is 110,000%. The approaches on the south side of the river require improving, and for this purpose a Bill is now before Parliament. It is proposed to obtain a direct communication with the Yorkroad. On the Hungerford side the platform joins the centre of the terraced roof of the colonnade between the two taverns, whence the traffic will pass through the galleries over the colonnades of the fish-market, by the level of the general market, to Hungerford-street and the Strand. The toll is to be a halfpenny each person, and it was originally estimated that the annual return would be-ordinary traffic 8,000%. traffic from Lambeth to Hungerford Market, 2601.; for the sight of matches on the river, 250%; traffic to and from steam-boats, 300%; rent of unappropriated property, 200%; total 9,010%. As a point for embarking or debarking, there is a commodious flight of stairs in each pier, which will probably supersede the unsightly wood-piers now in use.

Mr. P. P. Baly, the author of the selected design for the London Baths and Washhouses, was the resident engineer; Mr. W. Chadwick the contractor for the brickwork, and Messrs. Sandys, Carne, and Vivian (Cornwall), the contractors for the ironwork.

When we view the comparative slightness of the piers, the great length and tenuity of the roadway, and the single suspension-rods, so wide apart, and remember the effect of a gale of wind even in the Thames, it is hardly possible to avoid a doubt as to the stability of the new bridge during any long period of time; the skill and high attainments of Mr. Brunel, however, forbid the entertainment of this doubt, and we willingly waive it, with perfect faith in his reputation.

We should have mentioned, that all the wood employed in the construction is Paynized, and that the quantity of iron consumed is between 10,000 and 11,000 tons.

The suspension bridge at Fribourg, to which we alluded, is, as most of our readers know, a wire bridge, and has been appealed to in support of the arguments of those who advocate the employment of wire for this purpose in preference to iron bars. The length of Fribourg bridge is, as we said, nearly 900 feet ; the height from the water, 175 feet, and the breadth 22 feet; that is, 16 feet for the carriage way, and 3 feet each for the footpaths. The versed sine is 65 feet; the length of the perpendicular suspension wires nearest the pier is about 57 feet, each one diminishing towards the centre of the bridge, where the shortest is only 12 inches. These perpendiculars are 4 feet 8 inches apart, and sustain the extremities of the beams which support the platform. Each of the four cables which form the arch consists of 1120 wires, and it is estimated that the four could sustain 2,678 tons! It was completed in two years and a half, and cost 24,000/.+

Although the use of wire offers some advantages, especially superior strength, bulk for bulk compared with bars, general opinion is not in favour of its adoption, on account of the impossibility, nearly, of adjusting the length of the wires, so that when the cable has assumed its proper curvature, each wire may bear its due proportion of strain, and because of the increased liability to oxidate, in consequence of the increased surface offered by wires to the action of the atmosphere. It has been proposed that each wire should be passed through a vessel of varnish immediately after the process of drawing, and that, after forming the wires into bundles of fifty or sixty each, they should be passed through a concave vessel of the oleaginous matter at a high temperature. By this process it is supposed every particle of moisture would be driven off in vapour, and its place occupied by the oleaginous substance in the interior of the cable, where it would be retained by its adhesive property, while it would harden over the exterior, and prevent oxidation, by removing the possibility of moisture coming into contact with the wire.

A suspension bridge of considerable importance is in progress at Clifton, near Bristol, but proceeds slowly; and one of very large size (three main arches of 1,200 feet span each) has been suggested to connect Liverpool with the Cheshire shore, by crossing the Mersey, but is at present "in the air."

SHOP-FRONTS, BOWS, AND OTHER PRO-JECTIONS TO HOUSES COMMENCED BEFORE LAST JANUARY. IMPORTANT DECISIONS.

In our leading article of March 22nd (p. 133), and elsewhere since, we asserted (in opposition to instructions said to have been forwarded to the district surveyors from the district surveyors in consequence) that intended shop-fronts, bows, and other projections, forming a necessary part of buildings duly commenced before the 1st of January last, did not come within the control of the new Act, although still unfinished, and that no notice to the district surveyor before completing such was necessary. Last week we mentioned a case in point, then before us professionally, where the district surveyor had called on the builder of a house, which was roofed in last year, to give him notice before he completed the porch, although that was as much part of the original design as the chimney-stacks; and we stated that we should, of course, resist to the utmost such a preposterous demand.

It is with much gratification we now inform our readers, that our view of the law has been fully confirmed by several awards made since the date of the article in which we argued it; and that if the instructions issued by the official referees did direct the district surveyors that all such projections, if not completed before the 1st of last January, must be conformable to the Metropolitan Buildings Act, they having very properly given due consideration to what has been since advanced, have now arrived at another conclusion.

† It was opened October 1834.

^{*} The Trinity suspension pier at Newhaven has three spans of 209 feet each; Brighton chain-pier has four spans of 255 feet each. The bridge over the South Esk, at Montrose, has a span of 433 feet.

We believe we may with confidence take some little credit to ourselves for the result, but in doing so we would carefully avoid throwing the slightest discredit on the official referees, even should their instructions go the length asserted; we rather praise them for their uprightness in avowing a change in opinion, when time and more lengthened consideration had altered their views.

The first award by which this question is set at rest relates to certain new houses in Cranbourne-street, Leicester-square, now in course of completion. The district surveyor objected that a continuous line of entablature had been put up without the interposition of incombustible material, as required by the Act. The builder replied that the houses were combuilder replied that the houses were com-menced last year, and that the plans and eleva-tions approved of at that time, shewed they were designed for shops. The award, dated April 4th, was, "that inasmuch as before the 1st day of January, 1845, the houses to which the about fronts in quartice below were the shop-fronts in question belong were com-menced, and such shop-fronts formed part of the original design for the said houses, the provisions of the said Act which relate to wooden shop-fronts do not apply to the shop-fronts in question." With regard to the costs, 44. 11s., they considered "that as the case was one of reasonable doubt," the same should be paid by the district surveyor and builder jointly.

In another case, as to ten shops in the Nor-land-road, Shepherd's Bush, projected from land-road, Shepherd's Bush, projected from the front wall, the district surveyor objected that the party-walls to the projections were built of bricknogging, and were not carried up above the lead flat; that the cornices and other woodwork had not the required incomother woodwork had not the required incom-bustible materials between each house, and that the water dripped from the flat on to the public way. The builder shewed that the houses were formerly private; that plans to convert them into shops, bringing out the fronts to the line of other buildings, were made in the autumn of last year; that the framework was put up before the 1st of January, and that the cornice and other parts were prepared the cornice and other parts were prepared although not fixed. In this case the referees would make no award except to the effect that the shop-fronts must be supplied with gutters and pipes, to prevent the water from dripping on the public way, and that the costs, 41. 6s. 8d., and 21. 2s. to the district surveyor, should be paid by the builder.

Then again, as to a bow-window in Lynd-hurst-road, St. Giles's, Camberwell, com-menced before the Act came into operation. It was formed of wood, and though not fixed It was formed of wood, and though not fixed before the lst of January, was intended and pre-pared for. The award was, "that inasmuch as the bow-window in question is an addition to a house newly built, or now building, but 'already built,' within the meaning of the said Act, and forms part of the original design thereof, the said bow-window does not fall within the provisions of the said Act, as re-gards the original erection or building thereof." And in this case they did not call for any costs And in this case they did not call for any costs from either party.

We need say no more on this subject.

IMPROVEMENTS AT THE COVE OF CORK.

WE are glad to hear that great improvewe are grad to near that great improve-ments are contemplated at Cove by Lord Mid-dleton, under the direction of Mr. Decimus Burton. The execution of them will be in-trusted to Sir Thomas Deane and Mr. Kearne Deane, and could not be in better hands. We are glad that Lord Middleton has determined to take advantage of the talents of gentlemen who have been engaged in so many undertakings of importance, to employ artisans and labourers, enhance the worth of his own pro-perty, and impart additional attractions to the place.

The work, according to Mr. Burton's plan, will consist of an asplanade 2,000 feet in will consist of anexesplanade 2,000 feet in length, on a new quay in continuation of Mr. Smith Barry's, divided from a new road by chains, &c.—a crescent and several ranges to be laid out for new buildings, with provision for terraces, hotels, baths, and all that can contribute to comfort or convenience

We hope this example may be followed by other proprietors similarly circumstanced. Rumour says his lordship intends to spend 40,000% in the improvements.

THE BUILDER.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

IMPARTIAL STATEMENT OF FACTS.

ALL who are interested in antiquarian pursuits, who desire to prevent the injuries with which our ancient national monuments may be threatened, to spread abroad a correct taste for archaeology and a just appreciation of monuments of ancient art, so as to secure a general interest in their preservation, must be grieved to learn that the dissensions in the association are in no way healed. There are two central committees, two societies, and two journals; and if it be true that a house divided against itself cannot stand, the Archæological Association seems doomed to fall.

There are, unquestionably, faults on both sides; great faults: the original cause of quar-rel is trumpery in the extreme, and it is not just, it is not creditable,—that an association likely to effect much good, a large body of in-dividuals bound together to advance an important object which is not at all implicated in the squabble, should be wrecked on such a wind-bag, overset by a sputter, raised entirely by the officers in command, and to meet which they have actually steered the vessel out of the

right way. Mr. Wright, the founder of the association, and one of the sub-committee appointed to edit the society's "Journal," produced, in his own name and irrespective of the association, a work called the "Archæological Album," which was to consist of six parts, and to be published at intervals of two months. This act of Mr. Wright was objected to in the comact of Mr. Wright was objected to in the com-mittee by some members, on the ground that Mr. Wright's connection with the journal being known, and from the similarity of the tille, the public would be led to consider the album also authorized by the society; further, Mr. Wright being *in reality* the editor of the society's journal, although his name did not so appear, it was though the would be likely to use the beat communications for his own work. use the best communications for his own work. and would give more of his time to it than to theirs, for which he received nothing, not even the credit of being the editor, and so that the journal would suffer. And it was therefore suggested, that notice should be given, that no publication but the journal was authorized by the society. When it was shewn on the other side, however (by those who thought the committee had no right to interfere), that this album was to be written wholly by Mr.Wright himself, and would, in reality, assist in advan-ing the objects of the association, by inducing a taste for the study of antiquities in many who before had not engaged in them, a resolution moved on the subject was withdrawn, and the matter dropped.

A few days afterwards, however, the subject as brought up in the Printing committee, at which meeting five out of the six members constituting it were present, including Mr. Wright and Mr. C. R. Smith, one of the honorary secretaries, when the two latter resigned, and a notice in the name of the central committee was ultimately sent to all the members by the remaining three, containing an intimation that the journal was "the only publication issued under the authority of the central committee."

Now to this intimation, if the committee had really resolved to issue it, no reasonable objection could be taken; it was a perfectly legiti-mate notification, indeed seemed to be called for. But that it should be made by a subcommittee of three in the name of the central committee, who had decided, virtually, that it should not be made, afforded very reasonable ground of complaint to those who agreed in that decision, and dissension was of course the result.

Mr. Wright and Mr. Smith had been in-duced to withdraw their resignations as members of the Printing sub-committee, and had taken their places, when a resolution was moved in the central committee and passed, calling on the former gentleman again to resign. This it seems he at once expressed his willingness to do, but ill feeling had been engendered, unanimity could not be obtained, the president, Lord Albert Conyngham, re-

have already said, "a plague on both your houses"), various members of the association out of the committee, aware that the real business of the society was virtually at a standstill, and not well informed of the exact state still, and not well informed of the exact state of things, addressed a requisition to Mr. Pettigrew, the treasurer, calling on him to summon a general meeting of the association. Without submitting the requisition to the central committee (and this was a great mistake), the treasurer prepared to comply with it, and caused the meeting to be ad-vertised in the public prints. In the meantime a special meeting of the central committee, called by Mr. Albert Way

central committee, called by Mr. Albert Way, central committee, called by Mr. Albert Way, the other honorary secretary, was held, and a resolution passed, denying the authority of the treasurer, or any other officer of the as-sociation, to call this general meeting, and declaring any proceedings of such meeting null and invalid. This was assented to by thirteen members of the committee out of twenty two and the association generally the twenty-two, and the association generally then first saw that the *majority* of the committee were opposed to Mr. Wright and his friends.

Notwithstanding this protest, however, very short notice, and an inclement night, 150 members or more met, in pursuance of the treasurer's summons, on the 5th of March; and by resolutions (passed unanimously in fre cases, and with five dissentients in one), recases, and with nee dissentients in one), re-organized the association, and appointed a fresh committee, including a certain number of the old committee, and who have since received a considerable number of subscriptions.

The other section of the old committee have elected new members, making in the whole twenty-one, have issued an abstract of proposed rules and regulations, "under which the as-sociation will hereafter be conducted," and have announced that the next annual congress will be held at Winchester in the ensuing

September. We have thus laid before our readers a brief statement of the principal facts without favour or reserve, leaving them to exercise their own judgment upon them. To establish the right of a minority of a committee to throw the right of a minority of a continities to throw themselves at any time on the general body, would tend to embarrass the government of most societies. And it is probable, even in this case, that several who signed the requisition for the general meeting, would have refrained from doing so had they been aware there was a clear majority of the committee in favour of one course. Still the present is not an or-dinary case, since we find the two founders of the association, one of them the honorary secretary, the president to whom so much was owing at Canterbury, the treasurer, and the most active members of the committee, in the minority.

We have the pleasure of knowing the majority of both committees, and are able to assert, that more honourable men could not be found, but at the same time we know from the constitution of some of them, that unless there be interference from without, no junction will be effected, and the great objects of the asso-ciation will greatly suffer. Already, as we understand, some of the authorities at Win-chester have refused their assistance at the contemplated meeting, and many persons who were warm supporters of the one association, now hold back because there are two. What we would advise, is, that some influential mem bers of the society who have taken no part in the past proceedings, should at once bestu themselves, and by conference with the two committees, endeavour to remove asperities an effect a junction. We are disposed to think they would succeed, for the greater number o both parties must by this time be heartil ashamed of the cause of quarrel. Never wa such a tangled web hung on a more trumper peg.

CATHEDRAL OF NEW BRUNSWICK .---- Con sequent upon the erection of New Brunswith episcopal superintendence of the Right Re Dr. Medley, the bishop elect, a cathedral is be forthwith commenced at St. John's, the s chitectural preparations for which have be intrusted to Mr. Frank Wills, of Exeter. T the president, Lora Albert Convignant, re-signed solely from a sense of what his lordship considered "the extreme injustice done to Mr. Wright;" and, to make a long story short (for doubless many of our readers have watched all the proceedings, and

THE PRESERVATION OF NATIONAL ANTIQUITIES.

" For Time hath not rebuilt them, but uprear'd Barbaric dwellings on their shatter'd site."

THE study of medieval art has increased throughout Europe so much during late years, that there is reason to hope, with the vigorous efforts of societies and individuals, we may be one day spared the wanton destruction of **na**tional monuments, such as now too often occurs. The antiquarian world has expanded and extended its influence; no longer confined to the mere acquiring possession of the old and singular, it rightly estimates the value of its researches, as capable of influencing the future and the present, unfolding the preceptive truths of history, and resulting in an increased admiration of the beautiful and the good. For as the general tendency of man is towards the intellectual and the virtuous, and as his mental efforts are not forwarded by the continued existence of doubt and uncertainty, it seems that the gradual removal of the veil of ages must be attended with advantages, highly conducive to his moral and mental well-being. Let it, therefore, be understood that the antiquary rupudiates the unphiloso-phical pursuit which has no outlet from the pleasure of possession ; he claims for the result of his researches into the condition of the past, that standing as a science, which an age dis-tinctively marked for its consideration of the future has already awarded. Now, associations are formed for the preservation of architectural remains, and money is readily subscribed for the re-edifying of fabrics. Still, though we have gained much, it is only the intelligent half of men who are thoroughly awake to the value of such national memorials; the other portion remain enveloped in a sleep, from which our present efforts are not The false economy able to awake them. which allows no consideration to prevent the destruction, for some immediate end, of an antiquarian relic, is still in full influence, whilst buildings are patched up with insuffi-cient materials, or are entirely left to the inroads of the wind and weather, from which a very small annual outlay would have pre-served them. We will not speak of the restoring of Henry the Seventh's Chapel with crumbling stone, or the west front of Litchfield Cathedral with cement, because those were not things of our day; but what interesting fabrics have we allowed to disappear, and what destruction still goes on, almost unwitnessed, amongst the village and parish churches of England. The senseless demolition, too, of the mave of St. Saviour's, Southwark, is a thing of yesterday, and for which disgrace must always attach to us, and the inhabitants of the parish, in whose hands it more immediately was. Had a Burlington lived, and been imbued with the love of Gothic architecture, he would have transported the very stones of St. Katherine's, Tower Hill, to some more secure resting place for re-erection.* The buildings destroyed without reason, some of which may be seen in the works of Carter, and in the *Gentleman*'s Magezine, would stock a kingdom. The spires of Lincoln entirely taken away, the Ladye Chapel at St. Alban's separated from the church and converted into a school-room, the destruction not many years since of a beautiful chapel on the south side of the Temple Church, and the injury done to the tombs at Westminster at coronations, are instances of what has been allowed to go on unnoticed, and uncared for. There is hardly a church, that does not contain paintings and panels from the rood-screen, inserted in the mo-dern pewing. The interesting half-timbered bosses of the northern and midland counties are lessening in number every year, encaus-tic tiles and monumental brasses are stolen, and stained glass left to drop out, for want of a shilling's-worth of repairs; whilst many of

* Parts of these two churches are illustrated in Pugin's Specimeme of Gothic Architecture," and in the "Gothic Transments." Part of the pulpit, some stall-work, and a omb in the new church in the Regent's Park, were removed rom the old building. The gate designed by Inigo Jones, which Burlington re-suilt, having purchased the materials, is still remaining an Chiswich Gardena, where we last year saw it inscribed rith a record of its history. Its removal occasioned the ollowing lines by Pope :--

"O, GATE, how camest thou here? Gete.-...I was brought from Chelsea last year, Batter'd with wind and weather; Inigo Jones put me together. Bir Hans Sloane Let me alone,--Let me alone,---Burlington brought me hither."

our churches, as in the case of Old Fairlight Church, are menaced with instant destruction. Ely Chapel, Austin Friars Church, and nearly all the Gothic churches remaining in the city of London, are in a rapid state of decay, or crowded with modern excrescences: the crypt of the first mentioned was a short time since occupied by a cooper. In another style of architecture, we have to lament the complete destruction of Wansted-house and Carlton-house; the former, one of the most beautiful examples of Italian architecture in England, and the portico of the latter, a prin-cipal ornament of the metropolis. The pedestal of the statue at Charing Cross, of very beautiful design, is now beyond reach of restoration. We trust that when the remaining portion of the old Treasury in Whitehall is pulled down, the doorway will be preserved, and re-erected in one of the parks, or in some other locality. Such antiquities have often been left to stock the yard of a dealer in old materials, when their value as examples should have preserved them.

The aid afforded to the student of heraldry and costume by stained glass and monumental brasses, should induce their careful preservation, and cases have occurred in which the title to considerable property has been determined by their evidence; but, for want of the timely driving in of a couple of nails, a brass fre-quently becomes detached from the pavement, which is almost always followed by its entire disappearance. The same may be said of stained glass, with this addition, that the rather greater value set upon it has, in order to get one complete window, often led to the union of portions of different design in a manner most puzzling to the antiquary. The traceried windows in the cloisters of

Westminster Abbey are in such a state of decay, that it will shortly be impossible to restore them accurately; and the iron-work round the tombs, which all who have seen it agree in considering of great value, is not to be met with.[†] The fact that our modern metal-work is deficient in that freedom of design which appears in old specimens of the middle ages, and even down to a period as late as the commencement of the last century, is evident, and has been sufficiently set forth in previous numbers of this paper. (V. ante p. 97 and p. 102). At Hampton-court and in p. 97 and p. 102). At Hampton-court, and in theneighbourhood of the older squares, portions are remaining, worked by hand, more beautiful than any amongst the miles of spears and javelins cast by the modern mechanic. If all the old railings from the abbey have not been long since melted down into such weapons, why, we would ask, are they not immediately replaced? But there is great difficulty in getting at the truth; nobody seems to know if any, or what railings are in existence. The imperfect restoration of the screen, by Quentin Matsys, in St. George's Chapel, has been com-mented upon in THE BULDER (p. 97 ante), and no circumstance could so well shew the slight value set upon works of art, by those who un-fortunately have the control of them. In all instances of restoration, every line and mark of the original should be copied, with no deviation whatever; non-existing portions should be replaced with work produced in the spirit of the original, and imitated from coeval examples; one step short of this, and we would rather see the hand of Time work its own course, than that a delusion on the beholder should usurp the place of the beautiful work so falsified and destroyed. An architect well-versed in the particular style should be consulted in every step; he must not be a designing man, but must make originality subservient to exact reproduction. The greatest destruction goes must many or the greatest destruction goes on "remote from towns," where a village churchwarden is the *arbiter elegantiarum*. The nearest mason is the only other person —here oninion is thought of. Thus battlement gives place to plain coping, and cusps and window-tracery to plain mullion and transom, till, little by little, every feature of the old building is annihilated. The best restoration is scarcely so valuable as the original,

† Vide Report of Select Committee on National Mo-numents and Works of Art, June, 1841, in which is most important evidence as to the state of this building, and the preservation of national monuments generally. It was stated that some of the person who first purchased them. No exertion should be spared to recover them, if any where in existence. The grave-stones, which were also removed, should be carefully preserved. They are said to have elegant devices carved upon them. the possi exertion existen sho

though time-worn and despoiled : the former, though perhaps beautiful as a work of art, is though perhaps beautiful as a work of art, is comparatively valueless as an authority; while, if the preservation of the fabric be diligently attended to, the decay is seldom sufficiently rapid and complete to obliterate the old features from those who are qualified to exa-mine. Not that we would be inferred to say, that restoration is never desirable; but, look-ing at the mischief perpetrated by unskilful meddlers, and at the fact, that in so many cases the progress of decay might, with proper at-tention, have been arrested at the outset at a nominal expense, we do say, that any work having the character of an original document, having the character of an original document, and valuable accordingly, should not be inter-fered with in the slightest measure, until the very last moment, and then should be treated with extreme care by properly qualified per-sons. Many accomplished men, who were ranked as Gothic architects only ten years ago, had been would now be ready to confess they comparatively ill-fitted for a work of restoration, and when we think how much progress we are making in the knowledge of Gothic architecture, through the aid of system in the study of it, we must say, that we are all only learners in a style, which, perhaps, presents more "matter to be learned" than any that has ever prevailed. Who would not rather that all the fury of the elements had been exerted against our cathedrals, than that they should have been submitted to the hand of one James Wyatt? On such grounds we are in-clined to deprecate the talked-of restoration of Caernarvon Castle, now an edifice unrivalled in interest, and in an excellent state of repair, compared with many cathedrals and churches, not so generally styled ruins. For every an-tiquarian purpose, the existing portion amply suffices, and we trust, that any extensive scheme of restoration will be carefully considered, or confined to the renewing of such parts as may absolutely require it. From what we have observed, at some of our churches, where the new portions are generally thought quite equal to the old, we fear that the original ornament is often greatly departed from. In such cases, either the ornament is pared down for a new surface, thus becoming at least smaller, or, a new stone being inserted, the mason works without cast or drawing, and can only consult any other portion of similar design, which there may happen to be at some distance. Of course this can hardly take place where an able architect is concerned, but the greater number of repairs are executed without his advice.

Churches are covered with stucco, and mouldings mended with cement; oak is re-placed with deal; and whitewashing, whether of the exterior or the interior, of the masonry, the ceiling, the rood-screen, or the font, is an annual occurrence. The restoration of York Cathedral is rather an exception to the general fate of our antiquities, than an evidence against any thing we have said. The feeling, almost amounting to affection, which every Yorkshire-man has for that matchless pile, has nothing comparable with it in other parts of the kingdom. The new Houses of Parliament, though a great work for this or any age, does not reconcile us to the destruction of St. Stephen's Chapel, which might have been restored to form a portion of the new buildings. To the antiquary, and the lower of the beautiful in art, there can be no more melancholy reflection than that "improvement" and destruction march with equal steps; one by one the most admired relics of former days are annihilated, and often under the very eye of the educated and the refined. Bit by bit our national monuments are altered and destroyed, and the change is not perceived till the mischief is irremediable. Thus, we find that the beautiful cloisters of St. Stephen's Chapel are not to be preserved in their original state, as it has been reported, but are to be intersected by walls, and divided into separate rooms, for the purposes of the legislature. We should be happy to find ourselves in error, but an inspection of the plan is too convincing of the intention. The fragments of St. Stephen's Chapel should be preserved, and freely open to inspection.*

But to free the original fabric from accu-mulated excrescences can by no means be

• It is to be hoped that the improvements in the neigh-bourhood of Westminster Abbey will not interfere with the old conventual buildings. Digitized by Google

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objected to, and will often be rewarded by the discovery of most interesting paintings and decorations, which have been thus preserved from other injury. Many a fine brass or pave-ment is concealed by modern pewing, and many a timbered roof by a lath and plaster Many a fine brass or pavecoiling. In page 39 unte, we took occasion to argue against the use of paint and whitewash on stone, still too prevalent. Much of the beauty, we are able to obtain by well-executed masonry, results from the well-defined forms of the mouldings, and the sharpness of the arrises. The effect of Time is rather to chip out at intervals the soft parts of the stone, than to wear the whole away at an equable ratio : the general tendency of the lines is unbroken in the perspective, and the decay rather adds to the impression which results. But the brush of the whitewasher mars all that it passes over : for fillets are substituted rounds, and for mouldings and indents plain faces, while bosses, and similar ornaments become very much like door-handles. To the paint-brush is to be attributed the unsatisfactory result of our modern cement and stucco, scarcely less inferior to well-executed brickwork than to stone, and having for its inevitable consequence a feeling of unsatisfaction at its pretension, and the attempt to deceive. The speedy removal of the whitewash, from which hardly two of our churches are free, is much to be desired, and the work is so easy and inexpensive, and the result, with proper care, likely to prove so very satisfactory, that it ought to be every where proceeded with. The superintendence may, in the greater number of cases, be very safely left to those among the clergy who have attended to the subject of ecclesiastical architecture, and we cannot do better than quote from the "Few Words to Church-wardens," of the Cambridge Camden Society, on the subject. Speaking of the removing of whitewash, it says :-

"This may be most easily done by scraping away the outer surface, and then moistening the part by means of a brush with a mixture composed of one part of sulphuric acid (oil of vitriol), and eight or ten of water, and washing it over with water after every second or third time you put it on, till you see the stone or wood appear. If, however, you wish to remove the whitewash from the remains of a painting on a wall, use soft soap with bot water, and a brush not too hard. This done carefully will not hurt the painting. Paint is barder to get rid of; it may, however, be effectually done with strong soap-maker's lye, or, what is quite as good, the following liquid: put one pound of potash or pearlash with half a pound of unslaked lime into a jar, and pour over it one gallon of boiling hot rain-water; wash this repeatedly over the surface, scrubbing off the paint as it becomes softened. Or you may try this way: take a quarter of a pound of soda, boil it with a littlesoap in three pints of water till it comes to a paste, then lay it on what you want to clean pretty thick; two days after lay it on again, without washing the old away; dq this four times, and then scrub the whole off, the paint will come off too. This does either for stone or wood." We suspect that the cleaning of paintings is

We suspect that the cleaning of paintings is not quite so simple a matter as it is described above, and it would be better in such points to have competent advice. At North Walsham, Norfolk, a solution of potash and quicklime, in the proportions of one pound of the former and half a pound of the latter to a gallon of boiling water, was used with satisfactory results. The solution, being extremely caustic, should be used with care, and if the external coating of paint which it may be desirable to remove, be thin, diluted with water; and in all cases the solution should be tried upon a small portion of the painted surface. (Vide Archæological Journal, vol. I., part 3). Mr. J. G. Waller, in giving his opinion, that the paintings found on the walls of churches, and usually called "freesco," are in reality nothing more than distemper, suggests the use of vinegar for cleaning. It should be carefully applied with a brush, alternately with water. (Archæological Journal, vol. I., p. 161).

But we cannot but commend the same useful publication of the Cambridge Camden Society, on the subject of DAMP, and the injury, which it causes to the walls, and the stability of the fabric. The numerous interments in the same small patch of ground during a long period,

have raised the earth round the walls of the church considerably above the floor-line, and no remedy is attainable, short of the absolute removal of the nuisance, which is often greatly increased by the drippings from the roof, consequent on the want of proper watersponts. These should be fixed without delay, and proper drains provided round the whole building. The green mould, which has collected on the inner surface, can then be removed by scraping and washing; and to prevent its reappearance, "mop the walls once or twice well over with a mixture made of one ounce of corrosive sublimate dissolved in a quart of water." To return to the subject of whitewash, we have seen it accumulated so thickly in crevices of ornaments and capitals, that it had to be chiselled away; in such a case it might not be safe to leave the work without close superintendence; and we much fear, if we have to wait till architects are engaged at all our churches, the matter will be postponed longer than is desirable. In the continuation of these remarks, in next week's BUILDER, we shall be able to offer suggestions for the accomplishment of the object.

E. H.

MR. EWART'S BILL TO ESTABLISH MUSEUMS OF ART.

WE mentioned some time ago that Mr. Ewart had obtained leave to bring in a bill to enable town-councils to establish museums of art in corporate towns. The following is a copy of the bill, which was introduced accordingly, and has been read a second time:—

"Preamble.-Town-councils may purchase -Whereas it is expedient to promote lands. &c.the establishment and extension of museums of art in such municipal boroughs as may require the same, for the instruction and amuse-ment of the inhabitants thereof; be it therefore enacted by the Queen's most excellent Mujesty, by and with the advice and consent of the Lords spiritual and temporal, and Commons, in this present Parliament assembled, and by the authority of the same, that it shall be lawful for the council of any municipal borough to purchase lands, and to erect thereon buildings suitable for museums of art, and to maintain and keep the same in good repair; and to accept any gifts, grants, or devises of lands, tenements, or hereditaments (any statute of mortmain to the contrary not-(any statute of mortizatin to not establishing, withstanding), for the purpose of establishing, improving, or maintaining such museums of art; and that the costs and charges of such and, and buildings, and the keeping of the same in good repair, shall be chargeable upou and paid for out of the borough fund of such municipal boroughs : provided always, that for the purposes of this Act no rate greater than a rate of one halfpenny in the pound of the annual value of the rateable property assessed to the borough rate, shall be levied in any one year.

And Borrow.—And be it enacted, that for the purchase of such lands, and for defraying the costs of such buildings as may be erected thereon, or keeping them in repair, it shall be lawful for the council of any such municipal borough as aforesaid, to borrow at interest the amount of money which may be required for the same, on the security of the said rate, to be levied as aforesaid.

And re-borrow Money.—And be it enacted, that in the event of the said monies so borrowed as aforesaid being repaid, and of funds being again required for carrying out the purposes of this Act, the said council for the time being may again borrow such sum or sums of money as may be so required, and again charge the said rate with the repayment thereof, in manner as aforesaid.

Adjacent Municipal Boroughs may unite for the purposes of the Act.—And be it enacted, that where municipal boroughs shall be adjacent to each other, the councils of such municipals boroughs may unite for the purposes of this Act, and contribute in proportion to their respective assessments, or on such terms and conditions as may be mutually agreed upon by the said councils.

Lands, &c., vested in town-councils. — And be it enacted, that the lands and buildings so purchased or erected as aforesaid, and slso all specimens of art or science, and articles of every description which may be purchased for

or presented to such museums, and accepted by such councils as aforesaid, shall be vested in and held upon trust for ever by the corporations of the said municipal boroughs in which such museums shall be situated, and shall be kept in fit and proper order for the benefit of the public.

the public. Rates of admission to public; and regulations for preserving contents, &c.—And be it enacted, that the council or united councils of any such municipal borough or boroughs may, from time to time, fix such rates of payment for admission to the said museums, as they may think necessary for meeting the cost of their support; provided that such rates of payment shall not exceed the sum of one penny for each person admitted; and that they may also make such regulations for the preservation of the contents of such museums, and for the maintenance of order and decorum within them, as may to themselves seem expedient." Great praise is due to Mr. Ewart for calling

Great praise is due to Mr. Ewart for calling the attention of the legislature to matters of this description. His Bill, if efficiently carried out, will produce most important results, both in a mercantile and moral point of view. Much, however, will depend on the towns themselves, and we shall hope to see corporations bestirring themselves on the subject the moment it becomes an Act. The Art-Union for the present month

departments for local manufactures, so as in the course of time to present important records of their gradual development and improvement. Such a collection exists in the Potteries, the property of a private individual; we hope that it will be acquired for the public before any accident leads to its dispersion. We wish that a similar collection could be made of the designs in calico printing : some of those produced by the older printers, which we have had an opportunity of examining, are superior to any that are brought out in the present day. This leads us to notice the importance of connecting such museums with schools of design; we must shew the pupils what they are to avoid, as well as what they are to follow. We are the more anxious to direct attention to this subject, because museums have been too often regarded as mere objects of curiosity, destitute of practical value, and only affording opportanities of whiling away idle hours in innocent amusement. Though we are strongly im-pressed with the necessity of affording opportunities for unobjectionable relaxation to the working classes, we at the same wish the public to know and feel that museums must have a higher and farther effect; they must, and they will be, as instructive as they are entertaining; for there is no branch of British industry that may not be profited by the suggestions which collections of works of art afford.

We may also notice the facilities which local museums afford for the collection and preservation of monuments, records, and other memorials connected with local antiquities. The loss to British archæology, by the destruction of articles affording valuable illustrations of local habits and customs, as well as of local events connected with general history, is incalculable. This destruction has been caused, in some instances, by carelessness, and in others by ignorance; collections, made with great care and expense, have too frequently been dispersed when they fell into the hands of heirs who could not appreciate their worth, or who had no taste for antiquarian pursuits. Local museums will not only afford opportunities for making a collection of such valable materials for history, but will also induce private collectors to form a proper estimate of their value, and bestow some care on their preservation. Those who have visites the collection of Norman antiquities at Rouen must have felt anxious that similar care should be bestowed on the collection and preservation of provincial antiquities in Great Britain."

SALISBURY CATHEDRAL.

As many days as in one year there be, So many windows in this church we see; As many marble pillars here appear As there are hours throughout the flecting year As many gates as moons one year does view. Strange tale to tell, yet not more strange than tru Dr. Heylin.

THE IRON TRADE.

THE usual monthly meeting of Scottish ironmasters was held at Glasgow a fortnight ago, when the price of pig-iron was nominally fixed at 5% los. per ton. This is an advance of 1% 5s. since the previous meeting, and exactly double the price at which iron was selling in the beginning of December. Although this price was named as the rate under which none would sell, transactions took place as high as 61. per ton; and, notwithstanding this advanced price, buyers were more numerous and more urgent than sellers. An impression generally prevailed that prices would rise still higher when the present contracts of the ironmasters were completed. For bars the maker's price is 10*l*., but sales have been made at 9*l*. 10s. cash. Superior bars realize 11*l*. 10s. At these prices customers were supplied, and considerable business transacted during the week. Boiler-plates are quoted at 134. 10s. At Manchester there has been a pause in the demand for iron, and purchases have been made here and there at a reduction of 5s. per ton. At a meeting of the principal firms in the South Staffordshire iron trade, held at the Swan Hotel, Wolverhampton, on Thursday, the 27th ult., it was agreed that an advance of 40s. per ton in the price of manufactured iron should take place next quarter-day, the orders at present in hand, as well as those anticipated, at present in hand, as well as those anticipated, fully justifying this important step. The price of bar and rod iron, it is expected, will be then 12/ per ton; hoop iron, 134; sheet iron, for shin-gles, 144; and pigs, 64, 10s. to 74. In consequence of the sudden and great rise in the price of iron, much increasing the fact when the price of iron, much inconvenience is felt by the manufacturers and workmen engaged in making bedturers and workinen engaged in making oea-serews, latches, &c., particularly in the district of Wednesbury. The quantity of iron re-quired is very great, and cannot be procured; neither can the numerous orders daily arriving be executed at the recent prices. The small masters are therefore comparatively idle amidst abundance of work, and have as yet derived no benefit from the great improvement in the trade.

In the course of the past month an advance of 1/. per ton has taken place in Welch iron; and although the existing prices are considerably higher than they have been for some years, yet so general is the opinion of their being maintained, and also that further advances may probably soon occur, that orders, both from abroad, and for home use, are making their appearance somewhat fraely. It is with the greatest difficulty the makers are persuaded to take further orders at any price, in fact, some of the largest firms have closed their order books; 12/. 17s. 6d. per ton has been refused for rails, and 7/. is the price for pigs. During the past week it is well known that one party effected the porchase of 1,000 tons of common bar-iron for delivery in June next, at 10/. per ton. The *Liverpool Times* states that a contract was entered into in that town on Saturday last for 21,000 tons of rails, at the price of 12/. a ton, to be delivered at the rate of 1,000 tons monthly, beginning in October. The broker's commission in the transaction amounted to 2,400/. The purchase was made by a Glasgow house.

by a Glasgow house. The rails and chairs for the Newcastle and Berwick Railway, amousting to \$7,000 tons, have been contracted for at 121. per ton the former, and 71. the latter.

LONDON MECHANICS' INSTITUTION.--We regret to find that this, the oldest popular institation for the dissemination of knowledge, is less flourishing than it deserves to be. A meeting will be held next month to consider how to render more effectual the system of popular education there established, and we hope it will be attended by those who appreciate the advantages conferred on society by such associations. The first number of a new periodical called The Literary and Scientific Journal, conducted by members of this institution, has just been published, and is very creditable to those engaged in it.

BURIAL IN TOWNS.—We are glad to see that the House of Commons has come to the resolution that the practice of interment in large cities is injurious to the health of the population, and demands the serious attention of Parliament. This is one step forward at all events. SANATORY REGULATIONS.

A FEW nights since in the House of Commons, Mr. Hume asked when the Government proposed to bring in their measure with respect to the health of towns, and called the attention of the Secretary of State for the Home Department to the necessity of taking precautions in connection with that measure to insure an adequate supply of water.

Sir James Graham said that he could not then undertake to fix any time for the introduction of the measure. With reference to the supply of water, a clusse was introduced into all private bills brought before Parliament for that object, making them dependent on any general measures which might be hereafter introduced with respect to the health of towns.

The same subject occupied the attention of the House of Lords on Monday evening last. the House of Lords on Biomutay evening a The Marquis of Normandy, on presenting a petition from the mayor, aldermen, and citizens of Limerick, complaining of the sanatory state of that city, made inquiries as to the time when the promised measure would be introduced, and the extension of its provisions to Ireland. He was aware that the sub-ject was difficult in the arrangement of its details, and he did not wish to cause any unnecessary hurry, but the noble lord was SWATA that he was connected with an association for improving the sanatory state of towns, and he was daily receiving letters, inquiring when the measure, which had for some cause or other been so long delayed, would be presented. He would ask, therefore, whether it was in-tended to extend the provisions of the contemplated measure to the sister country, and also whether the Government would shortly introduce a bill on this subject into the other House of Parliament?

The Duke of Buccleuch, in answer to the questions put to him, said that he could not exactly state the period when the measure would be proposed; but he hoped it would be introduced before any great length of time elapsed. Since the receipt of the report of the Commissioners to Inquire into the Health of Towns, no time had been lost in preparing the measure; but it required a great deal of research and care, for it involved the examination of 400 Acts of Parliament, relating to different towns and districts. Hetrusted, that at no very distant period the bill would be laid before the other House, allowing not only sufficient time, but ample consideration in both Houses. With regard to extending the provisions to the sister kingdom of Ireland, he saw no reason why the provisions should not be extended to Scotland and Ireland; and on the further consideration of the measure be hoped that nothing would occur to prevent that extension.

The Marquis of Normandy said, that nothing could be more satisfactory than the answer given by the noble duke.

SMOKE PROHIBITION BILL.

On the second reading of this bill, which took place last week, the Earl of Lincoln said that the most convenient course would be to postpone the bill till the Government measure for the sanatory regulation of large towns should be before the house. He was not, however, disposed to resist the second reading, knowing that it was the intention of the hon. mover (Mr. Mackinnon) to send the bill to a committee upstairs. He trusted that hon. members opposite would not throw any unfair impediment in the way of legislation on this subject. Lord John Russell thought the bill ought to be postponed till the Government measure was before the House. He would rather see the subject in the hands of the noble lord at the head of the Woods and Forests, who could command the assistance of those best able to advise.

Mr. Brotherton was in favour of referring the bill to a select committee.

Sir R. Peel hoped the House would adopt the suggestion of the hon. gentleman who had last spoken. He represented a district of the country that was deeply interested in the question, and there was no hon. gentleman in that House better qualified to pronounce an opinion upon the subject. He though it would be very desirable to have the whole of the plan of his noble friend before the House, before they

proceeded to legislate upon one branch of these nuisances. The time that would be spent by a committee upstairs deliberating upon and maturing the measure, would, in his opinion, be well employed in bringing the scheme to maturity. He thought his hon. friend (Mr. Mackinnon) deserved the thanks of the House for the great trouble he had taken in the matter. The services of the hon. member were perfectly gratuitous, and he thought he was entitled to the grateful acknowledgments of the House. He believed it was generally understood that the bill of the hon. member would not be proceeded with until the general measure of his noble friend was before the House.

Mr. Mackinnon replied. He had been appointed chairman of a committee that sat two years ago upon the subject, and they had reported that the smoke nuisance ought to be abated, and that the Government ought to bring in a bill for that purpose, and if not that the chairman should undertake it. He did not see any objection to the committee being appointed to take evidence on the subject, and if the noble lord would incorporate the provisions of his bill in the Government measure he (Mr. Mackinnon) would have no objection to abandon his bill altogether.

The bill was then read a second time and ordered to be referred to a select committee.

PROTECTION OF WORKS OF ART IN MUSEUMS.

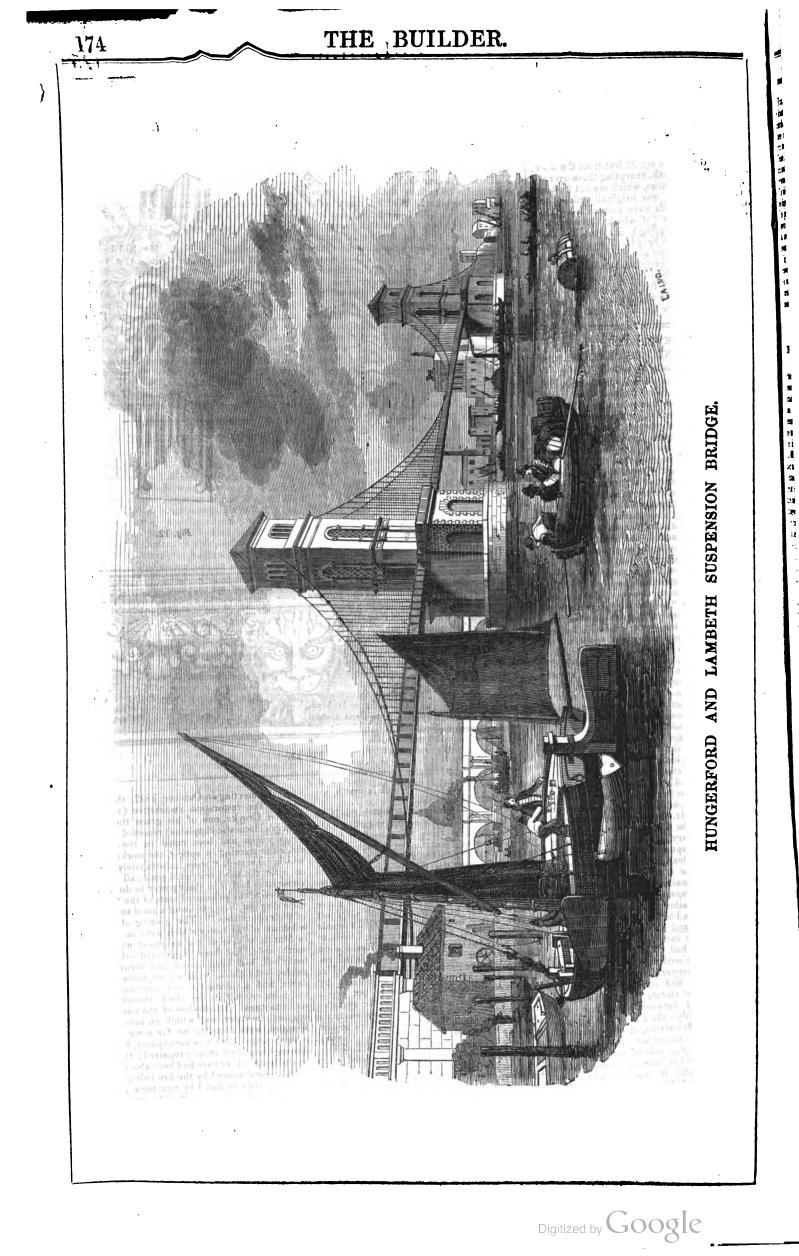
On reading the order of the day for going into committee on this bill a few days ago, Sir J. Graham said, he wished to go into com-mittee pro forma merely. He did not think it right that the operation of the bill should be confined to works of art in any particular locality, and he had therefore considered that it would be desirable to extend the provisions of the bill as it stood at present, and he was about to move an instruction to the committee to effect that object. There were many valu-able works of art to which the bill as at pre-imited would give no protection. For sent limited would give no protection. For instance, the statue of the Duke of Wellington, near the Mansion-house, ought to be brought within the protection of the law. His noble friend (Lord F. Egerton) had most liberally thrown open to the public his valuable and extensive collection of paintings and works of art, and it would be monstrous that any mischief should be done by means of a breach of his noble friend's hospitality without the possibility of due punishment reaching the offender. The painted window of St. Margaret's Church might be broken by a stone thrown at it, and as the words of the bill stood they would not reach such an offence. He therefore wished to give the measure a more extensive operation, and he begged to move that it be an instruction to the committee that they have power to extend the bill to all works of art, wherever situate; and, if the house agreed to that instruction, he proposed to go into committee pro forma, so that the provisions of the bill might be made co-extensive with the mischief.

The instruction having been put,

Mr. Bouverie said he quite agreed with the right hon. baronet so far as he went; he only doubted whether it would not be better to have a criminal as well as a civil remedy, giving the option of adopting either mode, according to circumstances.

circumstances. The instruction was then agreed to, and the bill went through committee pro forma, and was reported to the house, with amendments, and ordered to be printed and recommitted on Monday.

THAMES EMBANKMENT.—At a Court of Common Council held last week, Mr. Deputy Bedford presented a report from the Thames Navigation Committee on the subject of a letter received from the Earl of Lincoln, as Chairman of the Commissioners of Metropolitan Improvements, with a plan for the embankment of the Thames from Chelsea to Vauxhall. The report recommended a copy to be addressed to his lordship, expressing the concurrence to a certain extent of the plan. On the motion of Mr. Ashurst an addition to the effect of reserving to the Corporation of London in any measure introduced into Parliament their right to the bed and soil of the river was agreed to.



GOTHIC ORNAMENTS

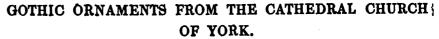
FROM THE CATHEDRAL CHURCH OF YORK.

Fig. 11 and Fig. 12 represent two bosses, or knots, in the ceiling of the choir-end of the church. Including the transept, near the altar, there are in the ribs, or groins, 299 bosses, from two feet to two feet six inches in length. Those in the centre are 99 feet from the floor, and are all cut in oak, excepting those over the crowns of the windows, which are cut in stone. crowns of the windows, which are cut in stone. (The foliage of all was originally gilded, and the figures and heads were painted in colours. The principal ribs (of which the section is shown in the engraving), project 13 inches, and are 101 inches broad. The smaller ribs project 11 inches, and are 7 inches in breadth. Fig. 13 is the external cornice over the windows in the aisles of the choir. It is 2 feet deep, and projects 1 foot 2 inches. It is right to mention that the whole of our illustrations of these details were engraved by Mr. Hart. of these details were engraved by Mr. Hart.

YORK MINSTER: ITS FIRES AND RESTORATIONS.+ BY JAMES WYLSON.

Ar the meeting in March, 1842, at which the reports were read, whereof our previ-ous article contains the substance, the Rev. William Vernon Harcourt, senior canon William Vernon Harcourt, senior canon residentiary, in his address stated, with re-ference to the provision against fire, that there was an insurance of 10,000% on the choir, and 2,000% on the organ; but the Dean and Chapter hoped that, "if the above plan for the easy extinction of fire, or any plan similar to it, could be carried into execution, the insurance might be augmented on terms more advantageous :" he also stated that there was another risk to which the Chapter had directed their attention, namely, the chance of the fabric being fired by lightning; the rev. gen-tleman said the Minster had been once so endangered, but the fire was speedily extinguished; he attributed the escape of our Ca-thedrals to circumstances connected with their roofs, and thought " the paying proper atten-tion to the connection of the metallic coverings tion to the connection of the metallic coverings with the iron and lead water-pipes leading to the drains as forming one great conductor of the electric fluid, a point of much importance to their preservation from such accidents." In reference to the Minster funds, he stated that they now differed from what they were after borrowing the 8,000% on account of the fire of 1829, "exactly by the additional bur-then of the annuities on which that sum was borrowed, and the addition of 1,000% to a debt of 6,000% under which they then laboured ;" he then recapitulated the sums required as estithen recapitulated the sums required as esti-mated by Mr. Smirke, and which shewed that to meet the completion of the restoration in to meet the completion of the restoration in nave, the urgent and non-urgent repairs, and the 7,000% debt referred to, about 36,000% must be provided; or if the whole restoration recommended by Mr. Smirke were entertained, the deficit would be 45,500%; such being the case, it was necessary, in the first place, that the Dean and Chapter should mortgage the fabric funds, the clear surplus of which (after allowing 1.500% for burthens independent of allowing 1,500% for burthens independent of repairs, and for maintenance of service, and repairs, and for maintenance of service, and as reduced by the annuities above-mentioned) being 790% would allow of borrowing 12,000% from Queen Anne's bounty, at 4 per cent. to be paid off, interest and principal, in 40 years. To enable them to carry this into effect, the Dean and Chapter had applied for an Act of Parliament: in the second place, a portion of certain leasehold property, called the commons estates, the fines and other proceeds from which are (by royal statute and parliamentary anthority) divided between the fabric and the residentiary body—the former taking one, and the latter five-sixths, it was proposed by the latter to surrender in favour of the repairs; and the sale of one of which, if anthorized by Parliament, would realise 15,500%; this sum, it was intended, the fabric should have to pay no interest for, but the principal to be repaid by instalments in forty years; thus, the succeeding residen-tiaries would enjoy a gradually increasing return, until ultimately its entire value would be restored to them, while the present body may be considered as relinquishing all their as reduced by the annuities above-mentioned

• See page 163 ante. † Continued from page 159.



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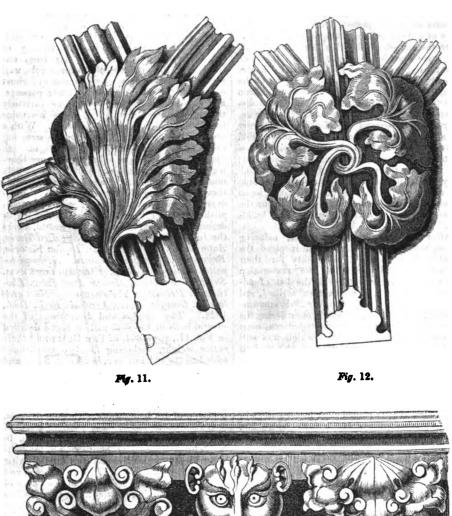


Fig. 13.

future interest in it, and which is worth, say

874 per annum, individually. The mode of appropriation which the Dean and Chapter had in view in regard to the and Chapter had in view in regard to the 27,500% thus to be raised, was, first, to devote 1,000% to the augmentation of the small vicar-age connected with the property to be sold; which done, and the parliamentary fees and other expenses defrayed, between 25,000% and 26,000% would remain for the uses of the fabric: from this, then, the 7,000% debt above referred to was to be paid; 6,200% set apart for the first class of repairs; 7,000% towards the second class; and the remaining 4,000% to 5000% placed at the disposal of the Restoration Committee for the especial purpose of re-Committee for the especial purpose of re-constructing the groined ceiling of nave. Mr. Harcourt stated that he was authorized by three non-residentiary canons to put down their names for 50% each towards the restoration, and that the ecclesiastical commissione who had in their hands about one-third of the property of the original body of the Canons of York, had agreed to contribute 500% to the same object. In conclusion he stated that there would still be a deficit of 12,000% one-half to complete the restoration of the nave, half to complete the restoration of the nave, the other to accomplish the necessary repairs : he also stated that it was the desire of the Dean and Chapter that the restoration com-mittee "would carry out and complete the work they had so admirably begun," and com-plimented that body and Mr. Smirke bysaying "that the works had been carried on with a beilt and an accompany which desarred not call skill and an economy which deserved not only to be commended, but to be followed as an example."

At the meeting in October, 1842, the chairman of the restoration committee (the Rev. Stephen Creyke, one of his grace the Arch-Stephen Creyke, one of his grace the Arch-bishop's domestic chaplains) reported the pro-gress which had been made in the interval since the meeting in spring, the works during which, he stated, "were unfortunately carried on upon the most restricted scale, all that the committee had it in their power to do in comcommittee had it in their power to do, in con-sequence of the exhausted state of the funds at sequence of the exhausted state of the funds at their disposal, being to avoid a total suspension of their operations." The glazing of the four windows of the tower which were in progress in March, as also of the westmost window of south aisle, had been completed—the great tenor bell had been raised and securely sus-pended—the clock, with all requisite appendages, and a substantial and convenient case, had been erected in the clock chamber, and set in motion. The arches of the nave which support the tower, and which on minute examination were found to be far more danger-ously damaged than was anticipated, had been thoroughly and effectually repaired; the pillars on the south side of nave had been also repaired, every stone damaged by the fire being cut out, and accurately replaced by new ones carefully bonded in ; those on north side were undergoing a similar renovation. Two contracts had also been entered into, one for the ribs and spandrels forming the vaulting of the nave, and spandreis forming the validing of the have, the other for the carved work to the same, the latter consisting of upwards of 150 bosses, which were all to be executed in strict re-semblance of the originals, as fortunately pre-served in Halfpenny's work, and in drawings by Mr. Brown, a York artist of the present

day. The reverend gentleman also stated that the 500% above-referred to, as agreed to be placed at the disposal of the Dean and Chapter by the ecclesiastical commissioners, on the part of those prebendal stalls the revenues of which were under their control, had been so contributed, and had been received by the restoration committee, as had also the arrears of subscriptions, with the exception only of a third instalment upon one of them.

In the speech of the Rev. Mr. Harcourt on the same occasion, the meeting was informed that those intentions of the Dean and Chapter already detailed, and for carrying out which the sanction of Parliament was necessary, had been effected: 6,000. had been placed at the disposal of the restoration committee for the repair of those parts of the minster which were in a dangerous state, and to that sum 4,000. were ready to be added towards completing the restoration of the nave should it be required; but it was to be borne in mind, "that all which they might be called upon to supply towards the repair caused by the late fire, would be so much money abstracted from the fund for the substantial and necessary repairs of the building."

After many excellent addresses, evincing throughout the devotion which inspired the inhabitants of this great county for their cathedral, the chairman of the restoration committee proceeded to read the list of additional sums which had been subscribed, and which, with those up to October 29th, amounted to 5,7571. 10s., a sum which, considering the large amount of previous contributions, must be considered handsome, but which was still inadequate to the completion of the desired reparations."

Since the meeting last referred to, much has been done in pursuance of the reports of the architect; the restoration of the nave and southwest tower has been completed; the roof of south aisle reconstructed with iron castings in lieu of timber trusses, and covered with lead; the vaulting and repairs of masonry and pav-ing have been finished, and the whole cleaned down, and handsome new doors with elaborate tracery and ornamental hinges hung to central and south doorways in west, front, in lieu of those destroyed, which if like that to north tower, were of a very plain description; a new door is likewise in preparation for the latter, like the south one; a new roof with iron trus-ses and covered with copper has also been constructed over the north transept. While the works in nave were in progress, the great arches at its east end were bricked up, in order to prevent interruption to the service, and to confine the noise and dust of the operations from extending eastward: when the restoration and repairs in the west were finished, these temporary walls were taken down. On Friday, the 5th of July, 1844, the nave was partially opened to the public, and on the Sunday following, the opening was formalized by the presence and preaching of the very rev. the Dean.

On the 26th of December, 1843, Dr. Beckwith, physician of York, died, bequeathing his ample fortune in aid of the various charities and public institutions; amongst the bequests being one of 5,000% to the Dean and Chapter for a new peal of bells, the remainder of the sum to be applied in repairing the Chapterhouse. In accordance with the intention of the munificent testator, the restoration committee commissioned the eminent bell-founder, Mears, of Whitechapel (now succeeded by his sons C. and G. Mears), to complete a peal of twelve musical bells, that number being two more than the old peal consisted of. The new or Beckwith peal first burst upon the delighted ears of the inhabitants on the 11th of July, 1844; and though heard under the several disadvantages of the ringers being out of practice, and unused to a peal of twelve; the bells not having yet adjusted them-selves to their bearings; the ropes having to stretch; the clappers to accommodate them-selves to the sides of the bells, which always want some sharp practice to consolidate and bring them into perfect tune, and the bells yet to attune themselves into perfect harmony with each other, their tones were pro-nounced to be of fine quality. Another supposed disadvantage that was talked about was the steepness of the new slate louvres in the belfry windows, which it was thought pre-vented the free passage of the sound; upon

inquiry, however, it appears that no alteration was made in their pitch. Respecting these louvres it may be mentioned, that an effect has been produced which was no more anti-cipated than that of the whispering gallery of . Paul's; being a material of ringing hard-SI ness, in windy weather they send forth a sound which at night is heard over the city, of course particularly in the direction of the wind, and which is dreary in the extreme, and to those residing in the vicinity of the Minster Yard must be far from enlivening; the melancholy unmusical wail seems to proceed from some imprisoned ghost -the spirit of the departed chimes perhaps, and who as the storm drives more furiously through the bars of his cage, raises his voice to a howl which is heard above it. With a view to obviate this, s piece of stout quartering has been fixed upright in the middle of each opening, notched so as to halve the inner bear-ing of the louvres, since which the ghostly music has been less loud and less frequent, although not altogether put down; this, how-ever, it is confidently expected will be accom-plished. The 11th bell of the peal, which is described as being of a very fine mould, bears the following inscription :--" Soli Deo Gloria, Anno Domini MDCCOXXXVII. Regina Victoria, Britanniarum Regina Septum. Archiepisco-Britanniarum Regina Septum. Archiepsco-patiæ Edvardi Archiep. Ebor MDCCCXXXVII. Stephanis Beckwith, Medicæ Doct inter. Ebo-racenses Primarias Testamento I egavis. Card-ley Es. Georgia Mears, Londini. Fecit. Rud., 1844." The weights and dimensions of the several bells in the peal will be found detailed in Vol. II., page 364, of THE BUILDER; their entire weight including the two small ones entire weight, including the two small ones added to the old number, is 16 cwt. 2 qrs. and 18 lbs. more than that of the former peal. An amusing idea of the deafening din while up amongst them when in full peal may be formed from the fact, that the writer of this, on an occasion of his being there with some friends, endeavoured at the loudest possible pitch of his voice, while standing close to them, to make himself heard, without being at all audi-ble. In the ringers' chamber is the following inscription engraved on a large brass plate, and which was rendered necessary by the name of Dr. Beckwith being omitted to be inscribed on each bell:-" This peal of twelve bells was given by the will of the late Stephen Beckwith, M.D., senior physician of this city, in the year of our Lord, one thousand eight hundred ond forty-three.

C. and G. Mears, Bell-Founders, London, July, One Thousand Eight Hundred and Forty-four.

Barnard Price, Thomas Price, Faril James Copsie, Executors."

The ringers' chamber is immediately under that containing the bells; under the ringers' is the one appropriated to the clock, which strikes the hours upon the tenor, and the quarters on one of the smaller bells. This clock, it is considered, would not be sufficiently strong for the great bell, which is to be placed in the north-west tower, and a new one of more powerful mechanism is accordingly proposed to be placed there in its stead. An account of "The Monster Bell" will be found in Vol. III., page 83, of THE BUILDER (the current year). In addition to the bells there mentioned, by way of comparison, we may state that although our "Big Peter" is unquestionably the greatest bell in this kingdom, he would play but a second fiddle amongst the bells of the continent, not to say any thing of Russia:--

St. Stephen's bell, Vienna, is stated to weigh upwards of 17 tons.

The people of Rouen estimate their largest at 16 tons.

Our great Tom of Oxford is 71 tons, or perhaps rather more.

The great bell of Antwerp Cathedral, weighing about the same as this, is said to have taken sixteen men to ring it; from this we find, supposing the circumstances to be similar, that Peter would require the united strength of twenty-six men to bestir his metal; but this estimate probably far exceeds the truth, and much must depend upon the care and nicety exercised in the hanging.

The old Tom of Lincoln, mentioned in the paragraph referred to, having been cracked, was broken up on the 18th of June, 1834.

There may sometimes be great mistakes as

to the weight of large bells: in a clock-house at Westminster hung a bell which was usually rung at the coronations and funerals of princes, and bearing this inscription :---

King Edward made me Thirty thousand and three,* Take me down and weigh me And more you shall find me.

When it was taken down at the doom's day of abbeys, it was found, even with the help of two more, not to weigh 20,000.

In further observance of Dr. Beckwith's will, a thorough restoration of the interior of the Chapter-house has been going on for the last six months, and which, when completed, will render this part of the Minster a perfection of architectural beauty of its kind. The masonry of the surrounding stalls has undergone a re pair of the most perfect description, many of the canopies being in front entirely new, and the whole, including the carvings, reworked and made good. In this part of the masonry, before these operations were begun, the destruc-tive effects of the use of iron cramps were most strikingly exemplified, many stones being shivered to pieces, the work thrown out of its proper bearings, the joints in every direction an inchor two in width, and the cramps themselves in such a state of decay, that had the Chapter continued to hold their meetings there, and this restoration not have come soon about, the lives of Dean, Canons, and Prebends would have been involved in one common danger by the impending masonry. In the restoration, cramps of iron, encased and brazed in copper, have been used where necessary, but wherever possible the front parts of the masonry have been dovetailed into that behind, and joggled together, and dowelled with slate plugs, so as to render foreign adjuncts unnecessary. In this stall-work, the most beautiful carvings were found wedded to the most clumsily-constructed masonry, such as the artisans of our day would be ashamed of. In the interior angles of the stalls, the Purbeck marble shafts, many of which were much decayed, and some entirely worn through by time, have been made good with new, and the whole highly-polished, senting a fine contrast to the clean Huddlestone masonry, and setting off with increased effect the exquisitely carved caps and pen-Besides the usual process of polishing dants. to which such work is subjected, these shafts received, in a hot state, a coating of some waxen mixture, part of which they imbibed, thus rendering their pores less pervious to the atmosphere, while it enhanced the brilliancy of their polish. On polishing the old shafts, they were found to be generally much superior in beauty to those obtained at the present day, being less confined to the dark grey tone, and presenting pleasing variegated patches, approaching a flesh colour.t

To accord with this part of the works, arrangements have been concluded with Mr. Willement, who executed the beautiful decorations in the vaulted ceiling of the Temple Church, for performing the like office for that of the Chapter-house, the symmetrical combination of which affords favourable scope for his ability. It has been determined also to lay the floor with Minton's encaustic tiles, which, when such reinstatements as are necessary in the beautiful glazing of the windows have been effected, will render the coup d'æil complete. On the stall-work and clustered shafts between the windows were plain traces of the masonry having formerly been decorated in party colours, and which is also apparent in the vestibule, but upon mature consideration it was judiciously resolved to confine this branch of art to the groined ceiling, thereby securing a relief which would not otherwise have been obtained. Preparations are in progress for heating the entire Minster with hotwater; four large slate cistorns are also about being prepared for the lantern-tower, as suggested by Mr. Smirke, and which will collect the water from the roof; they are to be placed in the corners, between the groined ceiling and the external roof, and will be three-sided

accordingly. Other provision of a like nature is also to be made, as well as the description of lightning conduction adverted to by the Rev. Ir. Harcourt in his address to the meeting of March 31st, 1842, and which, when completed, will enable the Dean and Chapter to effect an insurance at a much reduced premium.

In the summer of last year a considerable sum was realized by a two days' sale of relics, Sum was realized by a two days' sale of relics, consisting of dilapidated stone and charred oak carvings, surplus materials, &c. On the 23rd of January, in the present year, the restoration committee resigned their trust, having ex-pended 22,450%. The repairs now proceed under the Dean and Chapter, as of old. In conclusion, it would be doing injustice to those conducting these important works were

those conducting these important works were we to pass unmentioned the approbation which their efforts have invariably commanded; and whether we regard the judgment and taste of the architect, whose name is a guaranty of sound professional skill, the unwearied co-operation of the Restoration Committee, or the efficient superintendence of Mr. Allen, the active and intelligent clerk of the works, we feel that while a duty of no common order devolved on them, abilities were brought to bear on it fully equal to the occasion. In regarding the noble structure itself, we are led to admire the wisdom of that cruciform arrangement which the piety of the ancient architects prompted them to adopt, a plan which must often have preserved to them a refuge in one portion of their edifice, while it was desolated in the other by some visitation such as those to which York Minster has twice within so short u period been a prey. Such at least has been the case with the latter ; while a furious conflagration raged in and consumed one end, the lantern tower stood like a protector be-tween, and intercepted its approach to the other. Now the visitor may stand under that great tower, and whether he look towards the east or the west, north or south, sublime grandeur and sacred order meet his gaze; and in that long and lofty nave, with its matchless vistus, if his breast heave not with emotions superior to his best wordly aspirations, he is an anomaly, and belongs to a lower order in creation.

" When silent gliding through the sacred aisle,

To join the throng on pious ritual bent; The organ's solemn peal our thoughts can wile From ways profane to virtuous intent; And teach the vengeful bosom to relent;

Each cadence wakes a dormant sympathy ; Each swelling symphony makes penitent : Such thy celestial power, oh harmony !

In holy fane attuned, to man on bended knee."

SOCIETY OF ARTS.

APRIL 2nd. Dr. Roget, Sec. R.S., V.P., in the chair. The following were elected as members:--W. H. Ashurst, H. T. Harrison,

and E. Gibson, jun., Esqrs. The secretary read a description of Mr. Riding's index-machine for weaving silk goods, which consists of an adaptation of the cylinder of the dobbin (with moveable instead of fixed pegs) to the wires of a jacquard machine, doing away with the cards, levers, pulleys, &c., of the dobbin, and with the cards of the jacquard machine. Mr. Henry Lawson's Reclinia for astronomical purposes was next described, which consists of a frame 6 feet long, having a foot-bracket at bottom. The frame is suspended by two leather straps to a horizontal triangular frame, which rests on two large wheels and one small one; the large wheels are in such a position as to be under the control of a person using the reclinia; the small wheel is under the back part of the frame. A light chain or cord is connected with a pedal attached to the foot-board, which cord leads to a catch, by which the position of a racked arch attached to the foot-board is regulated, in order to set the inclined frame at any given angle; the inclined body frame at is filled in with cane-work, as also the pillow-frame, which is attached to the former by means of any other than the former by means of springs. This observatory reclinia is especially useful when large telescopes are used, in which the sweep of the eye end from the horizontal position of the tube to the zenith, or vertical position, forms an arc of several feet. When the observer wishes to

me one happily said, on visiting the nave, and in ce to its beautiful windows, that "it was like being a kaleidoscope."

remove his eye from the telescope, he has only remove Lis eye from the telescope, he has only to press down the spring pillow-frame with his head, which can be done without injuring himself, or unadjusting the telescope. The machine above described is used by Mr. Lawson in his private observatory at Bath. The model of a new fire-escape and portable scaffold, by Mr. J. Clarke, was next intro-duced to the meeting, which is an improve-ment on Mr. Wivell's fire-escape, for which he was rewarded by the society in 1839. Mr. Wivell's invention may be seen every evening Wivell's invention may be seen every evening at the different stations (in the metropolis) of the society for the prevention of accident by fire. Mr. Clark's improvement consists, 1st. In the mode of raising the upper ladder, which runs between the sides of the larger ladder, thus giving firmness to the whole; 2nd. In the facility of using the small ladder alone; 3rd. In the introduction of a balcony alone; 3rd. In the introduction or a baloony instead of the canvas bag, which forms part of Mr. Wivell's escape; 4th. In attaching the carriage to the main ladder with a different arrangement of the springs, whereby the jerk-ing motion of Mr. Wivell's contrivance is ing motion of Mr. Wivell's contrivance is obviated; and 5th. Its adaptation as a port-able scaffold, either for the interior or exterior of lofty buildings.

Correspondence.

PUBLIC CEMETERIES.

SIR,-The late exposure of the disgraceful proceedings in burial-grounds will probably lead to some new system.

I beg to send you the following rough hints for forming large picturesque cemeteries, with appropriate, profitable, and attractive buildings, with the hope that the attention of the parochial authorities may be called by these means to the subject, and that parishes may be led hy combining together to have them on a grand and liberal scale.

The whole of the city parishes would form one large and rich company, and if they pur-chased from 300 to 400 acres of land on the bank of the river Thames, might lay it out in serpentine walks, clumps and groves of trees, plantations, &c., frequently shutting out the views, interspersed with the tombs, monuments, monumental statues, &c., so that the visitors might come suddenly on to a more extended view, thus giving as much variety as possible. Part of the land might be laid out in small woods, with underwoods, which would be growing fast into money, would give the whole a park-like appearance, and when required for burials, be cut down and sold; parts might also be devoted to the culture and growth of flowers and shrubs.

With regard to the arrangements of the funerals, there should be a building for the reception of the corpse in some central situation close to the river, with suitable rooms for the mourners and attendants, with a proper landing place: and as there will be many bodies each day, a large galley would be re-quired, and also others for the mourners.

As to the buildings for the performance of the service of the dead, they should be of such size and grand proportions, forming one complete whole, as to impress the greatest so-lemnity on the minds of the mourners and visitors; at the same time, to have arrange-ments in the internal cloisters for the accommodation of the tombs and monuments for individuals, and mausoleums for separate families.

I beg to suggest a church in the form of a complete cathedral in the early decorated style, being the simplest form both for the economical use of material, and that of the right sort, (stone), and space, the accommodations and ornamental forms in the decoration arising (not encumbering, like some other styles of architecture, but assisting) out of the very skeleton of the building, giving the utmost amount of strength and durability with the least quantity of material.

The plan I beg to propose would consist of two towers at the west end, with archways between them and a carriage-drive through the centre of the whole building, which would form the nave, leading under the central tower and space, with two chapels on each side, forming the transepts, and cloisters on both sides of the carriage-drive, representing the aisles; also similar cloisters beyond the central tower and chancel, thus giving externally the general and grand outline of a complete onthedral, which might be either on a large or moderate seale,

The carriage-drive is intended for the passage of the hearse or galley, which might be drawn on a car by horses, and, with the choir leading and the numerous mourners following, would make at times a grand and impressive procession. The aisles, towers, and other parts, would be divided into stories of cloisters, Sic. &c. for tombs and tablets, to the extent of about eighteen times the length of the whole build-ing, and the chapels for the services of the dead.

I have sketched out a plan, section, and description of the shove more in detail, and shall be happy at some future time to lay it before your readers, if you should think it worthy of a place in your excellent journal. I am, Sir, &c., Lambeth. WILLIAM J. SHORT.

The buildings of the West of London and Westminster Cemetery, in Old Brompton, in the Italian style, are disposed somewhat on the plan suggested by our correspondent .-- ED.]

PRATT'S CARVING MACHINE.

SIR,-In your last number, I find an article relating to Pratt's patent carving machine, which I am afraid has a direct tendency to mislead a great portion of your architectural readers, more particularly the junior members of the profession. As an ornamental draughtsman, and an enthusiastic admirer of decoration generally, I am induced to offer a few remarks on this subject, and trust you will deem them worthy of insertion in your useful and popular publication. I am under the necessity of quoting from the article mentioned, it being stated therein that by means of Pratt's machine "the most elaborate tracery can be carved out of the solid wood or stone with great rapidity, and for about one-third of the sum it would cost if executed by hand." This estimate is wrong in every respect; and with all due deference to Mr. Pratt's discernment, I shall now endeavour to shew the falsity of his assertions. On applying to Mr. Pratt for information respecting his process, he offered to take any description of work, and execute it equal to specimens in his window, at a lower price than by hand. On shewing the draw-ings, however, for the work required (a Gothic screen perforated and worked on both sides), this (pointing to several parts of the tracery), "as there was not enough of it alike to pay him;" and those parts which he offered to dehe remarked that he could not do that, nor him;" and those parts which he offered to do for 11. (perhaps for 15s.) each were, on his refusal to do the whole, eventually put into the hands of a first rate workman, and by him completed at 14s. 6d, each—so much for price. The reason Mr. P. cannot take a small order is that the necessary metal patterns (for the cutters of the machine to work by) are suf-ficiently expensive in themselves to prevent their being kept in stock; and even if such was not the case, every design being different, a new set of patterns must still be made for a new set of patterns must still be made for each job previous to its commencement. The cost of these patterns must be considerable from the care which is required not only in casting, but in giving them a true face after-wards, and the necessity which exists of shifting them frequently, renders the process throughout tedious and irksome in the extreme; and although the cutters act very well, and cut clear with the grain of the wood, still, against it they are quite the reverse. When the machine has done its portion of

When the machine has done its portion of the labour, the mitres, eyes, &c., not being touched by the cutters, must be finished by hand, and taking into consideration the cost of the wood pattern in the first instance, the delay caused in casting and filing up the same, the fitting of the patterns in the ma-chine, previous to the work being commenced, the necessity which exists for shifting the sutter every the fillers for more full to another. cutters over the fillets from one foil to another, and the incompetency of the machine generally to finish its work, must, I think, convince any reasonable person that Pratt's patented process is not a cheap one. Again, as Mr. Pratt does not consider it worth his while to take small orders, I do not see how his plan can he productive of any good result as regards the interests of the architect. That the machine is capable of "working any form, however ela-borate," is incorrect, for if such was the case. it would work the mitres, and as it does not do

so, it cannot properly be said, that Mr. Pratt, by means of his machine, can produce Gothic tracery, the beauty of which depends entirely upon the accuracy of the mitreing. Having, upon several occasions, had an opportunity of carefully examining work executed by this process, I have invariably found it rough and inferior in every respect to that done by hand, and am also of opinion, that instead of "calling into operation a school of carvers," it will have a contrary effect. My reason for it will have a contrary effect. My reason for arriving at this conclusion is, that the present race of carvers are sadly wanting in their knowledge of, and, in fact, seem to have no conception of *relief*. The carver of wood or stone, if he works upon material prepared by the machine, thus literally throws away the best opportunity he has of acquiring freedom in execution, combined with taste, the "rough-ing out" being the most essential part of his art.

As regards the specimens alluded to at Ravensworth Castle and Malvern, they are at too great a distance from town for those who are most interested in the matter to visit, but are most interested in the matter to visit, but fortunately the machine decoration to that splendid ecclesiastical edifice, Camberwell New Church, may be seen and admired by any person who may feel inclined to trouble him-self by walking or riding that far, or by calling at Mr. Pratt's establishment, in New Bond-street. I beg to apologize for the length of this communication, and am, Sir, &c., F. M. 8 Great College-streat Wastminstor

8, Great College-street, Westminster, March 26th, 1845.

JAMÁICA LUNATIO ASYLUM.

SIB,--Not having seen in your very excel-lent work any account of the competition for the Jamaica Lunatic Asylum, I presume you are not aware that it is decided ; and knowing you are anxious for information upon those subjects, I avail myself of this opportunity to state that Mr. Jos. Harris, resident engineer of the Hanwell Asylum, was the successful competitor.

I feel much pleasure in saying that no influence whatever, either directly or indirectly, was used by that gentlemen or his friends to affect the decision, which, under such circum-stances, must have arisen from the merit of the design.

The following notice is from a Jamaica paper, dated 14th Feb., 1845:--"The Lunatic Asylum.-There was a meet-ing on Wednesday last, at the King's house, of the Commissioners appointed to carry out the Act for Building a new Lunatic Asylum, his excellency the Governor in the chair. It is said that the object of this meeting was to receive the report of the committee, which had been previously appointed, to select one of the numerous plans and models submitted to the numerous plans and models submitted to the commissioners for examination and ap-proval, when that of J. Harris, Esq., the resi-dent engineer of the Hanwell Asylum, in England (which is the largest and best of the kind in all Europe), was approved of." I am, Sir, &c., Notting, bill

Notting-hill. J. R. CROFT.

COMPETITION -- CLIFTON UNION.

SIR,—A letter, signed "Thomas Allom," appeared in THE BUILDER of the 29th of March, in which it is more than insinuated that in the choice of a plan for a new work-house, the guardians of the Clifton Union had sorted with martiality, no other proof heing acted with partiality, no other proof being adduced than the bare circumstance that the plan, which has been chosen, was prepared by a Bristol architect.

Mr. Allom cites the opinion of a professional gentleman, who was engaged to assist in the examination of plans, as having been favourable to his; it is readily admitted that the opinion referred to was favourable to Mr. Allom's plan architecturally considered, but it should be remembered that the chief requisites in a plan for a workhouse are, sufficient space for the inmates, and proper arrangement for their classification and inspection, to which require-ments the architectural design of the building unable to be aphendiate. ought to be subordinate. In citing the opinion already mentioned, Mr. Allom omitted to notice two important features in the report which contained that opinion, namely, that Mr. Allom's plan shewed a deficiency of space

for several classes of the inmates, and that to carry it out would cost 3,600*l.* more than Mr. Allom's estimate. To this it may be added, Mr. Allom's estimate. To this it may be added, that the same professional gentleman alluded to estimated the cost of carrying out the plan which has been chosen (similar materials of every kind being taken into the calculation for both plans) at 1,902*l*. less than Mr. Allom's plan. Now, admitting the two plans to have possessed equal merit (which was not the case, the plan chosen being superior in the three chief requisites of space, classification, and inspection), surely there was sufficient and substantial ground for giving the preference to a plan which a professional adviser stated would cost 1,902*l*. less than Mr. Allom's. It might very easily be shewn that of all the

It might very easily be shewn that of all the architects who sent plans Mr. Allom should have been the last to complain of partiality having been shewn, but the object of the writer is not to wound the feelings of any one, but simply to record one or two incontro-vertible facts, in order to prove to the pro-fessional gentlemen who sent plans that the guardians have acted towards them with perfect good faith .-- I am, Sir, &c.,

A GUARDIAN.

Bristol, April 4, 1845. ** A correspondent desires to know who is the successful candidate: the name has not yet reached us.

THE FLOATING DOCK.

SIR,-In THE BUILDER of 15th March, it is mentioned, that a Mr. Lennox has invented a floating-dock, and that the directors of Woolwich Dock-yard have been ordered to pre-pare detail drawings of the scheme.

pare detail drawings of the scheme. I most respectfully ask to be informed whether the above-mentioned floating-dock means a dry floating-dock. If it means a dry floating-dock, I am pleased to know that some person more competent than myself has for-tunately step forward for so laudable a pur-more. Not only our own merchants and so pose. Not only our own merchants and government, but merchants of other nations will feel its beneficial effect, to say nothing of the many lives of our bold and adventurous tars it will probably be the means of saving. If it does not mean a dry floating-dock, you will hear further from me.

I am, Sir, &c. W. R.

EXHIBITION OF WORKS OF DECORATIVE ART, &c.

SIR.-You have doubtless heard of the various projects on foot for the establishment of galleries for the purpose of exhibiting me-chanically-factured and decorative works of art,-places to bring together such matters as were exhibited lately in St. James's-street.

There can be but one opinion as to the utility of such exhibitions when properly conducted. They offer the means to the artist and artisan of communicating directly with the public, of coming before them, in fact, without the intervention of a third party — an advantage of no little consideration; and this must most evidently tend to promote the taste and in-crease the demand for works of this nature.

Although the exhibition in St. James's-street made no great impression on the public, neither was it to be expected that it should, for most of the decorative instances were attempts of persons not regularly educated in the principles of ornament, but emanations from hitherto untried hands, evincing the skill and perseverance of an emulation just beyond the workshop. An artist, in the accepted sense of the term, could but in few instances be said to have exhibited at all. Take that exhibition under its true circumstances, I think you will agree that it was satisfactory; for though a smile may have been excited at an ambiguous attempt here and there, scarcely any one could pass through the room without respecting the united efforts.

Such an exhibition is a school for the exhi-Such an exhibition is a school for the exhi-bitor; he cannot compare his attempt with the attempts of others without learning many important things, one of which, and a very material one, will be his own value. It is very difficult to judge of the respective value of two matters extremely remote in quality, but the "little-better" is always easily observed, and has a more encouraging effect.

and has a more encouraging effect. The main things wanting to such an exhibi-tion, is to give it a good place and permanency. Now, Sir, without disparaging any of the pro-

jects in hand, I would submit, with your permission, to the interested public, through the sgency of your effective journal, a single suggestion on the subject, and that is that some portion of the vast area which forms the site of the British Museum should be appropriated to a purpose of this kind. The able superintena purpose of this kind. The able superinten-dence under which the Museum is now so admirably conducted, would ensure success. There are many reasons which will readily occur why institutions of this kind, got up by private individuals, should fail. There ought to be in my opinion but one place of the to be, in my opinion, but one place of the kind, and that the most public that can be found. Trusting that the importance of the subject will be my sufficient excuse. I am, Sir, &c., Bedford-square. W. A. HOFKINS. l

Bedford-square.

BURIAL-GROUND OF ST. SAVIOUR'S, SOUTHWARK.

SIR,—On perusing your journal of the 5th instant, I find a paragraph referring to the state of the burial-ground of St. Saviour's Church, Southwark, and what the parishioners

had done in consequence. Allow me to draw your attention to a few particulars connected with this matter, and then I will leave it with your sound judgment to determine whether much has not been sai l in the public journals on this subject that might have been well spared until they had better information, or at least until the committee to whom it is referred had investigated

mittee to whom it is referred had investigated the matter, and reported thereon to the vestry. You know that there are two days in the year when vestry meetings are held differing in their power to any of the others that may be held, viz. Easter Tuesday, and Michaelmas-day. On these days any parishioner can pro-pose any resolution without giving previous notice thereof, and if carried, need no confir-mation by a subscenario vestry much was the mation by a subsequent vestry,--such was the case on Easter Inesday. What the vestry really did was to refer it to the wardens and a committee of six inhabitants to investigate the matter and report to a fature vestry. The churchyard in question contains 1,603

ards superficial, from which a deduction of yards supernetas, non which taken, leaving 233 yards for paths may be taken, leaving 1,370 yards free for burials.

1,370 yards free for burials. The whole amount of burials therein in three following years just passed, was 245, of which 91 were infants, 33 under thirty years of age, 121 above thirty,—being not quite an average of 82 per annum, and consist of 30 infants, 11 under thirty, and 41 above. The committee's first meeting to investigate this matter was on Thursday afternoon last

this matter was on Thursday afternoon last, after which probably you may hear again from

A SUBSCRIBER TO YOUR JOURNAL, and an Inhabitant of St. Saviour's, Southwark.

HISTORY OF A LONDON WORKSHOP .--A man begins by employing a few hands in a house often but ill-adapted for an ordinary dwelling-bouse, and, as his business increases, he contrives to add one low apartment to another, by knocking down partition-walls, and making such alterations as suit his immediate purpose. He contrives by this means to accommodate an increasing number of men, and the only practicable limit to that number is the want of mere standing or sitting-room, as the case may be. He warms these rooms by a stove, by steam, or by hot air, and lights them with gas: the consequence is, that the work-men are exposed at the same time to a high temperature, and a fouland stagnant atmosphere. This combination is carried to its highest degree in tailors' workshops, and I have been told more than once by the journeymen tailors themselves, that they have been obliged to strip to the very skin, that they might be able to bear the intense heat to which they are ex-posed. In buildings intended for workshops more space is given to the men, but they are usually space is given to the men, but they are usually constructed on very bad principles; the whole building often forming one space, divided by floors perforated by a common staircase; if a steam-engine is employed, it is generally to bo found in a lower apartment of this building, so that the heat rises from this into the upper rooms, and, mingling with the foul air of the intermediate floors, ascends to the highest flat, where the hot and foul air collects in great abundance.—Medical Times.

Aliscellanea.

OSBOBNE ESTATE, ISLE OF WIGHT .- This costate, recently purchased by her Majesty from Lady Isabella Blatchford, is considered one of the best situations in the island, being placed on a spacious lawn sloping to the sea, affording some of the most beautiful and extensive views of the Solent Sea, Cowes, the New Forest, and the South Sea, Cowes, the New Forest, and the Southampton water, with Portsmouth and Spithead in the distance. Including the park, Osborne great wood, and New Barn Farm, it contains 376 acres. But to this is added the Barton Farm, containing 441 acres, making a total of 817 acres. Barton Farm, also the property of Lady Isabella Blatchford, has now become the freehold of her Majesty, of which formal possession will be taken on the 1st of May. The whole royal purchase embraces an indented shore of the ea of about a mile and a half, Fish-house Creek being the eastern boundary, and Norris Castle the western limit. It extends inland to the Newport high road. Various reports are current respecting the anticipated alterations at Osborne. One states confidently that her Majesty has determined to use Osborne House as a nursery for the royal children, and that the house at Barton is to be taken down, and a suitable palace erected on its site. Another is to the effect that it is only in contemplation to enlarge and restore Barton House, thereby preserving the fine old ex-ample of the Elizabethan style, of which it is considered to be a very perfect specimen. A pier will be run out from the beach under Osborne House immediately. From this place in the new yacht-tender, Fairy, the royal party will be enabled to land and embark at all times of the tide.

FALL OF A BUILDING.—FIVE LIVES LCST. —On Friday, the 28th ultimo, a most melan-choly accident occurred at Pollokshaws, dis-tant about three miles from Glasgow. Some time ago it was proposed by the Old Trades' Societ of Pollokshaws to ascet a shulding in time ago it was proposed by the Old Fisher Society of Pollokshaws to erect a building in the main street of that town. This building was commenced, and on Thursday, the 27th ultimo, the mason-work of it was finished, and the scaffolding removed the same evening. Close to this building stood a thatched house Close to this building stood a thatched house of one story high, occupied by poor but re-spectable tenants. The occupants of this hum-ble dwelling, seven in number, had consider-able doubts as to the stability of the building erecting adjacent to them, and during the course of the preceding week, remained two nights in a lodging-house, being afraid that the building would fall upon them. On Thurs-day evening while the wind was blowing a day evening while the wind was blowing a burricane, the inmates entered their habita-tion, still under the same fears. They con-gregated themselves around the hearth, and gregated themselves around the hearth, and sat there listening to the storm raging without, until far in the morning. Thinking, then, their fears were groundless, and danger distant, they all retired to rest; but they were not ten minutes stretched upon their beds, than down fell upwards of 20 feet of the gable and chimney-stack, which was very high, of the building, crushing beneath it the humble do-micile of these unfortunate beings. The crash was heard in an adjoining house, the inmates of which instantly rose and procured every asof which instantly rose and procured every assistance in their power to have the sufferers removed from the awful situation in which they were placed. Two of the seven were speedily got out, and found to be little injured. It required upwards of two hours, however, of great exertion, before the remainder of the sufferers could be reached. When discovered they were all found to be lying in their beds with life totally extinct.

POMPEIL.—The latest excavations made at Pompeii, by M. Vilain XIV., the Belgian charge d'affaires, have been exceedingly inter-esting. A house was laid open in the quarter of the people. Twenty workmen were em-ployed at the task, and the entrance-room furnished about twenty-five articles, vases, cups, altars, and bronze paterze. Another room. from which a narrow passage led to the kitchen, contained some large earthen jars. In the kitchen, the tinning of the saucepans was still bright. A large boiler, two jars with handles, light and transparent, objects exceed-ingly graph and there ware also found there ingly rare in collections, were also found there. The next excavations were to be made in the workshops of sculpture of the town.

LEVIATHAN AIR ENGINE .--- We have lately heard of a most stupendous construction of this kind, said to be the invention of Professor Reinagle, who is securing patents in every civilized country for his discovery, and this will obviously account for our not being able to enter into a definite description of its component parts. Report says, that Professor Faraday, having seen the drawing, and heard Faraday, having seen the drawing, and heard the theory and practice of this invention ex-plained, complimented the inventor by declar-ing, that he had discovered perpetual motion of the most terrific description. It is also stated, that other eminent men have recently seen it, amongst them Professor Byrne, Dr. Armstrong, Dr. Carpue, and some distin-guished foreigners, besides very many private friends of the inventor, of great intelligence, who have all expressed their candid opinion of its perfect simplicity, and of its immense power. To enable the public to form some notion of the power obtained, Professor Rein-agle has contrived a table apparatus, anything agie has contrived a table apparatus, anything but air-tight, by which he moves 80 lbs. full 2 feet in three seconds (placed on a four-wheeled car) by his breath alone. Even 100 lbs. can be moved in like manner.

NINEVEH .- " The discoveries in architec ture and statuary made at Nineveh, by M. Botta," says the *Moniteur Parisien*, " must be of considerable value if we are to judge by the specimens which have arrived at P aris. They consist in pieces of architecture, bassi relievi, and statues, in better or worse preser-vation. The inscriptions are perfectly legible, but altogether beyond the art of modern deciphering. The king, after having examined these curiosities with great interest, has de-cided that a vessel belonging to the Governwhole collection to Paris." MONUMENT TO DE. WATTS. - The com-

mittee under whose management this monumittee under whose management this monu-ment is to be erected, have engaged Mr. Baily, the eminent sculptor, to execute it. The monument will consist of a statue of colossal size, and will be placed upon a pedestal in Ahney-park Cemetery, the directors of which have promised to grant a site. No place could be more appropriate, for there, at the residence of Sir Thomas Abney, Dr. Watts spent thirty-six years of his life. There he wrote most of his works, and at a place of workhin near to Abney he frequently preached. Morship near to Abney he frequently preached. Mr. Baily says, in a letter to the Morning Post, "in consideration of the moral and intellectual benefit conferred on the nation at large by his works, I consented to execute the same in Portland stone, for the money which might be raised, and which does not exceed 3001., though my price would have been, under other circumstances, 500 guineas." LORD NOBTHAMPTON'S SOIREE.—The ac-

complished and amiable president of the Royal Society gave his closing conversatione on Saturday last, when a larger number of distinguished men were present, and more interesting matters were exposed in the rooms, than we have ever seen there.

CITY BRICKLAYEB. - An election took place last week for the office of bricklayer to the corporation of the city of London, when, after a poll between the only two candidates, Mr. Boucher was elected by a majority of sixty-five votes over his competitor, Mr. Ward.

FIRES IN LIVERPOOL .- The total value of during the last three years, was, in 1842, 517,927*l*; in 1843, 119,584*l*; in 1844, 24,391.

Mr. Bowes, M.P., 157.; and Mr. Farrer, 27.2s.; towards the erection of a building for the Mechanics' Institution, at Stockton.

Tenders.

TENDERS delivered for the Alteration of Kings-nd Chapel.-W. Wallen, Esq., Architect.

| Torritor | Cuapor. The manual about 1 | TI CHIECCES | | |
|----------|------------------------------|-------------|----|-----|
| | Lawrence and Sons | £1,309 | 0 | |
| | Jay | 1,280 | 0 | |
| | Pritchard | 1,269 | 0 | |
| | Turner | 1,145 | 0 | |
| | Haines and Co | 1,064 | Ó | |
| | Brigg | 1,059 | 10 | |
| | Ashby | 1.049 | 0 | |
| | Hayworth | 1,016 | 0 | |
| | e Tenders were opened in the | | | the |
| | es, and the lowest accented. | • | | |

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to canit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers however, they are entered in a book, and may be seen on application at the office of "The Builder," S. York-stroet, Covent-garden.]

For the restoration of the Parish Church of Grays Thurrock, Essex. April 12. For the erection of a Church in the parish of St. Thomas, Winchester. April 12. For the supply of 600 Coal Waggons of superior

construction, spring mounted, with mallesble iron wheels, and calculated to carry about six tons of coals each, for the Great North of England Railway.

April 15. For the erection and building of a Farm-house, Barn, Stable, and other offices, at Hepworth, Suffolk. April 16.

For keeping Battle-bridge and Holloway-road

For keeping Battle-bridge and Holloway-road in repair for one or more years. April 17. For making a Brick Barrel Calvert from the Pump in Much Park-street to Jordan Well, Coventry, and for Excavating and Carting away the soil and rubbish. April 17. For submitting a plan of a Tread-wheel, and con-structing the same in the Common Gaol of Great Varmonth, Norfolk. April 24.

Yarmouth, Norfolk. April 24. For all the Works to be done in the creation

and completion of the new cast-iron Bridge over the Haven of Great Yarmouth, including the find-ing of labour, certain materials, &c. April 26. For the construction of the third and fourth

divisions of the Chester and Holyhead Railway.

April 28. For the supply of Materials to the Commis-sioners of the Metropolis Roads. April 30. For performing the several works in building a new Workhouse at Tenterden. May 2.

For the formation and completion of a new For the formation and completion of a new Drain, being about eleven miles long, twenty yards wide, and five yards deep, for the Middle Level Drainage Commissioners. Also for the erection of a Stanach, several Bridges of wood with brick abutments, together with the needsary calverts, and other works. May 8. For the erection of a Baptist Chapel at Holk-stone.

stop

For laying out the Grounds of the Nictoria-park Cometery, and for draining the same, making the roads, paths, and finding all necessary trees, shrubs, materials, &c.

COMPETITIONS.

Plans, sections, and elevations for a Terminus, and other requisite accompanying offices, for the Great Southern and Western Railway, Ireland.

Great Southern and Western Railway, Ireland. Plans for a Church to be erected within the Borough of Kingston-upon-Hull. May 8. Plans, Specifications, and Estimates for the Building and Interior Fittings of a Church, to be erected in Gloucester. To contain 600 adults and 200 school children. The shape of the ground is nearly rectangular, and measures on the east sider 55 feet, on the west 62, on the north 120, and on the south 112.

APPROACHING SALES OF WOOD, &c. BY AUCTION. April 14.—On the Estate of Mr. John Welham,

ar the Mills, Earl Stoneham, Suffolk. Six capital

Timber Ashes, of first-rate quality, measuring from 60 to 30 feet in a tree; also 180 Pollard Elms. April 14.—At Chapple Essex : a large quantity of Ash, Elm, Pollards, and some very good Elm Timber

April 15.—At the Three Ashes, crossing near Witham, Essex : 1185 Oak Trees, now growing in the woods and fields of Lanhams, and Crossing Lodge Farms. Many of the Trees are of large di-

mensions. April 15.—At 23, Fuller-street, Church-street, Bethnal-green: a quantity of Spanish and Honduras Mahogany, several thousand feet of Cherry-tree, Birch and Beech, &c. April 16.—At Camberwell, Surrey: several Elm Trees, large Walnut and Ash Trees, also the Beild-ing Materials of the Grammar School and two large Dwelling-houses.

Dwelling-houses.

Dwelling-houses. April 16.—At the Wiffin Inn, Malpas, Ches-hire: 68 Oak Trees, and 4 Cyphers. April 16.—At the Cups Inn, Colchester: above 100 fine Oak Timber Trees, now standing upon Dove House Farm. The metings average from one load to three loads per stick, and of consider-able length able length.

able length. April 17. — At the Roebuck Inn, Loughton, Essex: 100 Oak Timber Trees, wry old and sound, and the greater portion of large dimensions. April 18. — At the Greyhound, Sandy, Bedford-shire: 950 Larch and Scotch Spires. April 18. — At the George Inn, Froome, Somerset: 310 fine grown Oak Trees now standing on the Orchardleigh Estate. They are of large dimensions, great length, and of very superior ouality. quality.

180

Last week in April.—At the Timber-yard, opposite St. Giles's Church, London: 3,200 Pine Deals, Planks, and Battens, 840 Yellow Deals, 2,480 Sprace Deals and Planks, 120 Yellow and White Battens, 14,000 feet of three-quarter inch and half inch Pine Boards, &c.

and half inch Fine Boards, &c. Some time during the present month.—A large quantity of full-grown Coppice and Hedgerow Timber, now standing at Denby, Derbyshire. End of April or beginning of May.—250,000 Building Bricks, 40,000 Arch ditto, &c.; now at Sherborne Kiln, three miles from London.

BY TENDER

All the implements used in the execution of the works at the Fleetwood pier; they are now on the wharf at Fleetwood, and can be put on the railway-

wagons, or on board ship. April 21.—Above 1,000 Oak Trees, now stand-ing upon Lewisham Lands-wood, near Beckingham,

20 Oak, 1 Elm, 1 Cherry, and 12 Ash Trees; ow standing at Hanmer, near Welchhampton, Cheshire.

MEETINGS OF SCIENTIFIC BODIES

MEETINGS OF SCIENTIFIC BODIES During the ensuing week. MONDAY, April 14.—Geographical, 3, Waterloo-place, 84 P.M.; Brilish Architects, 16, Grosvenor-atreet, 8 P.M.; United Service Institution, Whitehall-yard, 9 P.M. ; Medical, Bolt-court, Flect-street, A P.M.

8 P.M. TUBSDAY, 15.-Linnæum, Soho-square, 8 P.M.; Horticultural, 21, Regent-street, 3 P.M.; Civil Engineers, 25, Great George-street, 8 P.M.; WERNESDAY, 16.-Society of Arts, Adelphi, 8 P.M.; Geological, Somerset-house, 84 P.M. THURSDAY, 17. - Royal, Somerset-house, 84 P.M.; Antiquaries, Somerset-house, 8 P.M. FRIDAY, 18. - Royal Institution, Albemarke-ctast, 91 P.M.

street, 85 P.M. SATURDAY, 19. — Asiatic, 14, Grafton-street, 2 P.M.; Westminster Medical, 32, Sackville-street, 8 P.M.

TO CORRESPONDENTS.

"G. R."--We cannot promise to insert our obliging correspondent's last letter. "A Subscriber" (London).-The information may be obtained at the office without expense. "A Builder" (Borough).-A drawing of this roof is now in the hands of the engraver. "W. G." (Hackney).-The last clause of sche-dule provides that no chimney-shaft, jamb, breast, on the already built on which shall be hereafter

or fine, already built, or which shall be hereafter built, shall be cut into for any other purpose than the repair thereof, or for the formation of sootthe repair thereon, or for the formation of source doors or for letting in, removing, or altering store-pipes, or smoke-jacks, except as directed for build-ing an esternal wall against an old sound party wall. Our correspondent may get over his diffi-

culty by using a piece of pipe. "A Reader of THE BUILDER" will find a plan

of the railway at the Sessions-house, Clerken. well.

"G. M."—The Act is not very clear on this point, but we believe if rigidly interpreted, the sash-door in the situation stated is liable to the

tar. "W, F. P."—All works of art intended for ex-hibition at the Royal Academy were received on Monday and Tuesday last. We gave notice

several weeks ago. "T. M. C." (Norfolk).—If the party has left the house to which the letter is addressed, and the the house to which the letter is addressed, and the letter be returned to the postman with his present direction upon it, the office is bound to forward it. If simply absent temporarily, it must be reported. "H. Wilkinson" (Portsen).—The price of He-bert's" Engineers, and Mechanics' Encyclopædia," (2 vols. 8vo.) is 11. 16s. "A Builder" wishes to know "the address of the person who makes patent hand-rails." "T. O. M." wishes to know who is the manu-facturer of the patent spring seat water-closet ap-

facturer of the patent spring seat water-closet apparatus.

paratus. "Scrutator," "A Surveyor," "History of a Competition," "Brickmaking," "Freemasons of the Church," "Archi,"-Next week. "R. W. D."-Declined with many thanks.

"R. W. D."—Declined with many thanks. "J. R. P." (Clerkenwell).—We have read the poem with pleasure, but are unable to make use of it. It is left at the office as requested. "Spafields Burial Ground."—In our notice last week of some water drawn from the pump here, for "animal matter," read "solid matter." Received.—"Dolman's Magazine," No. III.—

Received.—" Dotman's Magazine," No. 111.— Young's "Lectures on Natural Philosophy," new edition (published by Taylor and Walton), part III.—" List of Periodicals published in Paris" (Thomas, Catherine-street, Strand), a useful pamphlet—" The Polytechnic Review," No. X. Several motices of books forwarded to us are un-variable delawal humans of other matter avoidably delayed by press of other matter.

THE BUILDER.

A 11 ST IS IN THE REAL PROPERTY IS

NOTICE TO INVENTORS. OFFICE FOR PATENTS OF INVEN-TIONS and REGISTRATIONS of DESIGNS, 14, Lincoln's-inn-fields.—The printed INSTRUCTIONS ratis, and every information upon the subject of PROTECTION for INVENTIONN, either by Letters Patent or the Design Acts. may be had by applying personally, or by letter, pre-paid, to Mr. Alexander Prince, at the office, 14, Lincoln's-ma-fields inn-fields.

inn-fields. NOTICE. — INVENTORS desirous of obtaining LOANS ON or of SELLING their IN-VENTIONS, or Patenta, should apply to Mr. M. JOSCELIN COOKE, as the OFFICE for PATENTS, 20, Half Moon-street, London, where English and Foreign Patenta size ob-tained, and Designa registered. An INDEX is kept for inspection of all Patents granted for the last century; also copies of every Patent of importance. Instructions to Inventors and a list of charges gratis on application.

EMBARRASSED CIRCUMSTANCES MBARRASSED CIRCUMSTANCES. -PERSONS IN DIFFICULTIES being desirous of availing themselves of the Benefit of LORD BROUGHAM'S HUMANE ACT. are requested to apply to MESSIRS. GRAND AND CO., of 54. Coleman-street, City. where every information may be obtained, FREE OF EX-PENSE, or arrangements can be made with Creditors, by which means the painful necessity of resorting to BANKRUPTCY or INSOLVENCY may in many cases be avoided.-N.B. Partnership accounts adjusted.

be avoided.-N.B. Partnership accounts adjusted. IMPORTANT TO INVENTORS AND PATENTEES. PRACIICAL ASSISTANCE GIVEN to parties taking Letters Patent, by Mr. J. WILSON, Engineer and Patent Agent. Every description of business relating to or connected with Patents, Registration of De-signs, Patent Agency, &c., conducted at his offices, 16, CHANCERY-LANE, opposite Carey-street. Negotiations-matter do the obtained at the offices as a shore, where also may be obtained at the offices as above, where also may be obtained at the offices as above, where also may be abad printed instructions (gratis), to which Mr. W. begs particularly to draw the attention of parties about to take out patents Mechanical drawings of every description, original designs for machinery, models, &c., executed with dispatch and economy.

OKER.-B. R. WRIGHT begs to inform Builden Presentation GHT begs to inform Da La. - D. it. With Chill Drgs of Hildhin Builders, Paperstainers, and the Trade in general, the prices for Native Oxford and Washed STONE OKERS, at his Oil and Colour-warehouse, 37. Castle street East, Oxford-street :--Native Oxford Oker, 31s. per cwt, or 134. per per ton; Washed Stone Oker, 14s. per cwt., or 134. per ton; Plasterers' Oker, 7s. per cwt. A liberal discount to the trade.



MOON'S IMPROVED CHIMNEYS.-MOON'S IMPROVED CHIMNEYS. Samples of the Bricks to form the Circular Flue, now coming into general use, also those invented by Clark and Reed for a similar purpose, may be seen at the Patentee's Western Depot, New-road, near Tottenham-court-road, where may be procured the Metal Bars and Throats, also the much-approved Caps for the prevention of Smoky Chim-neys, without causing adjoining flues to smoke, or producing the noise so generally complained of, arising from a large surface of metal being exposed to the action of the wind. Licences are granted to Brick and Tile Makers for manu-facturing the Bricks and Tiles, throughout the United King-dom, by application as above, or to Mr. ELIAS DORNING, 97, Cross-street. Manchester.

77. Croal-arreet. Manchester. HOLBORN AND FINSBURY SEWERS, MIDDLESEX. THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drairage, and which they recommend all such Persons to apply for at the above Office. STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Sobo-

10 BUILDERS and Others interested in

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by water-courses falling into the river Thames, between the city of London and the parish of Fulham. The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, pre-viously to the making of any new sever in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry off or drain off water from any house, building, yard, or ground, into any sever under their management, or within their jurisliction, a notice in writing that such new sever or severs shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise. And, in order to pererent the serious evils and incorveni-being excavated at too great a depth, the Commissioners have directed that, upon ary licath roling made at this office previous to the elowest depth at which the same can be drained. And the Commissioners do also give notices that when-

be given as to the lowest depth at which the same can be drained. And the Commissioners do also give notice that, when-ever the lower floors or pawements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into severs, to be made for the service of such buildings. It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers. All petitions must be delivered at this office at least three elear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their appli-cation, and the name of any party not present when called on to support the application will be struck out, and the pro-ceedings must in consequence be commenced de novo. All communications made with any sewer without leave of the Commissioners, will be cut off, and the parties making the same will subject themselves to a fine. By order of the Court, LEWIS C, HERTSLET, Clerk.

TO BE SOLD or LET, at a Ground-rent, Two or Four detached CARCASES of seven-room COTTAGES, in a wide and principal road at lalington, the severs and roads being complete; ierm 97 years. Apply to Messrs. Overton and Hughes, 23, Old Jewry, City.

TREEHOLD GROUND and partly erected HOUSES TO LET on Building Lesses, with the op-tion of purchasing the Freehold if desirable: situate in Single-street, Mile Erd, rather less than a mile from the City; a famous spot for letting. The houses are fourth-rate, and will be either let as they stand or when tiled in ; mosey will probably be advanced. Apply personally at the offices of Mr. Single, surveyor and auctioneer, 34, Coleman-street, near the Bank of England.

BUILDERS and others .- The pre-

MARDS, No. 14, TOTTENHAM-STREET, otenham-court-road, are - feet, 41, 3 feet 6, 34, 12a, 6d.; feet, 34, 5s.; register stoves, from 7gd.; elliptics with ouble backs, 3gd. Totten

BED FEATHERS.-DUTY FREE.-HEAL and SON have reduced the price of Foreign Reathers the amount of the duty, and they can now offer-Best White Dantzie 2a. 10d. | Best Foreign Greys 2a. 6d. Irish White Goose 2a. 6d. | Irish Grey Goose. 1a. 6d. Best ditto 1a. 9d. Ponltry...... 1a. 9d. List of prices of every description of bedding sent free by post.

by post. Heal and Son, 196, opposite the Chapel, Tottenham-court-road.

PORCELAIN LETTERS FOR SHOP-

DORCELAIN LETTERS FOR SHOP-FRONTS, &c.--CAUTION.--W. G. BENTLET, of 234, High Holborn, begs to caution the Public, as several mistakes have been made as to the true Parent Lettorn, Some persons imagine that those vulgar bright blue lettern, that are smeared with gold, are the Patent Porcelain. They are merely Plainter Lettern, which turn black, and are only fit for Marine Stors-shops. THE PATENT PORCELAIN LETTERS are only to be had at 234, High Holborn.

DUTY OFF ORNAMENTAL WINDOW GLASS. CHARLES LONG begs to inform his Friends and the Public, that he can now supply Oras-mental Glass at is. 3d. per foot superficial, and having just built two of the largest Killus in London, is enabled to exe-cute extensive Orders with unprecedented dispatch.—Terms, Cash only.

DUTY off WINDOW GLASS. - On

DUTY off WINDOW GLASS. — On April the 6th, Squares stouter and of better make than formerly for Glasing purposes at 6d. per foot. NURSERYMEN, MARKET GARDENERS, AND OTHERS requiring Small Glass, will find a greater variey of sizes (a large Stock of which is constantly on hand) than is kept by any other house in London, from 4d. per foot. Flattened Sheet, Stained, Fluted, the BIRMINGHAM Sheet Plate (superior in all respects to every other make), and Ornamental Glass of every description. Complete Lists of Glass, Lead, Colours, &c., at ready-money prices, may be had (gratis) on application to R. Cogan, at the Western Glass, Lead, and Colour Warehouse, 5, Princes-street, Leicester-square, London. SURVEYORS, and the TRADE generally, sending specifics. A parcel of very Superior Spruce Oker, suitable for PLASTERERS AND PAINTERS, to be sold at 6a. per cet.

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SATURDAY, APRIL 19, 1845.



HE demand for a museum illustrative of our national architecture is becoming louder, and must ultimately be listened to by those who are in authority :—a collec-

tion of casts chronologically arranged, where the student may draw and compare, and so gain in a month a clearer understanding of the peculiarities which distinguish different epochs than he now does in the whole of his clerkship,--- sometimes the whole of his life. Year after year the importance of obtaining such a collection has been arged by different individuals, but has been disregarded, and, in some quarters, laughed at; and, to the disgrace of succeeding governments be it said, no attempt even, has yet been made to form it. Two years ago Mr. E. B. Lamb addressed a very sensible letter on the subject to the trustees of the British Museum, praying them to provide in their new building an extension of accommodation for British antiquities, so that works of British art, from the earliest to the latest periods, might be arranged in the national museum. He pointed out, that specimens judiciously procured from various parts of the country, and arranged in chronological order, would enable the architectural student to gain such a knowledge of the forms of ornaments, mouldings, and sculpture, as could not be obtained from the objects themselves in their original position. The distinctive characteristics of Gothic architecture being divided into numerous classes, and each style imperceptibly growing out of the other, the gradations are so delicate, and the peculiarities so minute, that without a place for the reception of wellselected examples, the student is put to considerable labour and expense before he can acquire any knowledge of that part of the art; and then only by unweared exertions, and the examination of many edifices.

The answer he received was, " The trustees are not prepared to recommend her Majesty's Government to provide in the museum for any general collection of remains of the Gothic architecture of Great Britain," and there the matter stopped. An outbuilding, a mere shed, would have been something, and might at once have been filled with actual relics and casts, at present put away in holes and corners. At the Royal Academy, for example, a considerable number are stowed away in a cellar simply for want of a proper receptacle. But no, the trustees were not prepared to recommend that any attempt should be made to meet the want which was felt, and advance the study of our national architecture.

At the last meeting of the Institute of Architects, a paper on this same subject was read, as will be seen in another part of the present number of our journal, and was warmly responded to. It was then suggested, that the Institute should not simply look on and wish, but should come forward and act; and we sincerely hope that the suggestion will not be disregarded.

Mr. Wyse, we understand, is about to bring the matter before Parliament, and now, therefore, is the time for all who feel how advantageous such a collection would be to petition the legislature, and otherwise assist the endeavour so far as they may be able.

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It is not simply to the professional inquirer that such a museum would have great attractions. Architecture now occupies the attention of a much larger class than it formerly did. Many now say with Chateaubriand,-"it cannot be denied that architecture, considered as an Art, is in its principle eminently religious-it was invented for the worship of the Deity, and those who had a multitude of gods, were led to different kinds of edifices, according to the ideas which they entertained of the different powers of those gods:" and with this feeling have commenced the study of it earnestly. Look also at our carvers, modellers, glass painters, and other decorative artists, now coming into more active existence, to whom such a collection would be of the first importance, and it must be seen that a very large section of the public would hail the establishment of a museum of national architecture as a boon.

For a continuation of the subject, we refer to the following article.

THE PRESERVATION OF NATIONAL ANTIQUITIES.*

"You, too, proceed ! make falling arts your care, Erect new wonders, and the old repair."

UNDER the conviction that specimens of medieval art still remaining in England are more numerous, and of more interesting character, than generally supposed, even by many antiquaries, we have endeavoured to give some notion of the extent to which examination, and the immediate prevent to which examination, and the immediate prevention of further destruc-tion is needed. The necessity for something more than individual exertion is great and pressing, as well to preserve antiquities of national value, as to rescue ourselves from the reproach of being the only one among modern nations, wanting in the proper estimation of records of such interest and importance. Associations for objects of an antiquarian nature have either lost the vigour of their youth, departed greatly from the objects of their foundation, or are consuming valuable time in disputes, ridiculous in their origin, but not on that account the less interminable. The Society of Antiquaries does nothing more than publish transactions, and hold weekly conversazioni, though its long standing, and the great names it boasts, gives it the opportunity of effecting a considerable amount of good. The committee of the Cambridge Camden Society, because not seconded in practices foreign to its ostensible purpose, have threatened to break up the whole body, thus at the same time concluding the only approximation to an effec-tual supervision of medieval remains, that we have experienced. Lastly, the British Archæological Association, from which so much was expected, is likely to end its days in contention on matters having no bearing upon the real objects of the institution. Thus, the fate impending over our cathedrals and churches is as lowering as ever, and the necessity for the immediate attention of the Government at once apparent. It may indeed afford matter for surprise, that while the Governments of foreign states are actively employed in upholding the decaying fabrics, and in furthering the pursuit of art in their respective countries, ours rather holds such matters to be without the sphere of the duties of a minister. But an enlightened administration will surely advance in the path it has already indicated, and willingly hear any practical suggestions for the attainment of an end of such manifest importance.

The systematic examination and description of those treasures of art with which this country is enriched, while adding to the antiquary new objects of interest and investigation, could not but advantageously influence the ornamental and decorative branches of art, and add new data for the elucidation of obscure points in British history. No longer confined to the biography of monarchs, and to the picture of martial strife, history, in the hands of its true illustrators, treats the condition of the

history of a country is the history of the peo-ple who dwelt in it, their manners, civilization, and arts, not of a section of its rulers. The historian, Gibbon, felt the importance of placing Italy, during the evential times of which he wrote. The writer has elsewhere said:— "The architecture of Egypt in its paint-ings and hieroglyphics, in its long and gloomy vistas, and its avenues of sphinxes, is a lasting petrifaction of the manners and customs of the people, and of the domi-nion of that mysterious hierarchy who sat in indement over the dead, and who curbed in judgment over the dead, and who curbed the flights of imagination in architecture and in sculpture by inviolable regulations. The porticos and sculptures of Greece are evidences The of the refinement of a nation, who responded to the works of its artists as to the creations of the dramatist and the reasoning of the phi-losopher; while the sumptuous edifices of the Romans speak of the pomp of imperial sway, and the slavery of subject states. The archi-tecture of every country and of every age is vocal with the inmost workings of its creating mind: and it occupies the place of written history in points, which, though of the highest interest, historians have, for the most part, failed to touch. Every village church is a key to the history of the surrounding district; from its effigies, its sepulchral brasses, and its heraldic enrichments, the topographer and the genealogist may derive important data for the prosecution of researches into the history the prosecution of researches into the history of a county, and of its principal inhabitants. The very age and body of the time are manifest in each feature, and in the minute details are related even the passions and the animosities of the different orders of the priesthood."* The of the different orders of the priesthood."* The writer of British history seldom versed in matters of art, has made little use of the means at his disposal in architecture and antiquity: ignorant of the skill, which the works of medieval artists evince, he has set forth the period anterior to the Reformation as entirely dark and illiterate. But the succeeding his-torian will full cheat of his tack values the in dark and interace. But the succeeding his-torian will fall short of his task unless he in-vestigate the architecture of the country, and the numerous branches of art which that architecture called into play; and the number of those engaged in antiquarian topics is now so great, that the minister who, in emulation of Mons. Guizot, when Minister of Public Instruction in France, should do what he did for the examination and description of the antiquities of the country, could not but deserve well of all promoters of truthful repreinfluence. The "Comité Historique des Arts et Monuments," founded by the French mi-nister, has been for some time in active operation. Under the term "historical monu-ments" mere insulad ments" were included not only literary documents, but monuments of art; and it was proposed to publish, by degrees, a complete an-tiquarian survey of France, with descriptions and delineations of all its monuments. The commission has been divided into two comités -one for historical documents, and the other called the "Comité des Arts et Monuments." The latter has already issued several popular treatises on different branches of archæology, in the form of instructions for its numerous correspondents, as well as more lengthened and learned dissertations. The good thus effected has been great and permanent; it has already led to that active spirit of preservation with which France is actuated, and which the Government does every thing to second; and with the assistance of the "Société Française pour la Conservation des Monuments His-toriques," will shortly remove at least the visible traces of that revolution to which the country owes the destruction of its monuments, as well as the alteration of its political institutions. The "Société Française" was established about nine years ago by that enlightened antiquary M. de Caumont, of Caen, in Normandy; and now, by its repeated

• Vide "Some Observations on propriety of style, partieularly with reference to the modern adaptation of Gothic Architecture," a paper read at the Royal Institute of British Architects, June 20th, 1843, reported in the "Civil Engineer's Journal."

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serf and the peasant as having a stronger claim,

than that of the noble and the potentate; the

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^{*} Continued from page 172.

visits to different provinces, is rapidly extending the taste for preservation and research.

The British Association has not yet manifested the vigour of the French society; but, could the contending parties be reconciled, might be of equal service, and might be the means of influencing the Government in the direction pointed out. It can hardly be hoped, that an association of private individuals can ever do more than diffuse the salutary influence of good taste; and any active operations must be the work of a government. But the association might do good service through corresponding members and branch associations, to induce a higher feeling of the value of national antiquities, and often, by its mere representations, might prevent needless alterations. To procure drawings of existing remains, and more especially of such as might be in danger of demolition, should also be one of its main objects. It might also undertake such restorations as were desirable, and did not involve much expense,—as the removal of lath and plaster ceilings, which so often occasion the decay of roof timbers, and the cleaning of churches from whitewash. We would suggest, that in the latter work, the services of the younger members of the profession might be made available for superintendence with considerable advantage. The respect for the forms of Gothic architecture which, we are happy to say, exists amongst the rising generation of architects, would be likely to prevent the destruction of mouldings and ornaments, such as might otherwise occur in the process of cleaning; and the payment of travelling expenses, with the opportunity of gaining much valuable knowledge not to be found in books, would be a sufficient recompense. At the same time, these persons might superintend the taking of casts of ornaments for a muscum of national antiquities, a true British muscum, such as we hope one day to see in England.

It is to be regretted, that no provision has been made in the buildings of the British Museum for a collection of national antiquities. Such a collection would be of higher value, and of far less expense, than the blocks of granite brought from Egypt at so much trouble and cost, which, however singular as curiosities, have no claim upon the delineator of national manners, and are all but valueless to the ar-tist. It is for want of a receptacle for na-tional antiquities, that we find so many pieces of pottery, carvings, and stained glass, in the hands of dealers, or in private collections; and there is no doubt, that if a proper building were set apart. many private collections would were set apart, many private collections would be presented to the public. Such museums exist on the continent, not only in the capitals, but in many provincial towns; and it is to be hoped that the measure now before parliament may end in the immediate establishment of such desirable institutions. We regret that a motion in the common council on the subject of a museum for the city of London did not even come to a discussion. The canopy from the tomb of John of Eltham in the collection a Strawberry-hill, a ceiling from the chamber a Crosby-hall, and considerable portions of St. Katherine's, Tower-hill, in the museum of a celebrated architect; original capitals from Wells Cathedral, in the window of a dealer; frag-ments from the Temple Church sold publicly, at the time of the late restruction to find out of the later the time of the late restoration ; pieces of stained glass, and encaustic tiles innumerable, might have been restored to their proper positions, or have remained available for examination, had the existence of a national commission in the one case, and of a national museum in the other, preserved them from the comparative oblivion in which they now exist, to the serious detriment of the arts and history of the king-dom. As we have said, no restoration, however perfect, can be of the same value as the original fragment, therefore the latter should be preserved, at least, in some other locale.

We cannot too strongly urge the importance of exertions for the preservation of national antiquities of every description, and that those exertions should he immediate and vigorous: let chartered bodies forget their origin in another century, and lead the march of modern improvement, and let antiquaries forget their differences and re-form *oue* association stronger than the last. In the present posture every day lessens the number of antiquarian remains, and implores more loudly for a protecting hand. The proceedings of the Central Committee of the Archæological Association shew, that destruction is still at work to a lamentable extent. Old halls and manorhouses disuppear even more rapidly than ecclesiastical antiquities, and the same hall, which once we could not walk through without learning, at every step, something of the customs of our ancestors, has been despoiled of its old features, or divided into several residences :--

"The court with nettles, moats with cresses stored,

Like some lone chartreux stands the good old hall.

Silence without, and fasts within the wall; No rafter'd roofs with dance and tabor sound, No noontide bell invites the country round : Tenants with sighs the smokeless towers survey, And turn their unwilling steeds another way : Benighted wanderers, the forest o'er,

Curse the saved candle and unopening door; While the gaunt mastiff, growling at the gate, Affrights the beggar whom he longs to eat."

The old halls of England are antiquities most interesting to every one, and expressions of regret at their disappearance are frequent. Can it be necessary that they should, in every case, be sacrificed to modern improvement?^{*}

A national commission for the preservation of antiquities will fall short of its duties unless it secures, consistently with the same preservation, the free admission of the public to every cathedral and museum, which is public property, and endeavours to influence the posseesors of privato collections to throw their galleries open, on proper stipulations. That most interesting edifice, Hattield House, is closed to the public, or was so last year; and many others have the like restrictions. That it is not the love of the British people to destroy works of art has now become as much an axiom as was the reverse, twenty years back; and while the love of education is on the increase, as now, there is no fear for the future. E. H.

BRICKS AND BRICKMAKING. BY JOSEPH LOCKWOOD.

As my former short article on this matter appears to have attracted the attention of some your readers, I feel justified in adding a few more remarks to those already made. I shall be glad if I succeed in having this matter fully discussed in your pages; for it is not a little singular that, in this scribbling age, the subject of brickmaking should have been passed over by most of the scientific writers of the day, or at least if they have not entirely passed it over, they have touched upon it so lightly, that little or no information is to be gathered from what they have written, with respect to the proper proportions of the materials required in brickmaking. There is considerable difficulty in the matter, and I am afraid it is not possible to clear up all the doubts which exist until a regular series of practical experiments has been carefully performed and the results registered. Brickmakers are as much, if indeed not more, divided on the niccties of their craft, than mere theorists themselves, for, as far as my experience goes, I think I may venture to assert that no two brickmakers agree as to the proper or best way of proportioning the different ingredients they use in the manufacture of their bricks.

This subject hitherto has not attracted that attention amongst architecta and engineers that it ought to do; why such should be the case I am at a loss to discover, unless it be that it is thought unworthy of their consideration. I hope, however, the case is different now, and that the working brickmakers themselves will come forward and explain the motives for using their different materials in the way they now do, of course not forgetting in all cases to forward an exact description of the nature and quality of their different earths.

To take up the thread of my former article, I will observe that the quality of a good brick depends principally upon two things—the goodness of the materials, and the way in which they are used. The principal ingredients from which bricks are made are clay, marl, and loam, in all their variety, with the different admixture of breeze, chalk, sand, small coke, &c. The whole of these are reducible into their

• We have hinted, previously, that Gothic buildings are not the only structures requiring the hand of preservation. Many of our most interesting examples of Italian architecture are in as bad a state. constituent elements, and by ascertaining what each of the above articles principally consists of, per sc, we shall most likely be able to get some clue as to what ought to be the different proportion used of either the one or the other.

I cannot here, however, undertake to describe the chemical bases and relations which belong to each of the above articles, as that would make the present article of too great a length. But before any really correct results can be given, or general rules laid down, it will be necessary to examine each ingredient separately, to ascertion its various combinations, and neutralizing properties, when mixed or applied in any way to the other articles with which it has to be incorporated, when used ip brickmaking.

It is impossible to give a general description of what in common language is called "clay," as it comprehends too many substances and qualities, which vary with local circumstances; most clays possess an earthy texture, and yield an argillaceous odour when handled; they differ as much in their plastic qualities as they do in colour. The principal ingredients of clay are silica and alumina, with a small quantity of lime, and occasionally of magnesia and slkali. Sometimes clay is red, yellow, blue, greenish blue, or mottled; it is often light, loose, and sandy, frequently heavy and greesy, and mostly friable when exposed to the action of the atmosphere. It varies in its bed even in the narrow limits of a field, some portion of the same field being much superior to the other, although it does not differ much in colour or appearance, but a practised hand and eye will readily detect the different qualities when examined closely.

mined closely. If a clay contains an over proportion of sand, it will require the assistance of some dry substance to modify the action of the fire in the clamp, as the siliceous particles in the clay will fuse and run when under the action of great heat. In such case, it is plain that an increase in the quantity of chalk will be of great service if properly blended with the clar, because it will take up the fusing silica, and hold it together; a much less quantity of breeze also will be required, for as the materials used readily transmit heat from particle to particle, it will be easier to get them up to any required heat than when the substances do not so readily take the fire.

In round numbers, silica contains about 51 of oxygen in one hundred parts, and of alumina about 47, so that there is a large amount of oxygen combined in the elementary bases of clay, which will convince us of the necessity of not applying too strong a fire in the case where the silica is plentiful, for if we do, the certain result will be, that the bricks will "ran" and be burnt into clinkers; in such case, therefore, my experience leads me to increase the chalk or similar "holding" bodies, and decrease to some extent the quantity of breeze mixed with the clay. The more alumina there is in the clay the better will be the brick if it is properly tempered by the introduction of sand and breeze, the one to burn it, the other to keep it from shrinking too much when under the action of the fire.

The best malm-bricks are made from a light kindly clay, which contains a free proportion of limestone. To get up good coloured, finegrained bricks from this description of earth, it will be advisable to introduce both sand and breeze, the latter in larger proportion perhaps than with commoner clay, because the lime which is incorporated with the clay contains less oxygen in proportion than when the base contains a greater quantity of silica; added to which, the sulphur in the breeze or cinders combines during the process of combustion with the alumina, and brightens the colour by turning the clay more or less white, for it is well known, that when clay contains a large proportion of alumina, it has a tendency to turn white when under the action of fire.

turn white when under the action of fire. From what has just been advanced, it would appear that the quality of the bricks may bet very much varied by increasing or decreasing; any of the different materials used in its manufacture, in some measure, if not principally, in consequence of the chemical property of the clay being materially changed by the addition or subtraction of one or other of them; if we add a larger quantity of breeze, for instance, to a clay overcharged with sand, a necessary consequence will be, that it will have a tendency to run; if, on the other hand, we hold back the breeze when there is but little sand and a large proportion of alumina, the bricks will be brittle and porous for want of a flux to solidify them.

The colour of bricks appears to depend upon the proportion of the different materials mixed with the clay, and the time taken in burning them, as also the degree of heat used in the latter process. Chalk, when properly prepared and introduced into the material from which bricks are to be maile, will have the effect of lightening the colour when burnt. It is very desirable in all cases where chalk is used that it should be washed, to free it from the foreign bodies mixed with it, and get rid of the pebbles, flints, and coarse sand which are intimately connected with it, for they will injure the quality of the brick if not removed. The flint, which is generally abundant in chafk, would do no harm if it was pulverised after being calcined, and then mixed with the clay; it would have the effect not only of whitening the bricks, but also of improving their quality with respect to durability. A superabundance of chalk in clay, tolerably free from siliceons sand, will cause the bricks to be britte and spongy, especially if it is not carefully incorporated with the mass of the clay by erinding or kneading.

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It will be reading. It will be readily gathered from what has been already stated that breeze or ashes constitute a very important element in the manufacture of bricks, for if carefully managed according to the quality of the clay, it may be made to produce very effective results both with reference to colour and quality. The reason why breeze appears to play such a useful part in the process of brickmaking is, I have reason to believe, in consequence of the quantity of subhur which it generates, or gives out, when fixed in the clamp; added to which, it is the principal agent for vitrifying the siliceous particles in the clay, and combining them with the alumina and carbonate of lime, which form the basis of bricks. Most brickmakers prefer breeze or domestic ashes for their work when they can get them; if these are not readily obtained, they have resort to the small broken refuse coke, and sweepings from the gas-houses in the neighbourhood of London, and in rural districts small coal is used in piece of the ashes.

The inferiority of coke ashes, when compared with breeze, appears to arise from the different mode in which these articles are made, the former being reduced from coal to coke in close retorts, free from the action of the external air during the process of combustion, while domestic ashes are produced from coals consumed in the open grate, fully exposed to a free current of air during the whole time of being in the fire; so that in the former case the sulphur, gas, &c., are driven of more perfectly than in the latter case; thus, although coke is more highly carbonized than breeze, it is less useful to the brickmaker than breeze, or domestic ashes.

That the sulphur contained in the ashes plays an important part in colouring bricks may. I think, be easily proved without entering into any thing like chemical detail; for if a brick clamp is carefully examined when opened, the course which the blue lambent fame of the sulphur has taken may be readily traced by the streaks or deposits of sulphury particles which it leaves on the bricks whereever it has played upon them; and further, sho, by the fact that many bricks, though of good colour externally, are often more or less red within. I do not mean to assert that it is the sulphur alone which produces this colour, it is, no doubt, caused by the combination of the sulphur from the ashes with the iron contained in the earths used in the brick, which by the longcontained action of the fire is converted into a peroxide, and this we know gives various colours according to circumstances; it is a question, however, whether the colour would be sogood if the sulphur were less abundant, or the brick subjected to the fire with a greater supply of air. Generally speaking, the bricks placed nearest the outside of a clamp are of different shades of red, which is either a consequence of being imperfectly burned, or else of the too free absorption of air; the former, however, is believed to be the real state of the cuse. The *rationale* of mixing the ashes with the clay is exactly similar to that of mixing the refuse coal from the mines with a large

proportion of clay to make what are called fire-balls, which are much used by poor people in many parts of Wales and in the north of England: it economises fuel, and gives out greater heat than if the small coal were burnt in the open grate, for it evidently first undergoes a process of coking, and then of more perfect combustion; it is during the latter stage that the greatest heat is evolved; hence, therefore, these fire-balls are always put on a fire already well ignited, as they require a considerable degree of heat to set them going. I have often noticed that when these balls are taken from the fire, at their greatest heat just before they break, and allowed to cool gradually, they turn more or less white, which is also a property of all kinds of clay slate, and, as is well known, of pure alumina,—the chief basis of clay itself. Breeze I consider to be much better for the

Breeze I consider to be much better for the purpose of brickmakers than small coal, although the latter in most cases would yield more sulphur than the former, but the effect is neutralized by gas which is evolved during the process of combustion in the clamp: bricks, therefore, made with small coal are not likely to be so good in colour as those made with ashes.

The effect of adding siliceous sand to clay, as has been already observed, is to hold the particles of the clay more strongly together when under the fire, as a natural tendency of pure clay when subject to great heat is to contract, and frequently in cooling to break up into cracks and flaws, which sand prevents, by fusing and combining itself intimately with the particles of the clay, so that on cooling they are prevented from separating by the powerful cohesive powers of the vitrified sand. Extremes, however, must be avoided, for if there should be an excess of sharp, siliceous sand, it will run into a shapeless mass when in a state of vitrifaction: if it should be burned too much in this state, it will form what are called clinkers, which are produced by excess of heat and sand.

From what has been stated, it will be perceived that the quality of the brick produced from any given quality of earth will depend upon the skill of the brickmaker, and the judgment he displays in assigning the proportions of the different ingredients he has to add to the clay; it is therefore impossible that any thing like a general rule can be laid down to govern all cases; it may, however, be observed that when the clay is heavy, the addition of chalk will lighten it: when it contains much sand, chalk will be necessary to take up the sand, and keep it from running; if, on the other hand, the earth should be of a marly nature, a little sand will be of service: with heavy earth a larger proportion of ashes will be required than when the soil is light and friable, as it will be more difficult to burn in the former case than in the latter.

the former case than in the latter. With respect to the proper quantity of the different ingredients to be put into a given amount of clay, it may be again observed, that it will depend entirely upon the nature of the earth to be issed in making the bricks; in the neighbourhood of London, I find most brickmakers use a different proportion, more indeed by chance than reason, some preferring one thing, some another; some use breeze entirely, while others prefer a mixture of breeze and small gas-house coke; some also would use more chalk than others even with the same description of earth. For myself, I think I should venture to point out the following mixtares, having more especial reference to the clay in the immediate neighbourhood of London, with which I am more familiar than any other. With good clay of average quality, being rather heavy than light, say

| 611 ··· 65 ··· | Class CK |
|----------------|-----------|
| Clay65 or | Clay65 |
| Breeze 20 | Breeze 15 |
| Chalk 15 | Chalk 15 |
| | Sand 5 |
| 100 Loads | |
| | 100 Loads |

It will be seen that the quantity of breeze here used is rather less in proportion than most brickmakers generally employ in such case. With clays of a lighter nature, I should use

| With clays of a lighter nut | ture, I should use |
|-----------------------------|--------------------|
| Clay75 or | Clay75 |
| Breeze 15 | Breeze15 |
| Chalk 71 | Chalk 10 |
| Sand 2] | |
| | 100 Loads |
| 100 Load | • |

in all which cases, the average of the breeze is lighter than what brickmakers would use, because they are always anxious to burn their bricks as soon as possible; which, in my opinion, is the cause of an unnecessary amount of waste from clinkers and imperfectly burned bricks.

Here I must again be allowed to press upon all brickmakers the absolute necessity of allowing themselves more time if they really wish to make good durable bricks, for they may rest assured that it is scarcely possible to make them good even with the best materials unless they are properly incorporated by careful labour. It is a common practice in London brickfields for the clay after being dug from its bed, merely to be turned over, then it is covered with a layer of breeze or coke-dust for a few inches, and merely mixed together by passing them through the pug-mill, from whence the clay is carried to the moulder, to go through the remaining operations.

remaining operations. It is, however, generally admitted, that the clay ought to be well worked during the winter season, especially during the variable frosts, which tempers it, and renders it more tough and plastic, and in the end a far better material for the purpose of the builder, as the bricks will be all the stronger for the labour bestowed upon them, hesides being more close and compact in grain. The action of the frost causes the water in the interstices of the humid clay to swell during the process of freezing, so that in the succeeding thaw it becomes friable and loose in texture, and consequently so much the more easy to be worked. I would, in all cases, recommend the clay and chalk to be well washed and cleaned before they are used, as that will improve both the appearance and quality of the brick beyond measure, and turn out articles worth looking at, good in colour, and tough in quality; quite different from the roiten, soft, and porous things now so commonly used, I am sorry to say, in situations where they ought never to be have been permitted.

Time and labour I am fully persuaded is of the very greatest importance in brickmaking, but as these ingredients are expensive, it is not likely that my solitary volce will be able to induce brickmakers to be more liberal in the use of them in the preparation and manufacture of their earths, as well as in the burning of their bricks in the clamps; if such was the case, there would not be such an over-abundance of imperfect bricks as now deluge the market, and damage and deface almost every new building in or near the metropolis. I shall devote what little space now remains

I shall devote what little space now remains to your correspondent, who signs himself "An Early Subscriber," in your last number. Whatever may be the spirit in which his queries are put, I beg to assure him that if any of my opinions and statements are erroneous, I shall be most happy to be corrected, as I at least am anxious to elicit trath, and not to propagate error. If any of your readers should not approve of the opinions I have expressed, I hope they will at once explain their reasons for not doing so, and at the same time convey as much information on the matter as they possibly can, as this subject is one not yet very well developed, and is capable of great extension and improvement.

sion and improvement. With respect to the first question of your correspondent, I can at present only refer him to what I have stated above and in my former letter. With respect to the second, I think he must be a very "young brickmaker" indeed if he cannot tell when his materials are properly mixed. If in taking up a shovelful of the prepared earth he can see streaks or layers of breeze, or sand, and lumps or layers of chalk, he may rest assured that his materials are far from being properly mixed, and ought to be immediately reground. If the earth is well prepared, it will be of a uniform colour throughout, and he will neither be able to detect breeze or chalk in a separate state; to be properly mixed, they must be thoroughly incorporated one with the other.

For want of time, I must pass over the first part of the third question, and say of the remainder that I believe the articles would certainly be better mixed together, and that I have no reason to fear that the burning qualities of the breeze would be damaged by being mixed with the clay for a few of the winter months.

Child's-place, Temple.

ALL SAINTS' DISTRICT CHURCH, STAN-WAY AND LEXDEN, NEAR COLCHESTER.

THIS church, of which an engraving has appeared in THE BUILDER, was consecrated on the 8th instant by the Bishop of London, in the presence of nearly 500 persons, including the Venerable Archdeacon Burney, and about sixty of the clergy, and many influential families in the neighbourhood. At the conclusion of the ceremony, the architect, Mr. George Russell French, was introduced to the bishop, when his lordship was pleased to ex-press to him his unqualified approbation of the sacred building, in which feeling the whole of the clergy present seemed to participate, de-claring that it might be justly looked upon as a model of its kind. The pulpit, which projects from the wall, and which is accessible from the charged and yearty, was especially an object the chancel and vestry, was especially an object of admiration, being of Caen stone, with highly enriched tracery panels, the cornices filled with the ball-flower and the four-leaved flower, and the lower spandrils having palm-branches and crowns carved thereon. The seats of the and crowns carved thereon. The seats of the church are of oak, with low backs, the bench ends in the nave having buttresses, low doors marking the appropriated seats; the ends of the seats in the chancel and of the reading-desk have carved finials. The roofs are open to the ridges, shewing the entire construction of the timbers and boarding, which are stained.

The date of the architecture is that of the middle of the 14th century, when the Deco-rated style is considered to have reached its height of purity; a style, it is believed, as suitable to small country churches as to a vast cathedral, and admitting of great variety of detail: thus, in All Saints' Church there are not less than seven different patterns of windows, and four of gable crosses, yet all agree-ing with each other. In order to make the period chosen appear with the more certainty, portraits (taken from their sculptured effigies) portraits (taken from their sculptured effigies) of Edward III., his queen Philippa, and their son, the Black Prince, are introduced among the heads which support the labels on the north side, as is that of Bishop Wykeham (at the east end), the great architect of the great Edward. The series of heads on the north side is chosen to illustrate that passage in the 148th Psalm, "Kings of the earth and all people, princes and all judges of the earth, young men and maidens, old men and child-ren. praise the name of the Lord." ren, praise the name of the Lord."

ren, praise the name of the Lord." The font, of Caen stone (in which material all the external decorations of the church are executed), has been much admired; it is octa-gon, having on each side of the bowl varied tracery, within which are symbols of the Trinity, or the dove, the cross, or monograms of the Saviour's name; the pedestal is carved in tracery panels, and the ball-flower is intro-duced in the cornice. The font is lined with lead, and has a drain.

It is also raised on a platform of Chamberlain's encaustic tiles, the four Evangelists being at the corners, and the riser is formed of glazed tiles, which bear the text - IN : THE : NAME : OF : THE: FATHER: AND: OF: THE: SON: AND: OF THE: HOLY: GHOST. In a small transept (built for an organ) is a triangular gable-light tilled with stained-glass, the gift of Mrs. John Papillon, and in the chancel is a single-light window presented by the architect herit window, presented by the architect, having a ruby border enriched with the vine-leaf, and the text in old English letters, "Blessed are the poor in spirit, for theirs is the kingdom of heaven :" being the first of the beatitudes occurring in the gospel appointed for All Saints' day. A few points connected with this church have been thus dwelt upon to lead those who are designing ecclesiastical buildings to bestow some study upon their subject in connection with the particular era of architecture chosen for imitation, and thus the antiquary and man of taste will recognize the union of chronology with architecture, and the poorer fre-quenters of the sacred building will be led to take an interest in that church in which they and their children are henceforth to worship, and the contemplation of the sculptured stone and storied glass will raise their thoughts to that "house not made with hands, eternal in the heavens."

RESTORATION. - The beautiful tombs of the Black Prince, and King Henry IV., in Canterbury Cathedral are to be restored at the expense of the Government.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At an ordinary meeting on Monday evening, the 14th instant, Mr. H. E. Kendall in the chair, Mr. H. R. Ricardo was elected an asso-The foreign secretary introduced Herr ciate. Kühnell, architect of Berlin, who has visited England to study our gas establishments, with reference to the general introduction of gas-lights throughout Berlin. Mr. Donaldson took occasion to state to the meeting, that a number of gentlemen who appreciated the services conferred on the profession by Mr. John Britton contemplated presenting to that gentle-man some testimonial of their esteem, and he esteem, and he invited the co-operation of all who thought with them.

Mr. Godwin said, that a preliminary meeting would be called next week; that pro tempore he had been requested to act as hon. secretary in conjunction with Mr. Peter Cunningham, and would gladly receive the names of any gentlemen willing to be on the committee. A letter was read from Mr. Wright, associate, inclosing a copy of an advertisement for plans, pecifications, and estimate for building a specifications, and estimate for building a church in Gloucester; wherein the committee offered no premium, would not bind themselves to adopt the best, and in a correspondence, which was also sent, would not say that if a design were selected, the architect would be employed to carryit out. The meeting seemed unanimously of opinion, that the force of im-undence could no further go. How, which pudence could no further go. How much longer architects will encourage the repetition of such insults remains to be seen.

The hon. secretary then read a paper on the formation of a museum of casts, illustrative of the architecture of antiquity and of the middle ages, by Mr. C. H. Wilson, director of the Government School of Design. The writer considered that the extent of the assistance considered that the extent of the assistance which Government should give to art was an important inquiry. He urged the necessity of having collections of fine models, but cautioned students against a disposition to copy slavishly, now apparent. The Germans, much as had been said of their return to ancient examples, did not imitate so closely as we did; they did not think it necessary, when adopting a particular style, to restrict them-selves to the immature details, should it have them. In this he agreed, and thought that. them. In this he agreed, and thought that, instead of copying dislocated saints, it would be better to introduce correct drawing, and use our improved knowledge. In an architectural museum he should like to see the models take the position in which they properly were; he would have the portico of a building set up full size. He commented on the difficulty of obtaining architectural casts in England, and urged the establishment of a central casting establishment, whence museums and galleries might at once be supplied cheaply. In France this was the case, and the greatest advantages resulted.

After the paper had been read, Mr. Donaldson made some remarks on the points which it had suggested, and especially dwelt on the little interest in such subjects exhibited by English Governments as compared with those of other countries. Amongst other instances, the French had recently sent to Bruges to obtain casts of a very fine chimney-piece, which is in one of the public buildings there. We really did nothing. Look at the ancient monuments in Westminster Abbey, they were rapidly decaying, and even the royal family, who might be supposed to feel especially in terested in them, seemed quite careless about the matter. The importance of models was very great; more might be learnt in a museum in an hour than by reading for a day. The question of cost should not be considered,— the education of a people should not be measured by money.

Relative to casts from Gothic buildings, it was mentioned that a modeller had been recently sent into the country by our Government, with authority to take casts from all public buildings, for assistance in the completion of the Houses of Parliament.

An Anti-inclosure Association is talked of, and would probably be serviceable. Its claims on public attention should, however, be put forward in milder tones than those of the circular issued by Mr. Henry Dowell Griffiths.

FREEMASONS OF THE CHURCH.

-Mr. James Finn, in the chair. APRIL 8th. Mr. W. G. Rogers exhibited a series of ex-quisite carvings in oak, by Grinling Gibbons, consisting of books, flowers, medals, &c., from the pulpit of St. Clements Dane. Also a very early carved boss from Winchester Cathedral, and an Italian bronze of the sixteenth century.

A lecture was then delivered by Mr. William Papineau, on architectural chemistry. After regretting the extraordinary apathy the archi-tectural profession had shewn in the acquirement of the collateral sciences bearing upon architecture, the lecturer proceeded to en-force the great importance of their cultivation to the advancement and exaltation of the profession, adducing as a parallel case, the rise of the medical profession from the debased and empirical age of the barber-surgeons to its present high standing and repute, solely by the appointment of standard qualifications in its members, and the gradual extension and elabo-ration of the circle of knowledge. He dwelt on the close connection of many of these sciences with the theory of architecture, and the important advantages which an intimate knowledge of them must confer on the prac-tical part of the profession.

After strongly urging the importance of the principle laid down and the great good which must eventually accrue to the profession from a more extended and scientific course of study than the ordinary routine through which the majority at present passed, and particularly inmajority at present passed, and particularly in-stancing chemistry as a science at once emi-nently useful to, and greatly if not entirely neglected by the architect, he proceeded to give an introductory view of the properties of matter and laws of combination, at the same time regretting that the short space of two locuments preserving all the month of the same lectures, necessarily allotted to him, would prelectures, necessarily allotted to him, would pre-vent his entering so fully into details as he could desire, which deficiency he trusted to make good by practical papers contributed from time to time, and by the systematic courses which were in preparation.

ARTISTICAL.

IN a letter recently received from Rome, Mr. Gibson, R.A., states that be is now modelling the statue of the Queen, and that it will be two years before it is finished. Our distinguished countryman is also engaged on a repetition of his statue of "The Hunter," for Lord Yarborough.—Thorwaldsen's statue of Byron, which has occupied a cellar in the London Docks for several years past, in consequence of the refusal of the Dean and Chapter of Wastminster to admit it into the Chapter of Westminster to admit it into the Abbey, is destined for the library of Trinity Abbey, is destined for the library of Trinity College, Cambridge.——Mr. Lough's colossal figure of her Majesty, for the Royal Exchange, is completed, and is about to be raised to its place.——The exhibition of the New Society of Painters in Water Colours will be opened to the public on Monday.——M. Alost, sent to this country by the King of the French to obtain the portraits of all the members of the London Corporation who attended his Majesty with the address at Windsor, for the purpose of painting a large picture commemorative of of painting a large picture commemorative of it for Versailles, has completed the sketches. It for Versattles, has completed the backet. The likeness in above thirty of them which we have seen is admirable. A duplicate of the picture will be presented by the king to the city, and be hung in the Guildhall.—The annual meeting of the Art-Union of London will be held on Tuesday next the 22nd in Drarebe held on Tuesday next, the 22nd, in Drarylane Theatre, to receive the committee's report and distribute the amount subscribed for the purchase of works of art. The Duke of Gam-bridge will take the chair at twelve. We shall give a full report of the proceedings in our next number.

ST. PAUL'S CATHEDRAL.-The porticoes of the western entrance of this splendid cathedral are about to undergo a thorough cleansing and scraping, with a view to removing the incrusta-tion that has settled on the stone work, arising from smoke and dirt. On Tuesday week the scaffolding under the lower portico was erected, and the workmen commenced their opera-tions; it has not, however, yet been determined whether the whole of the western front, as also the other outer portions of the building, will be scraped and cleansed, the lower part being tried first by way of experiment.

WORKS IN THE PROVINCES.

On Tuesday, the 1st instant, at noon, the ceremony took place of laying, not the founda-tion, but a main corner-stone of the new church, at South Milford, a township in the parish of Sherburn. The church will be in the earlypointed style of architecture, and consist of nave 52 feet by 271 feet; chancel 281 feet by 18 feet; octagonal vestry on north side of the latter, and porches on the north side and west end of the former; the gable to the west is surmounted by a bell turret, which, the site heing in a central and elevated part, will supply that feature so essential to an English vil-lage. The cost of the fabric will rather ex-ceed 1,400*l*. The accommodation provided will be for 240 adults and 60 children. The architect is Mr. George Fowler Jones, of York. The Rev. Mr. Matthews, the Vicar of Sherburn, who officiated in laying the stone, stated in his address that the patrons of the benefice and others proposed to raise a sufficient sum for the construction of a house for a resident minister, and a school-room for the children. The church will be dedicated to the Virgin Mary.

On Easter Monday, the ceremony of laying the foundation-stone of a new church took place at Woodford, a village pleasantly situated place at Woodford, a village pleasantly situated is the Avon valley, about midway between Salisbury and Amesbury. The ponderous corner stone, forming the south-east angle of the church, was laid with due ceremony by Mrs. Duke, supported by Archdeacon Lear. The tower is the only part left remaining of the old church, the building having become very much out of repair through lapse of time. The new church will have an additional aisle, there being one only on the south side before. there being one only on the south side before.

there being one only on the south side before. Mr. Wyatt is the architect. At Eastover, near Bridgwater, the new church, to be dedicated to St. John, is nearly finished, and will be consecrated in a short time by the Bishop of Salisbury. It is designed in the early English style, and substantially built of stone. The south side of the church has a deeply-recessed and ornamented doorway. The whole of the windows are completed, and consist of richly-stained glass. The roof and seats are of beautiful carved work. This is the only church in the town or neighbourhood where every sitting will be free, there being accommodation for about 500.

The railway works at Ely are proceeding with great rapidity. Near the bridge above one hundred labourers and artisans are actually employed. The station will be situated on the south side of the bridge, and is to be built of wood; but, upon some future occasion, it will be removed for an elegant structure of stone. The report that the company have given the contractors an extra month to finish the line from Brandon to London is untrue. It will be fully completed by July 1st.

At the West-Riding Sessions at Pontefract, held last week, a motion was made by Mr. Hall to authorize the inhabitants of Wetherby to take down the old Court-house, which was now of no use to the Riding. A memorial had been presented last year, which was re-ferred to a committee; and that committee had reported in favour of the request. It eppeared that the inhabitants had raised by subscription 700%. to which a gentleman promised to add another 100/; and the object required was to be allowed to take down the old Court-house, the property of the Riding, throw the site thereof to the Market-place, and to erect some public buildings thereupon. After some discussion by the magistrates, it was sgreed that the prayer of the petitioners be auted, on an arrangement being entered into by the parties for allowing the use of a room over the building for the West-Riding magistrates, as may be satisfactory to the committee already appointed.

The Scott Monument at Edinburgh, having been most satisfactorily completed by Mr. Lind, the builder, a public dinner was last week

Ling, the budger, a public dinner was last week given to that gentleman, Alexander Robertson, Esq., of Eldin, in the chair. At Windsor, St. George's Chapel has just been embellished with two additional stained-glass windows, executed by Mr. Willement. These windows are in the north aisle of the chapel, immediately under the Royal closet, sed facing the heak of the tomb of King and facing the back of the tomb of King Edward the Fourth, and his Queen, Elizabeth Wydville. In the two centre compartments

of one of the windows are full-length figures of Edward and his queen, attired in their robes of state, in devotional attitude, over the sacred volume. The two outer compartments contain the armorial bearings of that monarch, contain the armorial bearings of that monarch, and also of his queen. The other new window adjoining is to be called the "Rutland Window," and contains the arms of Ann, daughter of Richard Duke of York, Thomas Earl of Rutland, Richard Duke of York, Richard Earl of Cambridge, and Ann, daughter of Thomas St. Ledger. Mr. Wille-monthes also filled up the three compartments ment has also filled up the three compartments left in one of the new windows fronting the rets in one or the new windows fronting the royal closet with the arms of the King of the French, the Duke Saxe Coburg and Gotha, and Philip Earl de Grey, the three newly in-stalled knights of the most honourable and stalled knights of the most honourable and noble Order of the Garter. The fountain de-cided upon by the Board of Green Cloth, to be placed in the new Royal gardens at Windsor, is now complete, and was played for the first time on Friday last, before Sir Thomas Marrables, who attended on the part

Thomas Marrables, who attended on the part of the board, and approved of it. The committee for managing the erec-tion of new churches within the borough of Kingston-upon-Hull have made the requisite arrangements for immediately pro-ceeding with the third, in the recently endowed district of St. Paul's. Plans and specifications have been advertised for, and it is confidently anticipated that the additional is confidently anticipated that the additional means required for carrying them into effect will be readily contributed, and insure an early completion of the work. Lord Lyttleton has addressed a circular to

the gentry of the neighbourhood of Stour-bridge, in the name of a committee of gentle-men formed for the purpose of extending hospital accommodation to the district.

The Gloucestershire Chronicle states that his Royal Highness Prince Albert is expected to lay the foundation-stone of the new Agricul-tural College at Cirencester.

At Kirkaldy, in Scotland, a bonded warehouse is now in the course of erection on the ground immediately on the east side of the harbour.

A new church, now fast approaching to completion at Sowton, near Exeter, has been built, at a cost of 3,0004., by the munificence of John Garratt, Esq., of Bishop's-court. Mr. Garratt was one of the Aldermen of London for many years, and highly-respected in the me-tropolis. He accumulated a handsome competropols. The accumulated a handsome compe-tency by activity and integrity in mercantile and commercial pursuits, and retired into Devonshire, where he has made large pur-chases of landed property, and where, as a country gentlemen, he has acquired the general esteem of the nobility, gentry, and all classes. He possesses a large portion of the parish of Sowton

The Hon. H. Herbert, son of the Earl of Carnarvon, is building a new house at Street, in the parish of Blackawton, Devonshire.

THE LONSDALE MEMORIAL. DURABILITY OF MARBLE.

WE stated in our impression of the 8th ult. that a marble statue of the late Earl of Lonsdale was about to be erected in the county of Cumberland. Since then the committee appointed to carry out the design have de-termined to entrust the execution of it to Mr. M. L. Watson, who is, we believe, a native of Cumberland. The following letter from the artist has been addressed to the

treasurer :-" DEAR SIR,-Permit me to submit to you for the consideration of the committee a few remarks respecting the durability of marbles.

The purest marbles are those of Tuscany. They are admirably fitted for works of art, universally adopted in monuments and and statues intended to be placed in the interiors of churches and public institutions. Not one of these will bear exposure to the atmosphere

in our northern climate.) The marble of Sicily is, however, well cal-culated for statues and monuments intended to be erected in the open air. The triumphal arch in St. James's-park, embellished with figures and relievi from designs by Flaxman, and executed by Sir Richard Westmacott, is entirely of Sicilian marble. The colossal statues of our Saviour and the Apostles, by Thorwalsden, erected at Copenhagen, are of the same material; and you may rest assured that the durability of this marble was satisfac-torily ascertained before the sanction of the respective governments could be obtained for the adoption of it.

A colossal statue placed on a truncated co-lumn or lofty pedestal would be imposing, and endure for many centuries. The amount subscribed is nearly sufficient to defray the entire cost. There is not a marble statue in either Cumberland or Westmoreland. I cannot express to you how deeply I shall regret that any thing less important than a colossal statue in marble should be determined on as an appropriate monument to the late Earl of Lonsdale.

The subscribers may desire, however, to erect a work, still more colossal, executed in native stone, which is much less durable than Bicilian marble. Should this be resolved on, the statue 15 feet in height might be completed for the funds you have on hand.

It may be long ere so favourable an opportu-nity will present itself for the encouragement of sculpture in our native county. I cannot for-bear expressing a hope that the arts may not be forgotten by those who have so liberally subscribed towards a memorial intended to record the virtues and eminent services of the lamented Earl of Lonsdale."

THE WATERMEN'S FLOATING PIER AT GREENWICH.

A CAUSE involving the legality of this pier was argued at Kingston on the 31st ultimo, before Lord Chief Justice Denman and a special jury. The plaintiffs were Sir Richard Dobson, the deputy inspector of hospitals, and a gentleman named Sutton; the defendant, Blackmore, was superintendent of the pier in question. From the statement of Mr. Serjeant Channel,

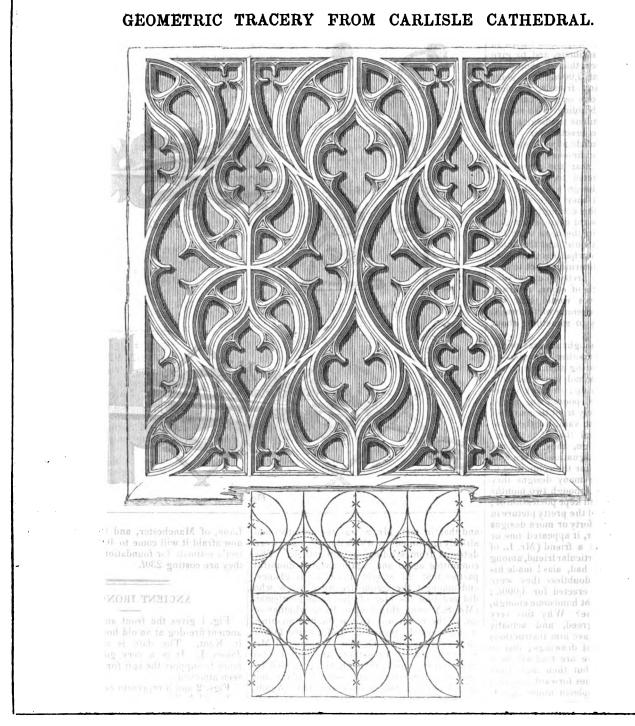
it appeared that the plaintiffs had purchased seven houses, some of which abutted upon the river, and others were close to it, and to the whole of which there had always been free access from the water, until the persons with whom the defendant was connected thought proper to build this pier, the effect of which was to prevent all access, and no boats or barges could get to them. The proceeding upon which the present action was founded took place in 1842, at which period the plaintiffs were desirous of repairing some of the houses which they had just purchased, and two barges containing the necessary materials were sent for that purpose. The watermen, were sent for that purpose. The watermen, however, refused to let them come in, and the result was that one of the barges was swamped and sunk, and the other was compelled to go a considerable distance up the river to unload, thus entailing a good deal of additional expense

in performing the repairs. Mr. Serjeant Shee, in addressing the jury on behalf of the defendant, said that they had to decide a dispute between a stone pier erected by Act of Parliament, and which belonged to the plaintiffs, and a small floating pier, which had been erected by a body of men pier, which had been erected by a body of men who, finding their former means of obtaining a livelihood entirely taken away from them by the use of steam, had been compelled, in their own defence, to have boats of their own, and to erect a pier for the accommodation of the meansain the travelled by them having the passengers who travelled by them, hoping thereby to be enabled to support themselves and families. The object of the plaintiffs, who were the proprietors of a rival pier, was to thwart and oppose them in this attempt by every means in their power. He concluded by contending that no real obstruction had been made out against the pier, and that the defendant was entitled to a verdict. The Lord Chief Justice in summing

The Lord Chief Justice in summing up observed, that it ought not to make any dif-ference to the jury if they should be of opinion that the plaintiffs had purchased the property in question solely with a view to the present proceeding. The only question for them to decide was, whether or not the free course of the water may have been obstructed, and whether the defendant was the party liable for that obstruction. dif-

The jury, after deliberating for a few minutes, returned a verdict for the plaintiffs—damages 1s.

The effect of this verdict, if it is not set aside, will, of course, be to do away with the floating pier altogether.



GEOMETRIC TRACERY FROM CARLISLE CATHEDRAL,

THE accompanying engraving, from a draw-ing by Mr. R. W. Billings, represents one of a series of panels from the wooden screens in Carlisle Cathedral. This particular example forms part of St. Catherine's Chapel, in the south transept, and still remains in the cathedral; but many similar specimens have been removed by barbarous churchwardens, and are to be found scattered about the country. Mr. Bilfound scattered about the country. Mr. Bil-lings published a small volume some time ago illustrative of this paneling, to which we alluded in our notice of the author's work on the tracery of Brancepeth Church, Durham, p. 104, *ante*. Some of the panels which he gave are enshrined at Carlton Hall, near Penrith, and at Featherstone Castle, Northumberland. Apart from their elegance, they are valuable as proving that the Gothic architects designed on system. Although the result is very dif-ferent, it is found that the majority of these panels were formed on the same ground-work, panels were formed on the same ground-work, namely, on the division of a square into four parts each way, or sixteen squares. Upon the lines of these squares, as shewn by the diagram below the example we have given, the centres of all the curves are worked, and upon such a simple calculation of parts as to render their construction perfectly easy. It is singular to observe how great an alteration in the general features is effected by a very slight deviation in the curves the curves.

In the leading curves of these examples, Mr. Billings remarks, nothing can exceed their accuracy of projection; but all the foils con-tained within are worked by hand. They are ascribed to the time of Prior Thomas Gondibour, who presided over the cathedral from 1484 to 1507. His initials were cut in the tracery of a panel in the door to the chapel, but this was unfortunately broken out and carried away a few years ago. The engraving is one-third the real size of

the panel represented.

THE HISTORY OF A COMPETITION.

"If the history of competitions were written, its details would shew an extent of rauchity astounding to archi-tects themselves."--THE BUILDER, p. 52, ante. Sir,---In the Manchestor Guardian and Courier

-Persons desirous of sending in plans and specifications for building the above church are requested to forward the same as soon as possible to Huitson Dearman, Esq., treasurer to the committee, Springfield-lane, Salford. All plans to be in not later than the lst of October." In answer to this, some twenty or thirty architects wrote for particulars, and amongst them was one, who from the answer received, inserted in THE BUILDER of the 5th of October, a paragraph headed "Increase of

honour and profit to Architects;" now though it is evident from future proceeding, and even from the general tenor of the partiand even from the general tenor of the part-culars, that your correspondent had misunder-stood the intent of the committee, yet I can assure him, it is much better for him that he did do so, than if he had entered into competition with others for the building of the aburch at the mite of 5 me cost of the the church at the rate of 5 per cent. on the whole amount; however, to return. The llth of October at length arrived, and with it some fifty or sixty plans from architects in the towns of Manchester, Sheffield, Liverpool, and Lon-don. Now, in the conditions as framed by the committee (who doubtless were all honourable men), was a stipulation to the effect, that the cost was not to exceed the sum of 3,000*L*, and further, that if any design which might be chosen, should exceed that sum, the committee should be at liberty to reject it altogether; this in itself, was perfectly right, but let us see how far this committee acted up to their con-ditions. the church at the rate of 5 per cent. on tbe ditions.

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Some of the designs bore names, and some mottoes, about which there was no express stipulation, and amongst the latter was one bearing the signature of "Ignatius." A few days passed on, and it began to be talked of that "Ignatius" would be the successful candidate, but who "Ignatius" was, at present seemed a mystery; however, time, as it mostly does all things, unravelled this, and the design was said to be that of two young architects

(Messrs. B. and P.) of Manhester The compotition now began to wear a settled aspect, and a few of the architects sent for their plans back, but the answer in all cases was that it was not determined. The designers of the plans bearing "Ignatius" were now called in to make an approximate estimate, and to give a guarantee to the effect that it should be completed for the sum of 3,000*l*. The plans too were shewn to many friends, amongst whom happened to be one or two having a practical knowledge of building, who stoutly declared that it was ridiculous to imagine that such a design could be erected for 3,000*l*. Hewever, the architects made an estimate, and shewed that it could be finished for about 3,250*l*., this was pretty near the mark, and certainly not to be objected to. Upon this the, committee sent the design to the London commissioners (to whom they were applying for a grant); when, to the committee's astonishment, in a few days word came down that the walls for the aisles in the nave were but 14 inches thick, or thereabouts, and that those in the clerestory were somewhat less than that; but the committee, still determined not to lose a chance of having the pretty picture converted into a real church of stone, returned word that they themselres would bear the extra expense of the thickening of the walls, thus increasing the outlay to something about 3,500*l*. The committee now thought all was pretty

safe, when down came another objection in the form of a letter, stating that the tower with the supports it then had would actually fall before it was half way up; in short, objection upon objection was poured in, whilst the committee as obstinately tried to get rid of them; but, alas! all was in vain, for the commissioners at last resolved that if the committee attempted the design, they would not aid them. The hopes of "Ignatius" were now at an end, and it was left for the committee to choose another from the many designs they had received, and which (though two months had now elapsed) they still kep possession of; but it seemed they still had the pretty picture in their eye, for none of the forty or more designs would suit them: however, it appeared one or two of the committee had a friend (Mr. L. of Manchester), perhaps a particular friend (Mr. L. of Manchester), perhaps a particular friend, among the competitors, but who had, alas! made his plans too plain, though doubtless they were bonest, for his could be erected for 3,000*l*.; but then the church was not handsome enough, so what was to be done? Why this very honourable committee agreed, and actually sent for this friend, and gave him instructions to draw out a fresh set of drawings; this he did, and produced what we are told will be a very handsome church: but then may it not well be so, when he comes forward and says this design cannot be completed under 3,500*l*. Of course the committee are very sorry for that, but then he is a friend, and, what is more, he has produced a more handsome design than any sent in (because, he had 500% more to work upon), so he must be the architect, and the church must proceed. Now let us take a glance at the private doings of this committee, and see how the competition has been carried on, and then we will leave these honourable men to their fate, and let us hope to public in-

men to their fate, and let us hope to public indignation too. When first the building of this church was in its infancy, which was some two or three months before it was advertised, a certain minister (the Rev. H. Stowell) introduced to the intended minister of the new church, and one of the committee (the Rev. E. Harper), an architect (Mr. Shellard, of King street), one whom no doubt he had every wish to see as the architect for the new building; however, I believe the minister there and then informed him that ultimately it would be a competition; but at the same time said, that if he would send them in a set of plans, the committee would look at them, and no doubt be should have interest enough to serve him. In a short time from that, a set of drawings was duly received, and pretty well looked over, but as the day of competition drew ness, another set was also received from the same person, and took its place among the rest (this set was got up entirely under the immediate superintendence of the minister). Now these proceedings had been whispered abroad, and reports reached the ears of the committee back again, that it was bat a sham competition,

Fig. 2 and that in fact, Mr. S. was the architect and already appointed; by which doings, many were detered from seading in altogether. The committee again and again assured doubtful parties that all should have a fair chance, and amongst the committee were a few who did not like the idea of this same gentleman (Mr. S.) being thrust upon them whether or no, so the result was, that at the first meeting, it was moved, seconded, and carried (three only voting against it), that the plans of Mr. S. be taken away altogether: and thus was his chance lost entirely through being misled by one of themselves, his second plans not even looked at, but at once rejected. Again, in their conditions, all plans were to be in by the 11th of October, yet even for more it than a fortnight after, plans were still being received; and yet further, to the regret of several of the committee, there were no plans in from the office of two architects (Starkey and Cuffley, Cross-street, partners), who had built a very pretty church in the town (they had been deterred by the alarm that it was a false commetitee do even a fortnight or move after the day mentioned in the stipulations, but call at the said office; and solicit a set of drawings; whether, they got them, or not, I am not sure, but I believe they idid. And still_after all not one of the designs sent in has been chosen; the committee have wasted the money of the subscribers too, for they have paid "Ignatius" between 10/, and 20/. for after trouble, and besides this report speeks of a bill of 50/. by way of a charge, which has been presented to them by their first friend, Mr. L. Such is a pure and ungarnished history of

Such is a pure and ungarnished history of the competition of St. Simon's Church, a competition in every way disgraceful to the committee; a committee appointed to inquire into the merits and demerits of some forty designs or more, each of which will have cost to the designers from 201. to 501. each, and lest it may be said that the grapes are sour, I beg to subsoribe myself not an architect, but simply Yours obediently,

A LOOKER ON.

The church is now proceeding under the superintendence of the friend named, Mr.

Lane, of Manchester, and the committee are now afraid it will come to 4000*l*., for the architect's estimate for foundations was 180*l*., and they are costing 230*l*.

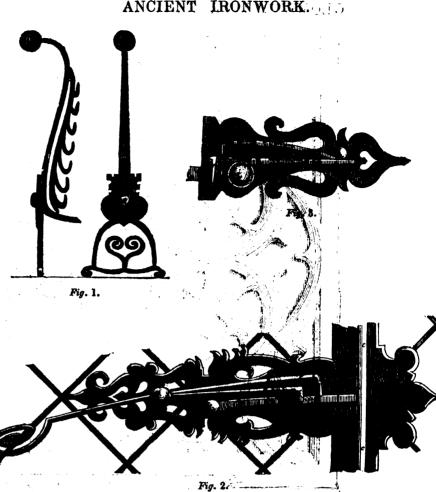
ANCIENT IRONWORK.

Fig. 1 gives the front and side view of an ancient fire-dog at an old hospital at Sandwich, in Kent. The date is about the time of James I. It is a very good example; the hook to support the spit for cooking is seldom seen attached.

Figs. 2 and 3 represent casement-fastenings. In old buildings the iron casement-fastenings were often very much enriched; they were sometimes so large as to reach quite across the frame iself. "The larger of these examples here given is of the latter desoription. The old lead-light casements opening in the centre, were very difficult to close effectually, so as to keep out the wet; that the inconvenience must have been felt as fully in former times as it would be at present, our larger example is proof. It is a very ingenious contrivance for securely closing the two halves of the sash-frame. The rod cc, attached to the end of one-half the frame, and turned by the handle b, has a buckle on the top and bottom, which falls on the other half of the iron frame of the sash. The springlatch, as by a leverage action, elosely presses in the handle b, and keeps the such effectually tight, preventing; any shaking from the wind, &c.

It may be here observed, that the iron sashframes in the state apartments at Holland House, Kensington (a most interesting structure). fastened on the same, principle, are models of what may be done with these very inconvenient parts of old structures.

The two examples given are probably of about the period of, Charles I. Such examples are seldom most with, though in some parts of the country they are numerous; at Saffron Walden; in Essex, for example, nearly every cottage has specimens, as ornamental as our largest examples, but they are merely spring-latches. R.



CAST-IRON PIER AT GRAVESEND.

Ar the Institution of Civil Engineers, on April the 8th, Sir John Rennie, President, in the chair, a paper was read by Mr. J. Baldry Redman, giving a description of the new cast-iron pier at Gravesend, just completed from his designs, and under his superintendence. After an introductory memoir, describing the rapid growth of steam navigation, and consequent increase of the town, and demand for greater consequent accommodation, the paper gave an account of the mode of construction adopted, which was illustrated by drawings, and a model of the work by Mr. Salter. The pier is situated in front of the Terrace-gardens, in a line with Harmer-street. The length is 250 feet, and tarmer-street. The length is 250 feet, and it is supported upon twenty-two Doric columns of cast-iron, 28 feet long, weighing nearly ten tons each. The first tier is situate at high-water mark, and from thence there are three spans, of 50 feet each, to the pier-head, which is 90 feet long by 30 feet wide. Horizontal iron girders support the platform, and the external girders are inclosed by an entablature, which also forms the parapet; at the south end are solid abutments and wing-walls to support the approach, and stone offices with turrets flank the entrance. The first tier of girders is the entrance. The nrst uer or graces is carried over the esplanade in front of the gardens, which is thus continued underneath the pier. The whole area of the platform is covered by a wrought-iron roof, boarded is covered by a wrought-iron roof, boarded and slated, and supported upon coupled iron pilasters, with corrugated iron panels between, and the sides can be inclosed at will by shutters sky-lights are introduced in the roof. The approach from the river is by a double flight of steps with landings to suit all states of the tide. A powerful light is exhibited from a cast-iron lighthouse, surmounting the junction of the roofs at the pier-head, which is sup-meted metry a system of iron truesing 43 feet ported upon a system of iron trussing, 43 feet in span; octagonal copper gas-lamps are sus-pended from the apex of the roof. This structure has been designed to meet the views of the conservators of the river, so as to offer bat little obstruction to the subjection and bat little obstruction to the navigation, and there is a clear headway of 8 feet underneath at high-water spring-tides. The comfort and convenience of passengers by steamers have been also materially consulted. The name described in detail the method

The paper described in detail the method adopted in getting in the foundations which was one of the chief features of the paper, as the method was novel, viz., by sinking castiron cylinders to a depth varying from 9 feet to 14 feet below the level of low-water mark of spring-tides, and keeping their tops always raised above high-water.

The ground was excavated from within them, and they were fitted with solid work to the level of low-water mark, where the columns were bedded on the stone bases; the work occupied two years in its construction, and has been since Easter Monday, open to the public.

A very ingenious machine was exhibited for making with perfect accuracy artificial teeth, gums, and palates: it is the invention of Mr. Tomes, who described its action and demonatrated its capabilities. A plaster of Paris cast of the gums having been obtained, a peculiar moulding composition, softened by heat, is pressed upon the cast and allowed to cool in that situation, it is then removed and reduced to the shape of the intended teeth, and if on trial this composition model is found to fit the mouth accurately, it is placed in the face-plate of the machine, and a perfect copy is obtained by the mechanical action of the revolving cutter or tool. The machine consists of three slides; two are placed vertically and move in two directions horizontally and vertically, but each in the vertical plane. Upon these slides is a plate of iron, to which is fixed the compo-sition model and the substance in which the copy is to be produced; the two, therefore, par-take of equal motion. The third slide is placed horizontally, and admits of horizontal motion only, but at right angles with the motions of the perpendicular slides. Upon this slide a trace with a blunt point is permanently fixed, and parallel with it is a revolving cutting point or drill, by the three sliding motions the tracer is made to pass over the surface to be copied, whilst the drill is con-

its action, copies with accuracy the most minute projections on the cast. In the specimen exhibited the finest filaments were accurately delineated on the ivory carving, and the machine was pronounced to be capable of adaptation to many other purposes beyond dental carving, for which it was designed and for which it has been entirely used by the ingenious inventor.

PROPOSED NEW BRIDGE OVER THE MENAI.

THE great national improvement involved in the establishment of a speedy communication by railway and steam-ships between London and Dublin, viá Holyhead, being now in progress, and, as it is understood, sanctioned by the Government, powers for crossing the Menai by a bridge at the Britannia Rock, one of the wildest and most critical parts of the Swellies, have been introduced into the Chester and Holyhead Railway Bill now pending in Parliament.

The idea is by no means new. It appeare to have first originated about the year 1783; the expressed object being to facilitate the communication with Ireland, and do away with the delay and danger of the ferry called "Bangor Ferry." The inhabitants of Car-narvonshire, more particularly those of the county town (where the principal chiming county town (where the principal shipping interests of the coast were then located, but not as now incorporated by Act of Parliament) took alarm at what they considered a danger-ous obstruction to the navigation of the Straits, and a bill being brought into Parliament for the purpose, it was strenuously opposed in the year 1784-5, and finally defeated in 1786. The question, however, was not set at rest, but still continued to be occasionally agitated, and in 1801 a survey of the Straits was made by the late Mr. Rennie, under the direction of Government, with the object of crossing them by a bridge; he reported in favour of the project and proposed two plans of bridges, both arched and of cast-iron, and supported by pillars of masonry; one of a single arch at the side of the present suspension bridge; the other of three arches at the Swelly, Benlas, and Welltog Rocks ; and these plans being submitted to Mr. Jessop, an engineer of great celebrity, and to Dr. Hutton, the Royal Professor at Woolwich, were approved of by them.

Notwithstanding the reports of the most scientific men of their day, the Government never carried into effect their suggestions of arched bridges on piers of masonry. The Chester and Holyhead Railway company now propose to carry their road over the Straits at the Britannia Rock, a spot never proposed by former engineers, and by a bridge of two castiron arches, supported on piers of masony, founded at low-water mark, of the following dimensions:--

- Span of the arches from pier to pier.... 360 ft. Height of ditto from high-water to the
- the arches

Clear space for headway under the arches 200 In width at a minimum height of 90 feet-

| which at a minimum neight of so rect- | |
|---|-----|
| Width of middle pillar of solid masonry | 130 |
| Height of ditto | 140 |
| Width of side pillars 60 to | 70 |

The Trustees of Carnarvon Harbour, as well as other parties concerned in the coasting trade, regard this proposed bridge as possessing all the defects and dangers of the arched bridges of former times, aggravated by its diminished space from pier to pier, by its increased mass of masonry, by its fixture in a most dangerous locality, and by other circumstances too numerous and particular to detail in this article.

sition model and the substance in which the copy is to be produced; the two, therefore, partake of equal motion. The third slide is placed horizontally, and admits of horizontal motion only, but at right angles with the motions of the perpendicular slides. Upon this slide a trace with a blunt point is permanently fixed, and parallel with it is a revolving cutting point or drill, by the three sliding motions the tracer is made to pass over the surface to be copied, whilst the drill is constrained to describe an exactly similar surface in the substance placed before it, and by the rapidity of its motion joined to the delicecy of

sible information on the mode of navigating vessels there. The Chester and Holyhead Railway Company were represented by Captain Moorsom, R.N., and Mr. Robert Stephenson, the engineer, attended by Mr. Parker (of the firm of Parker, Hayea, Barnwell, and Twisden, of London, solicitors); T. H. Evans, Mayor of Oarnarvon; H. P. Manley, Esq., collector of the Harbour Dues; R. A. Poole, Esq., of the firm of Messrs. Poole and Powell, solicitors of Carnarvon, with Mr. Poole, jun. appeared for the trusteen.

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with Mr. Poole, jun. appeared for the trustees. The most particular attention was paid by the scientific gentlemen present to the statements of every person examined, and we believe the contending parties separated with the best feelings, and under the impression that their respective interests had been carefully considered, and would be duly protected.

In the course of the inquiry, Mr. Stephenses stated that he considered it perfectly practicable to construct cast-iron arches which should est be effected by the vibration of a railway. That he was not at present prepared with any plan of a suspension bridge which he considered anobjectionable as applicable to a railway. That the arches of the proposed bridge could be let down from above into their proper places, but that for this purpose the main or middle pillar of masonry must be at least of the height marked, viz. 130 feet, and in all probability more. That it would not be difficult to form it into two pillars by an arched aperture in the middle.

THE BOX TUNNEL.

CONSIDERABLE alarm having been excited by an account in the newspapers, of the fall of a quantity of stone from the top of the Box Tunnel, it seems desirable to give increased publicity to Mr. Brunel's report, as calculated to allay the fears of the public:---

"18, Duke-street, Westminster, April 7.

"Gentlemen,-I beg to lay before you a short statement of the circumstances attending the falling of a stone in the Box Tunnel, on the 24th ult. I should remind you that about 'a quarter' in length of the tannel, near the east end, is cost through the natural rock, and is not lined with masonry. At the eastern extremity, a short distance was arched or lined subsequently to the completion of the tunnel. In the centre of this length of in-clined tunnel is one of the large working shafts. During the winter, and particularly during the thaw after a severe frost, the surface of the rock, and some of the beds particularly, have always suffered in the immediate neigh bourhood of the shaft and formerly also near the east mouth; but since the arch has been turned, for some short distance within the mouth, no further spawling or scaling of the stone takes place there. Down the shaft, hew-ever, the cold air descends, and for 50 or 100 yards on either side of the bottom of the shaft the most intense cold frequently prevails. During the past very severe winter, men have been constantly employed between the trains in breaking the icicles which form in and about the shaft, and knocking down spawls or loosened stones, and the effect of the shaft was found to be so mischievous that it has been determined to close it as soon as the frost would permit of the necessary masoury being built. Between the trains on the day in question a large stone which apparently had been loosened by previous work, fell, not from the roof, but from the side of the tunnel, near the shaft. It fell upon the rails, and the empty assistant engine, although signalled by the men employed at this work, ran upon it and was thrown off. This led to the delay of the succeeding trains. The accident was entirely the result of the severe cold, and owing to the open shaft. The shaft is now being closed. effect has ever been produced upon any other part of the rock than that exposed to the direct action of the frost-formerly, near the mouth, and subsequently near the shaft. Such occurrences are by no means unfrequent consequences of severe frost in open cuttings either of railways, canals, or common roads, and are much more rare in tunnels. In the Box Tunnel the frost only reached, as I have said, a short distance either way from one shaft, and this will now be closed. It is shaft, and this will now be closed. altogether an incorrect statement which has been circulated, that there is any thing peouliar

New Books.

Bloomfield's Poems. Illustrated Edition. Van Voorst. London, 1845.

THE public are indebted to Mr. Van Voorst for beautifully illustrated editions of several of our best authors, amongst which the "Vicar of Wakefield," with Mulready's drawings, stands quite alone. The work now before us contains thirteen illustrations by Sidney Cooper, Thomas Webster, A.R.A., J. Callcott Horsley, and Fred. Tayler, admirably engraved on wood by Thurston Thompson. It cannot fail to be acceptable to the admirers of "The Farmer's Boy," and will make better known writings which are full of right feeling and exquisite sensibility. The drawing at the head of "Richard and Kate," by Webster, is our favourite;" we should advise the artist to make a picture of it.

A Series of Letters on Agricultural Improvement. By J. J. MECHI. Longman, 1845.

ment. By J. J. MECHI. Longman, 1845. THESE letters unfortunately look a little too much like advertisements; but as we concur with the author "in thinking that the United Kingdom should be as a well-cultivated garden — that our national agriculture has not progressed in the same ratio as our other productions — that this non-progression is a serious national evil, and source of weakness — and that it arises from a want of knowledge and inclination rather than from want of means," and, moreover, are of opinion, that the letters contain much which may be studied usefully by all who are engaged in agriculture, we cannot avoid recommending them to the consideration of our readers. Efficient drainage, good farm buildings, and careful preservation of all manure produced on the farm, are amongst the prominent points urged.

Correspondence.

BATHS AND WASH-HOUSES.

Sin,—I beg leave to trouble you with a few remarks concerning the designs for Publie Baths and Wash-houses. I had inspection of the designs at Mr. Rainy's rooms on Tuesday; after spending some time there, I was struck with the idea that the plans generally were upon one principle, and I cannot conceive that any one of those designs was such as should be acted upon; some of them, so far as the drawings and designs for elevations were concerned, certainly deserved credit, but some of the gentlemen strayed away from the voluntary contribution bath and wash-house edifice to that of the private gentleman's country seat.

Now, my idea as to that which is wanting for such a public building and purpose is:---lst. A cold plunging bath for male adults, and another for male youth; another for female adults, and another for girls, all of which should be of good extensive dimensions. This is one most essential requisite for the poor, in proof of which I will refer you to the bathing in the Thames, Lea River, and ponds wherever they can get to swim and wash in; none of these plans possess these plunging baths except two or three of them, and those only on a very small scale.

My second observation will be in regard to the washing department; most of the designs have these offices upon the ground floor plan, which, according to my opinion, is out of all character so far as concerns the principle of steam, because in having the washing rooms on the ground floor, the wash steam will rise, and obtain access to the upper floors.

I consider the plunging, warm, vapour, and shower baths should be on the ground-floor, and the washing rooms on the upper floor, because when the women are in the building, they would have every requisite before them for washing; that the trouble of going up one pair of stairs would not be much to them, but to warm bathers it would be so, as many of them are invalid, and some scarcely able ot crawl—for instance, a poor creature with violent rheumatism.

Waste steam from the washing being carried on up stairs would do no harm; the building might have a ventilated roof for the escape of steam, and thus be kept in a healthy state, at least as far as vapour is concerned. The ironing and drying rooms could be in connection. If these obser-

vations be worthy of your consideration, you are at liberty to use them in may way you please.

you please. Before concluding, I will remark respecting the committee for deciding upon a design for such an important matter; it should consist, I think, of the following, and to be men of experience :--architects, medical men, merchants, tradesmen, and poor mechanics; from such a committee as this a good result might be expected. In the first place, the architects would be enabled to decide upon the mechanical arrangement of the design; the medical men would be enabled to state upon the requisite wants and construction of shower, vapour, and warm baths; the merchants and tradesmen upon the general wants, and the mechanics upon the actual necessities of the poor.--I am, Sir, &c., Hoxton, April 3rd.

ACCIDENT AT OLDHAM .---- IBON GIRDERS.

Sin,—In your journal of the 21st of last December, you announced that the Government had appointed a commission, consisting of Sir Henry De la Beche and Thomas Cubitt, Esq., to inquire into the causes of the falling of the cotton-mill at Oldham, and as to the failure of part of the prison at Northleach; and on the 1st of last February, you stated that certain experiments had been made at Thames Bank on the strength of iron girders, for the express purpose of assisting those gentlemen in their inquiries. These announcements have maturally induced me, and to my knowledge many others, to look almost impatiently for a detailed account of these experiments, as well as for a full statement of the causes which led to the accidents referred to in the commission, I therefore beg to inquire whether a report has yet been made, and if it has, whether you intend to give the substance of it in your valuable journal?—I am, Sir, &c.

SIDEROS.

•• We understand that the commissioners made their report some time ago: we shall not fail to give our readers the substance of it. As to the experiments on cast-iron girders, we were prepared to place the results before the public, but learning afterwards that they were to be made part of the report to her Majesty's Government, considered it expedient to defer doing so until after the report had been considered.—Ep.

THE DISTRICT SURVEYORS.

Site,---With others of the building community, I have anxiously been looking in your useful weekly columns, under the hope of finding, either from yourself or your correspondents, some article tending to relieve the building interest from the despotism desired to be exercised over it by the district suveyors. They make every frivolous circumstance a matter of reference to the official referees to whose dictum we are still exposed, notwithstanding the excellent and unanswerable arguments which have appeared in your columns.

ments which have sppeared in your columns. To myself it would seem that the secret desire of these gentlemen is to perplex all building operations carried on under the guidance of private surveyors, so as to make it compulsory on builders to employ the surveyor of the district in which he is about to build, in order to protect his operations from molestation or hindrance; to resist which dishonourable attempt, it is a matter of surprise that the trade has not united.

trade has not united. Union is strength—every wrong has its remedy, and this would be found a certain one. I am aware some will say this position is improbable, because the Act specifies that if a district surveyor be employed by the builder, he, the district surveyor, shall not be the official surveyor over such building, but this is easily managed in more ways than one; and looking at their procedure, I maintain that their litigious and unnecessary conduct fairly induces this conclusion. But whether right or wrong in this general censure (upon a body who should be far above such measures) it would be desirable, under the circumstances, to call a public meeting of the trade, request yourself, or some other gentleman who has studied the subject, to preside as chairman, and making common cause, select some cases best calculated to elicit a legal and bonest construction of such points as press mose heavily upon the trade by an appeal to the highest authorities.

in the stratification or the character of the beds of oolite at Box that can or does cause any danger; on the contrary, there is a very fine, hard, and sound bed, which has been selected and made to form the roof by working up to it, and from which nothing ever fell, and there are extensive quarries close by exhibiting the durability and soundness of this stone with roofs of much greater extent than in the tunnel. "I. K. BRUNEL."

General Pasley has also reported, and declares that the tunnel is perfectly sound and safe.

COLLEGE OF CHEMISTRY.

As attempt is being made to establish a college of chemistry in the metropolis. It is a national disgrace that we have not had for many years an institution of this kind in active operation, and it is to the want of such a college that we must attribute the little progress which this science has made in this country, when compared with the improvements which have been effected in the various continental states, particularly Germany, where schools of practical chemistry have for a long period been established.

The promoters of this college have four objects in view—vis.: 1st. To establish a laboratory (as designed by Sir H. Davy) for original investigations, and for extending the boundaries of chemical science on the model of the Giessen laboratory. 2nd. To form a "college" for the instruction of students in analysis and scientific research, upon such terms as to encourage young men of talent and scientific taste to apply themselves to chemistry, and for qualifying public lecturers and teachers. 3rd. To form departments for the application of chemistry to agriculture, geology, mineralogy, and metallurgy, by an analysis of soils, rocks, &c.; to medicine, physiology, the arts and maunfactures. 4th. The employment of such means as may appear expedient for eneouraging the pursuit of scientific chemistry throughout the country, and for making it a aranch of general education.

The project is patronised by some of the most eminent public and scientific men of the day, among whom we find (on the council) the names of the Dukes of Wellington and Sutherland, the Marquis of Lansdowne, Earls of Dalhousie and Fitzwilliam, Sir J. Clark, Bart., Dr. Holland, Dr. Gregory, and the Rev. Dr. Buckland.

It is trusted that so noble an undertaking will not be allowed to fall to the ground for want of public patronage.

A case illustrating the importance of a school of practical chemistry, with reference to metallurgy, has been mentioned recently. A student of the Giessen school having visited and inspected the iron-works of Count Salm, in Austria, was enabled to suggest improvements in the processes employed, the cost of which did not exceed 600% sterling. For this, and for superintending the processes, the chemist agreed to receive a third part of the profus accruing. At the end of five years he had realized a fortune of 30,0004.

Seasts EFFECTS.—For the approaching hasaar to be held in Covent Garden Theatre, in aid of the Anti-corn Law Fund. It has been determined by the stroke of Grieve's magic wand, and the aid of the "willing imps" in the service of Mr. Edwards, builder, of Manchester, to transform the whole interior of the theatre, andience part and stage, into a Norman-Gothic hall, which is to have a roof escreepouding in character with the style of the trast of the building; this will be of stained glass, from a design of Mr. Grieve, and brilliantly lighted from above so as to shed a "myrind-coleured lustre" of great brilliancy on the upper part of the large area. The pit will be floored over, so as to make it and the stage one was thall; and there will be a range of Gothic windows of stained glass round the stage part of the hall.

LINCOLN'S-INN NEW SQUARE.—The projected improvements in the new square have been somewhat suddenly suspended by order of the Benchers, in consequence of a protest against them having been numerously sigued by the owners and occupiers of chambers in the square.

I will gladly attend myself, having hoped before this to find such a course suggested by some more weighty individual than, Sir, your obedient servant,

SOBUTATOR.

•.• Our correspondent must not be led by the litigious and unwise proceedings of two or three of the district surveyors to condemn the whole body, which consists, for the most part, of able and right-judging men. We may feel it our duty shortly to animadvert on the conduct of these exceptions more pointedly. As auct of these exceptions more pointedly. As to the proposed public meeting, we received some weeks ago from several of our corre-spondents a similar suggestion, but delayed publishing it on the ground that time would more clearly point out what portions of the Act required alteration.—ED.

ABCHITECTURAL MODELLING.

-I see in your last number a letter on SIB. the subject of architectural decorations, the tenor of which I should like to see carried into tenor of which I should like to see carried into effect. At the same time, as a practical man, I would wish to point out a few of the evils of the present system, which architects might easily alter. In almost all cases the decorative modeller is not employed by the architect, but by the builder, who, having little taste for works of art himself, employs any body he can get to do it cheap, mostly some plasterer, who understands little about modelling, nothing about drawing or style of composition, while the artist of acknowledged talent is entirely deserted by the architect. The drawing marter part, gives a very ambiguous idea of the by the arcuitect, scholm for more than a quarter part, gives a very ambiguous idea of the subject wanting, and in many cuses no drawing at all; the models so made are consigned to the tender mercies of some hod boy to cast, and fixed by others who know as little about it. Were the architects to employ the decorative artist without the interference of the builder, and allow a fair remuneration for his work, he would feel an interest in the finish of the works, and would soon effect great improvement.

I am, Sir, &c., A Decorative Modeller and a Subscribes.

CEMENTS.

SIR,—I think your correspondent, James ulham, in No. 113, would do many of Palham, in No. 113, would do many or your readers who are users of cement a favour if he would explain the difference in the proerties of Maude's Portland cement, Pulham's perties of Maude's Portland cement, Pulham's Portland-stone cement, and Austin's stone-colour cement; the three are described as bearing a close resemblance to Portland stone. esenioiano -I am, Sir, &c., A READER.

Newcastle-on-Tyne.

Miscellanea.

THE PYBAMIDS EOLIPSED .- The National Intelligencer contains a long letter from Mr. Pickett, at Lima, commenting upon discoveries of very extraordinary ruins said to have been of very extraordinary ruins said to have been found by Judge Neito, in the province of Ohaohapovos, while on an exploring expedi-tion. In making a survey of the country he found at Ceulap, a building of most extraor-dinary character, which he describes as a wall of hewn stone 560 feet in width, 3,600 feet in length, and 150 feet high. The edifice being solid in the interior for the whole space con-tained within 5,366,000 feet of circumference, which it has to the beforementioned height of which it has, to the beforementioned height of 150 feet, is solid and levelled, and upon it there is another wall of 300,000 feet in circum-ference in this form, 600 feet in length and 50 in breadth, with the same elevation (150 feet) in the lower wall, and, like it, solid and levelled to the summit. In this elevation, and also that of the lower wall, are a great many habitations or rooms of the same hewn stone, 18 feet long and 15 wide, and in these rooms, as well as between the dividing walls of the great wall, are found neatly constructed ditches, a yard or two-thirds in length, and half a yard broad and deep, in which are found bones of the ancient dead, some naked, and some in cotton shrouds or blankets, of very firm tex-ture, though coarse, and all worked with borders of different colours.

INGENIOUS WORKMANSHIP .--- We have inspected with much gratification a working model of a beam steam-engine, manufactured by Mr. Benjamin Warner, a watch-spring maker, who has already exhibited at the Polytechnic Institution some extraordinary examples of patient ingenuity. It is composed of more than 200 pieces, and has the follow-ing dimensions:—The length of the stand is 34 inches, the length of the beam 24 inches, 34 inches, the length of the beam 24 inches, the height of the supporters of beam 18 in., the diameter of cylinder 8ths of an inch, the length of stroke 8ths. It has governors acting correctly, and fine silk forms the band. The parallel motion has straps and brasses, and is fixed with gibs and keys. Every part of the engine is bolted and screwed together, and finished in the same manner as the inside of a watch. We were sorry to find that the ingrewatch. We were sorry to find that the ingenious mechanist who had constructed this curiosity was about to seek his fortune in America. It is a pity to lose such a workman.

RADIATION OF HEAT .- M. Melloni, of Naples, has just completed some very in-teresting experiments on the radiation of heat. The previous researches of Rumford and Leslie proved that the surfaces of different bodies possess at very different degrees the faculty of giving out, by radiation, the heat of the substances which they envelope; and it has also been satisfactorily established that layers of the same varnish considerably modify the radiating powers of the surfaces over which they are laid; shewing, therefore, that the rays of heat given out by a substance proceed not only from its surface, but the points around it to a certain depth. It, therefore, remained to measure numerically the fore, remained to measure numericany the thickness of the superficial layer which assists the radiation, and to this undertaking M. Melloni applied himself. He covered the faces of Leslie's cube with equal layers of a proper varnish, augmenting successively the number of layers, and measuring each time with his thermometrical spparatus the radiating powers of the surface; he found that the power went on gradually increasing up to the seventeenth layer of varnish, when it became stationary. At this point, the total thickness of the varnish, as ascertained with the greatest possible minuteness, was about the four hundredth part of a millimetre. In comparing this result with that which attended the use of loss found M. Malleri found that the use of leaf-gold, M. Melloni found that a much thinner coating of gold would produce the same amount of radiation; but this difference is not to be imputed to the greater or lesser transparency of the coating, for lampblack, which is very opaque, possesses like varnish the property of giving out heat from the layers on which it is placed.

FATAL ACCIDENT THROUGH THE FALL OF QUANTITY OF IRON RODS .-- On Saturday the sth inst., just at the hour when the men en-gaged in the works of Messrs. Ditchburn and Mare, at Blackwall, were assembled to be paid, a loss of life ensued from the giving way of a stack of iron rods, which had been placed in a slanting direction against a beam, the bottoms of the rods resting upon the ground in the same way as they are placed in other iron yards in London near the Thames. Eight bodies, two lifeless, and six more or less mangled, were found under the ponderous weight, said to be about eleven tons. At the inquest, which was held on the Monday following, the cause of the accident was ex-plained by Mr. Ditchburn's foreman, who stated his belief that the stack was thrown down by the men pressing against it. They were very by the men pressing against it. I hey were very numerous, and were lounging about waiting for their pay. He could not account for it in any other way, because the iron actually fell in the opposite direction to that in which it was placed. They were within an inch and a half of an upright position, and he had him self seen them properly strutted and supported. It would, by pressure, have fallen forwards, but it fell sideways. Mr. Ditchburn stated that the rods were so placed against his orders, and he was unconscious of its position until he heard of the accident, which he could not believe to be true, as he had given express orders that the iron should be moved away from its original position and placed horizon-tally on the ground. He had no doubt that it was thrown down by the pressure of the men against it. A verdict of "accidental death" was instantly returned.

DEMOLITION OF THE FLEET PRISON .- The Corporation of the city of London having Corporation of the city of London naving purchased this property for 25,000% from the Government, are now engaged in disposing of its materials by auction. The first days of its materials by auction. The inst days sale took place, on the premises, last week; the second portion is to be disposed of by the auctioneers, Messrs. Pullen and Son, on the 21st instant, and following day. The carriest mention of the Fleet Prison occurs in the reign of Richard I., but up to the 16th century nothing is known of its history. The prison was burnt by the followers of Wat Tyler, and in the 16th and 17th centuries the records of the Fleet became suddenly filled with matters of the deepest interest in connection with the religious martyrs of the reigns of Elizabeth and Mary, and the political prisoners of the Star Chamber in the reign of Charles I. It appears that the prison was used for the con-finement of debtors from the 13th century, and a petition from a debtor named John Fraunceys, in 1290, is stated in Mr. Knight's "London" still to be preserved. Great atrocities were committed on the inmates, and until the year 1727 little was done in the way of redress. In that year, however, a Parlis-mentary committee brought many things to light, and since then improvements have been effected in the management of prisons. The great Howard and the other "sons of mercy" have not laboured in vain, though they were not permitted to see the fruit of their exertions. The building now standing was erected after the burning of the older one in the Gordon riots of 1780, when the mob was polite enough to send notice to the prisoners of the period of their coming, and on being informed that it would be inconvenient, on account of the lateness of the hour, to postpone their visit to the following day. The former building also dated its erection from the period of a fire, its pre-decessor having been destroyed in the great conflagration of 1666. The entire prison at the present time occupies an acre of groad Nearly 1,000 prisoners, besides the numerous officers of the establishment, have at various premises. The buildings are computed to contain upwards of 3,000,000 of stock bricks, 50 tons of lead in the various forms of gutters, 50 tons of lead in the various forms of gutters, flats, cisterns, and pipes, 200 squares of slated roofs, 40,000 leet of York paving, 250 pair of glazed sashes, an infinity of doors, partitions, and interior fixtures and fittings-up, the pewing of the chapel, strong boarded and timber floors, iron girders, massive iron gates with locks and bolts of singular construction and well-tested excellence. At present it is not decided what improvements will take place on the site-whether a new street will be formed, or accommodation afforded for the administration of public justice.

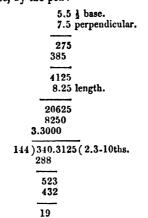
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FURNITURE WOODS.—A few nights since, in the House of Commons, Mr. C. Buller said that Sir Robert Peel had stated that furniture woods would be exempted from duty. He had thought they would have been included in one category; but he found the Government had enumerated the woods they meant to exempt. Now, there were various new kinds of these woods continually coming in from the colonies, with respect to which he wished to know whether, if left unenumerated, they would come in under the general designation? Many such Many such woods, the produce of Ceylon and New Zealand, were not found in the list at all. Mr. Labou-chere said that, consistently with their professed views, the Government ought to encourage the importation of these new furniture woods. There were many species of woods in the colonies which had hitherto been kept out by the duty. They all ought to be admitted on the same terms as mahogany. Sir G. Clerk said that as soon as the names of these new said that as soon as the names of these new furniture woods were known, they might be admitted free of duty. Mr. C. Buller observed that the Government list was an ungracious one. There were a great number of furniture woods from Italy, among others olive wood, fig, and orange wood, which were not in the list. Mr. Mitchell then inquired whether the Government meant to take of the duty of list. Mr. Mitchell then inquired whether the Government meant to take off the duty on wainscot logs; if not, he should submit a pro-position for that purpose. Sir Robert Peel, in answer, said the Government was under the necessity of making some discrimination. If they said that wainscot woods in general were to come in, it would be contended that wainscot logs from the Baltic should come in free of duty.

and Crewe, on the Grand Junction, is one of the extraordinary products of the railway enter-prise of the present day. Until lately Swindon was remarkable for nothing but heath and upland; it is now the nursery of a new com-munity, the seat of well-ordered industry, and a colony of engineers and handicraftsmen. The total sum, expended on the locomotive establishment at Swindon, including engines and car-rieges, is about 550,000%, exclusive of the ex-pense of engine-house, machinery, and tools, amounting to 26,500%. The average halfyearly expenditure in wages to engine-drivers, fremen, guards, servants, porters, clothing, fremen, guards, servants, porters, clothing, fcc., is 140,0007. The company manufacture their own engines at the factory, where clean-ing and every thing connected with construc-tive repair is carried on. The number of nechanics, including engine-drivers, firemen, fitters, coppersmiths, cleaners, and labourers, constantly employed, varies from 300 to 350. Swindon consists of neat brick buildings, and Swindon consists of neat brick buildings, and is so far adjacent to the line as to be seen by the passing trains. The total population is upwards of 800. A library and reading-rooms have already been formed for the use of the inhabitants and servants of the company, together with a Mechanics' Institute. The church, which is being built entirely of stone, under the superintendence of Massre church, which is being built entirely of stone, under the superintendence of Messrs. Scott and Moffatt, is nearly completed. It is in the decorative style of the 14th century, with aisles, elerestory, chancel, tower, and spire. The entire structure is 140 feet high, and will accommodate 800 persons, all the sittings being entirely free. The estimated cost is between 5,000*l*. and 6,000*l*. Its consecration by the Bishop of Gloucester, and Bristol is by the Bishop of Gloucester and Bristol is fixed for Friday, the 25th of April, St. Mark's and for Friday, the 20th of April, St. Mark's day, and it is to be dedicated to this evangelist. Adjoining the church, at the east and west, are the schools and parsonage, built in a style cor-responding with the church, at a cost of 1,700/. On the south of the church a spacious piece of ground has been purchased by the Great Wattern Company and had been built Western Company, and laid out as a park or pleasure-ground for the inhabitants. ph

BARN FLOORS .--- A correspondent of the Mark Lane Express states, that having a very had barn floor, he thought of boarding it, but the expense was an objection, us the boards would require to be very thick; besides, he had observed that a floor of that kind in the eighbourhood had become splintered by the flails, was rotted by the damp, and gnawed by rats. Happening to have a large number of unsaleable pieces of timber, coarse, crooked arms, and knotty ends, that were altogether worthless, even for firewood, for it was im-possible to split them it coarse to have the possible to split them, it occurred to him that they would make an excellent surface for his barn floor. He thus describes the mode he adopted in carrying out this idea and success that attended it. "I had an X cross cutting stool made, on which these logs were placed, and cross cut into blocks of a foot long; the bark and any excrescences having been chopped off by the batchet, the blocks were thus reduced to irregular figures of all shapes, no matter what. The floor having been excavated to the proper depth and levelled, blocks were placed at distances so as to be levelled by a long band level, and the whole surface levelled off from those by a straight edge. The blocks were laid down on their ends, having the cross out surface or end of the grain upwards; the best face of course up, and some attention being paid to their mutual adaptation with regard to fit; but, of course, with such a variety of irregular figures there were numerous cavities between—these were filled as well as might be by smaller blocks, thus occupying the larger spaces. Still lesser pieces were now put into the remaining openings, and dry sand were swept over till the holes were filled up to near the top, and the remaining interstices were filled with wedges, the heads of which were sawed and adzed off: all was rammed down with a common paving hammer. This floor has now been a year in use, and is perfection itself for its purpose. The cost was trifling : two labourers in a fortnight cut most of the blocks ; and the carpenter, with a handy assistant, laid them in a few days. The wedges should not be driven hard, nor until the blocks are well confined, or they will be spread asunder by the wedges."

MEASUREMENT OF WOODEN SLEEPERS FOR RAILWAYS.—The following is a copy of a new rule or method, approved by the commissioners of the customs, for the measurement of wooden sleepers of a triangular form, usually imported for railway purposes, when measured singly :--- "The length to be taken to the quarter of a foot, and the perpendicular height to be taken to the quarter of an inch, adding thereto the height of the defec-tive angle, which together will constitute the entire perpendicular height; one-half of the base to be then taken, and the contents ascer-tained by the inverted side of the sliding rule, as directed in the measurement of unequalsided timber. An example is given of a piece of timber of the description and shape imported in large quantities for the purpose stated, the length being 81 feet; the base or breadth at the end, 11 inches; the perpendi-cular, 64 inches; with 1 inch defective angle: for instance, by the pen:--



Operation by the sliding rule. Set 71 inches, the perpendicular height (the defective angle being added thereto) on the inverted line E to 51 inches-one-half the base on line C; then opposite to 84, the length in feet on the line A will be found 2.3-10ths on the line B, the content in cubic feet for duty." This order has been communicated to revenue officers at this port and at the various outports of the kingdom by directions of the commissioners for their future government. IMPORTANT DISCOVERY.

scientific Α gentleman, residing at Ipswich, Mr. Frederick Ransome, engineer, has lately discovered a method whereby the hardest stone can be brought into a consistence resembling common putty, so that it can be cut and moulded into any shape, for useful and ornamental purposes, without altering its general character and ap-pearance; for it becomes as hard, and in some instances even harder, than when subjected to the process. Another peculiarity of the pro-cess is, that any colour, or variety of colours, can be imparted to its solid substance, so that an endless variety of shades can be produced, and as it is capable of being polished, it ef-fectually resists the action of the weather. It can also be used as a cement, and can be brushed over the surface of wood, so as to

render it fire-proof.—Sheffield Mercury. COPPER.—Returns of the average prices of copper purchased for the use of her Majesty's dock-yards in each year, from 1815 to 1844 inclusive, and of the price of cake copper in London during the same period, have been issued in the shape of a parliamentary paper, obtained on the motion of Sir C. Lemon, one of the representatives of the mining districts. ot the representatives of the mining districts. From 1815 to 1832 the return is *nil*; in the year 1832, the average price of the copper in question was 82. per ton; in 1833, 87. 14s. 6d. per ton; in 1836, 1117. 7s. 1d. per ton; in 1839, 97% 10s. per ton; in 1840, 1027 2s. 6d. per ton; in 1841, 102% 8s. 10d. per ton; in 1842, 93% 10s. per ton; in 1843, 82% 10s. 9d. per ton; and in 1844, 83% 7s. per ton. The Admi-ralty department possesses. it appears. no ralty department possesses, it appears, no official means of furnishing the price of cake copper in London during the period stated.

STATUE TO GEORGE STEPHENSON, ESQ. It is said to be in contemplation to adorn the splendid high level bridge across the Tyne, about to be constructed under the auspices of Mr. Hudson, with a noble statue in honour of George Stephenson, Esq., the eminent civil engineer, a native of Newcastle-upon-Tyne, and beyond all doubt one of the greatest men of the day.

NEW STOCK-EXCHANGE AT BRISTOL. At Bristol, a large and influential meeting was held on Monday, the 31st ultimo, at the offices of Messrs. Bradley, Barnard, and Co., Albion chambers, at which resolutions for forming a Stock Exchange were cordially and unanimously passed. John Kerles Haberfield, Esq., has consented to accept the office of president.

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MUSEUM OF ARTS BILL.—The Museum of Arts Bill was opposed by Mr. Buck, who moved that it should be committed that day six months. Sir J. Graham hoped that Mr. Buck would not persevere in his motion. The government were prepared to support the principle of the bill, although its provisions went rather beyond the understanding which had been come to. He would recommend the postponement of the committee for a week, He would recommend the and in the interim he would devote attention to the subject, and take an opportunity of pri-vately explaining to the hon. member the objections entertained to the bill in its present shape. This proposition was assented to, and the committee was accordingly postponed as suggested.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom teaders, &c., are to be addressed. For the convenience of our readers however, they are eatered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the supply of from 2,000 to 3,000 feet of new 21 York Paving to the Commissioners for paving the Skinners' Estate, St. Pancras. For the execution of certain Works required to

be done in Hestings-street and Clarement-place, for the Commissioners of the Skinners' Betate, St. Pancras. 11

For the building of a new Bridge on the Brithen-ham and Pleasley Turnpike Road st. Guilthwaite Common, near Rotherham, Yorkshire, Store the erection of Stone Arches and other works

For the swostle and Carliale Railway Company. For the supply of Paving Granite, fint, Keatiah Rag, and Gravel, to repair the highways of Saint Mary, Newington, from 23rd April, 1845, to Easter Tuesday, 1846. For such Masons', Paviors', and Plasterers' Works as may be required at Hull for the Board of

Ordnance.

For furnishing and fixing in the town of South-ampton 205 Gas-lights, to consist of 81 Columns, and 124 Scroll Brackets, with the necessary Lamps,

and 124 Scroll Brackets, with the necessary Lamps, Pipes, Fittings, &c. For taking down a tenement in Bishop-street, Coventry, and erecting two Messuages on the site and ground adjoining. For submitting a plan of a Tread-wheel, and con-structing the same in the Common Gaol of Great

Yarmouth, Norfolk.

For the restoration of the Parish Church of Grays Thurrock, Essex. For all the Works to be done in the erection

and completion of the new cast-iron Bridge over the Haven of Great Yarmouth, including the find-ing of labour, certain materials, &c.

For the construction of the third and fourth divisions of the Chester and Holyhead Railway. For the supply of Materials to the Commis-sioners of the Metropolis Roads.

sioners of the Metropolis Roads. For providing, squaring, and laying new York Paving and Granite Curb, &c., for the Commis-sioners under the Bedford Paving Act, St. Panoras. For various Engineers' and Joiners' Works required to be done at the new Workhouse, Birch-field-wood, Saubridge, Kent. For the Masonry Work of several Viaducts and Bridges.

Bridges.

For performing the several works in building a new Workhouse at Tenterden.

For the formation and completion of a new Drain, being about eleven miles long, twenty yards wide, and five yards deep, for the Middle Level Drainage Commissioners. Also for the erection of a Staunch, several Bridges of wood with brick abutments, together with the necessary culverts, and other more and other works.

COMPETITIONS.

For the erection of a Baptist Chapel at Folkstone.

For laying out the Grounds of the Victoria-park Cemetery, and for draining the same, making the roads, paths, and finding all necessary trees, shrubs,

materials, &c. Plans for a Church to be erected within the Borough of Kingston-upon-Hull.

Plans, sections, and elevations for a Terminus, and other requisite accompanying offices, for the Great Southern and Western Railway, Ireland.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

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At the Union Inn, Denby, Derbyshire : a large quantity of full-grown Coppice and Hedgerow Timber.

At Shortgrove-park, Newport, Essex: 150 Timber Trees, consisting of Beech, Ash, Sycamore, Alder, Elm, &c.; 230 very fine large Firs, &c.; many of the Beech and Ash Trees are of large

dimensions and good quality. At Waresley, Huntingdonshire : upwards of 200 very choice Oak Trees of large dimensions and fine quality. Also several lots of Ash and Elm Timber Trees, and Larch and other Spires.

At Framsden, near Debenham: a quantity of Ash and Elm Pollards; Ash, Ekn, and Sallow Timbers, &c.

At the Swan Inn, Rickmansworth, Herts: the growing Oak Timber on Linster's Farm, and on Sayor Farm consisting of the state of the state

Savoy Farm, consisting of about 255 Trees. At Seagry Wood, near Chippenham, Wiltshire : from 1200 to 1400 Ash Poles of large dimensions;

rrom 1200 to 1400 Ash Poles of large dimensions; prime Elm, Ash, Beech, and Chesnut Timber, &c. At the Timber-yard, opposite St. Giles's Church, London: 3,200 Pine Deals, Planks, and Battens, 840 Yellow Deals, 2,480 Spruce Deals and Planks, 120 Yellow and White Battens, 14,000 feet of three-quarter inch and half inch Pine Reserts Ac

Pine Boards, &c. 250,000 Building Bricks, 40,000 Arch ditto, &c.; now at Sherborne Kiln, three miles from London

At Patcham, near Brighton : a large quantity of Railway Materials ; the whole of the Iron is of Staffordshire manufacture.

BY TENDER.

All the implements used in the execution of the works at the Fleetwood-pier; they are now on the wharf at Fleetwood, and can be put on the railwaywaggons, or on board ship.

Above 1,000 Oak Trees, now standing upon Lewisham Lands-wood, near Beckingham, Kent. 20 Oak, 1 Elm, 1 Cherry, and 12 Ash Trees; now standing at Haamer, near Welchhampton, Cheshire.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, April 21. — Statisfical, 11, Regent-street, 8 P.M.; Chemical (Society of Arts), Adelphi, 8 P.M.; Medical, Bolt-court, Fleet-street, street, 8 p.m.

TUBSDAY, 22:--Medical and Chirurgical, 53, Berners-street, 81 P.M.; Civil Engineers, 25, Great George-street, 8 P.M.; Zoological, Hanover-square, 84 P.M. ;

WEDNESDAY, 23 .- Society of Arts, Adelphi, 8 P.M. (antiversary); Microscopical, 21, Regent-street, 8 P.M.; Pharmaceutical, 17, Bloomsbury-square, 9 P.M.; Ethnological, 27 A, Sackvillestreet, 8 P.M.; Antiquaries, Somerset-house, 2 P.M. (anniversary).

THURSDAY, 24. - London Institution, Finsbury-circus, 12 P.M. (anniversary); Royal Society of Literature, 4, St. Martin's-place, 3 r.M. (anni-versary); Medico-Botanical, 32, Sackville-street, 8 P.M.; Numismatic, Somerset-house, 7 P.M.

FRIDAY, 25. — Royal Institution, Albemarle-street, 84 P.M.; Philological, 49, Pall Mall, 8 P.M.

SATURDAY, 26. — Royal Botanic, Regent's-park, 4 P.M.; Westminster Medical, 32, Sackville-street, 8 P.M.; Institute of the Fine Arts (Society of Arts), Adelphi, 8 P.M.

TO CORRESPONDENTS.

"County Lunatic Asylum."-Several corr spondents are anxious to learn the decision in this competition.

"A Subscriber" (Camberwell), and "T. A., next week.

"P. D." (Lambeth). — An inch superficial (4 by 3 for example) is the 12th part of a foot superficial, but a square inch (1 by 1) is the 144th part.

"A Subscriber," who asks relative to the Bellhanging at the new Houses of Parliament, should inquire of the Clerk of the Works.

"William Sugden."-We are not disposed to pursue the subject further.

"A Surveyor."-We do not see any reason why the chimney in the fourth story should not be built over the breast below.

"T. G. S." asks whether the district surveyor roof 20 feel from the house. If the roof of any building (unless insulated) be "stripped, ripped, or uncovered," Schedule G. provides that it "must be covered with slates, tiles, metal, glass, artificial

or cement," and as the district surveyor is stone, or cement," and as the district surveyor is bound to see the Act carried out, he might claim a fee even for a privy. If it be claimed, we shall be glad if "T. G. S." will let us know the sum asked,

glad if "T. G. S." will let us know the sum asked, and in which district it occurs. "Repeal of the Window-tax."—We will attend to the report of the delegates. Received.—"A Manual of Gothic Mouldings," by F. A. Paley, M.A. Van Voorst, London, 1845. A valuable little volume, to which we shall direct from medean' attention showith — A Subscriber from our readers' attention shortly.—A Subscriber from No. 1.

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three parts its own quantity of sand. **KEENE'S PATENT MARBLE** CEMENT.-The Patentees of this composition beg to refer to the British Museum, the Royal Exchange, the new works at Bethlem Hospital, Greenwich Hospital, and the Co-liseum in the Regent's-park, as buildings finished or in pro-gress, in which Kerne's Cement has been used as an internal stucco. Its superiority to common plastering consists in its extreme hardness, and the rapidity with which it dries, which them other water Cement. When employed for skirtings, architrave, and other mouldings, in place of wood, it checks dry-rot, is impervious to vermine, prevents the spread of fire, and is more eco-nomical in its application than the material for which it thus becomes the substitute. Confirmation of these statements is to be found in the all flooring in the new houses on the Hyde Park Estate, where its application is to be seen to the fullest advan-tage. In Livernool and Manchester, Kenne's Cement her in

where its application is to be seen to the third have a tage. In Liverpool and Manchester, Keene's Cement has in several cases been used for the covering of the fire-proof warehouse floors, where its lightness and hardness give it the preference over tiles and flagging, which are much heavier, and necessarily leave the floor intersected with numerous joints, whilst Keene's Cement is laid down in one unbroken surface.

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Roe, Engineer of Sewers, London. GROUND LIAS LIME, For Concrete, and every description of Hydraulie Work, for which purposes it has been used at Woolwich and Chatham Dock Yards, the London Docks, New Exchange, Hunger-ford Suspension Bridge, Westminster Bridge, Grand Junc-tion Water Works, Holborn Sewers, Regent and Grand Junction Canals, Wood Paving Companies, London and Bir-mingham Railway Company, for Works in the Alster at Hamburgh, the Kiel and Altona Railway, and various Sea Walls, &c. At R. Greaves's Works, Stockton, near Southam, War-wickshire, and at No. 2, South Wharf, Paddington, Lon-don.

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CHANTS, SHAPPERS, AND THE PUBLIC IS GENERAL. JOHNS and CO.'S PATENT STUCCO CEMENT.-The following are the positive advantages possessed by this Invention over every Cement hitherto in-troduced:-It will effectually resist Damp. It will mever regetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It as closely resembles Stone that it is impossible to detect it. It is and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sca-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Smad than any other Cement. It matures by ace, and be-comes perfect when other Cements begin to periah. It may be worked through the Winter, as froat has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Germant will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instru-tions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement on use, but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of exonomy. Architects and Builders who have used this Cement have

now in use; but with all the above-named ettraordinary and valuable advantages, nothing can approach it in point of economy. Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred. Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from zery part of the Kingdom, may be obtained on application to MANN and CO., SOLK AGENT'S for the Patentees, 8, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had, JOHN'S and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over ex-terior Walls of Houses that have beene dirty and disco-loured. It is in every way better suited for this purpose tham White Lead Paint, which will frequently come of in **Gakes**, being in direct chemical opposition with Oement; whereas MESSRS. JOHN'S and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application, —and may be used by any Painter, in any climate, even in the most exposed Marine situations.

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CHARLES JAMES THICKE, Resident Secretary. 17, New Bridge-street, Blackfrians.





SATURDAY, APRIL 26, 1845.



ANT of attention to what may be termed minor matters in the erection of dwelling-houses, sometimes leads to serious inconveni-

ence and expense. We were called in not long ago to explain how it happened, that when there was a fire in the dining-room, smoke invariably came through the joints of the floor above and from under the skirting, and rendered the spartment almost useless. Worse still, there were other rooms in the house similarly affected by other fires. On examination, the cause was obvious: the brickwork was badly done, the flues were not properly pargeted, and the smoke consequently found its way through the joints of the brickwork between the ceiling and the floor, where the walls were not plastered. This very serious defect is by no means unusual. Operatives, speaking generally, have ceased to feel interested in the production of good work ; all that they desire is to get over the ground, and very often this is the case with their masters too. The house will be sold, they hope, as soon as it is finished, and they leave the purchaser to discover the defects, and remedy them if he can.

Sometimes, the particular evil of which we are speaking is caused by the carpenters in fixing the skirting grounds; a header is driven in and a crevice formed, through which the smoke escapes. Very often, the source of the evil is discovered with difficulty, for the smoke, being confined between the ceiling and the floor, may travel to some distance, and make its appearance in an opposite direction; even when discovered, it cannot be remedied without considerable inconvenience and expense.

Considerable injury is caused to many fabrics by the want of a little care when fixing the window-cills. The atone cill is not properly weathered, and does not extend sufficiently under the wood cill of the frame, so that if the latter shrink, or the brickwork settle ever so slightly, the rain-water constantly finds its way between the two, and does serious mischief. A small fillet of mastic at the junction of the wood and stone may be applied remedially, but ought not to be needed.

To the badness of the brickwork executed at this time in the neighbourhood of the metropolis, we have alluded in our pages more than once. Hasty, bad work, induced by competition and the operation of speculative builders, has become so much the habit of our bricklayers, that it is difficult to find men capable of producing superior work, or, at all events, it is difficult to induce them to abandon their hasty, careless, mode of proceeding, and exercise the skill they possess.

The way in which the walls of the majority of houses are "blown up" now-a-days, must be distressing to those who desire to see our operatives advance in knowledge, and the arts of construction improved: half-hollow, improperly bonded, and out of perpendicular, they seem prepared expressly for premature decay and ruin. In Manchester and some other places brickwork is still practised as an art. We are not, however, now dealing with the general question of construction; our object was simply to allude to two or three minor defects in ordinary modern houses, the result merely of thoughtlessness and the want of care.

Shaking floors, which produce a running obligato accompaniment to every movement upon them, might be avoided in many cases if the strutting were properly, instead of improperly, executed. Two nails in each strut, instead of one, and the exercise of some little thought, so as to be able to wedge up the whole soundly, would often prevent a nuisance without any extra cost worth consideration, the removal of which, if incurred, might entail an outlay of many pounds.

THE ART-UNION OF LONDON.

On Tuesday last, the Theatre Royal Drurylane was filled to the ceiling by the members of this important association, to receive the report of the committee, and distribute the amount subscribed for the purchase of works of art. The house presented a most animated and elegant appearance; stage, stalls, pit, boxes, and gallery, were alike crowded with well-dressed persons; and when his Royal Highness, the Duke of Cambridge, accompanied by the Duke of Mecklenburgh Strelitz, appeared on the stage, to take the chair, precisely at twelve o'clock, his Royal Highness was received with loud and continued cheering. On taking the chair, the president briefly congratulated the subscribers on the prosperity of the association. "Last year," said his Royal Highness. "the subscription was

On taking the chair, the president briefly congratulated the subscribers on the prosperity of the association. "Last year," said his Royal Highness, "the subscription was 14,800.", this year it amounts to 15,440. Now when we consider that in the year 1837, when we began, we only collected 490. I think there is every reason for saying that we are thriving; and I most sincerely hope that we shall continue so. After saying these few words, which I trust will be satisfactory to you, I will call on the honorary secretary to read the report."

The Hon. Sec., Mr. George Godwin, F.R.S., then read the following

REPORT.

For the ninth time the committee have the great satisfaction of announcing the continued and increasing prosperity of the Art. Union of London, a more extended and better appreciation of its great objects, and clearer evidence of the goodness of its plan and working.

The subscription for the present year amounts to the sum of 15,440%. 5s., and would have been larger, but for the misapprehension that Lord Monteagle's Act (under which the present distribution is made) applied simply to the past year, and that as no fresh Act on the subject had been passed, we were not recognized by the legislature. In reality, however, the Act in question remains in force until the 31st of July next, before which time, as there is every reason to believe, the association will be placed on a firm and permanent basis by an Act of Parliament, to be brought in by the Right Hon. Thomas Wyse, as chairman of a committee of the House of Commons appointed in June last to consider the objects and results of Art-Unions, and the most expedient and practicable means of rendering them most subservient to the improvement and diffusion of art through the different classes of the community. The minutes of evidence and the report of the Parliamentary Committee have been printed, and, when made public, will doubtless afford many valuable suggestions for the future conduct of this association.

It is gratifying to find that the late agitation of the subject and this inquiry have not had the effect of changing the opinion of any early friend to the Art-Union of London, so far as is known; while it has even already induced many, who entertained doubts on the matter, to give it the advantage of their countenance. And here they cannot omit offering publicly respectful thanks to his Royal Highness the Duke of Cambridge, President, for the interest H. R. H. manifested in the successful issue of the late proceedings, and his personal endeavours on several occasions to obtain it. His Royal Highness has himself brought the subscriptions of various members of the Royal Family, and has been graciously pleased at all times to give assistance to the committee.

The list of provincial and foreign secretaries has been increased considerably, and now numbers 338. In addition to New York, Mexico, Novia Scotia, Hobart Town, Ceylon, Bombay, and Singapore, mentioned in the last report, the society has now active correspondents at Coblentz, Wiesbaden, Aix-la-Chapelle, New Brunswick, Dominica, Monte Video, La Guayra, Toronto, in Montreal, and last, but certainly not the least in importance, at Canton, in the Celestial Empire !

Canon, in the Gelestial Empire: The prizeholders of last year purchased 253 works of art, including two pieces of sculpture. These were exhibited for the usual time, at first to the subscribers and their friends, and afterwards gratuitously to the public, and were visited by 250,000 persons without the occurrence of any accident.

without the occurrence of any accident. Relative to the selection of the works of art on that occasion, it is the painful duty of the committee to reprobate in the strongest terms the conduct of one of the prizeholders, who sought unworthily to divert the funds of the association from their proper course for his own pecuniary advantage. The artists to whom he applied proved themselves men of honour and integrity, and his scheme failed. The committee minutely investigated the occurrence, and received the fullest proof that the selection ultimately made was a *bond fide* transaction, or they would assuredly have declared the prize forfeited, and allowed the subscriber to seek what remedy he might. They deemed it right, however, with a view to the attainment of the objects of the association and the protection of artists, to make the "Regulations as to selection" more stringent than they were before, and have accordingly provided that no arrangement whatever shall be made, or attempted to be made, between a prizeholder and an artist, or by any parties on their behalf, in the selection of a work of art by which a prizeholder may obtain, or attempt to obtain, the return of a portion of the amount of a prize, or other valuable consideration; that no prizeholder shall sell, or attempt to sell, the right of selection; and that should any attempt to evade the published regulations be discovered, the amount of the prize shall be forfeited and merge in the funds of the society. In this determination they are quite satisfied they will receive the support of all who appreciate rightly the real objects of the association, and they would state emphatically, it is only these they desire to find in the list of subscribers. The engraving due to the subscribers of last year, "The Castle of Ischia," will be delivered, in pursuance of the notice already sent to every subscriber, on and after the 7th of May next. "The Convalescent from Waterloo," engraved by Mr. G. T. Doo, after Mr. Mulready, R.A., due to the subsc

"The Convalescent from Waterloo," engraved by Mr. G. T. Doo, after Mr. Mulready, R.A., due to the subscribers of the present year, is approaching completion. In addition to this print the subscribers will receive for each guinea paid, a series of designs in outline illustrative of Thomson's "Castle of Indolence," made by Mr. William Rimer. The drawings have been placed in the hands of Messrs. Webb, Whitfield, H. W. Collard, and Joubert, and the engravings from them will be distributed as soon as they are completed. Every subscriber for 1846 will receive an

Every subscriber for 1846 will receive an impression of a line engraving, "Jephtha's Daughter," after Mr. O'Neil, by Mr. Peter Lightfoot, which is already far advanced, with such other advantages as the committee may be able to afford. For the subscribers of some future year the

For the subscribers of some future year the committee have been enabled, by the kind permission of the artist and of the proprietor, Mr. Willes, of Goodrest, Berkshire, to place in the hands of Mr. C. Rolls and Mr. Frederick Heath, two pictures by Mr. Uwins, R.A., "The Last Embrace," and "The Neapolitan Marriage," to be engraved by them for the society and distributed as a pair.

The committee look anxiously to the result of the offered premium of 5002. for the best original picture illustrative of English history. The cartoons are to be received in competition on the 1st of next January, and the committee venture to repeat to the artists of the United Kingdom their earnest hope, that a work will be obtained for engraving creditable to them and to the country.

to them and to the country. A statement of the engraving account, still open, will be published with this report.

In reply to the offered premium of 60% for the best consecutive series of not less than ten designs in outline, illustrative of some epoch in Biblical or British History, or of the work of a British author, nineteen sets were received, from which the committee selected a series from the "Bevelations of St. John," afterwards found to be by Mr. George Elgar Hicks, of Lymington, Hampshire, as entitled to the reward. Considering that much talent was displayed by some of the competitors, and anxious to stimulate young artists to exertion, they further awarded honorary premiums of 20% each to Mr. G. E. Sintzenick, Mr. W. Cave Thomas, and Mr. G. Scharf, jun.

With the view of inducing the production of finer and more elaborate works in lithography than are now general in this country, the committee some time ago placed in the hands of Mr. Templeton, Mr. E. M. Ward's excellent picture, "La Fleur's Departure" (selected by a prizeholder in the last distribution), to be executed on stone of a large size. As this is not yet finished, it will be made to form part of next year's arrangements.

In continuation of the society's endeavours to encourage the production of bronzes, Mr. John Bell's statue of the "Eagle Slayer," exhibited in Westminster Hall last year, has been reduced by Mr. Edward Wyon, and of this twenty copies in bronze will be distributed to-day. The thanks of the society are due to Mr. Bell for the liberal manner in which he placed this figure at the disposal of the committee. For the ensuing year Mr. Foley's statue, "The Boy at the Stream," has been reduced by Mr. Cleverton's machinery, and will be produced in bronze by Mr. Foley himself.

be produced in bronze by Mr. Foley himself. Your committee have long borne in view the connection between manufactures and art, and have felt the importance of leading one to the aid of the other. Considering the porcelain manufacture to be of considerable consequence, and greatly dependent on art, they propose to reduce a statue to a convenient size, and to issue a certain number of copies in that material. Mr. Gibson, R.A., when in England kindly offered the use of any of his works for this purpose, and the committee have determined on adopting "The Narcissus" for the first experiment, his diploma piece at the Royal Academy. Some difficulties which arose at the Academy have delayed the completion of the intention, but these are now removed, and the work will be proceeded with immediately by Messrs. Copeland and Garrett. Mr. A. J. Stothard has completed the medal commemorative of Sir Joshua Reynolds; the committee propose distributing to-day to thirty subscribers the right to receive an impression of it in silver. Any subscriber who may desire to have a copy of the medal in bronze, in lieu of the engraving for the present year, will become entitled to do so by forwarding to the office a note to that effect.

the office a note to that effect. The want of encouragement in the art of gem engraving, at present serionsly felt, has been urged upon them in several quarters. It has been shewn that we have no artists in this department capable of engraving a figure equal to those which were produced in England only a few years ago, and that there is not sufficient inducement to lead engravers to pursue such a course of study as would enable them to execute works of first-rate excellence; the committee take this opportunity to draw public attention to the fact.

Since the last meeting Thomas Griffith, Esq., M.A.; George John Morant, Esq.; W. J. Smith, Esq., F.S.A.; Henry G. Atkinson, Esq., F.G.S.; and Arthur Tooke, Esq., M.A.; have retired from the committee : and the Right Hon. the Earl of Arundel and Surrey; the Rev. Edward Coleridge, of Eton; T. C. Harrison, Esq., F.L.S.; and Mr. Serjeant Thompson; have been elected to fill the vacancies thus created.

The account of receipts and disbursements is as follows :---

| | £15,440 | 5 | 0 |
|--|---------------|----------|----|
| engraving of the year | 2,383 | 14 | 2 |
| and Printing Outlines Balance reserved for the line | 960 | 0 | 0 |
| Ditto for Medals Sum reserved for Engraving | | 0 | 0 |
| Ditto for Bronzes | 450 | - | |
| Pictures, &c | 9,650 | 0 | 0 |
| Sum allotted for the purchase o | f | 10 | 10 |
| Expenses :Clerks, Printing Advertising, Postage, &c | , £. 1,796 | 8. 10 | |
| is as follows : | | | |

The amount set apart, according to the foregoing statement, for the purchase of works of art, viz., 9650%, will be thus allotted :---

40 Works of Art of the value of 10?. each. 55 Works of Art of the value of 15?. each. 39 Works of Art of the value of 20?. each. 37 Works of Art of the value of 25?. each. 25 Works of Art of the value of 30?. each. 25 Works of Art of the value of 30?. each. 14 Works of Art of the value of 50?. each. 12 Works of Art of the value of 70?. each. 10 Works of Art of the value of 70?. each. 10 Works of Art of the value of 80?. each. 6 Works of Art of the value of 100?. each. 3 Works of Art of the value of 100?. each. 20 Works of Art of the value of 100?. each. 20 Works of Art of the value of 200?. each. 20 Works of Art of the value of 300?. each.

To these are to be added twenty bronzes of "the Eagle Slayer," and thirty medals of Reynolds. To save the time of the meeting, the medals will be allotted to the first thirty names drawn consecutively at the close of the general distribution.

The reserved fund now amounts to 1,524.2s., consisting simply of the interest on subscriptions received, the sums unexpended by prizeholders, and the profit on the sale of catalogues at the exhibition. In order to enlarge it, the committee renew their exhortations for the payment of subscriptions early in the year.

The committee are anxious to increase to the utmost the efficiency of the association.

The various new modes of multiplying works of art, the announcement of which has recently startled the public, will not be disregarded by them, so far as they may be likely to assist in spreading abroad universally works of fine art. The steam-press has made good literature cheap, and the increased demand consequent has made it cheaper still, without weakening in any degree its worth and power. The delight and instruction it gives are extended to all and lessened to none. So it should be, and will be, with art. It is recorded of Apelles that he could not enduro that a picture should have but one master; he thought that the works of great artists should be carried from one country to another, because painting "was a common good to all the world." We are told too, there was a period when such works were looked upon in Greece as public treasures, whereof the enjoyment was due to all.

In modern times the *engraver* has extended the delight afforded by the contemplation of works of art to a wide circle, and the processes now in progress of development may enable him to fulfil literally Apelles' wish, and make a fine picture a common good to all the world. If we look back hardly a century, and note the state of the arts in England at that time, the utter disregard of them which was shewn, and the prevailing opinion that Englishmen had not the qualifications necessary for the successful practice of them, and remembering what has been done since, observe the important movements now making in favour of the fine arts, we shall find reason to be hopeful. Amongst the most recent efforts in this behalf is the bill now before the Legislature to enable town councils to establish muscums of art, for the henefit of the public,—to provide galleries for the reception of

" ------ Gems of art

And genius, ravish'd from the grasp of Time." and to adopt the most efficient means of rendering them educationally useful.

Emanating as this bill does from a member of their body, Mr. Ewart, to whom, in conjunction with others, the public are greatly indebted for the establishment of schools of design, and believing that if carried out efficiently by the local authorities, public taste will thereby gradually be improved, and that much good will result, the committee feel entitled to allude to it in terms of sincere commendation. The connection between manufactures and arts is generally admitted, and has been always urged in the reports of your committee; it is assorted, that we cannot compete with foreign manufacturers in some branches of trade because of the want of knowledge of the arts of design on the part of the operatives. By providing collections in each town, of the finest casts of the ancients,—forms of perfect beauty; giving general access to them, and making drawing a part of ordinary education, we might speedily overcome this reproach, and become independent of foreign aid. The increased facilities of access to national and private collections, now enjoyed by the public, was threatened by the recent demolition of an ancient relic. The law being found defective, a proof amongst others of the indifference towards the fine arts which has been entertained by our legislature, a bill for the protection of works of art has been brought into the House of Commons, and will specify be made law; and it is to be hoped, that should any evil-disposed person commit a similar outrage, he will be punished with rigour; all have an interest in maintaining the security of works of art publicly exposed, and thereby preventing the renewal of an unjust stigma now nearly removed.

The remission of the duty on glass will be advantageous to painters in water-colours, and lead many to adorn their houses with prints, who otherwise would not have done so. The increased attention paid to the fine arts

The increased attention paid to the fine arts at our universities, the important proceedings of the Royal Commission for their encouragement, the rapid spread of a desire for artistical decorations in our buildings, and other evidence, that the love of art is penetrating the mind of the country, would afford important matter for congratulation and comment.

It is not too much to assert, that the proceedings of the Art-Union of London have greatly assisted in producing the movement now apparent, by leading multitudes to talk and think of art who otherwise had disregarded it, and obtaining a more extended consideration of its value and uses. It will be the duty of the committee, as it is their pleasure, to aid in giving this movement a right direction, and they call upon the subscribers, and they call upon artists, as they have before done, zealously to assist them in the endcavour.

upon artists, as they have before done, zealously to assist them in the endeavour. "The great end of art," says a philosophical writer of the last century, " thas been so little considered, that many are accustomed to look on pictures as they would on rich hangings. It is true, that some kinds of pictures, like some kinds of books, can do no more than please. But the first object of high art is no more to be ornamental than the first object of an author is to decorate a library. Like poets, historians, and philosophers, painters have the power of instructing whilst entertaining the mind." To painters we say, exercise this power, produce works to teach as well as please, and rouse art to her proper station amongst us; and to the public we say, purchase these works when produced and so lead others to follow the right path,—to advance the character and increase the enjoyments of their countrymen. Seek excellence in every department, from the lowest to the highest, and remember, that by rewarding mediocrity to the exclusion of genius which may await your assistance, you depress talent and commit injustice.

Let us all bear in mind, that the great olject of our association, is to elevate and diffuse art.

GEORGE GODWIN LEWIS POCOCK. Hon. Secs.

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The cheering which followed the report having subsided, the Duke of Mecklenburgh Strelitz, moved that the report be received, and Sir C. Hopkinson seconded it. The motion being carried by acclamation, Mr. Uwins, in a very eloquent speech, moved a vote of thanks to the committee and officers; as an artist, he said, he was proud to stand forward to give expression to the gratitude that was felt by the whole body. Mr. Cooper, R.A., seconded the motion, and it was carried by acclamation.

Mr. W. H. Rosser, F.S.A., and Mr. Fred. Haggard, having consented to act as scrutineers, and Miss Royds and Miss White, to draw the prizes, the distribution commenced, and his Royal Highness then vacated the chair in favour of Mr. B. Bond Cabbell, F.R.S., and retired amidst loud plaudits.

The following is a list of the principal prizeholders :---

Lord F. Beauclerk, 68, Grosvenor-street; Sir F. Berry, Bombay - each 300/

E. Perry, Bombay, —each 3007. Rev. A. R. Lloyd, Whittington, Owestry: Mrs. A. Packe, Caythorpe rectory, Grantham, each 2007.

J. Jarman, Half-moon-street, Bishopgate; G. Twiss, Cambridge; W. F. Watson, Chelsea.

each 150/. C. Claydon, Cambridge; W. Gow, Hungerford

* Richardson's "Art of Criticism."

Wharf; W. M'Donald, Queen-street, Glasgow; H. S. J. Medley, Farringdon; Lady A. Paget, 1, Old Burlington-street; E. Shepheard, Coventry, ---each 100/.

--each 100?. F. Allen, Pershore ; B. Brown, George-yard, Lombard-street ; Henry Brown, Boughton, Chester ; H. W. Dobell, Sussex-square, Kensington ; A. G. Fraser, Halifar, Nova Scotia ; P. H. Green, Manchester ; W. Keary, Stoke-on-Trent ; J. Wayer, Astley-crescent ; E. Westall, Croydon ; B. Williams, Waterloo-place,--each 80?.

liams, Waterloo-place,—each SU.
J. Burton, Princes-street City; Miss Connell,
36, St. James's-place; W. Crystall, Greenwich;
W. Davidson, Glasgow; C. Dolman, Birmingham; W. Durant, Saudringbam, Norfolk; F.
Hooper, Worcester; H. Senior, Eye, Suffolk;
Mrs. Staple, Pimlico; Mrs. J. J. Stone, Kensington-terrace, Bayswater,—each 70l.
J. Cobbold, Ipswich; T. Dakin, King-Williamstreet; A. L. Davies, Carmarthen; E. Dickinson,
Jerusalem Coffee-house; S. E. Doidge, Bideford;

J. Cobbold, Ipswich; T. Dakin, King-Williamstreet; A. L. Davies, Carmarthen; E. Dickinson, Jerusalem Coffee-house; S. E. Doidge, Bideford; G. Harcourt, Chertsey; A. G. Niner, Regentstreet; Mrs. Paget, St. John's wood; H. Renshaw, Strand; C. Rickards, Piccadilly; C. H. L. Woodd, 108, New Bond-street; T. Workman, Basingstoke,—each 60/. E. Ballard, Islington; W. B. Bull. Newport

Basingstote, --each ou. E. Bailard, Ialington; W. B. Bull, Newport Pagnel; J. Carrington, Potham, Beds; Miss Colquhoun, Walmer-lodge, Avenue-road; Halstead, Chichester; W. Howlett, Kirton Lindsay; G. K. Lancaster, Stafford-cottage, Windham-road; T. Longman, Paternoster-row; M. B. M'Farlane, Cheapside; A. M'Leod, Halifax, Nova Scotia; J. G. Plainer, Helston; J. Stewart, Bank of England; Mrs. Veal, Barnstaple; Lady Whichcote, Buckingham-each 50/.

England; Mrs. Veal, Barnstaple; Lady Whichcote, Buckingham—each 501. D. W. Alexander, Halifax; Miss Armstrong, Stafford; A. Attwood, Gracechurch-street; W. Beckwith, Isle of Man; Mary A. Clarke, Durhamstreet, Strand; A. Dawson, Old Broad-street; T. Furguson, Mill-wall, Poplar; T. M. Gresham, Dublin; E. Griffith, Newton; E. Hunt, Southampton; Dr. Jones, Chester; T. Leftwich, Cumberland market; W. F. Moore, Isle of Man; J. Patten, Paddington; F. R. Perkins, Chipstead-place, Sevenoaks; G. Phillip, Liverpool; R. R., Dunchurch; A. Rowbotham, Market-place, Sheffield; Sir M. A. Shee, P.R.A., Cavendish-square; J. Simpson, 43, Newington-place, Kennington; J. Smith, 49, Long Acre; W. Stone, Darwin-street; J. Symonds, Warrington; Mrs. S. Wade, St. Albans; J. Watt, Wych-street,—each 400.

Thanks to the young ladies who assisted in the distribution, moved by Dr. Dickson and seconded by Mr. Wyndham, and to Mr. Bunn, for the liberality with which he had placed the theatre at the disposal of the society, moved by Mr. Noble and seconded by Mr. J. S. Gaskoin, were carried unanimously.

Alderman Wilson proposed a vote of thanks to the honorary secretaries for their exertions in promoting the interests of the Institution, which was seconded by Mr. Cabbell (the chairman), and passed unanimously.

SUSPENSION BRIDGES.

SUSPENSION bridges appear to be of very ancient origin; travellers have discovered them in South America, in China, in Thibet, and in the Indian Peninsula. They are mostly met with in mountainous regions, and being suspended across a deep ravine, or an impetuous torrent, permit the passage of the traveller when the construction of any other kind of bridge would be impracticable. It is not, therefore, from the celebrated nations of antiquity that the engineer has derived his first hints for the construction of suspension bridges, as neither Greece, Rome, nor Egypt is ever known to have had one, but from rude and unpolished people, the results of whose ingenuity we proceed to describe.

In South America there are numerous rope suspension bridges formed of the fibrous roots of the great American aloe (Agave Americana). The roadway is formed by covering the ropes transversely with small cylindrical pieces of bamboo. The bridge of Penipi, erected over the river Chambo, is 120 feet long and 8 feet broad; but there are others of much larger dimensions.

The utility of these bridges in mountainous countries is immense. Humboldt mentions that a permanent communication has been established between Quito and Lima by means of a rope bridge of extraordinary length, after 40,000*l*, had been expended in a fruitless attempt to build a stone bridge over a torrent, which rushes from the Cordilleras of the Andes. This is erected near Santa, and travellers with loaded mules pass over it in

safety. A rope bridge will generally remain in good condition twenty or twenty-five years, though some of the ropes require renewing every eight or ten years. But composed of stronge and more durable materials than the twisted fibres and tendrils of plants, suspension bridges are found to exist in remote and semi-barbarous regions. In Thibet many iron suspension bridges have been discovered, and it is not improbable that in countries as little known and isited by Europeans, others may exist of which Turner, we have as yet received no accounts. in his "Embassy to the Court of Thibet, mentions a most remarkable bridge of this description, stretched over the Tehintchien, situate about eighteen miles from Murichom. "Only one horse is admitted to go over it at a time; it swings as you tread upon it, re-acting at the same time with a force that impels you every step you take to quicken your pace. It is constructed of five chains, which support the is constructed of new chains, which support the platform, and on which chains are placed several layers of strong, coarse mats of bamboo, loosely laid down, so as to play with the swing of the bridge; a fence on each side further secures the passenger." The date of the erection of this bridge is unknown to the inhabitants of the country, and they even ascribe to it a fabulous origin: its length is about 150 feet. In Kircher's "China Illusabout 150 feet. In Kircuer's County Inte-trated," there is a very clear description of a Chinese iron-chain-bridge. "In the province of Junnan," says he "over a valley of great of Junnan," says he "over a valley of great depth and through which a torrent of water runs with great force and rapidity; a bridge is said to have been built by the Emperor Mingus, of the family of Hama, in the year of Christ 65, not constructed of brickwork or of blocks of stone cemented together, but of chains of beaten iron and hooks, so secured to rings from both sides of the chasm, that it forms a bridge by planks placed under them. There are twenty chains, each of which is 20 perches, or 300 palms in length. When many persons pass over together, the bridge vibrates to and fro. It is impossible to admire sufficiently the dexterity of the architect Sinensius, who had the hardihood to attempt a work so arduous and so conducive to the convenience of travelling."

Another suspension bridge in China is described in the sixth volume of the "Histoire general des Voyages." The following is a condensed translation :---"The famous iron bridge (such is the name given to it) at Quay-Chen, on the road to Yun-Nan (Junnan?), is the work of an ancient Chinese general. On the banks of, and stretching over the Pan-ho, a torrent of inconsiderable breadth but of great depth, a large gateway has been formed between two massive pillars 6 or 7 feet broad, and from 17 to 18 feet high. From the pillars at each end four iron chains extend, on this bridge of chains thick planks laid across formed a platform. The whole is covered by a roof which rests its ends on the pillars at each side of the bank."

Scamozzi speaks of suspension bridges existing in Europe in the beginning of the 17th century, but it is very questionable if the term he employs designates the same structure as that to which it is now applied. On the Continent no suspension bridges seem to have been erected save those of recent date, and in England the oldest bridge of the kind is believed to be the Winch Chain Bridge suspended over the Tees, and forming a communication between the counties of Durham and of York. Mr. Ste-phenson (Edinburgh Philosophical Journal for October, 1821) conjectures that the date of its erection was about 1741. It is or was (for we do not know whether it is still in existence) about 70 feet long, and rather more than 2 feet wide. The roadway was supported immedi-ately by the chains which were stretched into a nearly straight line, and were steadied by in-clined ties from the banks below. A hand-rail was added on one side only for the protection of the passengers whose footing Was far from steady. But few suspension bridges and those of minor importance were erected in Great Britain before the construction of the celebrated Menai Bridge. Drewry ("Memoir on Suspension Bridges," 1832) mentions one across GalaWater, which was made of thin wires, at a cost of only about 40%, although its span was 111 feet. It was erected in 1816 by a manufacturer named Lees of Galashiels. Another wire bridge, of about the same length, was built in 1817, across the Tweedat Kings Meadows, at

* See Navair. " Memoire sur les Ponts Suspendus."

an expense of 160*l*. The platform was 4 feet wide, and was sustained by wires radiating from the tops of two cast-iron columns at each end of the bridge. The columns were cast hollow, and within each of them was placed a verticle bar of wrought-iron 2½ inches square, to which the wires were immediately attached. Other bridges were built upon this principle, which, according to Navier, was suggested many years before by a Frenchman of the name of Poyet.

which, according to Navier, was suggested many years before by a Frenchman of the name of Poyet. In 1817, Captain (now Sir Samuel) Brown, obtained a patent for an improved method of constructing chains for suspending the roadway, and three years afterwards, had an opportunity of testing its merits in the erection of the Union-bridge across the Tweed, near Berwick, which was opened for use in July, 1820. The length of the chord-line between the points of suspension on the tops of the towers, is 449 feet, and the deflection is about 30 feet. On the 10th of August, 1820, the first stone was laid of the Menai Bridge, a noble monument of the scientific skill of the late Thomas Telford. In January, 1826, preparations were made for opening the bridge, and on Monday, the 30th, the mails drove over it for the first time. Shortly after, however (February 6th), a tremendous gale did considerable damage to the iron-work, and repeated gales during the spring, tended greatly to retard the necessary operations in repairs. But no inconvenience has since been felt, and there is reason to believe, that with ordinary care and attention this noble structure will last for ages.

In 1821, Captain Brown commenced the Trinity Suspension Pier at Newhaven, near Edinburgh, which consists of three spans of 209 feet each, with 14 feet deflection. He also constructed the Suspension Pier at Brighton, which consists of four openings of 255 feet each with a deflection of 18 feet.

In 1824, Mr. W. Tierney Clark commenced the Hammersmith Suspension Bridge, the first erected in the vicinity of London. The central opening has a chord-line of 422 feet, with a deflection of 29 feet 6 inches. This bridge was opened for use in 1827.

Was opened for use in 1027. In 1828, Captain Brown commenced a large suspension bridge over the South Esk, at Montrose, the chord-line of which is 432 feet, and each chain extends 115 feet from the centre of the tower to the farthest end of the chamber of masonry, in which its end is secured.

After the completion of the Menai Bridge, others on the suspension principle began to be universally adopted throughout Europe, but it was not till iron-wires had been proved to be more firm than bars of a greater thickness, that these bridges received their most extensive apnlications.

plications. Since 1821, Messrs. Sequin have constructed more than fifty wire-bridges in France with great success.

In a recent number of the *Pittsburgh Chronicle*, is the following account of a suspension wire bridge, now being constructed over the Alleghany :---

The suspension ropes, which extend from pier to pier in the form of an inverted arch, are to consist of seven strands of wire, each strand being about 3 inches in diameter. The ropes will then be wrapped in annealed wire (No 14) which will render it one solid mass, and as each individual wire is varnished before it is put across, and as the whole will be painted when finished and wrapped, it will be impervious to water, and consequently not liable to be weakened or impaired by the weather. On these two immense wire ropes the structure is to be suspended. But this is not the only reliance for strength. The trunk is to be constructed from pier to pier—the sides being of solid lattice-work — that is, strong beams placed in this form—XXX. The beams are to be placed contiguous to each other for greater strength, so that when finished the trunk alone, without the wireropes, will be a firm and strong structure, capable not only of sustaining its own weight, but also of bearing up as much additional work as a lattice-work bridge without arches. The ropes being suspended across strong stone towers placed upon the piers, are in fact, inverted arches, capable of sustaining more than double the additional weight which the letting in of the water would place upon the trunk; the trunk itself is an independent, strong, and immovable structure, so that when

THE BUILDER.

finished the aqueduct will not be liable to be moved either from the swell of water or the effect of storms. The wires are carried across effect of storms. The wires are carried across the river, from one pier to another, by a wheel which traverses the whole distance upon ropes, unbinding the wire from the reels as it goes. The ropes are moved by horse-power. The splices of the wire are made by placing the two ends together and winding them with fine annealed wire, and it is done so strongly, that sufficient force will break the wire, but will not affect the splice. affect the splice.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

MATTERS at present remain in statu quo, but we understand efforts are about being made to effect a junction of the two parties; we heartily wish success to the endeavour.

Relative to the account we gave of the un-fortunate dissensions in the committee (p. 170

been the first to have objected to it, that in justice to myself, your words 'trumpery, wind-bag, and sputter,' are very incorrect represen-tations of my purity of motive and mildness of manner towards Mr. Wright, when, on De-cember 11th I 'suggested that the detailed account of the proceedings of the association at Contachury, beaut to be given in the Arahm at Canterbury about to be given in the Archæ-ological Album (a new periodical to be edited by Mr. Wright) should be prefaced by a statement that such account is unauthorized by this committee,' and I beg to inform you, Sir, that to prove that there was no 'trumpery' (tromperie — deceit) on my part in so doing, I had previously told Mr. Wright by letter, that I 'considered it (' the Album') a kind of poaching on the manor of the committee, and should call their attention to it;' and, moreover, that the president on that day publicly and in a letter soon afterwards sent from his lordship to me privately, said, 'I cannot but consider that your conduct is invariably based upon a conviction that the principles upon which you

Allow me now to say a few words on your observations. The 'great faults' were our not having any laws to guide us but those of honour.

If on the minority's side are the two first founders of the association, the two next founders, myself and Mr. Way—who is certainly the most influential founder in every respect, and also one of the honorary secretarieson the majority's side.

I fear, however, that from the rash and illegal proceedings of Mr. Pettigrew's meeting in Leicester-square, that his minority branch can never be rejoined to the majority of the comité. But neither, therefore, are its objects 'wrecked' nor have 'some of the authorities at Winchester' refused their assistance at the conwinchester' refused their assistance at the con-templated meeting there in September, of the majority's party, for on the contrary, from the town clerk to the dean, every gentleman connected with that city and its cathedral has subscribed his money and hearty interest towards the said meeting. And though some members of the sub-

And though some members of the association may now be perplexed, and imprecase 'a plague on both our houses,' and others have been seduced by the activity and cleverness of the minority to go astray, very many are re-turning to their old fold, so that I have no doubt that your 'tangled web' will soon be un-ravelled, and that even in your estimation will raveiled, and that even in your estimation with again shine forth as untarnished as ever (and I hope surmounted with the union flag), your so called 'trumpery Peg.' Yours, dear Mr. Editor, most truly, W. BROMET, M.D.'

Our good friend, the writer of the above letter, will see, on reconsideration of the article in question, that the terms to which he objects do not apply to himself or any other indi-vidual, but to the proceedings generally which caused the quarrel, and that we see no reason for designating them by any more dignified words than those we have used. Our statement, however, is before the public, and they can judge for themselves : its correctness has been admitted by partisans on both sides, and

the Doctor himself does not offer the slightest contradiction to it, excepting as to our asser-tion that some of the authorities at Win-chester have refused their assistance at the contemplated meeting there, and this, we fear, will be found quite true notwithstanding the denial. It is stated by persons in whom we have perfect confidence, that the other party have actually received pressing invitations to meet at Winchester; and we mention it simply as shewing how likely it is that the interests of the association will suffer if a coalition be not effected before the proposed meeting is held.

NEW SOCIETY OF PAINTERS IN WATER COLOURS.

On Saturday last, we attended the private view of the eleventh exhibition of this society, view of the eleventh exhibition of this society, previous to its being thrown open to the public, and perceived with gratification that it had not degenerated from its usual ex-cellence. There are not so many large pictures, which is accounted for by the small degree of patronage bestowed on this branch of art. There is great improvement in the choice of subjects (half the battle by-the-by), and four milk maids and fewer milk-maids, plough-boys, and the

like, than are sometimes seen. Our attention was at once attracted by the Our attention was at once attracted by the gorgeous colouring of No. 81, by L. Haghe, "Ferdinand visiting Rubens at Antwerp," which is almost equal to that great colourist himself. The drapery of Ferdinand, yellow and crimson, contrasted by the light blue scarf, tells most forcibly by the side of the soberly-clad Rubens. This drawing is on the whole a triumph, and merits the greatest compliment we can pay to Mr. Haghe. Mr. Warren's nicture "The Crusader's

Mr. Warren's picture, "The Crusader's first sight of Jerusalem," is of the highest class, and full of beauties, but wants in parts this artist's usual depth. A certain filmsy transparency about some of the figures may be considered questionable.

be considered questionable. A palpable instance of improvement is No. 61, "The Prisoner of Gisors," by E. H. Wehnert; the conception of which is re-markably fine. There is a solemnity of tone about it suitable to the story, which is un-exceptionably treated, and the work altogether is worthy of the subject. It is one of the cleverest pictures in the gallery. "Bianca and Lucentio," by the same artist, is originally treated, but will not sustain a comparison with the former. No. 244, from "Le Juif Errant," is by E. Corbould. The horse is well drawn and coloured, more particularly the head, also the veteran soldier; but we cannot say the same of the young ladies.

the young ladies. Mr. Absolon's "Judgment of Midas" is Mr. Absolon's "Judgment of Midas" is a careful drawing, beautifully finished. The two girls on the left-hand side are truly ex-quisite, and will enhance the artist's reputation. Mr. Kearney's picture of "John Knox and Mary Queen of Scotts," is weak and insipid. Mr. Duncan has produced a gem in his (No. 194) "Shrimpers." The effect of the sun is managed most marvellously. "Sheep-washing" (212), is another beau-tiful specimen.

tiful specimen. 266. "The Ascension," by Mr. Corbould, is

266. "The Ascension," by Mr. Corbould, is a very clever little drawing, well composed. The group of cherubim that encircle the Messiah is very beautiful, and contrasts well with the depth of the apostles' draperies. "Returning from Market," and "The Gleaner," have both great merit as to drawing and colour, but are depreciated by effeminacy and wfictation of treatment

and affectation of treatment.

Absolon's pictures, (227) "From Izaak Walton," "Spring" (16), "Summer" (274), and "From the Fair Maid of Perth," need no other eulogy than that they are quite worthy

other eulogy than that they are quite worthy of the artist. "A Street in Fougéres, Brittany" (9), "Doorway, Rouen" (197), "Tower of Rouen Cathedral" (151), and "Dinant on the Meuse," are by R. K. Penson. This artist excels par-ticularly in architectural drawings, which he gcts up with boldness and skill, without the angular and crude appearance predominating in ordinary pictures of this class. 181. "The Old Gate House, Rotterdam," by G. Howse, is another excellent architectural drawing in a very different style, the whole picture made out with that remarkable clear-ness peculiarly the artist's own. The colour-

ing is warm and effective, a rich brown predo-min ating. There are many other smaller productions of this clever painter, interiors and architectural bits, the majority of which

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and arc excellent. Two pictures by H. Weigall, from Bloom-field's "Abner and the Widow," are well worthy of attention for truth and domesticity. "The Age of the Horse" (in 133) is carrectly portrayed

portrayed. "The Ring," by A. H. Taylor, is a pretty picture, but we should advise him to avoid such works as "Playmates" (125). Mr. Jenkins has considerably distinguished himself. "The Vaunt," "Light from Burns," "Jeunes Filles," "Jouant aux Gazelle," "A Sunny Moment," "La Fille de Fermier," and "Jealousy," are highly characteristic of this artist's style—original, yet somewhat affected. Among the landscapes of H. Jutsum are some lovely bits, remarkable for the coolness of shadow

lovely bits, remarkable for the coolness of shadow and decision, yet here and there overdone.

Topham has this year made rapid strides wards excellence. His style is very slight, Topham has this year made rapid struces towards excellence. His style is very slight, and the effect produced by mere washing is next to miraculous. The picture of "Pilgrims to the Holy Well," is full of truth and feeling, the posé of the girl in the immediate fore-ground easy and graceful, and the effect of the whole broad clear, and harmonious.

ground easy and graceful, and the effect of the whole broad, clear, and harmonious. No. 112, from English History, by H. P. Riviere. A work of promise. The subject, "Gregory and the Saxon Slaves." If more attention had been paid to the hands and feet, and perhaps the drawing in general, the picture would be entitled to great praise. Mr. Campion's "Waterloo" is an elabo-rate work: the distance well managed, but the action of the picture is rather monotonous. "Christians," by Aaron Pealey. A pisture of deep sentiment and impressive argument. The bead of the female is most carefully stippled up.

stippled up.

The bead of the genale is most carefully stippled up. Amongst the landscapes, we particularly noticed No. 276, by J. M. Youngman, "Dis-tant View of Malvern Hills, Departing Day," by Aaron Pealey; "A Wild pass in the vicinity of Harlech," by Thomas Lind-say; "Mayence," by J. Fahey, "The Curfew tolls the knell of parting day," by H. Ma-plestone; "Cottage near Bettws y Coed, North Wales," by David Cox, jun.; "Rising Moon from Greenwich Park," Thomas Lind-say; two of "Kenilworth Castle," by H. Warren; "Maude Castle, Aberdeenshire, sunset," by Aaron Penley; "Water Mill near Streatly," H. Maplestone; "On the River Llugwy, North Wales," David Cox, jun.; "Lochen-y-gair, Aberdeenshire," Aaron Pen-ley; and several "Garden Scenes," by G. Dodgson. The "Marine Pieces," chiefly by Robins and Callow, have great excellence.

INSTITUTION OF CIVIL ENGINEERS.

ATMOSPHERIC RAILWAYS APRIL 15th .- Sir John Rennie, President, in the chair.

The paper read was by Mr. Berkley, Associate. It consisted rather of a series of questions on the "peculiar features of the at-mospheric system," than an expression of any mospheric system," that as expression of any peculiar views on the subject; and had for its object to elicit clearer and more positive opinions of the leading members of the pro-fession upon the comparative practical advan-tages and disadvantages of the atmospheric red locamenting enters

tages and disadvantages of the atmosphere and locomotive systems. The chief points which were raised con-sisted of the mechanical difficulties in the ap-plication of the atmospheric system to level crossings and sidings, and the performing the work at the stations, &c., which, in spite of the ingenious device of the talented engineers who had adopted the system, appeared to entail considerable cost and complexity. entail considerable cost and complexity.

The advantages and economy of frequent trains on short lines were admitted, but it was stated that the same plan could be effectually practised with locomotive engines without any disadvantage or risk. For a long time the necessity and benefit of the plan was questioned.

It was shewn that greater safety did not exist even on single lines when the circum-stances were equal, and if the electric tele-graph was applied to each; in fact, that when the whole position was considered, the balance of advantage of probable freedom from ac-cident would appear to be somewhat in favour of the locomotive system.

That greater speed also had not been usually attained; or that, if attained at all, it must involve "inordinate cost."

The facility for surmounting steeper gradients was questioned, and the inference drawn, that the enormous first cost would confine the application of the atmospheric system to the same narrow limits as were occupied by other stationary systems of traction: and that it must be classed with them only as a means of overcoming lengths of such bad gradients as did not come within the limits of locomotive power, or where the lines were short, and the traffic was great, terminal, and simple.

In adverting to the cost of maintenance of the line, the comparative advantages of the two systems were examined, and it was argued that it was fallacious to compare the expense of keeping up the Dalkey line, which was excavated in rock, and resembled an "un-covered stone drain," with that of maintaining the Dablin and Kingstown Railway, which was a sea-embankment stretching across a part of the bay, and on which the passage of the trains was not unfrequently stopped by the inroad of the waves.

A careful examination was entered into of the difficulty of removing the earth from slips, or doing any of the usual quantity of contractors' work on the line without having recourse to locomotive power; on this point the observation of Monsieur Legrand, the French Minister of Public Works, might be quoted. On his return from inspecting the Dalkey Railway, he said that there could not be any doubts of the applicability of the atmospheric system to some positions, and probably with advantage; "mais après tout il fallait avouer ce n'etait pas un cheval à la main, comme la machine locomotive."

Numerous other points were strongly in-sisted upon: Mr. Robert Stephenson's report was frequently referred to and quoted, and the most eminent engineers were called upon, whether they had adopted or rejected the system, to give the facts and arguments by which their decision had been influenced.

In the discussion which ensued, the theory propounded by Dr. Robinson in his recent exa mination before the Parliamentary Atmospheric mination before the Parliamentury Atmospheric Railway Committee, that "a steady uniform height of barometer had nothing to say to the velocity," or did not indicate, as Mr. Stephen-son had stated in his report, "a maximum eniform velocity," was examined, and it was generally admitted that the case which he proposed, in illustration of his theory, was prac-tically impossible, and was entirely irrelevant to the subject. The supposition of the exto the subject. The supposition of the ex-istence of a perfect vaccuum in front of the piston would entirely throw aside the question of the uniform action of the machinery, with an accelerating motion of the train, which, it was shewn, must produce an unsteady height of the barometer, the condition of a steady height could not exist unless both the power of the resistances due to the velocity were either equally irregular as regular; in either case an exact balance being maintained.

In Mr. Stephenson's experiments at the Dalkey Railway, the circumstances of regular power and steady height of the barometer were shewn to exist simultaneously, and the inevitable inference was that a regular uniform maximum velocity was attained. Dr. Robinson's case was allowed to have been stated only for the sake of argument before the com-mittee, but a practical inconsistency in Mr. Stephenson's experiments of a steady height of barometer with a slight accelerating velocity, was put forward as condemnatory of his report, on the supposition that it was more practicable to note correctly the velocity of the train than to observe the indication of the barometer, and that the true reason for this slight acceleration was the shortness of the Dalkey line, and that hence no accurate result could be arrived at.

The question of the loss arising from the evolution of caloric in the air-pump due to the condensation of the air, from its rarified condition in the tube to the density of the atmosphere was considered, and was generally admitted to be at least as great as had been stated by Mr. Bergin in the discussion of the subject during the last session.

The further discussion of the question was adjourned until Tuesday evening, the 22nd iest.

THE EVILS OF INTERMENT IN TOWNS.

WE mentioned in page 173 that the House of Commons had come to the resolution that the practice of interment in large cities is injurious to the health of the population, and demands the attention of Parliament. The following is a summary of the discussion which preceded it

Mr. Mackinnon stated that three years ago, when he first brought forward this subject in Parliament, he had been met with jeers and laughter, and a statement that his notions were quite absurd. There had been a great change of opinion since that time; and a strong feeling now pervaded the country that there was a paramount necessity for making some alteration in our laws with respect to interment. He then referred to the fact that three commissions had been appointed by the Go-vernment, and that one committee had been appointed by the House of Commons, to inquire into this subject, and read extracts from the different reports which they had presented, for the purpose of shewing that they had all been of opinion that the practice of interment within the walls of large towns was most injurious to the health of the public. He read a letter which he had received from Mr. Brace, of Surrey-street, Strand, containing some startling particulars as to the abominations of Enon Chapel, and told the House, that if it were of opinion that such a plague spot should continue in the centre of the metropolis, it would be difficult for it to justify its conduct. There was no other civilized nation in the world in which this practice of interment within the precincts of large towns continued to exist; and he thought it a most disgraceful circumstance that we should persist in a practice so abhorrent to human nature as to bury the dead in the midst of the living.

Sir James Graham said he was aware how closely the subject was connected with the feelings of the humblest classes of the communetwide the number classes of the commu-nity, and therefore it was that he paused before he legislated on it. The example of foreign countries on this point was inapplicable to our own; for there various artificial means to facilitate the decomposition of dead bodies were employed, which would not be permitted It was a difficult thing to say that a here. man should not be buried where his relations were buried before him; and any legislative measure which should be founded on such an interdict would interfere with warm feelings which ought not to be hastily violated. He looked upon it as a gross exaggeration to say that our practice of interment in our large towns was abhorrent to human nature and made foreigners view us as savages and barbarians. He knew that the practice was said to be incompatible with the public health; but he could scarcely believe the assertion to be well founded, when he reflected that there was no other metropolis in the world in which the state of the public health was so satisfactory as it was in London. He demurred to the assertion that health was endangered by residence near a churchyard, and told the house that the Bishop of London had resided for some years in Bishopsgate-churchyard, and had informed him that he and his large family had never enjoyed better health than they did during their residence in that spot. Mr. Mackinnon had complained of the inde-cent proceedings in Spatields. He had ordered a proceedings in the commenced sprains the a prosecution to be commenced against the parties concerned in them; and if the facts were proved, he had no doubt that the law would be able to grapple both with the offence and with the offenders. So, too, in the case of Enon Chapel, which appeared a very fit case for further inquiry. He was afraid that if the House proceeded to put a stop to these proceedings, and also to the practice of intermural interment by any very stringent enactment, public feeling would be strongly excited against it. He did not assert that this subject might not hereafter come under the purview of the Council of Health; but he had carefully abstained from placing it under their jurisdic tion in the first instance, lest prejudice should be created against the council by its having such a duty assigned to it. He spoke in terms of warm approbation of Mr. Chadwick's re-port; but the proposition of that gentleman had convinced him more than any thing else of had convinced him more than any thing else of the difficulty of legislating ou this matter. He believed that the adoption of the measures re-vol. ii. p. 175.

would be generally repudiated by the country. He denied that the church was opposed to any alteration in the mode of our interments, and stated that the Bishop of London had turned his attention to the subject and intended, he believed, to introduce a measure upon it. But caution must be observed in adopting it. If he had matured a measure on the subject, he would have introduced it to Parliament; but he had not, and until he had done so, it was his duty to attend to the measures introduced by others.

Mr. Bernal thought that the Government would not be justified in postponing for more than another session a measure for curing some of the evils of the present system. He recommended Sir James Graham to close the cemeteries of the parishes of St. Clement and of St. Anne, and of some other populous parishes in the metropolis, as such a measure would be productive of the greatest benefit to the working classes.

Dr. Bowring said that Spain, Germany, France, and all the countries of the east, had removed their places of interment to a distance from their large towns, and recommended the house to follow their example. He thought that the objection to such a course rested on the fees which the clergy would lose if such a proposition were adopted, and advised the house to buy off their opposition by granting them an adequate compensation.

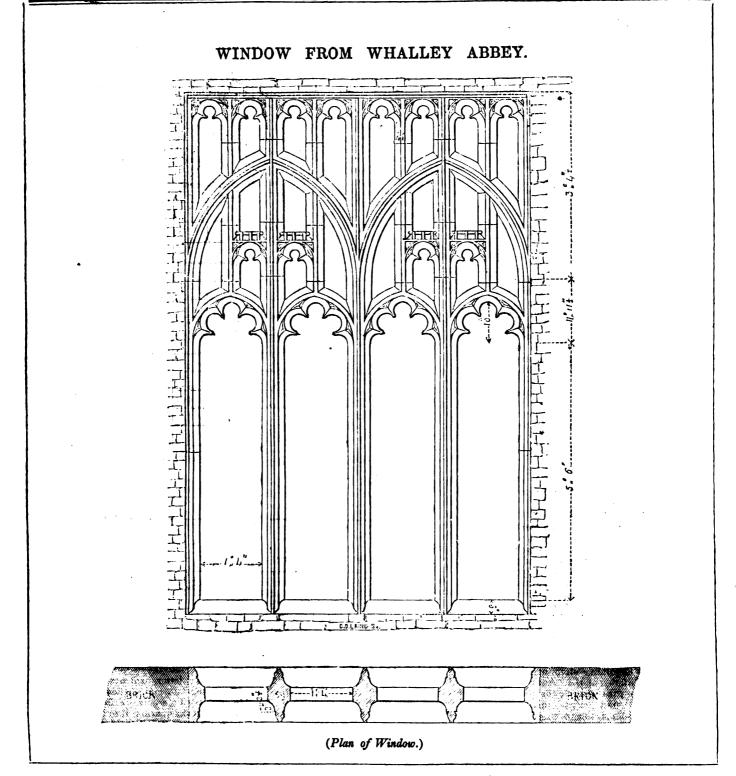
Lord Mahon, after making reference to his having been a member of the committee appointed to examine into this subject, said that it appeared to him that Sir James Graham had not exaggerated the difficulty of this subject, but that he had greatly underrated its importance. No question was more es-sential to the health of large towns than that which Mr. Mackinnon had that evening laid before the house. The Government was pre-paring measures for the better ventilation and draining of large towns; but those measures were but trifles in comparison with that referred to by Mr. Mackinnon. Of what avail would any measures for the better ven-tilation of a large town be if the air passed through the miasma of crowded churchyards? And of what avail would any measure for its better drainage be, if the water which flowed through the streets were tainted with the drippings and distillations from buried corpses l

The Earl of Lincoln pressed upon the attention of the House the necessity of considering all the difficulties which attended legislation upon this subject. He believed that the feelings of the poor would be found opposed to any plan for removing the place of burial to any distance from their towns and villages.

Sir R. Inglis said that the difficulties with which they were met in attempting to legislate upon this subject arose from the neglect with which the religious polity of England had been treated by every Government for the last century. The remedy was to be found in the extension of the parochial system for the living, and also in its extension for the dead. He thought that parishes ought to be empowered to join and purchase burial-grounds for the poor.

Sir James Graham in addressing the House a second time attempted to shew that the remedies which had been proposed for the pre-sent system, and which were founded on the practice of foreign countries, were most of them inapplicable to the present state of society in this country. He thought that it would not be impossible to get over the difficuliies of the clergy on this subject; but it, perhaps, would not be so easy to overcome the objections of the Dissenting clergymen, who had burialgrounds attached to their chapels, and who derived from them a benefit which they shared in common with the rest of their congregation. He would gladly aid any member who would bring forward a bill upon this subject; but he had stated to the House the difficulties which environed any legislation upon it, and he confessed that he did not know how to remove them.

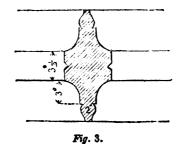
BUILDER. THE



WINDOW FROM WHALLEY ABBEY.

S1R,—As there have been through the medium of your highly-valuable journal many delineations of beautiful and interesting remedium of your highly-valuable journal many delineations of beautiful and interesting re-mains of ancient architecture of this country, I as one, who feel interested in the study of such, have ventured to send the enclosed sketch from Higher Hall, Samlesbury, which is about five miles east-north-east from Preston, and is the property of F. R. Gall Braddyll, Esq., of Cowishead Priory, near Ulverston. This hall formerly belonged to the South-worths' family, and was erected between the years 1532 and 1545, by Sir Thomas. The chapel, or south end, possesses a window, brought from Whalley Abbey, of which the above sketch is a representation. The inside of the hall contains richly-moulded beams and rafters of oak; the joists lie parallel to the beams, as if disdaining their support. There is a very good chinney-piece in the kitchen, bearing the date of 1545, with escutcheons and foliated work. The brick-work is one of the earliest specimens in the whole manor of Samlesbury. Several heads in panels did occur, but many of them have been carried off piecemeal. The principal part of this hall consists of framed timber-work, of which there are many specimens in this country. vork, of which there are many specimens in this country.

Figures 1 and 2, shewing the elevation of the window and plan, are drawn on a scale of



half an inch to a foot. And figure 3, shewing the mullion at large, is on a scale of one inch G. P. to a foot. Preston.

STIR IN THE SOCIETY OF ANTIQUARIES.

A FBELING of dissatisfaction with the mode

members, and the result will be, unless they become wise in time, a sweeping and whole-sale reform from without, which might have been altogether avoided by timely concession and a little judicious alteration.

At the anaiversary meeting, held on Wed-nesday last, it was manifest that the great majority of the members entertained but one opinion : every Fellow who spoke said the same thing, and if those who guide the helm shut their eves wilfully to the state of things, they must be presented for the concentrations. they must be prepared for the consequences. Dr. Henderson asserted from his own expe-

rience that the recommendation of members ruled by some invisible power beyond the council. That the object was, to elect as many inactive members as possible, and that if a member shewed any desire to move in the efficiency of the society was affairs of the society, he was cashiered at the end of the year, and never elected again. Mr. Wansey alluded to the growth of other so-cieties in consequence of the inactivity of the Society of Antiquaries. The conduct of the president was commented on, and it was shewn A FRELING of dissatisfaction with the mode in which the business of the Society of Anti-quaries is carried on, has been long growing up, and has now reached such a point, that it exhibits itself on every occasion which offers. By some strange fatality, observable in mightier governments, the ruling powers shew no disposition to meet the wishes of the president was commented on, and it was shewn entered the rooms. The Bev. Joseph Hunter said, the present meeting afforded proof of the want of proper officers, for there was neither president nor a vice-president to take the chair. Dr. Lee even went so far as to move a

Chair. Dr. Lee even went so nar as to move a vote of censure, but this was not seconded. At the dinner afterwards, the intensest dull-ness reigned,—there seemed to be a wet blanket over all, and men who are often eloquent, simply stammered out a few common-places. With a sincere desire to see the Society of Antiquaries renew its youth, and the greatest respect for those connected with its manage-ment, we earnestly invite the new council to apply themselves vigorously to the task of improvement.

WINDOW FROM ASH CHURCH, IN KENT.

THE parish church of Ash is situated on the main road from Canterbury to Sandwich, and is dedicated to St. Nicholas. It contains several ancient and interesting monuments of good design and workmanship, and some brasses.

Drasses. The window represented by our engraving is at the east end of the north aisle of the church. It is 15 feet 6 inches high, and 10 feet 5 inches wide, and consists of four lights, each

5 inches wide, and consists of four lights, each 2 feet 2 inches wide. Fig. B is the plan of the window, and fig. A gives the section of the rereal, and label or hood-moulding, at large. The window has at first sight a perpen-dicular character, but an examination shews that it is a good though singular specimen of decorated work, and belongs to the 14th cen-tury.

tury. The roll-moulding forming the label is almost peculiar to the decorative style. Mr. Caveler, by whom the window was

measured and drawn, remarks that it is now in a very ruinous condition, and that much injury has been done elsewhere in the church by injudicious repairers.

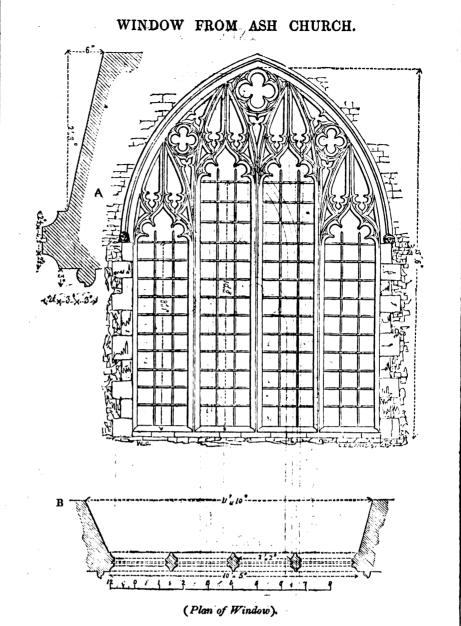
NOTES ON COMPETITIONS.

CLIFTON UNION WORKHOUSE.

CLIPTON UNION WORKHOUSE. SIR,—The letter from your correspondent, "A Guardian," respecting the affair in which he took part, whereby at least 1,000*l*. have been dishonestly extracted from the pockets of those who can ill afford to lose it, necessarily calls for some remarks, and although he may be personally a most estimable man in his voca-tion as a malter, I submit that the board must be sadly in want of "A Guardian," to leave its defence in such hands. In the first place, it is desirable to state that the union in place, it is desirable to state that the union in question, although named after a rich parish, includes within its bounds many of the out-parishes of the adjoining city, which are inhabited by multitudes of the lowest orders, pitmen, colliers, &c., the board is consequently composed of a heterogeneous mixture of gentlemen who seldom attend because they are outroted, and a phalanx of men, a grade above their constituents in education, who old motto of "union is strength." The board consists of forty-eight guardians; bat for the purpose of the sham competition, a committee, a select serves, were appointed, three or four of whom, from their station in life, were, as Mr. Allom says, above the sus-picion of doing any thing; but there were also amongst them three friends of the stronger place, it is desirable to state that the union in

cessful competitor, to when the stronger remark of Mr. Allom will apply, of dropping in the mixture one or two shrewd, clever, but not over-scrupulous follows," &c. &c.

As to the successful design, it was well known in the neighbourhood that it had been concocting, making, and remaking, in the office of the owner, for very many months, during which time it was being constantly seen by individual members of the board, by whose advice and at whose suggestions innumerable alterations were made in it (my informant told me he was present when three of them were there was present when three of them were there giving advice); and indeed to such a gross extent was this partiality for their bantling carried, that it was taken to a board-meeting, and an attempt was made to get it chosen by the guardians *a few* days only before the advertisement appeared in the newspaper for designs; this trick was for the time prevented by the clause in the Poor Law Act which by the clause in the Poor Law Act, which requires all things to be publicly advertised for. So much for the probability of a fair election. No pretension is made as to forming a opinion on the cost or merits of the success-



ful design; but a professional man who has seen it has stated that it could not be built for less than 30 per cent. above the estimated cost; and as to its merits, the building, if not a disgrace, will not be a credit to the guardians.

dians. Having occupied so much of your valuable space, I will briefly allude to the sarcasms of Mr. Allom on the local architects, by agreeing with a "Guardian," that he, at all events, ought to be thankful, as the second premium was awarded to him by the three or four gen-tlemen above suspicion, on account of the artistical and picturesque effect given to his ele-vation (a talent for doing which is peculiar to architectural draughtsmen), and not for any merit in his plans, as a "Guardian" says they were reported to be deficient in the three great requisites of "space, classification, and inspecwere reported to be deficient in the three great requisites of "space, classification, and inspec-tion." If this is a fact, premium the second was unfairly given, and the architect who assisted in the selection must have toadied his betters, instead of expressing an opinion contrary to his personal interests.

contrary to his personal interests. With respect to the owner of the successful design, I will simply say that he lived, until within the last year, in the midst of the guardians, inhabiting the out parishes above alluded to, and with whom he was connected, encouraged, or employed, and that he is not an architect by education or by professional mention practice.

After entering so fully into the facts of this gross, but well-bolstered up job, I beg to add that if any man should again spend his money in seeking for public employment in public competition, he will deserve the unjust treatment which he is sure to get.

I am, Sir, &c.,

A SUBSCRIBER FROM NO. I. April 16, 1845.

CLIFTON UNION.

SIR,-My letter, which you published respecting the late competition for the Clifton Union, has, I perceive, called forth a reply from one of the guardians, in which the writer admits the report of the architect consulted to be most favourable to my plan, but states that I had omitted to name two important features expressed in the opinion (viz.), a deficiency of space, at a greater cost than that of the resi-dent and successful competitor.

dent and successful competitor. These are, indeed, most important fea-tures, and, if founded in fact, quite sufficient to justify these worthy gentlemen in congratu-lating themselves on the actual possession of an architect capable of astonishing us poor Londoners; he might have added, that I was in attendance to prove the correctness of my estimate had a hint been thrown out that it was eloubted and L did prove in the presence of doubted; and I did prove, in the presence of the board, that in the dormitories alone no less the board, that in the dormitories alone ho less a space than 6,250 square feet was omitted in their calculations; shewing, beyond dispute, that every class had, according to their own data, the space required. But it is not to speak of myself, or of my doep held scheme for signing the square the

deep-laid schemes for giving the paupers the best possible ventilation at the least possible cost, that I now trouble you with this communication; it is for the purpose of making the numerous competitors conscious of the measure of justice they have had from this tribunal,— the high consideration in which they have been held as scientific men pursuing and practising the most useful and noble of the arts,--the the most useful and noble of the arts,—the courtesy which has been extended to them as gentlemen confiding in the honour of those into whose hands they intrusted their pro-perty,—the thanks voted (and publicly adver-tized) to those professional gentlemen who have thus nobly spent their thousand pounds in the

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endeavour to help the union out of its difficulties; true it is, their difficulties appear to have been of a somewhat imaginary character, considering they were already in possession of the required assistance; but having thus called forth the energies of the profession, the board has determined to do the thing handsomely, and, if they cannot return them their money, will give them their thanks.

It is observed by this guardian of their honour, as well as of their poor, "that of all the architects who sent in plans, Mr. Allom has the least cause to complain." How distressing to witness the ingratitude of mankind ! After selecting me as the object of their muni-After selecting me as the object of their mani-ficient gratuity of twenty-five guineas, leaving the other luckless twenty-nine with nothing but their thanks, to think that the individual whom they have thus honoured should persist in believing this money well spent in prying into their proceedings; every one will allow, that to stand up and be popped at with one's own powder cannot be a pleasant thing. I reall blush when I reflect on my conduct.

" But,' cries one of the luckless twentynine, "if their choice has fallen on this acme of perfection in the shape of classification, in-spection, and space, why don't they shew it? Why is the light of their architect thus hidden from us; is he about to patent the invention and afraid that his ideas should be stolen." Oh no, my dear sir; listen to the long and the short of it.

I made a pilgrimage to that classic spot called Clifton Workbrouse, Pennywell Road, Bristol,—you all know the address, and it will no doubt dwell in your memories. I went for the sole purpose of being enlightened on this very point; but here let me whisper that you have not been dealing with grocers and cheese-mongers, whom by courtesy you call gentle-men when in office, but whom you never expect to act as such either in or out of it. No, no. I was told that these were the real and genuine sort : men who had been to school, and been taught manners; and some there were among them rejoicing in the proud title of patrons of the fine arts. Then was I glad; for I thought that no foul thing dare shew itself among such men; and with that I presented my petition.

Now, to those who are of a philosophic turn of mind, it will probably appear an easy task to explain the cause of the following effect.

Oliver Twist asking for more, never raised such a storm of virtuous indignation among the authorities of his workhouse, as burst forth from certain members of the board at the Clifton union when the simple request to see the successful design was made known to them; it is scarcely necessary to add that, astonished and confounded, scarcely knowing if a certain projecture of my own face was not lost in the harpness of the contact, I returned with knowledge just as extensive regarding the object of my visit as at the outset of my journey, and having subsequently forwarded a letter, in which it was suggested that you might possibly consider yourselves entitled to a greater amount of good manners than was commonly conceded to paupers, an advertisement did appear a few days back in the *Times* newspaper, stating that a Bristol architect had carried off the palm, and that you might send for your THINGS; but, as a warning to all rebellious competitors for the future, it was agreed not to name the indi-vidual who carried off the premium.

I trust, therefore, that my professional breth-ren will no longer knock their heads together under the idea that their brains have been sucked by these worthies, but rather ascribe the above phenomenon to the air of the place in which they were congregated; and I ear-nestly wish them the enjoyment of a climate so congenial to their tastes, and a habitation so fitted for their deserts. Apologising to you, Mr. Editor, for taking up so much of your space,-1 am, Sir, &c.,

THOMAS ALLON.

14, Hart-street, Bloomsbury-square, April 16th.

*** Another correspondent on this matter, wishes to know why the twenty-nine compe titors have not had their designs returned, nor any official announcement of the decision, although several weeks have elapsed since Mr. Allom's first letter appeared. The same writer thinks the letter of "A Guardian" was intended to shew that Mr. Allom was also a favoured competitor, but he does not establish his position.

COUNTY LUNATIC ASYLUM FOR SOMERSET.

SIR,-I venture again to address you on the subject of the County Lunatic Asylum for Somerset. I have waited patiently in hopes that some of your numerous readers might have obtained information respecting the decision of the visiting magistrates, and have done me, and the rest of the competitors, the favour to communicate the same through the medium of your journal; but from their silence, I must presume that all is still in darkness.

I have had some thought of waiting on the county members to solicit the required infor-mation, and should have done so long ago, could I have obtained the sentiments or names of any of the disappointed competitors; but perhaps there are none but myself that have been weak enough to believe in the honour and integrity of county magistrates, so I will con-clude with—Oh! you blessed ministers above, keep me in patience, and, with ripened time, unfold the evil which is here wrapped up in countenance.

Though an humble individual, I am ready to unite in the adoption of any plan that may be suggested likely to effect a better state of competition, and would devote may time and best energies in the cause.

I again call on the profession to act with vigour, and not to waste their time in writing their own particular cases, which apply only to things gone by, and inform and enlighten all those who may require the future aid of architects how to obtain it without a fee. I am of opinion that all the exposure and satire that can be brought to bear on committees who act with want of judgment or partiality will never effect the reform required. A combina-tion with architects is what is required! is there no person in the profession with public spirit enough to offer the gratuitous use of his chambers for a meeting to discuss the subject? I am, Sir, &c.,

A SUBSCRIBER TO YOUR WORK.

COMPETITIONS GENERALLY.

SIR,--Much has been written and appeared in the pages of your journal upon the subject of architectural competition, and many sug-gestions have been made with the view of correcting the evil universally acknowledged to exist, but not any appear to me worthy of adoption. In my opinion, the fault rests en-tirely with architects themselves, for as long as persons in the profession are found weak and foolish enough to enter into competitions as at present conducted, and waste their time and money in such fruitless enterprises, they richly merit the treatment they frequently experience. In those cases that have been brought before the public, through the laud-able instrumentality of your journal, it has generally appeared that some favoured one has been deputed to carry out the work after inspecting and studying the designs, &c., so kindly and gratuitously forwarded by his more intelligent and enlightened brethren, during his pleasure, or until he has acquired sufficient information to be enabled to perfect and mature his own plan. The plan adopted at the Reading competition seems to me to be open to objections, or rather adds to the evil than otherwise, even if every competitor would attend, for I imagine few would feel disposed to travel far at a further expenditure of time and money, merely for the purpose of selecting the best design; nor do I think the competitors themselves are the most competent parties to do so, as they would enter upon the matter with peculiar crude notions of their own, imbibed during the execution of their designs. The present system of competition is conducted upon very ridiculous and erroneous principles, for the board, or committee of management, that have to select the best and most suitable design are generally composed of very heterogeneous materials, country gentlemen, merchants, tradesmen, &c., who, as a matter of course, have little or no knowledge of practical architecture, and are therefore totally incompetent to enter into the various merits of the designs submitted to them, and so decide impartially, as it often happens, if no favourite is in the way,-that look more at the pictorial effect of the they drawings, then their real and sterling archi-chitectural merits. It may be urged by those favourable to the present system, that it is the means of drawing out latent talent, but, on the other hand, I beg to observe

that it also brings into the same arena incompetent pretenders, as alluded to by "A Looker-On" in your last number, and this at once accounts for the frequent failures and accidents we repeatedly hear of in the construction of buildings, both public and private, in this country. If this system of competition continues, I would suggest the If this system of propriety of the designs being submitted for the decision of the Royal Institute of British Architects, or a committee composed of that honourable body, as the most competent tri-bunal, and their decision should not be gratuitous, but upon payment of certain fees; this would insure the selection of the best design; and, as it would be tempered with justice and impartiality, our most able and talented men would think it worth their while to compete. In the same way, engineering works might be submitted for the decision of the Institute of Civil Engineers, and no architect or engineer ought, in justice to himself or the profession, to compete unless the promoters of the scheme would consent to such an arrangement. This would also be the means of still further extending the usefulness of these institutions.

Building competitions are also very erro-neously and unfairly conducted. I think the system adopted by the Board of Ordnance appears to be founded on the principles of justice and equity; if work is to be well and properly executed, it is evident we ought to pay an adequate price for it, so that builders may be fairly remunerated for their labour; I therefore think all building work should be contracted for at an equitable schedule of prices, subject to the fluctuations of the market prices, subject to the fluctuations of the market prices, subject to the fluctuations of the market measured and paid for accordingly; this would check the spirit of reckless competition now too prevalent, every party would receive the full value for his labours, and work would be efficiently and substantially constructed, which is not the case at present.

B. BAYLIS.

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WORKS IN THE PROVINCES.

Brecon.

At the Bedfordsbire Quarter Sessions, which commenced on Thursday week, on the motion of Lord St. John, it was determined to postpone for one year the proposed alterations in the county prisons, the estimated expense of which amounts to 20,0004

The committee for the foundation of new parks in Manchester have purchased Lark-hill near Pendleton, the late residence of W. Garnext, Esq. The purchase includes an area of seven acres, and the price asked by Mr. Gar-nett was 5,000*l*, but he ultimately accepted 4,500*l*, desiring the committee to consider the difference of 500*l*. as his contribution to the public parks. Lark-hill was erected at a cost public parks. Lark-hill was erected at a cost of 10,000*l*. The subscription in Manchester for public walks, parks, and wash-houses, had last Saturday reached the sum of 30,3207.19s. 11d.

The contemplated improvements of the River Dun Companyare said to be proceeding very satisfactorily. About seventy workmen are engaged in raising the embankment six feet higher than at present on each side of the canal from Stainforth. The quick wood fence further back, so as to allow of the present path being added to the canal. A considerable length of the embankment is already completed. The swing bridges, giving an open and uninterrupted communication to the sea, are nearly finished, and vessels with fixed masts can now come up to Doncaster without the least interruption

In Wales, several new blast furnaces are being erected, and others are in contemplation. Sir John Guest is erecting one at Dowlais, and the Neath Abbey Iron Company have com-menced building two at Cwn Neath. The spirited proprietors of the Porthcawl iron and coal works Massre Mallins and Rawlingons coal works, Messrs. Mallins and Rawlinsons, are crecting another furnace at Cofn Cwsg, together with twelve coke ovens, and a large number of workmen's cottages. At Coed-y Garth and Llwydarth, three new furnaces, coke ovens, blast engine, workmen's cottages, &c., are in the course of crection.

At Porthcawl, near Swansea, the Llynvi Iron Company have commenced building a new furnace, forge, and revolving mills at their works.

A marble mural tablet has been recently placed in Hanley Castle Church, near Uptonupon-Severn, to the memory of the Rev. George Turbeville, upwards of fifty years vicar and resident of that parish. This tribute of respect has been erected at the expense of the Hon. Gen. H. B. Lygon, M.P.

The foundation-stone of the intended church in the new district of St. John, in the parish of Wednesbury, was laid by Lady Emily Foley, on Thursday week. The site of this intended church was given, together with a donation of 510*l*., by Samuel Addison, Esq. The edifice will contain one thousand sittings, one-half of which will be free. It will be in the early English style of architecture, having a capacious and lofty nave, with ornamental timbered roof.

bered roof. The contractors of the Lancaster and Carlisle Railway, Messrs. Stephenson and Co., have undertaken the execution of the Caledonian line, as well as the Kendal and Windermere Railway. These gentlemen have on hand railway work nearly 350 miles in extent.

The Earl of Falmouth has contributed 504, and Lady Bassett a donation of 1004, to the local fund for the extension and improvement of the Penryn Docks and Falmouth Herbour

of the Penryn Docks and Falmouth Harbour. Earl Talbot, the Hon. R. Curzon, and Sir George Chetwynd, Bart., have contributed liberal donations towards the rebuilding of the ancient parish church of Armytage, Staffordshire, which has become much dilapidated by the course of time. At the Essex Quarter Sessions, held last

At the Essex Quarter Sessions, held last week, it was determined that the proposed extensive alteration of Springfield Gaol should be carried into effect; that the buildings be executed by contract; and that the money required for the purpose be raised on security of the county rates, to be repaid in thirty years, and borrowed in separate sums, as the committee may recommend. The estimates amounted altogether to 32,5844.

At Sudbury, the sutherities, with the view of improving the town by their removal, have lately purchased two heuses, for which the sum of 2,5801. was paid. It is now some years since the commissioners under the former Act made the first purchase, amounting to 3001, with the faint hope that ultimately the whole of the houses, ten in number, then surrounding the church of St. Peter, might be purchased, and taken down. This desirable object, as far as relates to the purchase, is now completed. The contemplated improvements, if carried out, will prove highly ornamental to the place. At the Warwickshire Easter Sessions, held last week, a report from the committee on county prisons was presented. It appears that having examined and considered the five several plans for altering and improving the county prisons suggested to the Court at the last sessions, they came to a unanimous opinion in favour of adoping the one submitted by Major Jebb, for an entirely new gaol for the whole county, to be erected outside of the town of Warwick, but as near thereto as a convenient site may be found. On the motion of Lord Brooke, it was resolved to take the subject into further consideration at the next sessions.

At Weston-super-Mare a new pier is about to be erected after the design of Mr. Horwood, of Bristol. It is proposed to carry the pier out with solid masonry a distance of 396 feet; the roadway or surface being 17 feet wide, and at the end to extend it on either side, so as to form a promenade of 100 feet in length, and affording at its back a shelter to vessels in all weathers. At the end of 396 feet from the main land the pier will terminate, but a slip will be continued, extending in the same direction to several feet below dead low-water mark, and on which a landing can be effected at any time. Towards the carrying the design into execution John Hugh Smyth Pigott, Esq., the lord of the manor, makes a noble gift of whatever land may be wanting for the object, an unbounded supply of stone, such timber as the hill will afford, and will take shares in the undertaking to the amount of 1,000*l*.; Mr. Synge, Mr. Pavies, Mr. Chalmers, Mr. Edgar, Mr. W. Cox, Mr. R. Parsley, and other gentlemen of the committee, will also take shares to the amount of 2,000*l*. more.

At Eastover, near Bridgwater, the new church of St. John the Baptist was opened hast Wednesday week by licence from the

bishop, the Ecclesiastical Commissioners being unable to make an immediate grant towards the endowment. Drawings of this church (which was designed and executed by Mr. Brown, of Norwich) have been selected for publication by the Church Building Society. as a favourable example of modern church architecture.

At Lynn, the foundations of a new church having been completed, the ceremony of laying the first stone was to have taken place yesterday, the Bishop of the Diocese officiating.

The Learnington Courier states that there is every probability of a Tennis Court being soon erected in that town. The cost of erection is estimated at 1,600*l*, and the number of shares already taken amount to 1,300*l*, the subscribers including Lord Leigh, Lord Brooke, Lord Howth, Lord Guernsey, Lord Lewisham, Sir C. Douglas, M.P., Dr. Jephson, and many other visitors and residents of distinction.

At Southend, the pier is fast approaching completion, it will be ready for opening by the middle of July. The old light-house has been swept away, not by the tide but by the hand of the improver, and the piles are all driven and the lower platform prepared for a convenient pier head.

The column about to be erected in Holkham Park, to the memory of the Right Hon. Thomas William Coke, Earl of Leicester, consists of a fluted shaft, whose base stands on a pedestal of four sides. The capital of the pillar, which is Composite, has at each angle the head and neck of a horned ox. A circular turret, supported by scroll buttresses, perforated with oval apertures, and embattled ornamentally, surmounts the abacus, or crowning of the capital; out of which rises a dome-like termination, with the figure of a wheat-sheaf on the top. The four sides of the pedestal are occupied with sculptured designs in bas-relief, allusive to the celebrated sheep-shearing and farming festivals held, during so many years, under the presiding auspices of that great patron of agricultural improvements. A donation of 2,0004, has been contributed

A donation of 2,0004 has been contributed by a wealthy individual in the neighbourhood of Liverpool towards the erection of a new church in Toxteth Park, coupled with the condition that the Rev. H. M'Neile should be one of the trustees.

The parish church at Bawdeswell, Norfolk, having been rebuilt, was consecrated last Tuesday week by the Bishop of Norwich. The church, erected in the pointed style on a cruciform plan, with a south porch and bellcote at the east gable, has sittings for 317 persons, of which 277 are free. The cost of the building was 1,400!. At Manchester a new chamber of commerce is being formed. On Monday last a meeting was held at the Albion Hotel, when a committee of sixteen gentlemen was appointed for

At Manchester a new chamber of commerce is being formed. On Monday last a meeting was held at the Albion Hotel, when a committee of sixteen gentlemen was appointed for the purpose of framing the laws and regulations of the institution, to report to a future meeting, when directors are to be appointed, and the necessary arrangements made for commencing the proceedings of the association. About 150 individuals and firms, of all shades of opinion in politics, and inoluding a large proportion of the leading merchants and manufacturers of the town, have already given their names as members of the new chamber. Such is the present activity in the building of houses, warehouses, railway extensions, &c., in Manchester and its vicinity, that so early in the season as the present, bricks have advanced, as compared with their value this time last year, more than 75 per cent. At a meeting, held last week, of the authorities in Hull as report from the sumer or

At a meeting, held last week, of the authorities in Hull, a report from the surveyor containing various recommendations for draining the town was read, and will, without doubt, be carried into effect. The surveyor (Mr. H. Newton) concludes his report by saving that, " with these improvements you will be prepared to send a stream of water through every street in Hull, as often as the tides will allow; and, when completed, the town of Hull will not be surpassed in drainage by any town in the kingdom." The whole of the improvements suggested were estimated at 3,000*l*., as several large drains would have to be made.

Ments adgressive would have to be made. Messrs. Leaby, the engineers of the Cork and Bandon Railway, propose erecting a viaduct on a novel construction for the intended crossing over the mail-coach road and valley at Chetwynd, pear Cork. The extreme height of the viaduct is 82 feet over the valley,

which is passed by three equal spans, each 240 feet; the centre and the two abutment piers are of stone, in the Doric style, The construction is very simple and novel; the greater number of its parts are of uniform size and shape, and there is neither a mortice and tenon joint, or a spike or nail, in the entire structure, nor will there be any necessity of centering for its erection. All these peculiar features of the design will reduce the expense of its construction far below the usual cost of such works. There is no viaduct in Europe constructed on this principle, and if successful it will enable companies to construct railways in localities where otherwise they could not be attempted, and for this reason it promises to be of national advantage.

The work of improvement is steadily progressing at Yarmouth, and building and railroad schemes promise not only to be beneficial to the inhabitants, but profitable to those who are so ready to embark in these undertakings. Houses are gradually covering the building sites laid out.

THE IRON TRADE.

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THE usual quarterly meetings of the ironmasters at Walsall, Wolverhampton, Birmingham, Stourbridge, and Dudley, were held the week before last. The prices agreed upon may be quoted as follows :--

| | Æ | 8. | d. | |
|----------------------|----|----|------------|--|
| Bars | 12 | 0 | Ó | |
| Common nail rods | 12 | 0 | 0 | |
| Rails | 14 | 0 | 0 | |
| Ноорв | 13 | 0 | 0 | |
| | 14 | 0 | 0 | |
| Sheeta | 14 | 0 | 0 | |
| Pigs (Shropshire) | 6. | 10 | 0 · | |
| Pigs (Staffordshire) | 6. | 10 | ٠ | |
| • • | - | | | |

There was a prevalent opinion that the last advance of 2*l*. was uncalled for, injudicious, and likely to prove injurious both to masters and men. This extraordinary price is, however, justified upon several grounds. The great advance which has taken place in the price of coal and limestone, combined with at least 25 per cent. increase in the wages of the miners, has unquestionably compelled the ironmasters to put a high figure upon their make. Coal at the present moment, owing to the prevalence of local strikes in certain districts, is extremely scarce, and in many other parts, where the men are apparently satisfied with the wages given, the miners do not work more than four days a week. The advance in the price of coal in consequence of the flourishing state of the iron manufacture and the demand of the colliers has not been less than 3s. per ton. Still, it is thought, that even the increased demand, great as it was, and the high price of materials, did not justify the advance in bars at one sudden step from 10*l*. to 12*l*. One singular reason, however, in addition to the more plausible ones already urged, has been given for this advance. It is stated, that it was suggested by some of the great firms with a view to stop further orders. This may appear somewhat absurd, but if good authority is to be relied upon, it is nevertheless true.

Several of the most extensive and influential iron-masters stated that "there was no intention to attempt a further advance—they were perfectly content with the present prices if they could be maintained." It cannot, however, be doubted, from the general complexion of the various meetings, that some misgivings as to the long continuance of the present prices have come over the minds of some of the great masters. The defeat or abandonment of many of the projected lines of railway—foreign competition, already sensibly felt in the market—and the great injury which the high price of iron has already inflicted upon the hardware trade, it is thought of necessity will cause a reduction. Another more powerful reason may be given for the probability of this result. The large speculators in iron—men who, for the last, four or six months, have been hoarding up stocks with a view to a high price—seem to imagine that it has reached the market. With respect to Staffordshire pig iron, the

With respect to Staffordshire pig iron, the opinion is it will fall. It will be observed that in the list given above, the prices of Staffordshire and Shropshire pigs are given as the same. So they were quoted in Birmingham

on Thursday. It was indeed stated that Staffordshire had been sold at 7*l*.; but the purchaser could not be ascertained. Now, the ground upon which a reduction in the Staffordshire is expected is the known supe-riority of the Shropshire pigs, till lately selling at 6*l*. 5*s*., and now at 6*l*. 10*s*. It is thought that the Staffordshire makers cannot maintain an equality of price with their Salopian neighbours. on Thursday. It was indeed stated that

an equality of price with their Salopian neighbours. At the monthly meeting of the Glasgow iron-masters, held the 16th inst., the price of pig iron was unanimously fixed at 6l. per ton, being 10s. advance on the price declared at the last monthly meeting. The term of credit was reduced from six to four months. A few parcels were sold for immediate cash at 95s. to 97s. 6d.

LORD PALMERSTON ON SHIP-BUILDING.

In a recent speech on the navy estimates, Lord Palmerston introduced the following remarks:—" The first thing to be looked to with regard to the navy was the possession of a number of efficient ships—efficient, not only in number but in cupling the thought in number, but in quality. He thought the discussion of thisevening had shewn, if any doubt existed before, the necessity the discussion of this evening had shewn, if any doubt existed before, the necessity and expediency of calling in the aid of science with regard to the construction of ships. It was very well for the gallant admiral opposite (Sir George Cockburn) to say that during the last war, although our ships were considered clumsy, and of an un-scientific construction, yet that with those very ships our sailors overtook the enemy and defeated superior force. This, however, did defeated superior force. This, however, did not prove the ships to be good; it only proved that our sailors were so expert, enterprising, and skilful, that with inferior ships they could outsail superior ships, whose crews were less skilful, and that our seamen triumphed over the difficulties to which they were exposed. The French vessels that were taken were universally admitted to be far superior to the ships by which they had been overtaken and captured. Although that might be a fair reminiscence of former glories, it shewed rather the superiority of our sailors than the good qualities of the ships of that day. It was known to all who had turned their minds to the subject, that there was no problem in science or in mathematics more difficult to solve than what is the best construction of a ship destined for the purposes of war. First of all, it was not easy for the most skilful mathematician to tell the form of a solid body which was best calculated to go rapidly through a fluid I to sen tan easy matter to say what a fluid. It was not an easy matter to say what would be the floating-line of a ship. It was not easy to tell beforehand the construction not easy to tell beforehand the construction which would give the greatest steadiness to a ship; nor was it easy to say where would be the centre of gravity, or where would be the centre of impulse in the rigging, the ascer-tainment of which was as necessary for the purposes of the ship as the adaptation of the hull to make its progress through the water. A practical man could not do this, for he could not tell on what prin-ciples of construction these qualities depended. ciples of construction these qualities depended. The scientific man could tell beforehand what, upon scientific principles, would produce the desired qualities : but if not assisted by an able practical man, conversant with stowage, arrangement, and trim, the scientific man alone would not be able to give such information as would afford a good ground for building. Then it was said the Admiralty were making experiments; that they had employed one man to build two vessels, and another to build three or four; and that they were ready to attend to every suggestion which might be made. That, certainly, was very praiseworthy, and, as far as it went, it shewed a desire to improve the construction of ships of war; but, with all deference to the Admiralty, he did not think they were possessed of that scientific know-ledge which was the only element on which ledge which was the only element on which the results ought to depend; and instead of being content with the costly experiment of building large ships by persons who were only scietific to a certain degree, and who did not possess the whole of that knowledge which was essential to the subject, it would be much better to procure the assistance of the most better to procure the assistance of the most

be made in building ships, which would then be so constructed as to be likely to answer the purpose for which they were intended. The class of steam-vessels required the particular attention of the Government, and, he believed, that a great improvement would take place in their construction. The right hon. baronet said that in this respect our naval force was at least upon a satisfactory footing, and that our horse-power, compared with that of our nearest neighbour, was in the ratio of three to two. He (Viscount Palmerston) did not consider that to be altogether a satisfactory statement, because a comparison of the horse-power did not apply to the question, for if two parties had an unequal number of vessels for the purpose of warfare in a narrow sea, the superiority of horse-power might not counterbalance that inequality of numbers.

Correspondence.

THE FIRE AT YORK MINSTER, &c.

S1R,-Ilaving read with much pleasure the interesting article of Mr. James Wylson on the late fires at York Cathedral, in which he has introduced a brief account of the incendiary Jonathan Martin, I feel induced to trouble you with this letter, as I knew Martin very well, as almost every boy in York did. In the year 1829, just about the time of the first fire, I was boy at school at York, and frequently a little saw Martin, who was in the habit of hanging about the different schools and public places, to about the different schools and public places, to pick up what he could, either by selling the printed accounts of his dreams, or by ballads, threads, tapes, knives, combs, and other nic-nacks of similar value. In my estimation, he was quite as much "a rogue as a fool," for be knew pretty well how to drive a bargain favourable to himself; he used often to pay the school a visit and as he was good naravourable to himself; he used often to pay the school a visit, and as he was good na-tured, and did not mind being pulled] about by the hove, he was no unuclean by the boys, he was no unwelcome guest, es-pecially if he had any little novely in his basket to tickle their fancy with, although it might perchance tempt them to spend more of the "needful" than they otherwise would have done.

His usual dress was that of a poor mechanic, over which he wore a clumsy, thick, felty-looking great coat, with a large cape and turnlooking great coat, with a large cape and turn-up collar, reaching almost up to his eyes; he generally had a grizzly beard of a day or two's growth, which, combined with his old slouching hat and rolling walk, gave him altogether a very eccentric appearance. He used to be a fre-quent attendant at the Minster, where I have often seen him stalking about, during the en-viable half-holidays, when I used to go there, more perhaps to listen to the music than for any other purpose.

any other purpose. I have seen him in all parts of York, and under all circumstances, both sober and under the influence of Sir John Barleycorn, to whose exhilarating friendship he had no particular objection.

I saw the fire, and never shall I forget it, as it was one of inconceivable grandcur, not so much from the vast quantity of flame it produced, as from the variety of complexions it assumed during its progress; it was re-markable for the volumes of thick, white, steamy smoke that it emitted, in consequence of the large amount of water thrown into it acting on the partially consumed stone, which seemed to steam up like unslacked lime.

The Minster yard was deep in water, and the effect of the number of men ranged in rows, handing buckets of water from one to the other, to supply the engines in the interior of the building, was strikingly grand, at least so it appeared to my boyish imagination; and as most of the engines had to pass through the water to get to the building, the picturesque effect was increased by the firemen standing or their engines as they would through it in effect was increased by the firemen standing on their engines as they rushed through it in their rapid course, one in particular, which arrived late (I believe from Lecds), being drawn by four white horses. The engine from the Cavalry Barracks, just outside the city, was one of the earliest that came up, it passed are on my road there in Conce stread ever me on my road there, in Coney-street, sur-rounded by the soldiers running full speed with it.

I saw Martin once or twice after his capture eminent scientific men in the country. By combining their knowledge with the experience of practical men an important progress would that a few days before the fire, he was heard take the chair at 12 o'clock precisely.

to state that there would soon be a great fire in York, but as pothing was suspected, of course no further notice was taken of what he said, as he was a chattering gossiping fellow, par-ticularly if he could get a patient listener to er to swallow all he had to say about his dreams and visions and religious creeds. /

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I left York a very few weeks after the fire, and have never since had the pleasure to look upon the restored glory of my native city; since then the busy hand of improvement has been earnestly at work, and swept away many of the old land-marks of antiquity, which as a genuine son of the *Eboracenti*, I feel disposed to regret, notwithstanding all the advantages the improvements may introduce within the ancient walls of time-honoured York. J.T.

TERRA COTTA.

SIB,-Can you tell me were terra-cotta is to be obtained? I think a church has lately been crected at Bolton-le-Moors, Lancashire, entirely with that material. If you, or any of your correspondents can inform me if such be the case, and if so who manufactured the terracotta, you will greatly oblige Yours obediently,

A CONSTANT SUBSCRIBER.

• The new church at Lever Bridge, near Bolton-le-Moors, an elaborate structure in the Decorated style, with a spire of open tracery, is executed entirely of terra-cotta. Mr. E. Sharp, of Lancaster, the architect of the church, under whose superintendence the moulds were made, would probably give any information that might be required. Mr. Fletcher, of Vale-Bank, near the church, superintended the pre-paration of the clay and other processes for the terra-cotta, and has since established works, we believe, for the manufacture of it at Ladyshore, near Manchester. A correspondent in-forms us that parties are about to commence the manufacture of this material near London. -ED.

INTERCOLUMNIATION.

SIR,-I have lately observed the term intercolumn, and intercolumns, frequently made use of instead of intercolumniation, and intercolumniations. Which is the more correct mode of expression? neither Hosking nor Gwilt gives the term intercolumn at all in his glossary; and yet in speaking numerically of the spaces between columns, it seems to me more ac-cordant with the analogy of language to describe them as so many intercolumns; inter-columniation having a more general and colcoumination having a more general and col-lective meaning, implying rather the mode of spacing the columns than the actual spaces themselves. I have not the means of referring to Britton's "Dictionary of Architecture;" but if I mistake not, he points out the distinc-tion to be observed between intercolumniation and intercolumn, and the authority of so care-

ful a writer ought to be decisive. This may seem a very tritling matter, yet it would be as well to have it settled either one way or the other, if only for the sake of uni-I am, Sir, &c. formity.

INQUIRER.

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*** Gwilt, Hosking, Britton, and the "Ox-ford Glossary," call the clear space between two columns an intercolumniation, and do not give the word intercolumn. The propriety of using the latter term was urged, if we remember correctly, by an able writer in the "Civil En-gineer's Journal;" at this moment, however, we cannot bit upon the passage.—ED.

PRWS.—At a meeting held last week at Ips-wich, to consider and decide upon the best decide upon the best means to be adopted for affording additional accommodation in the church, the following resolution was carried with only three dis-sentients :-- "That it is the opinion of this meeting that the pews in the church should be taken down, and open seats, all similar in plan and general outline to the one exhibited to this meeting, be placed in their stead." Mr. Fon-nereau, the gentleman who proposed the above, offered a donation of 2001, towards the contemplated alterations.

LONDON MECHANICS' INSTITUTION.—A meeting will be held in the Lecture Theatre of this Institution, on Wednesday next, for the purpose of promoting the erection of a new reading.room, &c. The Earl of Radnor will

Miscellanea.

CLOSE BED-ROOMS .--- Long experience has convinced me that nothing could be more con-ducive to public health, than the ventilation of our bed-rooms; multitudes of people never one single day, for years, rise refreshed in the morning, but always feel weary, oppressed, and unwilling to rise on awakening, though feeling lively, well, and unfatigued in the evening. The commonest of all the causes of this oppression and laziness, is the non-venti-lation of our bed-rooms. I believe that this simple plan would entirely cure many apparently perennial chronic discomforts, make thousands rise early and refreshed, who now rise, or lie in bed, stupid, unrefreshed, and heavy; prevent innumerable head-aches and foul tongues; dissipate the gloomy thoughts and despondency with which so many rise to their daily tasks of body or mind; and cause many to start up active and alive, who never now feel refreshed, and who have, in fact, so in fact, so many attractions of cohesion of comfort between themselves, their beds, and bed-clothes, that themserves, their beus, and beu-clothes, that their unrevived spirits, from a want of pure air during the night, and their habitual irreso-lution, produced by a nameless ailment, of which they do not know the real cause, prevent their ever being able to practise a habit of early rising, as it requires too great a daily struggle, for which a want of feeling of in-ternal habit, disqualifies them. In this way, the purity of the air of our bed-rooms would be as great at least, and probably much greater, than that of our sitting-rooms, which are pretty well ventilated by the constant opening of their doors, and the draughts of their fires;

bat even in these, the unaughts of their mes, are very imperfectly changed.—Medical Times. CHOICE OF SITE FOR TOWNS.—The news-papers state that the small town of Graus, in Arragon, is threatened with annihilation. portion of the conical rock at the foot of which it is seated has, from the effects of the thaw after the long-continued frost, begun to separate to the extent of 15,500 cubic metres, or 20,000 cubic yards. The whole of the inhabitants, seeing the impending danger, have left their houses, many of them with so much precipitation, that they have not stayed to take their furniture with them. An engineer, employed by the municipality, has surveyed the mountain, and reported that there are no means of preventing the fall.

FATAL ACCIDENT AT DEBBY .--Last week a portion of the arch just erected over the Mill Fleam, in the Morledge, gave way, and buried four persons amongst the ruins, two of whom were found, after the lapse of an hour, dreadfully mutilated and quite dead. The other two succeeded in extricating themselves without much injury. This is the second fatal accident that has occurred in the erection of this arch: the first was about six months since, and caused the death of six persons.

PARKS AT MANCHESTER.—A deputation, appointed by the local committee connected with these improvements, had an interview with Sir Robert Peel last week for the purpose of ascertaining to what lengths Government is disposed to go in assisting to carry out the object. The Premier said that be could not at present ask Parliament for a larger grant than 3,000*l*., and that, on condition that a Government surveyor be sent down. to inspect its disposal, and that 30,000%. of the local subscription be actually paid up.

NEW EPISCOPAL CHURCH IN CONNECTION WITH THE SAILOBS' HOME.—A public meet-ing will be held on Wednesday next at Crosby Hall, Bishopsgate street, for the purpose of taking measures to provide funds for this building, and endowing an Episcopal church for the use of seamen of the Port of London. The Earl of Haddington, first Lord of the Admiralty, will preside.

STONE ALTAR AND CREDENCE TABLE. Both of these innovations have been removed from the Round Church at Cambridge, by the churchwardens, who received a monition to that effect from the Archdeacon at Ely. The church will, therefore, very shortly be reopened for divine service.

WESTMINSTER BRIDGE. — Reports are in roulation to the effect that Westminster circulation to the effect that Bridge is in a very insecure condition, and that Mr. Barry will, after all, see it replaced by a structure more in accordance with the new senate house.

GLASS .- Mr. Ord, M.P., has obtained, by order of the House of Cammons, returns of the amount of duties charged, and drawbacks paid, on glass, and of the quantities imported and exported, retained for home consumption, and remaining in bond, for the year ending the 5th of January, 1845 (in continuation of the ses-sional paper No. 200 of the year 1844). It appears from this paper that the following were the quantities of glass charged and the amount of duty respectively imposed on the amount of duty respectively imposed on the different descriptions of glass in England during the year 1844-45, viz.: —Flint glass, 9,529,2941b., and 55,271*l.*; plate glass, 29,765 cwt., and 93,759*l.*; crown glass, 99,180 cwt., and 382,710*l.*; German sheet glass, 31,560 cwt., and 121,782*l.*; common bottle glass, 345,810 cwt., and 127,084*l.* The quan-tities exponented upon which deswhad was tities exported upon which drawback was allowed were of flint glass, 11,277 cwt.; of plate glass, 116,955 feet; of crown glass in tables, 1,527 cwt.; of crown glass in panes, 6 661 cmm a floot of a 6,661 cwt.; of German sheet glass, 7,656 cwt.; and of common bottle glass, 213,056 cwt. It further appears, that the quantities of glass further appears, that the quantities of glass retained for home consumption in the United Kingdom for the year 1844.45 were, of flint glass, 83,712 cwt.; of plate glass, 24,405 cwt.; of crown glass, 93,347 cwt.; of German sheet glass, 23,175 cwt.; and of common bottle glass, 193,108 cwt. The net amount of duty received thereon amounted to the sum of 645,7157. The amount of drawback or allowance on glass for the use of churches during the year 1844-45 was 1,3431. The quantities imported into the United Kingdom during the same period, from various countries of Europe, &c., were,—of crown or any window glass not exceeding one-ninth of an inch in thickness, 6,680 cwt.; of German sheet glass, white or coloured, 1,280 cwt.; of all glass one-ninth of an inch in thickness—all silvered or polished glass, of whatever thickness-and plate glass, glass, of whatever thickness—and plate glass, however small each pane, plate, or sheet, 18,915 square feet (superficial measure); and of flint and cut glass, 2,883 cwt. The quan-tities exported from the United Kingdom of the same description of glass as those which we have already enumerated above were rewe have already enumerated above were re-spectively, 6,241 cwt.; 906 cwt.; 16,971 square feet; and 1,448 cwt. The quantities of British glass exported from England in 1844-45 were,—of flint, 11,277 cwt.; of plate, 116,955 feet; of crown, in tables, 1,526 cwt.; of crown, in panes, 6,661 cwt.; of German sheet glass, 17,695 cwt.; and of common bottle glass, 213,056 cwt.

TRANSIT THROUGH EGYPT.-Mr. Galloway, of London, has made his report on the pro-posed Suez Railway. It is understood that that he has offered to guarantee the completion of the work within eighteen months, and that the cost, including all, shall not exceed 350,000/. His report speaks favourably of the facilities which exist for the easy formation of a railway and for obtaining necessary materials along the line. It does not apprehend any serious inconvenience from the presence of drift-sand. It states the levels to be so moderate and gradual, that in only two portions of the entire line will embankments and cuttings of any serious extent be rendered necessary. It contemplates having the terminus from the river, at Boulac, and the other to terminate in a jetty, a little to the westward of Suez, and about a mile distant from the ships' anchorage; thus saving four miles in the communication between the roadstead and the shore as at present. The line as surveyed will be 88 miles.

Acoustics.-The temporary Law Courts with which Palace-yard and Westminster Hall are disfigured, and will be, it is supposed, for several years to come, are complained of on account of the difficulty with which sound is transmitted. An investigation into the cause of this might be advantageous.

WOOD-CARVING .- Mr. Jordan, late keeper of the mining records in the Museum of Economic Geology, has invented a new method of carving in wood by means of machinery, and has obtained a patent for it.

THE BRITISH ASSOCIATION.- A public meeting was held last Tuesday at the Town THE BRITISH ASSOCIATION .-Hall, Cambridge, for the purpose of appointing a committee to make preparations for the reception of the British Association in June.

HUNGERFORD SUSPENSION BRIDGE.—The opening of this bridge has been deferred till Thursday next, the 1st of May.

TESTIMONIAL TO MR. BRITTON, F.S.A. -A preliminary meeting to appoint a com-mittee to carry out the proposed testimonial to Mr. Britton was held on Thursday last, too late in the day for us to report the proceedings in our present number. We shall allude to it next week, and in the meantime invite our

readers to co-operate with the committee. MANCHESTER SCHOOL OF DESIGN.—The Council have just announced their intention to hold during the vacation in August next, an exhibition of specimens of manufacture and industrial art, in connection with the drawings to be produced by the students in competition for the prizes.

New APPOINTMENT.—The Queen has been pleased to appoint John C. Millward, Esq., to be Assistant Civil Architect for the island of Mauritius.

Town-HALL, COLCHESTER.-The new hall is to be opened on the 1st of May.

Tenders.

TENDERS for church to be called the All-Saint's Church, St. John's Wood,—under the direction of Thomas Little, Esq., architect,—for the body of the church only.

Separate amounts of the two lowest, shew the cost if executed in Kentish Rag-facing.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the supply of Materials to the Commis-sioners of the Metropolis Roads.

For providing, squaring, and laying new York Paving and Granite Curb, &c., for the Commis-sioners under the Bedford Paving Act, St. Pancras. For various Engineers' and Joiners' Works required to be done at the new Workhouse, Birchfield-wood, Saubridge, Kent. For the Masonry Work of several Viaducts and

Bridges.

For performing the several works in building a new Workhouse at Tenterden.

For supplying her Majesty's Dock-yards with soft melting pig-iron. For the supply and delivery in Bristol of about 300 tons of cast-iron Water-pipes, of various dimensions, from 7 inches downwards, with certain elbows, nozzles, &c.

For the formation and completion of a new Drain, being about eleven miles long, twenty yards wide. and five yards deep, for the Middle Level wide, and five yards deep, for the Middle Level Drainage Commissioners. Also for the erection of a Staunch, several Bridges of wood with brick abutments, together with the necessary culverts, and other works.

For the performance of the Works connected with the erecting of the new Pier at Penzance. For the erection of the Borough Gaol, Bir-

mingham. For the supply of 1,200 lineal yards of 11-16ths

best attested, close, short-linked Chain. For the erection of a Building in London for a highly-patronized purpose, at the estimated cost of about 30,000%.

COMPETITIONS.

Plans for a Church to be erected within the Borough of Kingston-upon-Hull.

Plans, sections, and elevations for a Terminus, and other requisite accompanying offices, for the Great Southern and Western Railway, Ireland.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

At Ipswich: 15 Logs of Spanish, Cuba, and Honduras Mahogany, of superior quality and large dimensions; 4 pieces of Rosewood, 10 pieces of Cedar, and a few lots of Maple and Rosewood Veneers.

At the Timber-yard, opposite St. Giles's Church, London: 3,200 Pine Deals, Planks, and Battens, 840 Yellow Deals, 2,480 Spruce Deals and Planks, 120 Yellow and White Battens, 14,000 feet of three-quarter inch and half inch

Pine Boards, &c. 250,000 Building Bricks, 40,000 Arch ditto, &c. ; now at Sherborne Kiln, three miles from London.

At Patcham, near Brighton : a large quantity of Railway Materials; the whole of the Iron is of Staffordshire manufacture.

BY TENDER.

A Virgin Forest of Valuable Timber in Wala-chia. The principal part of the Trees is Oak. The said Forest may produce about 500,000 cubic feet of Timber

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, April 28.—Geographical, 3, Water-loo-place, 81 P.M.; Brilish Architects, 16, Grosvenor-street, 8 P.M.; Medical, Bolt-court, Fleetstreet, 8 P.M.

TUBBDAY, 29.—Civil Engineers, 25, Great George-street, 8 P.M.; Zoological, Hanover-square (anniversary), 1 P.M.

WEDNESDAY, 30.—Society of Arts, Adelphi, 8 P.M.; Geological, Somerset-house, 81 P.M.

THURSDAY, May 1.—Horticultural, 21, Regent-street (anniversary), 1 P.M.; Zoological, Hano-ver-square, 3 P.M.; Antiquaries, Somerset-house, 8 р.м.

FRIDAY, 2. - Royal Institution, Albemarle-street, 81 P.M.; Botanical, 20, Bedford-street, Covent-garden, 8 P.M.

TO CORRESPONDENTS.

" Lavinia."-We feel greatly indebted for our correspondent's attention, and regret much that the drawings are not sufficiently precise for publicatimm. They will, however, be useful to us in another way.

"Patent Hand-rails." — J. Melville, of 64, John-street, Filzroy-square, will give information

on the subject. "J. M."—It is unnecessary for us to call, as we know your work, allhough we had forgotten the name

"W.J.S."—We shall be glad to hear more of the proposed manufactory. We can hardly afford time to visit it until it is in operation.

time to visit it units is in operation. "B. B.'s "suggestions shall not be lost sight of. "C. T.," Norwich.—Next week. We shall be happy to hear from him, although we cannot promise space every week, and will gladly send him copies without charge. "Description of Windester" Sourced each

"New Church at Winchester."-Several archi tects wish to know how many tenders were received, and what was the amount of the lowest.

"A Builder."-If you give the district surveyor notice of your intention to do certain works he will inform you if there is any objection to them. He is certainly not bound to give you information if the work is merely problematical. "J. Dale."—Pulsam's manufactory is at Hod-

desdon.

"E. M., a bricklayer," is thanked for his in-

formation. "N. C."-We fully agree with our correspon dent, that "there are few practical subjects of greater importance than the construction of chimwith reference to the causes and remedy for nevs.' their smoking, and that it is very imperfectly understood. His suggestion shall be considered. We shall be glad to receive remarks relative to it, also the names of any works upon the subject. "A Subscriber from the First," next week.

Received—An Adherer to Stipulations. Pro-ceedings of the Society of Arts.

ADVERTISEMENTS.

SPACIOUS BUILDING GROUND in the heart of the City TO BE LET on a Building Lease. The site comprises Founders' Hall, Lothbury (ex-tending from East to West 70 feet, and from North to South 50 feet), and a further space in connection with it, suitable for purposes of an additional entrance to the premises. Par-ticulars may be obtained by applying at the Founders' Com-pany's offices, or to J. B. Gardiner, Esq., architect, 4, Bank Chambers, Lothbury, where a plan of the premises may be seen.

NOTICE. -- INVENTORS desirous of NOTICE. — INVENTORS desirous of obtaining LOANS ON or of SELLING their IN-VENTIONS, or Patents, should apply to Mr. M. JOSCELIN COOKE, at the OFFICE for PATENTS, 20, Half Moon-street, London, where English and Poreign Patents are ob-tained, and Designs registered. An INDEX is kept for inspection of all Patents granted for the last century; also copies of every Patent of importance. Instructions to Inventors and a list of charges gratis on application.

Inventors and a list of charges gratis on application. OFFICE FOR PATENTS REMOVED FROM No. 16 TO 117 CHANCERY-LANE. PRACTICAL ASSISTANCE GIVEN to partics taking Letters Patent, by Mr. J. WILSON, Engineer and Patent Agent. Every description of business relating to or connected with Patents, Registration of De-signs, Patent Agency, &c., conducted at his offices, 117, CHANCERY-LANE, opposite Carey-street. Negotiations entered into with parties wishing to dispose of or purchas: patented or registered inventions. Every necessary infor-mation may be obtained at the offices as above, where also may be had printed instructions (gratis), to which Mr. W. begs particularly to draw the attention of parties about to take out patents Mechanical drawings of every description, original designs for machinery, models, &c., executed with dispatch and economy.

THE **BUILDER.**

MARTIN'S PATENT CEMENT. TO ARCHITECTS, BUILDERS, AND PAINTERS IN FRESCO.

STEVENS and SON, PATENTEES and SOLE MANUFACTURED STEVENS and SON, PATENTEES and SOLE MANUFACTURERS, beg respectfully to announce that this beautiful cement has now arrived at a degree of excellence far surpassing their most sanguine expectations. For all internal work it possesses a great superiority over every article hitherto in use; it is now being used extensively by Government in the British Museum and other public buildings. IT DOES NOT THROW OUT ANY SALT, but presents a beautifully plain and perfect surface, which may be painted upon dry work within four days without peeling. It is equally applicable for walls or lath, for mouldings, architraves, skirting, or flooring; and is admitted to form the best ground for freeco painting, having been used for many of the prize freecos lately exhibiting in Westminster Hall. It will bear an intense heat without cracking, and for hardness, durability, and economy, cannot be equalid. 186, DRURY-LANE, LONDON.

186, DRURY-LANE, LONDON.

Agent for Liverpool and Manchester, Mr. R Part, 11, Atherton's-buildings, Dale-street, Liverpool.

STOCKTON LIAS CEMENT.

STOCKTON LIAS CEMENT, MANUFACTURED upon principles laid down in Major General Pasley's Essay on Limes and Cements.-It is of a heautiful Stone Colour, and of ac-knowledged superior quality, free from vegetation, does not erack, and is well adapted for every description of modelling and casting. It has been extensively used at the Earl of Macclesfield's, Ensham-hall, by C. Barry, Esq.; at Sir F. Shuckburgh's, Shuckburgh-hall, by H. E. Kendall, Esq.; for Works now in progress at Marbury-hall, Cheshire; and for many of the Mansions erected during last Summer in the vicinity of London. for many of the Ma vicinity of London.

WILMCOTE LIAS CEMENT,
 WILMCOTE LIAS CEMENT,
 Is of inferior colour to the above, from containing oxide of iron, but of very Superior Quality for Tunnels, Sewers, and Hydraulic Purposea; its use is stipulated for by Mr. John Roe, Engineer of Sewers, London.
 GROUND LIAS LIME,
 For Concrete, and every description of Hydraulic Work, for which purposes it has been used at Woolwich and Chatham Dock Yards, the London Docks, New Exchange, Hunger-ford Suspension Bridge, Westminster Bridge, Grand Junction Canals, Wood Paving Companies, London and Birmingham Railway Company, for Works in the Alster at Hamburgh, the Kiel and Altona Railway, and various Sea Walls, &c.
 At R. Greaves's Works, Stockton, near Southam, Warwickshire, and at No. 2, South Wharf, Paddington, London.

O ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MER-CHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL. то

JOHNS and CO.'S PATENT STUCCO **GENERAL**. **J**OHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto in-troduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Seaside. It may be used in the hottest or coldest Climates at any beason. It will adhere to any subtainee, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the servers Storms. Any Plasterer may apply it, the Instru-tions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of enormy. Architects and Builders who have used this Cement have

now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy. Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred. Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from zvery part of the Kingdom, may be obtained on application to MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-Iane, Queen-street, Cheapside, London: of whom also may be had, JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over ex-terior Walls of Houses that have been covered with Homan or other Cements, and which have become dirty and disco-loured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come of in flakes, being in direct chemical opposition with Cement; whereas MESSRS, JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, threeby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producerable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

TKINSONS CEMENT .- The public is A A respectfully informed, that the price of this very ex-cellent Cement, which has now been in use for Architecture and Engineering works upwards of thirty years, is reduced to 28. 3d, per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B..-This Cement being of a light colour, requires no arti-ficial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

KEENE'S PATENT MARBLE CEMENT.-The Patentees of this composition beg to refer to the British Muscum, the Royal Exchange, the new works at Bethlem Hospital, Greenwich Hospital, and the Co-liseum in the Regent's-park, as buildings finished or in pro-gress, in which Keene's Cement has been used as an internal stucco. Its superiority to common plastering consists in its extreme hardness, and the rapidity with which it dries, which qualities fit it to receive paint or other finishing sooner than other water Cement. When employed for skirtings, architrave, and other mouldings, in place of wood, it checks dry-rot, is impervious to vermine, prevents the spread of fire, and is more eco-nomical in its application than the material for which it thus becomes the substitute. Confirmation of these statements is to be found in the almost universal adoption of Keene's Cement for Skirting and Hall flooring in the new houses on the Hyde Park Fastate, where its application is to be seen to the fullest advan-tage. In Liverpool and Manchester Keene's Context her in

surface. The high polish and marble-like hardness of which this Cement is susceptible render it the most suitable material for the manufacture of Scagliola. Patentees, J. B. WHITE & SONS, Millbank-street, Westminster, Manufacturers of Roman and Portland

Depôt in Liverpool, 36. Seel-street, James Woods, Agent.



M OON'S IMPROVED CHIMNEYS. M CON'S IMPROVED CHIMNEYS.— Samples of the Bricks to form the Circular Flue, now coming into general use, also those invented by Clark and Reed for a similar purpose, may be seen at the Patentee's Western Depôt, New-road, near Tottenham-court-road, where may be procured the Metal Bars and Throats, also the much-approved Caps for the prevention of Smoky Chim-neys, without causing adjoining flues to smoke, or producing the noise so generally complained of, arising from a large surface of metal being exposed to the action of the wind. Licences are granted to Brick and Tile Makers for manne

Licences are granted to Brick and Tile Makers for manu-facturing the Bricks and Tiles, throughout the United King-dom, by application as above, or to Mr. ELIAS DORNING, 37, Cross-street, Manchester.

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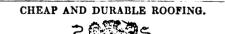
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11. GREAT MARLBOROUGH-STREET, LONDON, Offer to Paintern, Builders, Rc., Painting Brushes of a quality far superior to those generally offered for sale, to which they beg to call the attention of all who prefer quality and durability to apparent cheapness.

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F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and

THE PATENT ASPHALTED FELT, FOR ROOFING

THE PATENT ASPHALTED PELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c. Beg to call the attention of the Trade to their ROOFING FELT, which has been exhibited at the great Agricultural Shows of England, Scotland, and Ireland, and orst NRD THE FAIZE, for being the beat and cheapest article for Roofing. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 22 inches wide. The price is only One Penny per Square Foct. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dyr-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION. THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, IAMB'S-BUILDINGS, BUNHILL-ROW, LONDON. A Specimen Roof to be send the Factory. A liberal Discount allowed to the Trade.





SATURDAY, MAY 3, 1845.



SOME difference of opinion has existed relative to a requirement of the Metropolitan Buildings Act with regard to the construction of chimneys. Schedule F

provides, that every chimney and chimneystack, except. angle chimneys, "must be built from the foundation to the top thereof, without any corbelling over, whereby any upper part of the brickwork of such chimney or chimneystack shall overhang any lower part of the brickwork on the front thereof."

Many of the district surveyors considered that this interdicted all corbelling whatsoever in chimney-stacks, and that a chimney-breast in an upper room could not be made wider than the breast below, any more than it could be made to project further from the face of the wall.

The referees have now made an award which settles the question. A joint requisition was sent by the owner and the district surveyor with regard to a third-rate dwelling-house now building in Regent's-park-terrace. It stated, "That doubts exist as to the propriety of allowing jaumbs and flues to project from party-walls upon strong stone or iron corbels bearing partly upon the jaumbs and chimneybreast underneath, in order that the chimneys of the third stories (the one-pair floor) may be placed in the centre of the rooms, there being a difference in the depth of such rooms and the rooms of the story below," According to a plan and elevation of the chimneybreasts which accompanied the requisition, one of the breasts was required to extend in width twelve or fourteen inches beyond the breast below it. The referees determined that the chimneys in the third and fourth stories (one-pair and two-pair floors), and in the front room of the fifth story, as shewn in the elevation, might either "be gathered over in the brickwork, or be set over upon sufficient iron or stone bearers in the direction of the length of the wall to which the breast is attached."

We apprehend, although not needed in the particular case laid before the referees, that the breast in the second story of a building (ground-floor) may be gathered or set over in like manner in the direction of the length of the wall, as the clause in Schedule F, already quoted, simply interdicts corbelling, " whereby any upper part of the brickwork of such chimney or chimney-stack shall overhang any lower part of the brickwork on the front thereof."

The same Schedule, in continuation, moreover, provides for corbelling over not more than nine inches from the front of the wall or stack to which the chimney shall adjoin, in certain situations : that is to say, above the ceiling of the third story (the one-pair floor, ordinarily), in buildings of the first-rate and extra first-rate; and above the ceiling of the second story (the ground-floor), in buildings of the second and third rates.

The question, What constitutes the bond fide commencement of a building ? still occupies, occasionally, the attention of the referees. The following are the heads of two awards on the subject recently made :--

THE BUILDER.

Norland-road, Hammersmith, The district surveyor stopped the works, on the ground that the walls were insufficient in thickness, and the footings insufficient in height. The owner contended that the surveyor had nothing to do with them, as they were commenced before the 1st of January last, and called upon the referees to direct the surveyor to withdraw his notice. The surveyor stated that the houses were commenced hastily, during the latter part of December last, and were carried up four feet in height in an unworkmanlike manner, and were left exposed to the weather without any drain, so that the work had become quite ruinous; that portions had fallen, and great part of the remainder had been pulled down. He said it was not a bond fide commencement because the buildings appeared to be essentially different from those first projected, of better character, and were constructed in part of another material: further, that if the referees should consider it a bond fide commencement,-the nature of the works now in progress, comprising "the rebuilding, enlarging, and altering the same," brought them under the control of the Act. The works referred to he described as, "Generally rebuilding the external walls from the footings and facing same in part with stone ashlaring: setting back the front wall to the centre house 4 inches, and laying new footing to part: increasing all the party-walls and their footings one-fourth in thickness: removing the additional buildings (which had been raised same height as the rest) in the rear of the two end houses : taking away the chimney-stacks and their footings from the external walls of the two end houses, and building two new chimneys with the party walls of the same: the two end houses are also to have an additional story, and the walls to be carried up doubtless, of an increased thickness."

The owner admitted that a considerable portion of the work, being injured by the weather, had been taken down.

The referees decided, that as the houses were duly commenced before the 1st of January, "and are now being carried on mainly in accordance with the same commencement, so as to evidence that the same was a bond fide commencement, the alterations stated are not such as to bring the said houses within the operation of the provisions of the said Act so far as relates to the original building of the said houses."

As it was a case of "reasonable doubt," they awarded that the expenses (34.9s.2d.) should be paid by the parties in equal moieties.

The other case was in the Paddington district. The owner gave notice to the surveyor, November 27, 1844, of his intention to erect two second-rate dwelling-houses. Ho had previously prepared a concrete foundation, and ultimately completed the footings before the 1st of January last. The surveyor taking a particular view of a letter sent by the referees to Mr. Allen, of Rotherhithe, in January (see BUILDER, p. 37, ante), concluded that footings only did, not constitute commencement, and called on the owner to give a fresh notice. The owner, it should be said, had contracted with a bricklayer for the erection of the houses before he gave the first notice: and the surveyor did not doubt his ' good faith."

The referees decided that as the footings "were completely formed and executed in a regular and workman like manner, such buildings must be deemed to have been com-The first relates to six third-rate houses now menced before the 1st day of January, 1845,

building for Mr. Stewart on the west side of | and to be 'already built' buildings within the meaning of the said Act, and not within the operation of the provisions thereof, so far as they relate to the original building of such buildings."

It was awarded that the expenses (31.2s. 4d.) should be paid by the parties in equal mojeties.

In reply to the inquiry of some corresspondents, whether or not projections from external walls formed of timber and covered externally with incombustible materials would. be conformable to the Act, we can mention that the referees have decided in the negative. in the case of a water-closet projecting from the back wall of a house in Dover-street, Piccadilly. The materials proposed to be used and declared inefficient,-were, timber framing and a covering of galvanized iron.

INSTITUTE OF BRITISH ARCHITECTS.

On Monday, the 28th ult., a meeting of the Institute was held at their rooms in Grosvenorstreet, Mr. H. E. Kendall in the chair.

Amongst the donations announced, were designs for churches and parsonage houses, published by the Prussian government, a work on the Greek Theatre, by Herr Strack, and ten guineas from Mr. Donaldson towards the library fund.

Mr. Fowler, who was the bearer of the German works, made some remarks on the buildings in progress in Berlin. Amongst the most important was an addition to the National Museum, whereof the construction was peculiar, The building is fire-proof, and displays a union of great lightness and great strength. In digging for the foundation they reached a stratum of infusorial earth, and this was made into cones and pots, with which to form the ceilings. The modern Gothic at Berlin he considered bad; in all other styles the buildings there were very satisfactory. The munificence of the government contrasted strongly with the parsimony exhibited in England.

Mr. James Thompson read a paper on the hagioscope and other parts of the chancel of Alderton Church, ten or twelve miles from Malmsbury, Wilts; but as we shall probably print the paper entire, we refrain from any notice of it here. A conversation on the uses of hagioscopes, or squints, took place, wherein Messrs. Scoles, Richardson, Godwin, and others ioined.

Mr. F. J. Francis then laid before the meeting some remarks on encaustic tiles; and, after tracing the history of their manufacture in the East, Greece, Italy, and our own country, commented on symbolism, and found fault very properly with some of the absurdities in Durandus.

Earl de Grey, the president, has invited the members to a conversazione on Friday, the 9th inst. The council will have the honour of dining with his lordship previously.

CAMBRIDGE CAMDEN SOCIETY .- Sir William Follett and Professor Starkie have given an opinion in reply to a case submitted to them, that the dissolution of the Society cannot be effected except by the unanimous and expressed assent of all the members ! As this is not likely to be obtained, the committee will be prepared to submit resolutions at the anniversary meeting on the 8th inst., to enable the society "to continue to subsist in the spirit of its original constitution, and consistently with duty, usefulness, and honour." Blank forms have been sent to all the members in order to obtain their opinion, but it seems quite ertain that dissolution will not take place.

ECCLESIASTICAL ARCHITECTURE.

THE that action of periodical reviews is at this thick very different from what it was orl-ginally, when they did simply what they pro-feesed to the, namely, gave you a notion of the ressed to the, namely, gave you a notion of the books randed at the head of the article, and their own opinion thereon. You now find, in addition sometimes to this, and sometimes indeed altogether without it, the reviewer's own views on the subject of the works named, so that they present, in fact, a series of estays on the various topics successively brought before the public by writers. Thus in the present number of *The Quarterly*, "Vacher's Parliamentary Pocket-book" introduces a paper on Whig Tactica; "The Crescent and the Cross" a disquisition on the results of French ambition in the Levant; and the beau-tiful works of Mr. Gally Knight and the Chevalier Bunsen, a valuable and interesting essay, seventy pages long, on ecclesiastical ar chiteoture, more especially as regards plan.

Such of var readers as may not be able to be the Review in question will be glad to find a portion of this latter article in our pages; to those who may be able, it will serve as an inducement to obtain the whole.

The writer thus introduces his subject :

"Your Jonathan Oldback, your staunch antiquary of the genuine plodding Gough and Stukeley school, who values architecture historically, and merely historically, escapes in-numerable distresses by which Sir Visto would torically be crazed. He considers every ancient building as an ancient chronicle: Ordericus Vitalis in 'Cash stone,' Gervasius Dorobernensis in Purbeck marble.' He reads his tome for the distraction thereby imparted; he delights in it will "The inelegance of the composition offende him not, neither does he despise the radeness or coarseness of the illuminations. Continued by successive annalists, he is un-would be the ant of uniformity in style. Wach wave of the wart of uniformity in style. "Back wave of the wart of uniformity in style. "Back wave of the soul of those whose bodies are silent in the grave. Though the handwriting may change, and the shape of the letters vary, and the method of narration alter, still your chronicle, like the community to which it belonged, forms one continuous whole. You, if you imbibe Oldbuck's spirit, read it on from year to year, from reign to reign, from century to century, through Anglo-Saxon and cloister-Latin, and cloister-Latin and Norman-French, and Norman-French and Chaucerian-Esglish, as one authentic volume. You cannot bear that the smallest portion should be expunged, even for the purpose of being supplied by the most clever conjectural emendation. Still less would you wish that some ingenious popular literateur, acting abbot or prior, were to suppress the original, and recompose the in affected archaisms, so as to make the whole story look as he fancies it might have done, if compiled in the twelfth century. 'L'abito non fa il monaco;' he will not gain Anselm's 'sanotity by arraying himself in Anselm's and).

" 'Is it not a great blemish, Mr. Oldbuck,' says Sir Visto, 'that the front of our noble Minster should exhibit the deformity of un-Anison owners; the northern, rude, clumsy Norman, whose stumpy bulk contrasts so dis-sgreesably with the delicate proportions of its southern companion ?'

* By no means, Sir Visto; the rude, clumsy, northern tower is a certificated work of the times of the Conquest. It is coeval with Archbishop Lanfranc. The tower constitutes tectural history; if you tear the page out, the facts it tells you are lost.'

Surely that perpendicular tracery, blocking up the circular arches of the solemn transept windows, should be removed, and the composition restored to its primitive simplicity?

You are quite mistaken. In its primitive state the transent was not simple : every capital and moulding being rich in gold and colour. By letting in more light, the blanched walls would only look more cold and crude, and at the same time you deprive the building of the instructive lessons this portion imparts; for I, Sir Visto, always view the material church as an emblem of the spiritual church, and the perpendicular tracery is to my mind a memo-ried of the era of Chicheley and Stafford, and Gerson and the Council of Constance, when

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so many changes were fermenting in Christen-dom. Were I reading to the collegers here, I should make them attend to such architectural features, as a branch of technical memory

"Well, Monkbarns, but what should be done with that diminutive gable; the debased Gothic of the Elizabethan era? Would you not restore the cathedral to its former lofty proportions ?'

'By no means, Sir Visto; don't meddle: the walls have been so weakened by the demolition of the refectory and cloister which once adjoined them, that they could not bear their pristine altitude. You would ruin the buildng by such injudicious and cruel kindness. The whole pitch of the roof has been lowered to suit our modern mode of carpentry, and the choir could not now carry the beams according to their ancient elevation. The king-post and the queen-post, so essential to all such high trussing, have been very materially shortened by the alterations begun in the time of William and Mary. If you attempted to raise the cross-crowned pinnacle to the standard of William of Wykeham, it would tumble down.

Well, but Mr. Oldbuck, surely you will not plead for those misshapen porches and door-ways, with heavy arches and contorted pillars, Laud?'

Uncouth as they may be, they decided ecclesiastical character: · I do. possess a decided ecclesiastical they are in keeping with the cathedral chaunt, They are more than mere ornaments; although both you and the utilitarian would strangely coalesce-so constantly do extremes meet casting them off. Our poor dear old church has been so hacked about, that Laud's additions have become incorporated in the original work. Cut them away, you will topple the whole edifice upon your head.'

Thus are the feelings of our antiquary dis played. There is no one vestige or memorial of past times, which he does not consider as of past times, which he does not consider as appealing to the heart. The rays which, dimly discerned in the dark niche, beneath the battered canopy, surrounded the head of St. Erasmus' demolished statue, remind him of the error of the worship, but also of the inde-cent new corributions with with it. cent, nay sacrilegious violence with which it cent, hay sacrilegious violence with which it was removed. Refusing to replace the statue, he will not efface the traces of its existence. He seeks not to blot out the St. Christopher peering through the whitewash, the token of the simple faith of past ages, yet he abstains from restoring a portraiture which would be a

mockery in our own. The lead-work in the windows, describing the void outline of the figure which has been dashed out by the despoiler; the head in blank, and the hands in blank, and the long robe in blank, and the feet in blank, at the bottom of the blank by which that long robe is indicated, the ideal, as it were, of form, reproduce in his mind a far more true conception of the build-ing in its glory, because they tell of the cala-mities it has sustained, than as if the absent stained glass had been replaced bv the most glowing vitrifications of Willement or Wailes.

The sepulchral recess is closed by the elaborate trellise, quaintly knotted and contorted, rusty and broken, half hiding the tomb behind. Rusty and broken as the iron may be, Oldbuck advises that it should be let alone; he will not have the enclosure repaired, for with hot mending and marring are synonymous terms, nor will he clear it away for the purpose of giving a better view of the monument: he values the effect of mystery; and though he would not brighten up the curious workmanship of the old craftsmen of St. Eloi, he knows that if it were removed it would be sold in 'naval-store' shop for two-pence the

specimen remaining of that species of art will be irrecoverably lost.'

The heavy memorial of the age of our first Stuart, the knight in his stiff armour, the lady in her stiffer roff and fardingale, block up a Sedilia; but the knight was a benefactor to the poor: he founded the decayed hospital: perhaps the sight of his effigy may yet do some good, as a reproach to his posterity; if you demolish the incumbrance, as you call it, your Sedilia will still continue as unfilled as Banquo's chair.

Our antiquary will not relay the footworn pavements, where the sunken flag-stones mark the once frequent resort of the pilgrims along the aisle, nor, for the sake of trim neatness, mend and replace the altar-steps hollowed by the knees of the worshippers now gathered to their rest. 'Nay,' says Oldbuck, 'I reverence their rest. 'Nay,' says Oldbuck, 'I reverence even the ponderous, robust, ample brown woodwork of the choir, with the hurlybarly festoons, coveys of merry plump cherabs, mitres which would give a headache to a wig block, croziers fit to fell a bull, and full-bottomed Corinthian capitals; for they do so put me in mind of the days of good Queen Anne, "Convocation," High Church and Dr. Sacheverell.' So Jonathan Oldbuck ponders and reasons, finding sermons in every stone, and deriving pleasure and therefore profit. and deriving pleasure, and therefore profit, from every token of the successive generations who have worshipped within the consecrated walls.

Ill-judged was the allegory which placed the statues of painting, sculpture, and architecture as the mourners round the tomb of Michael Angelo. We do not pay due honour to Archi-tecture if we consider her as the sister, and therefore the equal, of the mere imitative arts: she is their queen. We want a term to desig-nate the intellectual rank of architecture, so closely connected with the imagination that we can scarcely term it a science, so entirely practical and subservient to our needs, that we can scarcely reckon it as one of the sesthetic arts. And yet the arts must all be coerced into the architect's service. Architecture, as a branch of human wisdom, constitutes a genus of its own. Sculpture and painting are entirely founded upon the imitation of nature, whereas the basis of architecture is utility-utility in every sense, from the lowest to the highest, whilst it is wholly conventional in outward arrangements and forms. Architecture may borrow many a principle from nature; but she consults nature for *lessons*, and not for *models*; and let us here hearken to our friend Mr. Cockerell, and listen to his exposition of this principle, in a passage as remarkable for its acuteness as its truth. 'Sir C. Wren reflected that the hollow spire

which he had seen or built in so many varieties was, after all, but an infirm structure; and he sought that model which should enable him to impart to it the utmost solidity and duration. Simple was the original from which he adopted his idea. He found that the delicate shell called turretella, though extremely long, and liable to fracture from its base to its apex, by the action of the water amidst the rocks, was rendered impregnable by the central column, or newel, round which the spiral turned. Therefore, in his spire of St. Bride's he establishes the columella in the centre, round which he forms a spiral staircase to the top, issuing on stages of arched apertures; thus giving us (if not the most beautiful) certainly the most remarkable and enduring spire hitherto erected.

When Brunelleschi was charged with the erection of the dome of Sta. Maria, at Flo-rence, of nearly equal diameter with that of the

ship of the old craftsmen of St. Eloi, he knows that if it were removed it would be sold in 'naval-store' shop for two-pence the pound. That reredoss, erected during the short reign of Mary, may be inelegant, and incon-sistent with the decorated tracery and the graceful foliage of the battered screen; but, executed in graffito, the drawing and hatching produced by scratching off the upper coat, so as to shew the black ground below, it is a valuable memorial of the short sunshine which gleamed upon 'the ancient worship,' as well as evidencing the spreading influence of ultra-montane taste. 'And if the reredoss be taken down,' says Oldbuck, 'I know that to the brokers it will wend its way, and our only

Pantheon, but at more than twice its height from the pavement, upon a base raised on piers, and by no means of the strength and cohesion of the original model, the Pantheon, it was apparent that in giving it the same solidity, the weight would be insupportable on such a foundation. How was this object to be accomplished? Brunelleschi reflected that the bones of animals, especially of birds, possessed solidity, without weight, by the double crust and hollow within. But above all, he remarked that the dome which completes the architecture of the human form divine was constructed with a double plate, connected by the light and fibrous but firm walls of the hollow cancelli, so that strength and lightness were combined in the utmost degree. Brunelleschi followed this model in his dome of Sta. Maria; and the traveller now ascends to the lantern, between the two crusts or plates forming the inner and the outer Domes.

'Michael Angelo adopted this contrivance in the dome of St. Peter's; and almost all the subsequent domes are upon the same idea.' •

In ornament, architecture must equally appeal to nature, to the graceful leaf, the binding tendril, the spreading herb and flowret bright; but the architect employs them all as elements and in combination. Even as the living body assimilates to itself the food which gives it growth, and the air imparting health and vigour, and above all bears in its countenauce the expression of the vivifying mind, so does architecture render all the material objects of which the building is composed, and all the knowledge requisite for their combination, and all their elegance and symmetry, subservient to her own dominion and empire. Hence the magnificent conception of Vitruvius—every branch of human knowledge is needed to constitute the perfect architect : literature, design, geometry, optics, arithmetic, history, philosophy, music, medicine, jurisprudence, astronomy. There may be somewhat of Platonic mysticism in these Vitruvian opinions. Still we always find them cleaving more or less to the great masters of the art. They are founded upon immutable truths. Every structure becomes the living evidence of the knowledge, the manners, the opinions, and the feelings of mankind."

After examining Mr. Gally Knight's works, especially "The Ecclesiastical Architecture of of Italy, from the time of Constantine to the 15th Century," the reviewer pays well-deserved tribute to the industry, ability, and munificence of the author. Mr. Knight's name is inseparably connected with the history of pointed architecture, to the illustration of which his labours have chiefly tended. In his first work "An Architectural Tour in Normandy," he completely controverted the statements of the Norman antiquaries to the effect that pointed architecture was fully developed there in the 11th century.

lith century. In the "Architectural Tonr in Sicily," his main object was, further to investigate the origin of the pointed style, "From the facts which he collected, he ascertains that as soon as the Normans achieved their conquest, they employed, as Mr. Knight calls upon us to observe, a style hitherto wholly unknown in Europe. The conquest of Sicily was effected six years after the conquest of England—San Giovanni dei Leprosi was built in 1101, by Count Roger, in the time of Rufus. The other examples of the pointed style in Sicily, built by Count Roger's son, the first Norman king, were begun whilst Henry I. was still sitting on the throne of England. All these are in the pointed style of architecture, which gradually prevailed in all the sacred, civil, and domestic architecture of Sicily.

'The buildings, therefore, still existing in Sicily, prove first, that the Normans in Sicily employed the pointed style; secondly, that it was used in that island before it was used on the continent of Europe; and thirdly, that it was borrowed from the Saracens. But the Norman Sicilian style was not Saracenic alone. Saracenic in its arches, it was Roman in its pillars and capitals, Byzantine in its cupolas and mosaics, Norman and Greek in its enrichments—a combination only to be found in Sicily, and natural there, from the mixture of the different nations.'

The fact, that the Sicilian Normans em-

• We quote from the report in the Athenseum. Why does not Mr. Cockerell give us an authentic edition of his lectures ?

ployed the pointed style at a very early period, and the presumption that such style was borrowed by them from the Saracens, being established, the question then is raised as to its mode of transmission, and Mr. Knight concludes by adopting the opinion so often advocated, that the pointed arch, borrowed from Asia by the Crusaders, was by them generally introduced into Europe."

THE BUILDER.

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causes destined to produce that alteration in the human intellect, of which the outward token was exhibited in the so-called decline of the fine arts. Symptoms of this altered course of thought were evident before the promulga-tion of Christianity, and proceeded with in-creasing rapidity as the new faith became triumphant. The problem of the great change which thus came upon the human mind is very intricate. Art may have lost its ancient ele gance, but this mutation was nevertheless the necessary means for the wonderful develop-ment afterwards assumed by architecture, in producing a style, which, though not rendering others unchristian, was certainly more than all others congenial to Christian faith. One element, however, cannot escape notice. The antipathy borne by the early Christians to the fine arts, debased by the pollutions of heathen idolatry, can neither be denied nor concealed; and the same causes which prevented the cultivation of the arts ensured the degradation and subversion of their proudest and most splendid monuments. Excluding for the present the consideration of other agencies, the first paragraph in the rise of Christian architecture must narrate the fall of the structures devoted to the superstition, which it was the end of the Gospel to obliterate and

It was the end of the Gospei to obliterate and destroy. The beathen temples were doomed to inevitable ruin. Laws had been promulgated by Theodosius for their preservation; conducive to the decoration of the city, they might be perhaps rendered useful for the purposes of civil society. Some may have been thus respited, though not rescued, until the decayed remains crumbled to the ground; they were never respected or honoured by public opinion, and could rarely be adapted to the objects pointed out by the imperial law, without such alterations, as, in most cases, amounted to destruction. Others were accidentally preserved in desolate or secluded situations, in the forest or the marsh, or the mountain-glen, or on the shore, whence the inhabitants have been extirpated or chased away. Such are the columns of Pæstum; the heavens are yet as bright as when the garlands hung down from the ruined architrave; the sea as azure as when the waves were ploughed by the painted prows; the crushed herbs beneath your feet still send up their rich perfume. To the senses the works of art are still as noble, the works of nature as sweet and gay; but the whole scone mourns under the curse inflicted upon scoffing, lascivious, corrupted Hellas. Language, people, race—their very name has disappeared. The wasting pestilence still hovers, and will ever hover, marking the vengeance which has fallen on the deserted shore.

Few temples were ever adapted for the purposes of Christian worship: fewest of all in the capital of the Christian world. 'Of the Christian hierarchy,' says Gibbon, 'the bishops of Rome were commonly the most prudent and the least fanatic; nor can any positive charge be opposed to the meritorious act of saving and converting the majestic structure of the Pantheon.' In casting the account of the merits and demerits of the Christian hierarchy, such a pontiff as Gregory the Great would have been ill inclined to accept the encomium. In the gergo of Gibbon, 'fanaticism' is piety, and 'prudence' unbelief. The 'meritorious act,' thankful as we may be for the result, was a single item, by no means influencing the general balance of praise or dispraise; it was the solitary performance of Boniface IV.;

it was an act from which na consequences resulted. With the exception of the Raathean, we fail to detect any real example in Rome, of a temple which can be said to owe its preservetion, in the proper sense of the terms, to the Christian clergy. They had then no thought of the kind—they took no pleasure in such antiquities. They sought no credit for such care. Antiquaries, with eager zeal, have collected about ten examples, in which this preservation is asserted. Even in the cases which are least dubioue, no further merit can be claimed for the hierarchy than the accidental preservation of a portico, a cella, or a wall, an encumbrance which it was troublesome to remove-ra fragment which saved some expense, built up, concealed, marred, or deformed by the new erection to which it was unwillingly conjoined.

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It could not be otherwise. In the early Christians, any participation in our modern worship of heathen art, would have been false and unnatural. All the opinions, all the habits, all the feelings, all the conscience of the early Christians strove against the preservation of the memorials of heathenism. Neither beauty nor convenience, if they had possessed the latter requisite, would, save in some few special cases, like that of the Pantheon, plead for the preservation of the relics of classical antiquity They considered the idols as scoursed. No object which had in anywise been connected with the worship of idols, or could be supposed to have been employed in their service, was to be used without exorcism. Thus, in the ritual of the church of Durham, there is a form of by the charter of Durhand, there is the form of prayer for hallowing, the vase found in the Roman encampment, which could not he em-ployed for any Christian use until adjected to such purification. Nor, was this belief con-fined to the rude Northumbrian persent, or to be between any Let a barbarous age. Let us place eurselves be-fore the portal of St. Peter's, fresh from the workmen's hands. Four months have been employed in removing the huge obelisk of Sesostris from the ruins, of Nero's Circus to the front of the Great Basilica. Eight hundred workmen, toiling at creaking winch and groaning capstan, heave up the mass; whilst the breathless crowd watch the slow rising of the gigantic besm. It stops; when the one cry-'aqua elle funi,' which subjects the in-dividual who suggests the bappy expedient to the pain of death, enables the maestro to complete his task ; amidst the thunder of the can-But is the work completed i No: the trophy of the victory of Christianity over heathenism cannot yet be received as such, until all connection with its former slavery to the fiend has been destroyed. In solemn procession, the supreme postiff exorcises the magnificent work, so long dedicated to the foul superstition of Misraim, and devotes it to the honour of the cross, performing the rites which were deemed to expel the spirit. Those who may not share in the belief which dictated these ceremonies, must, nevertheless, respect the sentiments contained in the simple majestic language, commemorating the consecration of the spoils of heathenism to the service of the cross—'Eace Crux Domini —Christus vincit—Christus regnat—Christus imperat—Christus ab omni malo plebem suam defendat—Vicit Leo de tribu Juda.'

Thus did Pope Sixtus record his triumph. Yet there was a greater triumph felt by the zeal which taught the early Christians to glory in casting down the altars and the high places devoted to sin-deeming-we will not presume to judge whether rightly or wrongly---that such a testimony to the truth was imperstively enjoined upon them. By their deeds they-contemned the temporizing policy of the emperors. They sought the actual and visible victory of literally erecting the temple of the Lord upon the ruins of the habitation of the demon. The statues were broken, to be buried in the foundations: hence few sculptures have ever been found at Rome which did not, like the Venus of the Medici, show, by their defacement and fractures, the aversion of which they had been the objects. Amongst the great congregation of the faithful, the distaste, the horrors excited by paganism--its structures, monuments, glories, charms--were unconquerable and paramount. Idols might have been rites, which, according to the primitive belief, would drive away the demon--yet no lustration

could entirely heal the leprosy of the walls. The language of the Virgin Martyr was schood in every heart—

Your gods, your temples, brothel-houses rather; Or wicked actions of the worst of men, Pursued and practised. Your religious rites 1call them rather juggling mysteries,

The haits and nets of hell.

Your Venus whom you worship was a harlot. Flora, the foundress of the public stews,

And has for that her sacrifice.

Your Jupiter, a loose adulterer, Incestnous with his sister. Read but those That have canonized them. You will find them WORK

Than in chaste language I can speak them to you.' Whatever had been touched by paganism, seemed-and can we say unjustly?---to be reeking with impurity.

Whilst conscientious feelings thus deterred and repelled the early Christians from adopting the heathen temples for the purposes of Christian worship, the same feelings attracted them to holy ground. We shall see hereafter why the temples were wholly unfitted by their mere plans and arrangements for the celebra-tion of the Christian ritual. But, above all, they were destitute of the associations by which devotion was nourished, and faith enhanced. Jove'stemplecrowned the Capitol: the structures devoted to the false gods shone above the palaces of imperial Rome: but the victories of faith had been won by pain, anguish, suffering, death: the altar was not to be raised amidst the haunts of men; the communion of saints was sought amongst the lone memorials of the departed."

FREEMASONS OF THE CHURCH.

APBIL 29th .--- Mr. George Perry, architect, APBL 29th.....Mr. George Perry, architect, in the chair. The following new members were electedMr. Thomas Longman, Mr. John Brown, Mr. John Harvies, Mr. George Field, and Mr. John Wilks. The meeting came to a resolution that a petition should be presented by the vice-presidents to the two Houses of Parliament in favour of Mr. Ewart's bill for forming museums in large towns, and another in favour of forming a gallery for the preservation of British antiquities.

Mr. G. Aitchison, jun., exhibited a rubbing from a brass of John Knapp, formerly portman or mayor of Ipswich, and others from St. Mary, in the Tower, and St. Clement's. Also a drawing of a font in Waley Church, Essex, a small village church, some few miles from Walton on the Naze. Mr. Backhorne exhibited an ancient vessel discovered adjoining Old London Wall, at the back of Ludgate-hill on digging for the foundations of some buildings lately erected there.

Mr. William Papineau delivered a second lecture on architectural chemistry. After reeapitulating the substance of the former lecture, and dwelling shortly on the principles and laws of chemical attraction and affinity, he proceeded to the enumeration and classification of the elementary bodies, detailing the properties of each and their action and reaction upon each other, and the general laws by which they are divided into classes; and dwelling particularly on those of common occurrence and more nearly connected with the science of architecture.

He regretted that want of time allowed him only to give a cursory view of principles which he feared proved somewhat dry and formal to his hearers, but reminded them of the im-portance of a knowledge of theory to successful practice, comparing it to the foundation of a building, which, hidden and forgotten by the multitude, was nevertheless of vital importance to the spongity of the supermutation the to the security of the superstructure; the defective construction of the one producing flaws and settlements in the building, the neglect or imperfect acquaintance of the other producing doubt, indecision, and error in practice.

A NEW SYSTEM OF ARCHITECTURE. Some time ago Mr. W. V. Pickett offered to impart to the Royal Academy his plan for a new system of architecture, provided they would pay him a certain large sum of money for the secret. The Academy refused the offered confidence, and the secret was tendered on much easier terms to the Institute of Architects. Being declined there also, the author first published an account of it in a book, and then, on the 23rd ultimo, brought his system before the Society of Arts. Not being in a position to give an opinion upon it, we content ourselves, for the present, with laying the author's own views before our readers, in nearly his own words :---

The leading principles upon which this system of architecture is founded, are, the adaptation of the law which governs natural forms, and the development of the peculiar properties of metallic bodies.

he highest order of beauty, united with the largest amount of utility, is universally allowed to be exhibited in the works of nature, espe-cially in organic nature and in human form, head the attainment of the highest order of beauty, in conjunction with the most compre-hensive amount of *utility*, is the true end and purpose of art in architecture.

The great peculiarity in natural organic form is, that its outlines are invariably deter-mined by combinations and modifications of curved lines; and in the adaptation of this law, in the formation of the primary masses, compart-ments, and apertures of architecture, a higher order of beauty may unquestionably be attained than is possible to result from combinations of straight lines; and while the important purposes of shelter, comfort, and safety, are equally well attained, the additional utility and convenience of infinitely greater *cleanliness* is effectually secured, because the occurrence and junction of right angles, consequent upon all combination of straight lines, invariably occasions the harbour of dirt and insects, which are, with much trouble and difficulty, if, indeed, they ever can be, thoroughly eradicated. Utility unquestionably demands the partial occurrence of straight lines in building, and such are found conducive alike to beauty and utility in the organic constructions of nature. But nature does not inflict upon her creatures the trouble and inconvenience of direct and acute angles; and art, the highest art, in following, as it ever must, her footsteps, would also abstain from the introduction of the inconveniences and inferior beauty resulting from square forms and right angles in the pri-mary arrangements of architecture.

Now, for the embodiment of forms deter-mined by curved lines, and for general appli-cability to the purposes of architecture, metals are the most efficient and durable in substance, affording indeed greater facility for the pro-duction of forms of this description than any wherein the straight line prevails, in conse-quence of the liability of the latter to warp during the process of cooling, while their extraordinary strength and tenacity gives most ample occasion for the introduction of the whole range of botanical forms in the decorative arrangements of building.

In the architecture in question, the development of the properties of these bodies is proposed to be effected by the introduction of hollow walls or other primal masses, composed of scantling or tie-bars covered on either side with cast-iron plates, attached together by pins or rivets passing through each, and secured on the inner side by a nut or screw; while for all decorative features the imitation of the basso-relievo style of execution is abandoned as fitted only to masonry, and that which is transparent and primarily isolated is which is transparent and primarily isolated is adopted. Such features are affixed to the walls by means of the necessary instruments for holding the parts together, viz. pins or rivets, --not closely affixed, because many dis-advantages in respect to beauty and utility would result from such arrangement, but by a simple extension of the pin held a short distance in advance, whereby the beauty and cleanliness of the structure is most effectually secured; and by the introduction of suitable colour, combined with the natural agency of light, the shadows of these features become projected on to the primal masses, thereby creating an additional and interesting variety in effect altogether impossible of accomplishment in any other architecture.

Again, in obedience to that unerring maxim in architecture, "that real and apparent constructions should assimilate, the development of metallic properties will demand the general disuse of columnar support; because metals possess a power of suspension and capabilities of sustaining from within the walls of edifices, the weight of all such projective fea-tures as are required for the utilities of porticos or similar constructions in aid of general effect, without the intervention of any incumbent support of similar description to the column in masonry; and as the general character of the decorative features should be conformable to the nature of the primary constructions, the substitution of suspended features of pendentive character will form another marked distinction of this architecture. The author considers that, by his system, we may attain a higher order of beauty and a combination of effects different from those of any other architecture. We may have structures of greater cleanliness, whether on account of the non-absorbent properties of the material, the nature of the decorative constructions, and the peculiarities in primal form. We may have buildings perfectly fire-proof, and, from the circumstance of a stratum of air passing between the plates of the walls, cooler in summer, and warmer in winter, than any others. We may have them durable to the greatest extent; present-ing the utmost facility in erection, and capable of being removed at trifling cost, and without the injury or destruction of their respective parts. We may have an architecture not necessarily demanding the application of metal in its primal parts, but equally with masonic art, employing brick, cement, and other factitious substances in place of its legitimate material,-an architecture adapted to the various requirements of domestic life and of modern society, at once perfectly practicable, and on many occasions more economical than any other; and above all, he contends, we may have that which the world has never yet had, a commercial architecture, opening new and untrodden fields for enterprise of almost every description, and enabling this country to become the great emporium of art throughout the world, by supplying the various nations of it with the productions of architecture.

We reserve to ourselves the right of expressing our own opinion upon this hercafter, should it seem desirable to do so.

NORFOLK CHURCHES.* FOULSHAM.

WE were gratified to notice that those con-nected with this spacious and handsome edifice have acted as conscious (which too many are not) that "all the comeliness we can give to God's house is necessary, if we would have his blessing." It was reduced to a ruinous shell blessing." It was reduced to a ruinous shell by the calamitous fire which occurred here in 1770: but the devastation has been in degree repaired; we say in degree, because there are yet strong objections to the taste in which this has been effected. How truly has it been ob-served that "until within a very recent period, purity of design and character in our ecclesiastical buildings seems to have been well night banished from the land."

This church is dedicated to the Holy Innocents, and consists of a chancel, a nave flanked by two aisles, a south porch, and a fine perpendicular tower situate at the west end of nave; it contains only two bells.

The east window-we begin our survey the chancel-comprises five lights, the mullions, which throughout the entire range are beaded, simply crossing on the head. The arch, which has labels both within and without, springs internally from jamb-shafts, two on each side, separated by a cavetto moulding, and having the capitals enriched with foliage. On either side appears a trefoiled niche under a decorated ogee canopy, adorned with crockets and a finial; but these are partially blocked by a vulgar painted dossel in the heavy style of the Stuart period. A large double piscina is found under foliated ogee arches, having the space between pierced by a quartrefoil; the orifices have disappeared. The sedilia are very fine; two clustered piers have their bowl-shaped capitals enriched with folisge; from these and their "responds" spring three cinquefoiled

* Sec Vol. II. p. 629. † Markland's "Remarks," &c. Digitized by 8

EPISCOPAL RESIDENCES .- It appears from a Parliamentary paper delivered this session, that Episcopal residences have been provided in the dioceses of Gloucester and Bristol, Lincoln, and Ripon; in that of Lincoln at a cost of 14,788.; and in that of Ripon at a cost of 14,611. The cost of the Episcopal residence for the Ripher Control of the Second Presidence for the Bishop of Gloucester and Bristol cannot be stated, the building not being yet comod.

drop-arches, canopied by a like number of richly crocketted ogee labels with finials; the whole, inclusive of the piscina, being inserted within a square compartment, having its hollow moulding relieved with roses, and the spandrels carved in decorated tracery. The corbels under the labels exhibit male and female heads in the costume of the sixteenth century. The benches of the sedilia are lost, but a chair, with arabesque carving upon it, stands on the north side of the table—by the -by the way a nowise eligible position; the altar rails are heavy and unsightly, the table a good plain oak one.

Oak one. Over the sedilia occurs a beautiful pointed window of three lights, with fine geometrical tracery in the head, and supplied with label and jamb-shafts, like that over the altar. The chancel has a clerestory tier of windows, four on each side; they are of two foliated ogee headed lights "supermullioned" under de-pressed Tudor arches; we regret to add that the heads of these, as also of a three-lighted range in the clerestory of the nave are without range in the clerestory of the nave, are without one redseming exception blocked. The pointed chancel arch, which is recessed, cham-fered, and beaded, springs from large half-round piers, each flanked by two smaller ones, with a broad cavetto between. The corbels of the original wall-pieces are carved with Lombardicks, having coronets over them. The meagre open roof, of low pitch with tie-beams, &c., was placed there towards the close of the last century.

A chancel seat, we hardly know how cor-rect the designation, an open sitting, has lately been placed longitudinally against the south wall. With examples in two churches, each within an hour's ride, of what such seats ought to be, one is at a loss to account for the utter want of taste so prominently shewn here, for good material (oak) being so wretchedly perverted.

vertee. The rood-screen has wholly disappeared, unless indeed a quantity of voluted panelling, yet remaining in the vestry and elsewhere, formed portions of it; though on this we are by no means confident. The nave exhibits on each side four plain circular piers with bell-shaped capitals supporting equilateral double-faced pointed arches with chamfered soffits. The bases partake of Norman character, into a form a bee-hive flattened at the sides into a form a bee hive flattened at the sides into a square. The belfry-arch rises from large and small half-round piers; the architrave is comsmall half-round piers; the architrave is com-posed of two sets of mouldings, the one con-tinuous with the cavettos on the jambs, the other (quarter-round and filletted) springing from the encased shafts with plain moulded capitals. The timbers of the roof here are hidden his a courd calling partially relieved at capitals. The timbers of the roof here are hidden by a coved ceiling, partially relieved at the extremities by scholls, and at the spring of the arch by a large but inelegant cornics.

The polygonal pulpit, set on a mass of brickwork penelled in cement, with early-English arches, is reached through a portion of the ancient wood staircase. It stands on the ancient wood staircase. It stands on the south side of the nave, and has a pendant in the reading desk opposite. There is little to commend in the style of either, the perked up desk being only in too close keeping with the bad taste of square and high pews, some of them lined and carpetted, which occupy the aisles. The nave is without a ceptral avenue. being crossed by a range of hollow-backed -the cheerless portion of such as bear seate

" The trace of the sad trinity Of want, and pain, and sin."

The pavement is of stone throughout. The windows in the aisles, each of three trefoiled ogee lights, with vertical tracery inserted under a depressed Tudor arch, have the central divisions supplied with transoms inter-secting the head which reaches a higher elevation than the rest. The aisles have modern sloped, or lean to roofs, ceiled between the timbers. The font, situate at the west end of the nave, somewhat in advance of the belfryarch, is raised on two low steps forming a spacious octagonal platform. It consists of a circular marble basin placed on a modern stone pedestal, the latter spirally filletted, the other with lonic flatings under a horizontal dancette band. The rim of the basin, which has not the convenience of a drain, is "returned" with an inverted edge. In Parkin's time there was "a neat font of stone with a modern cover, which opens below, and thereon are the

four Evangelists painted." It is impossible to congratulate on the exchange.

The square tower, its outline varied by "franch" or diagonal buttresses at the west end, is divided into four stages by string end, is divided into four stages by string courses, those under the parapet having grotesque gurgoyles in the centre: it has pin-nacles at the angles, crocketted and panelled, with ogee arches. The embrasures of the parapet are in two stages, and are richly carved with quatrefoils, shields, and panels. The belfry windows, of three foliated lights under a pointed arch are supermullioned; and under a pointed arch, are supermullioned; and square-beaded windows in the third stage exhibit stone lattice-work of the same character. The west window, of four trefoiled lights, is inserted beneath an equilateral arch with the dripstone returned horizontallygeneral feature here. The tracery, with ex-ception of the head being pierced with a quatrefoil, and that the mullions cross each general feature here. other, runs in vertical lines. The steeple has a newel staircase threading a semi-hexagonal

a newel staircase threading a semi-nexagonal projection at its north-east angle. The south porch has been converted, by blocking the open archway, into a vestry, lighted by a single ogee-headed window on the western side. The south, or, as by this perversion, vestry door, has its jambs and the ar-chitrave above recessed and chamfered with continuous mouldings, the whole being set under a double-headed label rising from corbels, one of them a head in mascled armour. A triangular or gable-headed buttress, on the south side of the chancel, offers the first feature of the kind occurring in our survey.

"In the churchyard is an altar-tomb of stone, about six feet long and three high, and round this an inscription, which, for the anti-quity of the letters, order, and disposition of them, has been engraved by the Society of Antiquaries, and is Rob. art. COL. LES. UEC. I. LY. HIS. VIF. Each letter has a coronet over it " a monitorian liter has a coronet over a peculiarity already noticed in our remarks on the chancel. С. Т.

HUNGERFORD SUSPENSION BRIDGE.

In addition to the account of this work already given (p. 169 ante), we append the following valuable particulars taken from a paper on the subject read by Mr. Cowper on the 18th ult., at the Royal Institution. This bridge consists

This bridge consists of four broad chains, viz. two chains, one above the other, on each side of the platform; each chain consists of ten and eleven links alternately, and, near the piers of eleven and twelve. This increased strength is to meet the increased strain which takes is to meet the increased strain which takes place near the piers. The chain of the Menai Bridge is only five links wide, and the chain of the Hammersmith only six links wide; but the great breadth of the Hungerford chain (viz. eleven links, or about two feet), gives them great power to resist the effects of the wind, and thus to prevent vibration.

The two piers are in height..... The central span between the piers (being 110 feet wider than the Menai 80 feet.

676] ,, Deflection of the chain Length of each link (7 in. wide, 1 in. 50 ,, 24 ,, 54 cwt. 715 tons. Their weight Width of the platform Height above high water at the centre 352 14 feet 321 ,, 281 ,, for the river traffic, and produces a graceful curve, and prevents any ap-

pearance of swagging.) The section of the chains at the centre of centre span is.....

296 sq. in. 312 ,, - near the piers..... A square inch of iron breaks with 27 or 29 tons, but 171 tons is taken as the impairing weight, i. e. the weight at which it begins to

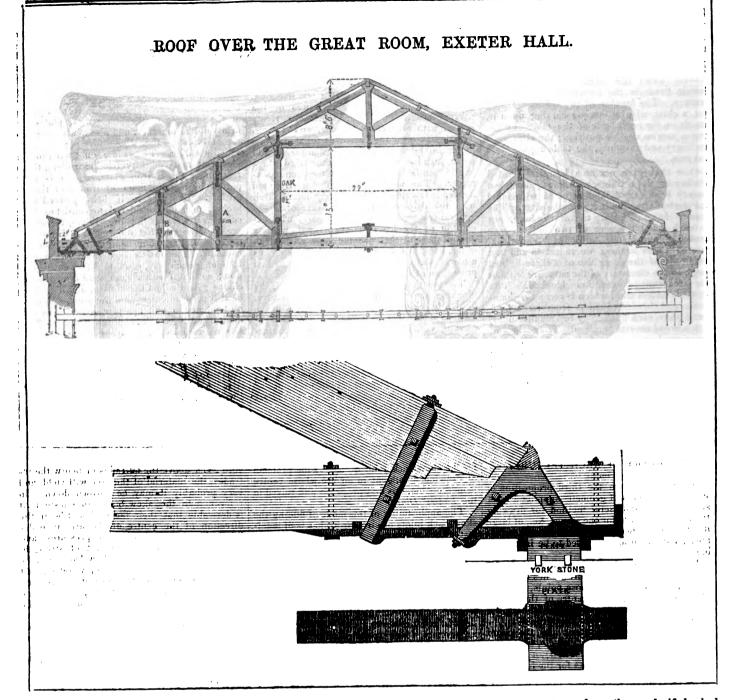
stretch; we have, therefore, for the weight the bridge will actually bear,- $296 \times 17\frac{1}{2}$ tons = 5180 tons. while 296 × 5 tons = 1480 tons.

is the greatest load that can be put upon it. This is taking a crowd standing close together to be 100 lb. per square foot. The entire weight of the chain, the platform, and a full load upon it, would make a load of about 1,000 tons on each pier, being about 8½ tons on each square foot of brick-work, or not quite 14 cwt. on each square inch. The chains are attached to large wrought-iron vertical plates at the summits of the piers: these plates are firmly bolted together, and also to a strong herizontal plate,—the whole forming what is called a saddle. The saddle is not fixed to the pier, but rests on fifty friction rollers, these rest on a thick iron plate, which is sup-ported by a solid mass of iron and timber girders. The pier itself, being pierced with arches, may be considered to consist of four columns of brickwork; the girders, therefore, are so arranged that no weight is therefore, are so arranged, that no weight is thrown on the arches, the whole weight resting on the columns. The saddle is capable of moving 18 inches each way, equal to 3 feet entire mo-tion; so that if either span were crowded the chains would adjust themselves, and the strain be still perpendicular upon the piers, and have no tendency to pull the pier over. The me-thod of putting up the chains was thus :- Two sets of wire ropes, each consisting of three ropes, were hung from abutment to abutment over the piers, in the exact situation the chains over the piers, in the exact situation the chains were to occupy,—these scaffold ropes, as they may be called, being distant from each other equal to the length of the connecting pin. A few feet above the scaffold ropes, two other ropes were hung in like manner; on these tra-versed two light boxes, very much resembling a carpenter's bench turned topsy-turyy. These erradies as thoy are called wors convected to cradles as they are called, were connected together, and contained two windlasses, like those over a common well; these cradles held the workmen. A barge containing the tinks was moored under the cradles; four men in the cradles hauled up a link; and when they had raised it above the scaffold ropes, the connecting pin was put through, and the pin being allowed to rest on the scaffold ropes, of course supported the link. The cradles were then moved forward, and two links joined to the single link, then one joined to the two; the chain consisting, thus, in the first instance, of alternately two and one links. When this twoand-one-link chain was completed, the scaffold ropes were not required, the two-and-one-link chain forming, as it were, a scaffold for the rest of the links; and thus was this bridge erected without any scaffolding but these few ropes, and without the slightest impediment to the navigation, or a single accident. The bridge was opened to the public on Thursday, the lst instant.

FALL OF A VIADUCT AT ASHTON. - One of the most distressing and extensively fatal accidents occurred last Saturday week et Ash-ton-under-line. The Ashton branch railway, ton-under-line. The Asnton oranen ranway, now in progress of formation, and nearly com-pleted, is carried over the river Tame, between Dukinfield and Ashton, by a viaduct of nine arches, and it was this entire viaduct that fell, arch after arch, like a row of nine-pins; precipitating, with the viaduct, between 20 and 30 workmen, who were upon it, chiefly ex-cavators, engaged in filling up the spandrils of the arches with soil and gravel, for the permanent way. As to the cause of the catastrophe, those who are best acquainted with the works, say the arches were very substantial and well-constructed. It is stated that close to the arch which first gave way there is an "eye" of an old coal mine, which has long since been abandoned by the miners, and that some time ago the earth near this "coal-pit eye" was seen to sink, and that it was then stated that the foundations of the arches were unsound. An inquest is now sitting on the bodies of eleven persons who were killed; and it is feared that four more will be added to the number before its conclusion, that number being still missing, and supposed to be under the ruins.

and supposed to be under the ruins. FALL OF AN ANCIENT CHURGH.—On the 14th ultimo, the eastern wall of St. Julian's Church, situate in King-street, Norwich, fell, burying the communion table and one or two pews contiguous thereto. For-tunately no one was personally injured. This sacred edifice, one of the most ancient in the city, consists of a nave and chancel with a round towar. tower.

THE BUILDER.



THE ROOF OVER THE GREAT ROOM AT EXETER HALL.

DUBING the last three months, we have received from several correspondents a request to be furnished with the particulars of the roof which covers the large room at Exeter Hall.

which covers the large room at Exeter Hall. In the annexed engraving Fig. 1 represents one of the trusses on a scale of 12 feet to an inch, and gives the plan of the underside of the tie-beam, shewing the scarf. The width between the plates is 75 feet 10 inches; the width be-tween the walls 76 feet. The height of the roof from the underside of the tie-beam is 21 feat 6 inches. feet 6 inches. The trusses are placed at alter-nate intervals of 2 feet 6 inches and 9 feet. The following are the scantlings of the timbers used :---timbers used :-

| | | | in. in | • |
|-------|-----------------------------------|-------------|--------|--|
| | Tie Beams | | 141bv7 | 1 |
| | Principals | | | |
| | Longer Principal | s | 817 | i. |
| | Collar Beams | | 14 7 | ī |
| | Queens] out of] | English oal | c 817 | in the |
| sonał | Queens out of I Kings of the l | est quality | 67 | i) Shaft. |
| | Braces. | | 747 | £ Contraction of the second se |
| | Upper ditto | | 67 | ī |
| | Purlins | | 71.4 | - |
| | Common Rafter | | 52 | ł |
| | Pole Plates | | 12 4 | - |
| | Wall Plates | | | |
| | Hip | | | - |
| | Ridge Piece | | | |
| | Hollow Queens | | | |
| | Ditto | B | | |

8

mainder, tinted darker, is of cast-iron. We are indebted to Mr. Laurie, clerk of the works at Pentonville Prison, for the drawing from which our engravings were made.

We found no disposition at Exeter Hall to afford the slightest information, and owe no thanks to the officials.

FATAL ACCIDENT AT DERBY.

WE mentioned in our last impression that WE mentioned in our last impression that a portion of the arch just erected over the Mill Fleam, in the Morledge, had given way, and caused the death of two persons, and that this was the second fatal accident that had occurred in the erection of the same arch, the first causing the death of six persons. At the inquest, held last week, on the bodies of Mr. James Sims, the builder, and Edward Harlow, his apprentice, it appeared from the evidence of Mr. Harpur, the archi-tect and auryevor to the corporation of Derby.

tect and surveyor to the corporation of Derby, that the centres of the arch had been impro-perly removed, and that he had cautioned the deceased Sims, the contractor, not to remove them in the manner he had done. He did not, however, interfere with Sims, as he con-sidered that he had more practical informa-tion than himself, and he had a better opinion of his knowledge of building than he had of his own his own

Mr. J. H. Stevens, of Derby, architect, was of opinion that the accident might arise from Ditto B..... 10 ...42 Figure 2 represents the foot of the truss with the iron-work at large. The strap and abutment piece are of wrought-iron, the re-sure. He believed Sims to have been perfectly bit opinion that the accident inight allow hold in the side, are introduced so two causes—the extreme weight upon the two causes—the extreme weight upon the two causes—the superincumbent pres-sure. He believed Sims to have been perfectly Balley, a teket is forwarded.

competent to perform the work if he had proper instructions." The jury returned the following verdict: "Accidental death; but the the jury cannot separate without expressing their strong con-viction that had the joint committee of the corporation and the commissioners appointed a competent and efficient engineer to superintend over Mr. Sims during the progress and in the execution of the works, and which, they think, after the warning the first accident had conveyed, they should have done, the accident which has since occurred would not have happened."

ANCIENT CAPITALS FROM THE SOANE MUSUEM.

THE extraordinary collection of works of art left by the late Sir John Soane is now open to the public, and will remain so during May and June. A delightfol and in-structive morning may be spent there, and we may perhaps before long offer to our readers the notes of a stroll through it, as an induce-ment to them to examine it for themselves.

The engravings on the opposite page, from sketches by Mr. Richardson, represent some ex-amples from this collection, of a class of antique caps not generally well known. Fig. 1 is from a cast brought from Rome by Mr. Lee, and purchased at his sale by Sir John Soane. The original of figure 2 is not so perfect in *front* as it is shewn by the engraving. The lower leaves, copied from the side, are introduced so

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THE BUILDER.

ANCIENT CAPITALS FROM THE SOANE MUSEUM.



GEOMETRY OF ARCHITECTURE.

As inference from the third proposition of Bucild's elements of geometry supplies a most simple, ready, and useful method for drawing the radiating joints for the stones, &c., of large flat circular arches whose centres are inconvenient, and which are supposed to be inaccessible.

From points on the circumference of a ciralar arc, it is required to draw lines that shall be perpendicular to it at those points, and that shall pass through the centre of the circle; without reference to the centre, or making use

and a_i or a_i of see Euclid 8 of the angle a_i i of see Euclid 8 of the interpret the chord of an interpret is bisected by a perpen-result to and pase through the interpret a_i is bisected by a perpen-result to any be drawn by the graph points as before. If a_i are the skew-back joints is necessary to find tangents the points a_i a_j . From the is a_i a_i a_i and the shew ough dis-

4. a_{12} , a_{3} , a_{3} , at any equal dis- **5.** and join aa_{3} , aa_{1} , a_{1} , a_{2} . **5.** sentre, and radius aa_{1} , $f \in \mathcal{F}$ make a, e = a, f, and , since inscribed angles, sub-are , are equal to one another, where $a_i a_a =$ the angle a_1 $a_1 a_2 =$ the angle a_1 $a_2 a_3 f$; therefore, $a \circ i a$ $a_1 a_2 f$; therefore, $a \circ i a$ $a_2 a_3 f$; therefore, $a \circ i a$ w the skew-back joint ab at right for the skew-back joint a, b,. This problem of drawing a tangent to an arc whose centre is inaccessible, was first proposed and solved in

of drawing a tangent to an arc whose centre is inaccessible, was first proposed and solved in the Ladies' Diary. The applicability of this mode of finding the skew-back joints of circular arches is of mani-fest utility to plasterers and bricklayers, but more particularly to the latter, when forming the skew-backs of discharging and counter arches (i. e. arches over lintels, &c.); and were this method adopted and practised, it would prevent unsightly and weak arches from being formed, which too often is the case from a want of understanding the nature of their thrusts and pressures; for the joints of all arches should be perpendicular to the curve of the neutral axis which passes somewhere within the substance of the arch; but if the forces acting against the arch be very great, and the equilibrated curve corresponding to the pres-

sure runs above the extrados or below the in-trados, the material of the arch will yield, and very probably it may be thrown down. In reference to the skew-backs in question, it is desirable that their faces should be in the direction of the centre of the arc, in order to distribute and equalize the pressures, and to distribute and equalize the pressures, and to produce the greatest amount of strength. The true radiation of the skew-back may be obtained mechanically by simply setting off from the point a, on the core or centre, any two equal distances $a a_1, a_1, a_2$; apply a line or plumb-rule from a to a_2 , measure the distance under a_1 to the line, and set that distance above a_1 to e_i then apply the line from a to e_i and cut the skew-back a b square from this line.

But the method of drawing the joints for the stonework of large flat circular arches for bridges, &c.,—and indeed its application in

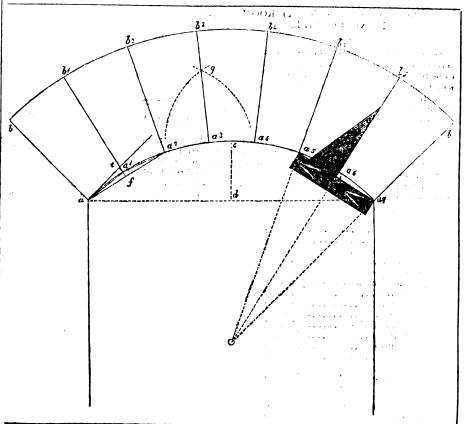




Fig. 2.

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very many cases may arise in practice,—will also be of much service to architectural and mechanical draughtsmen, as it will tend very materially not only to abridge their time; but will save a vast deal of unnecessary trouble, and obviate the necessity of drawing the joints from the centre of the circle; or, by taking a_a as centres, and with a radius greater than half a_a , describing arcs intersecting in g, and then drawing the joint from a_a through g, and so on.

JOHN PHILLIPS.

INSTITUTION OF CIVIL ENGINEERS.

APRIL 22nd .- Sir John Rennie, President, in the chair.

The discussion upon the atmospheric railway system was renewed, and continued throughout the evening to the exclusion of every other subject. The principle of the basis of Mr. Stephen-

son's calculations, that the maximum uniform or mean velocity was attained, appeared to be conceded; but a question had been raised upon what was termed an inconsistency in the periments, which was the attainment of a steady height of barometer with an accelerating velocity. In order to subtantiate the view, that a maximum velocity had never been attained, the steady height of the barometer, and the principle therein involved, was dis-puted, while an acceleration, made up by grouping a number of the velocities registered in the tables, was advanced as an incon-sistency, amounting to a proof that the height of the barometer could not have been steady. The fallacy resulting from any arbitrary group-ing of these registered velocities, in any of which on error of eight miles per hour might exist, was shewn by a comparative analysis of the grouping. If column No. 4, in the tabulated experiments; was grouped into divisions of five observations in each; an acceleration of 1.60 would be shewn; but if the division be made into groups of four observations in each, a *retardation* of 8 would result. This clearly shewed that either an acceleration or a retardation might be established from the same figures, depending upon the method of grouping them, which was entirely arbitrary. test, therefore, of the amount of acceleration was considered nugatory. On the other hand, it was proved from the experiments of Mr. Stephenson and his assistants, corroborated by those of Mr. Bidder, that a perfectly steady height of barometer was maintained, and could be observed with the greatest accuracy, when there was nearly a balance between the power and the resistance, and therefore no forces were in operation to cause an undulation of the mercury.

As to the comparison between starting with a low amount of vacuum, and the getting up the steam under a locomotive, and then starting as soon as the steam would move the piston, it was contended that the raising the steam of the fixed engine ought equally to be taken as an element of the comparison if any deduction was drawn from it. In a similar comparison of the time required to attain a maximum speed by locomotives, on ordinary railways, it was shewn that it was rather a chemical than a mechanical question, depending upon the intensity of combustion in the fire-box, which would be at a minimum when the engine was stationary, and that it required a certain time to produce a sufficient amount of combustion to attain velocity; therefore the comparison was inadmissible A balance, by comparison was inadmissible. A balance, by figures, was established by Mr. Bidder, of the power given out and that observed by each of the resistances: from which balance that amount due to acceleration was ascertained, and it was shewn that this amount could only cause a certain amount of acceleration, which was all given out before the end of the experiments at Dalkey; and while the barometer was nearly uniform the acceleration was little more than was due to the progressive diminution of leakage.

THE DIFFICULTIES AND OBSCURITIES OF THE METROPOLITAN BUILDINGS ACT.

Sin,—Having by your courtesy been permitted recently to occupy so large a space in your columns, I had hoped that the remarks hazarded, principally upon points I conceived to be without the operation of the Act, would not have induced remark or comment on the future operation thereof. But feeling two points of difficulty to press very inconveniently as to the course to be adopted in practice, viz., the lack of declaration as to the reading put upon certain clauses by the official referees, and the obscurity of other clauses, where it would be unreasonable to expect either them or the district surveyor to give an intelligible reading thereof, I would suggest what appears a reasonable course to adopt in aid of the steps apparently intended to be taken by the note to your correspondent "Scrutator," in your journal of the 19th instant.

The Act is a public one, and I contend any party has perfect right to read for himself, and so read with a desire to conform to its enactments: I do not believe he would find let or hindrance from any constituted authority. That some men in new districts have offensively, in "litigious and unwise proceedings," exercised their "little brief authority " is quite true. Let them be met with firmness and fair argument; this evil will soon cure itself; and I quite believe that both referees and "the able and right-judging men," of whom you speak as district surveyors, will be very glad to come to a fair and intelligible understanding with their professional brethren, and those interested in the operation of the Act. The course I therefore would suggest is, at a timely moment, let a meeting be called, through the medium of an advertisement in your columns, perhaps aided by a leading article. At such meeting appoint a special committee to receive for a given period all communications: such committee, from the mass of evidence they will receive from parties who conceive themselves aggrieved, and taking up other points of apparent difficulty, viewing the whole with unbiassed minds, would be prepared to request a meeting with the official referees (which I feel satisfied would be accorded), and upon a fair and impartial statement, request them to issue a circular to the district surveyors as to their equitable decision or opinion upon the several points submitted to them seriatim. Having already assumed this authority in respect of matters in operation before the 1st of January, for all matters subsequently (being distinctly clothed with large equitable powers, and being the appellant court in case of difference), it would appear not to be probable that any district surveyor would venture to oppose his opinion to such a dictum, and the public would be too thankful to have such an authority as their sheet anchor.

In such a discussion I am fain to think, all parties would gladly avail themselves of the opportunity of drawing the attention of the legislature to the repeal or considerable alteration of many clauses. The referees and district surveyors can have no object in being at issue with their neighbours, and much good may be done by courteous communication. As a key to the kind of information that would be useful to such a proposed committee, I will give the evidence I have upon a few out of the number of difficulties that appear to present themselves.

From the part I have taken in the subject some professional men have asked my opinion upon the construction of schedule D. part 2, as to laying bond timber into walls, their doubt being strengthened by the district surveyor declining to give an opinion, which I think he was quite justified in doing. The paragraph alluded to states, "and every plate, lintel, bond, corbel, being of wood, and every wood-brick laid into any external wall, and all ends of joists, of girders, and of the heads and sills of partitions running into any external wall, must be fixed at a distance from the external face of the wall of four inches at the least." This would appear to be clear and intelligible : the point of difficulty is raised by the concluding paragraph: "But no timber must be laid into any external wall in such manner or of such length as to render the part dependent upon the wood for support, or so that any such wood might not be withdrawn without endangering the safety of the super-

incumbent structure, except in the case of brestsummers." I am surprised that any doubt should have arisen on this point, but it is a matter better set at rest as proposed. My reading would be, the first enactment is clear and positive—adopt it. Will any district surveyor be bold enough to demur to it? the onus probandi of danger would be with him, as contemplating the very unusual course of withdrawing bond-plates or joists. The Act permits the erection of nine-inch walls, and has suggested no new mode of construction to render unnecessary the laying ends of joists into such walls: the exception in favour of brestsummers would appear singular, as they generally have a considerable superincumbent weight. Let a district surveyor object in any case to so laying timber in a nine-inch wall ex uno disce onnes—no timber can be laid in such a wall, which would be an absurdity.

A difficulty has arisen in the minds of several professional men having works in operation under written contract, in consequence of section 9 declaring that, "the difference of the costs and expenses of the works when performed according to the provisions of this Act, and the works as stipulated for in such contract." are subject matter of reference. I consider this one of the most equitable clauses in the Act, viewing it as I do. It can have no relation to any written contract in respect of the completion of works commenced before the 1st January, and thus taken altogether out of the operation of the Act; but I can imagine not an extreme hypothetical case, where its operation would be essentially equitable. A party has entered into a written contract to build six houses of similar character and cost; three were so far progressed before the 1st of January as to be irrespective of the Act: the other three, not commenced, would come within its operation, and for want of conformity would be induced a larger outlay. The difference in such a case to be assessed by the district surveyor, or if disputed, by the referees. Here would appear a broad principle of justice: the contract who probably had taken the contract with prospect of small gain, ought not to be the sufferer by a change in the law of the land he could not contemplate.

I regret not being able to accord the same merit to sec. 10, relating to the modification of building leases, which I fear will lead to serious mischief and litigation; but being a question rather for those learned in the law, I will not attempt to discuss it, nor at present refer to other similar points of difficulty, but urge each party to make out his own catalogue of complaints as the first step to inquiry.

I would close these remarks by drawing attention to what would appear a serious difficulty in carrying out the intended operations of the Act as to schedule H. relating to " drains into sewers." This section is very imperative, but owing to the reservation of powers by sec. 51 to commissioners of sewers, will, I fear, in large districts be found perfectly inoperative. The question of sewage in densely-populated districts is now a subject of public interest, hitherto not sufficiently understood; it appears to be a matter more peculiarly addressed to our attention as in connection with house drainage, and it is with deep regret I feel myself bound to declare, that enormous sums in large districts have been so unscientifically expended, as to prevent the possibility of the sewers being rendered available for house drainage; thus throwing an insurmountable difficulty in the way of carrying a portion of the Act into effect, which contemplated the health and comfort of a neighbourhood. It is a subject at a future period I propose to intrude on your columns.

GREENWAY ROBINS.

NASMYTH'S PILE-DRIVER.—The first experimental trial of this invention was made at Manchester on the 19th ultimo. From want of space a 14-inch pile of 16 feet in length was employed; this the machine drove 15 feet into hard ground with twenty blows, at the rate of 65 blows per minute. Two of these machines will very shortly be in full action at the great steam dock about to be constructed by the Admiralty at Devonport.

CHARITY IN MARYLEBONE.—No less a sum than 1,500% has been distributed among the poor during the past twelvemonth by the district societies of this parish.

NEW INVENTIONS.—A meeting will be held at the Islington Literary Institution on Thursday, the 8th of May, at 8 o'clock, for the exhibition and explanation of new inventions. The secretary will be happy to receive models &c. for that purpose if sent free of carriage **prior to the 7th May.**

THE OLD SOCIETY OF PAINTERS IN WATER COLOURS.

THIS collection, consisting chiefly of land-scapes, is, on the whole, most unexceptionable. The artists in general have evidently struggled hard to surpass their competitors of "The New Society

The lion is certainly Cattermole's "Benve-nuto Cellini defending the Castle of St. Angelo," (300). For breadth, animation, and effect, this picture has hardly been surpassed in water-colour drawing. The figure of Benvenuti is extremely fine, well drawn, and magnificently coloured in the miniature style of scene painting, belonging only to this artist. Some plate on the left is very effectively painted. "The Visit to the Monastery" (330) by the same, is an exterior vying in beauty and

excellence with No. 300. "Instruction" (142), by J. W. Wright. A fine subject well treated. The two children are very beautiful, and the drapery broad and well cast, but the distance does not sufficiently retreat.

The next picture to it, by Copley Fielding, "View of Lancaster from the Coast," is a lovely drawing, remarkably sunny and rich in colour. " Danseneu on the Lahn, Morning" (75), by T. M. Richardson, jun., is a most beautiful picture, equal to Fielding. Other landscapes by this artist are remarkably fine

and well studied. "The Holy Well" (40), by Alfred Fripp; a clever and bold attempt, with much of the character and treatment of the same sub-ject by Topham. The head of the girl to the left, and indeed the whole figure, is very nice, but the other girl with upraised face, very nice, but the other girl with upraised face, although full of expression, strikes us as being deficient in drawing. His "Irish Mendi-cants" (152), displays mind and considerable feeling, more particularly in the old man, the hands of which are well drawn; the children are not so good. This artist's colour is pre-judicial to his pictures by the strong predomi-nation of cold, slaty greys. "Rowich Davotion" (10) by W. Hust is ition of cold, slaty greys. "Romish Devotion" (10), by W. Hunt, is

a most beautiful work; expressive pathos and unaffected simplicity are the leading excel-lencies of this perfect production; it is certainly Mr. Hunt's chef d'œuvre.

26. "Berne, Switzerland, Morning as it sometimes awakes among the Alps," by J. D. Harding. A fine landscape, broad and effective;

the sky somewhat exaggerated. "Café de la Place, Rouen" (30), by S. Prout. An elaborate and well-arranged draw-

ing. "A Cloudy Day" (112), by D. Cox, is a bold, fine sketch. Total disregard for any thing like prettyness and adherence to truth and natare are the strong characteristics of this artist. The same may be said of the "Corn Field" of Paul De Wint (221). Frederick Taylor's "Counting the Game

Bag," is a beautiful sketch, the effect of which, produced by a few vigorous touches, is won-derful. "The "Interior of a Cow-house" derful. "The "Interior of a Com-nouse (18), "Ploughboy and Cart-horses" (23), and the "Gipsy Girl" (268), are three other ex-cellent specimens of his happy and bold style. 57. "The Coast of Antrim," H. Gastineau. A bold attempt full of beauty, but wants depth and decision in parts

and decision in parts. "Scene in the South Downs" (92), by

Copley Fielding, affords an excellent example of the clever management of mist rolling between the distant mountains.

Harding's "Beilstein on the Moselle" is a beautifully subdued bit of warm colour. 13. "Eagle's Nest, Glengariff." A clever landscape, the mountains in the distance well

managed. "View from Bolton Abbey" (188), by George Fripp, a masterly piece of colour and effect, but the golden warmth of the sun is deteriorated by the excessive coldness of the greens.

eens. 51. "A Cast-away," by Oakley, is clever, the formed and theatrical. 139. "A

61. "A Cast-away," by Oakley, is clever, but rather forced and theatrical. 139. "A Gleaner," by the same, is much better, and is doubtless his best picture. 47. "Oratory, Naworth," by S. Rayner, is an exceedingly hold and elever drawing, very much in the style of Cattermole, shewing great power of execution. 91. "Lanercost Priory" is rather heavy, but very powerful.

C. Bentley has distinguished himself in (95) "An Indiaman lying-to," "Wreck on the Rocks of Elizabeth Castle, Jersey" (46),

"Ballyshannon, Donegal" (117), and many other capital landscapes and marine pieces. 85. "House of the Francs Bateliers, and

Church of St. Nicholas on the Canal of Ghent, W. Callow, is a capital picture, the best of this artist's many good works. 108. "Sunset, an effect from Nature," by

108. "Sunset, an effect from Nature," by F. O. Finch, is a very clever work in his style. 119. "Sir Roger de Coverley with the Gipsies," by George Harrison. A fine, rich landscape, the avenue of trees most effectively painted. 129. "Deserted," by the same, a read idea well treated

good idea well treated. 178. "The Weary Travellers," by J. M. Wright. Clever, but monotonous and flat in colour.

206. By J. Stephanoff, is "an amalgama-tion of Museum Studies," and a most elabo-rate piece of work it is. Nos. 202 and 204,

rate piece of work it is. Nos. 202 and 207, by the same, are very indifferent pictures. 210. "Hollyhocks," by V. Bartholomew. Nature itself, or rather a reflection in the look-ing-glass. 222. "Fruit," by the same, is perfect. 217. "Second Cabinet of Isabella d'Este,"

Lake Price. A most elaborate and beautiful

drawing. Another fine architectural drawing is (232) "Dumbarton Castle, on the Clyde," by S. Prout. 252. "Room in Gate-house, Kenilworth," by Joseph Nash, is one of his best.

The fruit pieces and flowers by Hunt are delicious; and two little pictures, 234, "Writing," and 266, "A Paper Lantern," are full of his usual natural truth, humour,

and originality. 293. "Ill Omens," by Wright, is an exqui-site morsel, though the flesh is rather too pink. "Love and Hope" is another beaupink. "Love and hope a Love a

Palmer, Morison, and Glennie have some excellent productions.

There are a few pictures that deserve censure, but we do not desire to find fault: we leave off while we can without offending.

MUSEUM OF ARCHITECTURE AND THE DECORATIVE ARTS.

Sin,-I am very glud to see that you have urged the importance of a Museum of Archi-The want of such an institution is tecture. tecture. The want or such an institution is much more felt by the artisan than by the architect's clerk; the latter has generally the opportunity of referring to his principal's library and collection of casts, whilst the former has seldom any thing else to refer to then the small collection of engravings &c. than the small collection of engravings, &c., which his slender means may enable him to gather together; and even these he is seldom able to classify, and is left entirely to his own judgment to select the good from the bad. The museum spoken of in your journal would be exceedingly useful and a very great boon, as far as it goes, to all engaged in architecture and decorative art, but would be still more so if it comprised specimens (either originals or casts) of the different styles of ornaments used for decorative furniture-such as the different periods of the French, the Italian, Renaissance, &c., and classified as proposed for the archi-tectural antiquities. Such a collection and classification would be of immense service to the decorative workman; he would then have an opportunity of correcting his taste and judgment, and of executing his work in perfect keeping with the style required. I speak feel-ingly upon this subject, as I have long felt the want of such a collection; for although from practice I may have a tolerable idea of the different styles, still, from the want of correct data, one cannot always be certain of the detail. A knowledge of the varieties cannot be correctly obtained from books; indeed there is but one that I am aware of, that makes any attempt to define the styles (Page's "Acanthus,") some of the examples in which are rather wide of the mark.

I trust you will not allow the subject to drop, and that through your influence a petition to Parliament for the promotion of this object may be drawn up. --I am, Sir, &c. April 23rd, 1845. J. B.

ROYAL COMMISSION OF FINE ARTS.—A notice has been issued by command of the commissioners to the effect, that works of art intended for exhibition are to be sent to Westminster Hall on or before Saturday the 7th of June.

LIST OF NEW PATENTS RELATING TO ARCHITECTURE, ENGINEERING, &c., GRANTED FOR ENGLAND.

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Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-Inn Fields. [SIX MONTHS FOR ENROLMENTA]

William Henry Fox Talbot, Laycock Abbey; William Henry Fox I aloot, Inycous Hooty, Wills, for improvements in obtaining motive power, and in the application of motive power to railways. March 3. Alexander Gordon, Westminster, for an im-

provement or improvements in producing motive power, by the action or agency of heat, and in the application of that power to pur-poses of locomotion or navigation. March 3. Robert Frederick Browne, Knightsbridge, for certain improvements in the construction of obside and outputs.

for certain improvements in the construction of chairs and couches. March 8. George Selby, Birmingham, for certain im-provements in the manufacture of pipes or tubes of that class or kind which are formed by welding skelps of wrought iron. March 8. John Blyth and Alfred Blyth, of Saint Ann's, Middlesex, engineers and copartners, and George Parker Hubbuck, of Ponder's-end, Middlesex, engineer, for certain improvements Middlesex, engineer, for certain improvements in steam-engines, steam-boilers, and machinery for propelling vessels, which improvements in steam-engines and steam-boilers are for the most part applicable to the purposes of steam navigation, but are also applicable to other purposes for which steam engines or steam-boilers are or may be used. March 13.

Thomas Dunn, of Manchester, engineer, for certain improvements in, or applicable to, turn tables, to be used on or in connection with railways. March 13. John Ainslie, Redheugh, near Dalkeith,

North Britain, farmer, for a certain improve-ment or certain improvements in the apparatus and arrangements for the manufacture of tiles and similar articles from clay, or other plastic

matter. March 13. Pryce Buckley Williames, of Llegodig, North Wales, gentleman, for certain improve-ments in the manufacture of artificial stone. March 17.

John Cleaveland Palmer, of East Hadham, Middlesex, U.S., gentleman, for certain ma-chinery to be used in manufacturing certain kinds of tools for horing wood or various other

substances. March 17. Augustus Coffyn, of Paris, gentleman, for improvements in pumps. March 17. Henry Samuel Rayner, of Alfreton, Derby-shire, gentleman, for certain improved means of preventing anoidants to certaing on of preventing accidents to carriages on railways and common roads. March 18. Richard Weller, of Capel, near Dorking,

brick and tile manufacturer, for improvement in the manufacture of drain and other tiles and pipes. March 27. Joseph Courad Marie Baron de Liebhaber,

of Paris, in the kingdom of France, for im-provements in blasting rocks, and other mineral substances for mining and other purposes, and in apparatus to be used in such works. March 27.

BATHS AND WASHHOUSES FOR THE POOR. -The committee have nearly concluded the purchase of a site for the first model establish-ment on the north side of Whitechapel, be-tween the new street and Aldgate church. A working model of the selected design has been prepared and will be shortly submitted to the subscribers. It is said, that arrangements will be made to enable the very poor who cannot afford any payment to wash gratuitously during the summer. We learn from the newspapers, that an experiment has been made at the Eastern Asylum for the Houseless Poor which has satisfactorily proved that the very lowest of the poor will gladly avail themselves of facilities for will gladly avail themselves of facilities for personal cleanliness. On the evening of March 29, the apparatus, consisting of a boiler and tanks, with two hot baths (convertible into va-pour baths), six wash tubs, and a drying closet, through which a draught of hot air is driven with great velocity, was first used. At first there was some reluctance on the part of the inmattee to use the baths, but as even as they inmates to use the baths; but as soon as they had felt the refreshment of the warm water nad reit the refreshment of the warm water and clean clothes, they eagerly availed them-selves of it. During the first five days eighty-six persons bathed and washed; during the last five (the apparatus having been used nineteen days altogether) the number was 391 —the total being 987.

Carresvondence.

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DISTRICT SURVEYORS.

-I fully agree with your correspondent SIB "Serutator" as to the despotism desired to be exercised over builders by the district sur-veyors, or at least by those in the new districts. I have myself experienced great inconvenience from the menner in which the clerk to one of the new surveyors (who acts by deputy) per-forms his duties. If he sees a barrow of bricks or mortar in front of any house in his district, he makes it his particular business to district, he makes it his particular business to catechise the labourers as to what they are doing. On one occasion he was told that they were cleaning and repairing some drains, and was not persuaded that such was really the case until he had leave to go in and see for himself. On another, he walked into a house where a bricklayer was engaged taking out a range, and seeing that the man was remaining range, and seeing that the man was repairing part of the chimney jaumb, which was found to be defective, he expressed much displeasure that no notice had been given to him before the work was commenced. The man replied that his master was not aware that it was necessary to give notice of such work; but the clerk said, his master had no right to think, that was his (the clerk's) place, and he wished to have notice in every case of works to be begun.

This gentleman also requests that a drawing may be submitted to him of any works pro-posed to be done in his district, which would certainly in some cases be desirable as well to the builder as to the surveyor, if the latter would say before the works were begun or estimates given, what part of the proposed works he perceived were contrary to the Act, and which he could not, therefore, allow to be executed; but all practical men will see the inconvenience and trouble occasioned by it in inconvenience and trouble occasioned by it in many cases where the job to be done is but trifling. For instance, I received an order to put up an outside spring-blind to a shop-front in the same surveyor's district, and, in course of conversation, asked him whether there was any objection to it? He said he could not allow it to be fixed at more than ten inches distance from the front wall of the house, I afterwards saw that he had allowed one to I atterwards saw that he has allowed one to to be fixed on the cornice of another shop which projected some two or three feet, and on representing it to him, he replied: "That shews you the folly of my answering questions abstractedly, you must send me a notice and a drawing of what you propose to execute, and I will survey the place;" which, I suppose, I will survey the place;" which, I suppose, also means that he will demand a fee for the same, and thus add considerably to the ex-

pense of a very trifling work. Now, if all the district surveyors were to perform their duties in the same vexations manner, the Act would become the oppression of all persons concerned in building operations; and I think that no time ought to be lost in calling a public meeting of the trade to means of defending themselves consider the from such arbitrary proceedings. I would wish, however, to bear testimony to the fair conduct of all the old district surveyors with I would whom I have come in contact since the com-mencement of the new Act, as they have all appeared willing to assist and advise the builder rather than to oppress him, and to endeavour to increase their fees at his ex-I am, Sir, &c., pense.

A SUBSCRIBER FROM THE FIRST.

POSITION OF ENCLOSURE WALLS IN KENT. SIR,-Will you have the courtesy to answer the following question, and by so doing clear up what I conceive to be an erroneous view of the law of freehold property, and settle a most

important object to all engaged in building? I hold certain land in this county, and am about to build a boundary wall in place of a hedge and dike which at present divide my land from the adjoining (which is arable). Of course I wish to take in all the freehold, and to build to the extent of my bounds; but I am told that "dike room" must be left for the purpose of ploughing the adjoining land, so that three feet in width along the extent of the boundary of the freehold must be left unoccupied for the convenience of the ploughmen of the adjoining occupier, in order that he may plough the land to the extreme boundary. I wish, Sir, to be informed whe-ther the common law maxim, "a solo usque

ad cœlum,' is, or can be, contravened by what I think may be termed "ploughman's law." By giving your opinion on the above, you will not only render an essential benefit to builders and building proprietors, but confer a favour on one who is at present Kent, April 24, 1845. A NONSORIBER.

•. • We know nothing that would lead us to suppose our correspondent can be prevented from enclosing the whole of the land which belongs to him : we should not hesitate about doing so.-ED.

ST. THOMAS'S CHURCH, WINCHESTER.

SIR,—In reply to the inquiry which ap-peared in your last, I beg to say the lowest tender delivered for St. Thomas's Church, Winchester, was, as I have just heard, between 6,000% and 7,000% exclusive of the materials of the old church.

The advertisement for designs stated, that a church was required to cost 4,000/. If the amount I have named is correct, great in-justice must have been done to the other competitors, as I cannot imagine that any but a very young and very green architect would, without additional means being placed at his disposal by the committee, have prepared a de-sign which has so far exceeded the stipulated amount. I am, Sir, &c.,

AN ADHERER TO STIPULATIONS.

P. S.—Can you tell me why Mr. Elmslie's design was sent in, in the name of his clerk, Webbe?

TERRA COTTA.

SIR,-Having seen the letter on the subject of terra cotta in THE BUILDER of the 26th instant, I beg to state, that as Mr. Sharpe has no connection with my works, it is scarcely fair that he should be troubled with questions which the manufacturer (and he alone in many instances) can best answer. I shall therefore be glad to reply to any communication on the be glad to reply to any communication on the subject, addressed to me, Ladyshore, Bolton-le-Moor, where I established extensive works in order to manufacture the terra cotta for Leverbridge Church, and where I am now engaged, along with various other works, in preparing material for another church now building at Rusholme, near Manchester, also designed by Mr. Sharpe. I take this opportunity of correcting an erroneous impression, which appears to be con-veyed by the amounts published in the "Com-panion to the British Almanac" and the "Illus-trated London News," by stating, that no

trated London News," by stating, that no "immediate superintendence" by the architect of any branch of the manufacture is now, nor has ever been, necessary to secure the correct execution of any work in terra cotta from plans drawn in the ordinary manner. I am, Sir, &c., John Fletcher.

Ladyshore, Bolton, April 29, 1845.

. We have received intimation that G. and C. Bishop, of 3, Benet's-hill, Doctors' Com-mons, have specimens of the Ladyshore terra cotta, and will give any information that may be required.—ED.

TESTIMONIAL TO MB. JOHN BRITTON, F.S.A.—At the preliminary meeting of the friends of Mr. Baitton, held on Thursday, the 24th ult., to consider the best means of testifying their appreciation of his valuable labours, committee of fifty gentlemen was formed, with power to add to their numbers; and it was power to add to their numbers; and it was resolved to adjourn till the 10th inst., and to invite the co-operation of all persons who are friendly to the object. The committee com-prise Messrs. W. J. Booth, E. W. Brayley, F.S.A., H. Broadley, M.P., F.R.S., W.Brock-edon, F.R.S., A. Burgess, F.S.A., W. H. Ludlow Bruges, M.P., L. Cubitt, W. Cubitt, T. Cubitt, J. G. Children, F.R.S., G. Corner, F.S.A., Peter Cunningham, T. L. Donaldson, C. Fowler, W. J. Donthorne, T. Grissell, G. Godwin, F.R.S., Nathaniel Gould, John S. Gaskoin, J. E. Gray, F.R.S., J. D. Harding, W. Hosking, F.S.A., W. Herbert, Dr. Ingram, Dr. Knapp, T. Longman, The Rev. J. Mit-ford, J. B. Nichols, F.S.A., H. W. Pick-ersgill, R.A., L. Pocock, F.S.A. Dr. Rees, F.S.A., Lieut. Stratford, F.A.S., The Rev. S. Turnbull, M.A., W. Wansey, F.S.A., T. Unwins, R.A., W. Tite, F.R.S., The Right Hon. Thomas Wyse, M.P., &c. resolved to adjourn till the 10th inst., and to

Aliscellanea.

METROPOLIS IMPROVEMENTS.-The Com-missioners of her Majesty's Woods and Forests have, during the last few days, issued their plans for the erection of the houses in -The Com-Endell-street, between Broad-street, St. Giler, Engen-street, between broad-street, St. they, and Long-acre, the gas and water-pipes having been laid down and the sewers constructed. The fronts of the several houses are to be "architectural elevations" of a uniform ap-pearance, and "no objection will be made to huildings of the style known as Elizabethan" buildings of the style known as Elizabethan." The ground excavated, if required by the commissioners, is to be deposited to fill up the low ground around the Millbank Prison. All the pieces of ground to be let on lease, for a term of eighty years from Midsummer day 1845, at a rent of one peppercorn for the first year, and at such rent or rents for the remainder of the term as shall be agreed upon; and the lessee is to forfeit all right to the lesse unless the carcass of each house be completed by or before Christmas-day, and the houses and all other buildings be rendered fit for habitation by or before Midsummer-day, 1846. The lessee is to reimburse the commissioners for the expenses incurred on account of buildfor the expenses incurred on account of build-ing the values and sewers, and for paving the street, at the ratio of 700% for a frontage of 114 feet 6 inches, or in lieu thereof 35% reat per annum. The width of the street is to be between 50 and 60 feet.—*Times*. Cost of GAS.—From various experiments recently made by Mr. Lumsden, of Monk-

recently made by Mr. Lumsden, of Monk-wearmouth, he found that one ton of cosl, which cost 16s. produces thirty bushels of coke, twenty gallons of tar, and 9,000 cubic feet of gas. If this is correct, and if we apply the result of these experiments, it will be found that the quality of onke and tar produced from that the quality of coke and tar produced from a ton of coal amounts exactly in value to the price of the coal used, and that the 9,000 cubic feet of gas, sold to consumera at its present price, yields to its. fortunate makers, the gas companies, a profit of not less than 31. 7s. 6d. GLASS PIPES. -- Mr. James Hartley, of Bishopwearmouth Glass Works, has, after ex-

tensive experiments, succeeded in establishing the practicability of making glass pipes, suitable for the conveyance of gas or water, and has it is also said, proved that pipes, stronger than the ordinary metal ones, and much chesper, may be made of glass.—Mining Journal. THE CITY MUSEUM.—At a recent meeting of the Common Council, Mr. Ashurst brought

up the report of the City Lands Committee, to whom had been referred the subject of the to whom had been referred the subject of the appropriation of part of the crypt at Guildhall for a museum. The report, which was ordered to be printed, stated that the clerk of the city works had certified that an outlay of 2,000/. would be necessary to effect the purpose contemplated.

SITE FOR BATHS.—At the same meeting Mr. Alderman Johnson presented a petition from the Committee for Establishing Baths and Wash-houses for the Labouring Classes, praying for a lease of part of Farringdon Market, next Shoe-lane, for the term of sixty years, at the yearly rent of 100%, at 2,500% premium. On the motion that the petition be referred to the Market Committee, a lengthy conversation arose, in which the majority of the speakers, though friendly to the establishment of baths, and to the general objects of the petitioners, were opposed to the appropriation of the site solicited for the establishment, on the ground that it would interfere with the improvements in the locality, with a view to improve the traffic in Ludgate-SITE FOR BATHS .- At the same meeting with a view to improve the traffic in Ludgate-hill and on Holborn-bill. The motion was in

the end negatived by a large majority. ARTIFICIAL STORE.—Mr. Frederic Ran-some, of Ipswich, has obtained a patent for the formation of artificial stone. This desiderature is accomplished by chemical process, of a novel description. The materials used are flint, or granite, or marble; and these when pulverized and worked up, form a thick silicious paste. This paste so produced, is placed in moulds of I his paste so produced, is placed in moulds of any given design, and upon being subjected to the action of an oven, the contents of the moulds become vitrified; thus the most com-pact and beautiful designs in slate, or granite, or marble, are produced, applicable alike for or-nament as for more substantial purposes; the material is said to be fully capable of with-standing all atmospheric changes, and is durable as fint

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New Gavaones.-At the monthly meeting of the society for promoting the enlargement, building and repairing of churches and building and repairing of churches and chapels, held last week, grants were voted for the erection of new churches in the districts of Rainow, in the parish of Prestbury; Homer-ton, in the parish of Prestbury; Homer-ton, in the parish of Hackney; Ramsbottom, in the parish of Bury; Chapeltown, near Sheffield; Melplaish, near Bridport; Bishop's Sutton, near Bristol; and Bensham, in the parish of Gateshead. Towards rebuilding the parish churches of Wolsingham, near Dur-ham; Woolsthorpe, near Grantham; Fair-light, near Hastings; Great Musgrave, near Brough; and Kingsweare, near Dartmouth. Also towards increasing the accommodation by various means in the churches at Broughtoo, near Manchester; Gorlestone, near Yar-mouth; Naishead, near Bristol; Brompton Rolp, near Wiveliscomb; and East Knoyle, neur Hindon.

BRITISH ARCHEOLOGICAL ASSOCIATION. -The rival bodies are coming into closer col-lision. In consequence, as we learn, of the pressing invitations received from Winchester by the committee appointed at the general meeting held in London, they have determined to adhere to the original plan and hold their congress there in August. Lord Albert Co-nyngham has consented to preside. The meeting advertised by the other party is proposed to take place in September. Now is the time for all those who desire that the society should not be wrecked, and are not mere partisans, to come forward and declare they will not attend either meeting, unless a ccalition be brought about. A statement to that effect, signed by a hundred members of the association would surely induce both committees to pause before they risked failure. ST. MATTHEW'S CHURCH, GOSPORT.---

. -The foundation-stone of this church was laid in Foundation-stone of this church was faid in the presence of a large assemblage of persons of all ranks, by the venerable Archdeacon Wilberforce, assisted by the neighbouring elergy, on Thursday, the Poth dit. The site was presented by her Majesty's Honourable Board of Ordnance, together with land for ex-tensive national schools. The style of archi-tecture is the early English; Mr. Benjamin Ferrey is the architect, and Mr. D. Nicholson of Wandaworth the builder of Wandsworth, the builder.

RESTORATION OF STEPNEY CHURCH. An effort is now making to restore and enlarge the old parish church of St. Dunstan, Stepney, which has long been suffered to lie in a state of neglect and dilapidation. To carry out the proposed objects as they ought to be, the sum of 4,000% will be required, and as it is not possible to raise the whole amount among the inhabitants, the public at large have been appealed to for assistance.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers however, they are entered in a book, and may be seen on application at the office of "The Builder," 3, York-street, Covent-garden.]

For the works required in the extensive enlarge-ment of the Liverpool Workhouse for the several ranches as follows :- Excavating and Brickwork. Masonry, including flagging, Joiners and Carpenters, work, including Ironmongery, Plumbing and Glaz-ing, Smith's Work, Slating and Plastering, and ing, Smit Painting.

For taking down part of the present County Gaol of Lincoln, and erecting a New Building on the site thereof, with airing yards and other requisites.

For building Sewers in Helmet-court, Wormwood-street; Sweet Apple-court, Bishopsgate-street; Fire Bell Court, Houndsditch; and Garden-court, Petticont-lane ; for the Commissioners of Sewers of the City of London.

For the reparation of ten houses in Houndsditch. The whole to be finished by the end of August.

For the maintenance of the Birmingham railway

between the Easton and Rugby stations. For the erection of an office for the Manchester and Leeds Railway Company. For building a school-room in London near the

bridges.

For the supplying of such quantities of Broken Guernsey Granite as may be required by the Poard for Repairing the Highways in the parish of Clerkenwell.

For the supply and delivery in Bristol of about 300 tons of cast-iron Water-pipes, of various di-mensions, from 7 inches downwards, with certain elbows, nozzles, &c.

For the Masonry Work of several Viaduois and Bridges.

For the formation and completion of a ne Drain, being about eleven miles long, twenty yards wide, and five yards deep, for the Middle Level Drainage Commissioners. Also for the erection of a Staunch, several Bridges of wood with brick abutments, together with the necessary culverts, and other marks and other works.

For the performance of the Works connected with the erecting of the new Pier at Penzance. For the erection of the Borough Gaol, Bir-

mingham.

For the supply of 1,200 lineal yards of 11-16ths est attested, close, short-linked Chain.

For the erection of a Building in London for a highly-patronized purpose, at the estimated cost of about 30,000*l*.

COMPETITIONS.

Plans for a Church to be erected within the Borough of Kingston-upon-Hull.

Plans, sections, and elevations for a Terminus, and other requisite accompanying offices, for the Great Southern and Western Railway, Ireland.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

The timber and other trees now standing upon the estate at Woodseaves, Salop. By order of the Lord Chancellor made in the cause "Dickin v. Barker."

At Mitchell's Farm, near Saffron Walden, A fall of 68 famous Oak, and six Ash timber trees with

the top wood. 250,000 Building Bricks, 40,000 Arch ditto, &c.; now at Sherborne Kiln, three miles from London.

At Patcham, near Brighton: a large quantity of Railway Materials; the whole of the Iron is of Staffordshire manufacture.

BY TENDER.

A Virgin Forest of Valuable Timber in Wala-ia. The principal part of the Trees is Oak. The chia. The principal part of the Trees is Can. and said Forest may produce about 500,000 cubic feet

TO CORRESPONDENTS.

" J. P.," on the Art and Construction qf Brickwork, next week. We shall hope to find

"We couch, next week. We shall more information in succeeding articles. "We Couch."—We have received the specimens of "stone embalment," and shall be glad to learn of "stone embalment," something of the process and cost. "Consumption of Smoke."—A correspondent

wishes to learn the most simple and efficacious mode of consuming the smoke from the furnaces of a boiler or large copper, and will be glad to

receive particulars from patentees. "Building Materials."—A correspondent nuogests that returns of the market price of building materials in various districts of the country would be valuable. We shall be glad to receive such from provincial correspondents.

""H. B." must give notice to the district sur-veyor before he constructs the furnace. The earthen chimney tube, as pointed out, would not be permitted. There does not seem to be any reason why the furnace should not be built in the

reach why the jurnace should not be built in the position of present store. The 8th clause of schedule F, must be looked to. "Y. A." — There is unfortunately no royal road to a knowledge of arches and vaults; it must be gained from many sources. Our correspondent will find Ware's "Tracts on Vaults, &c.," and Casille to Tractic on the Swith Swith Tracts Gwill's "Treatise on the Equilibrium of Arches," weluable assistants. The last part of the trans-actions of the Institute of Architects contains an important paper on the subject by Professor Willie. "J. E. G." shall appear ; we are obliged to our

correspondent. "W. M." is thanked for the suggestion ; we will look to the paper in question. "Semper Idem" next week.

"T. A.;" the reply seems unnecessary. "M."-Plans are to be sent in on or before the 8th inst. Further information can be obtained

from the Rev. R. Kemp Baily, B.A., Hull. Received :-- "Dolman's Magazine," No. 3; "The Literary Journal of the London Mechanics' Institution," No. 2; "The Medical Times for April.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAT, May 5. — Entomological, 17, Old Bond-street, 8 p.M.; British Architects, 16, Grossenor-street (anniversary), 8 p.M.; United Service Institution, Whitehall-yard, 9 p.M.; Che-mical (Society of Arts), Adelphi, 8 p.M.; Medical, Bolt-court, Fleet-street, 8 p.M.

TUBODAY, 6 .- Linnean, Boho-square, 8 F.M. Horticultural, 21, Regent-street, 3 p.m.; Civil Engineers, 25, Great Georgo-street, 8 p.m.; WEDNESDAY, 7.— Society of Arts, Adelphi,

8 р.м.

THURSDAY, 8. - Royal, Somerest-house, 81 P.M. ; Antiquaries, Somerset-bouse, 9 F.M. ; Royal Society of Literature, 4, St. Martin's-place, 4 P.M. ; Medico-Botanical, 32, Sackville-street, 8 P.M.

FRIDAY, 9. -Astronomical, Somerset-hon 8 P.M.; Royal Institution, Albemark-street, 8 W., Philological, 49, Pall Mall, 8 P.M. SATURDAY, 10.-Royal Botanic, Regent's-park,

4 P.M.

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LIFE ASSURANCE. THE BRITISH MUTUAL LIFE AS-SURANCE SOCIETY entertains proposals of any description from 20% upwards, involving the contingency of human life, and offers the following advantages to its mem-

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CHARLES JAMES THICKE, Resident Secretary. 17, New Bridge-street, Blackfriars.

NOTICE TO INVENTORS.—OFFICE for PATENTS of INVENTIONS and REGIS-TRATION of DESIGNS, 28, Half-meon-street, Ficcathily. Patents obtained for the United Kingdom and Foreige Countries; Designs registered; printed instructions, contain-ing the charges, forwarded gratis; and every information given by application, it by letter pre-paid, to Max M. Jesochin Cooke, 20, Half-moon-street, Piccadilly.

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SEVABLE ASTRACIE bas been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Cla-ridge's Patent," and not merely "Asphalte," or "Bitu-men," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARELL, Secretary, Stangate, near Westminster Bridge, Jan., 1845. Hock of Lastmeticane for Use may be had at the Office of

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SATURDAY, MAY 10, 1845.



COHE first Monday in May is waited for with eagerness and anxiety by a large number of persons. That section of the public who regard

with interest the progress of art in this country look to the opening of the Royal Academy for an assurance that our painters, sculptors, and architects, are advancing, and pass up the staircase full of curiosity, and impatient to see what has been done. Many amongst them, by the operations of the Art-Union, have acquired the right of purchasing a picture, and, excited by a desire to have an early choice, and obtain what may really be a prize, enter with greater anxiety and stronger feelings of interest. But the class to whom this Monday is of the greatest moment is, of course, the artists themselves; the 800 producers, in the present instance, of the 1470 works exhibited ; to say nothing of a large body of persons who, having had their own productions refused, pay their shilling and enter depressed, to discover, if it may be, in what they are inferior to their more fortunato contemporaries.

Amongst the authors of the accepted work, the rising, the risen, - enter many beating hearts on that Monday, when they are to learn whether the result of the chief part of the past year's labour has been appreciated, and is likely to produce a return, or that his time has been thrown away. The failure of an artist at the public exhibition, let it be remembered, is, in nine cases out of ten, a failure for a year ; and, according to the position of his picture or his statue, is his chance of success. Many a pang have fine spirits suffered, hardly recovered from in some cases, on that first day: such pangs as those who are not in the same position are quite unable to conceive of. We remember the case of a young artist last year, which shews the effect of disappointment and wounded self-love on some minds. He had produced an admirable work ; it was the labour of the year, and went to the extent of his power. By accident rather than design, it was condemned to the "octagon room,"-the black-hole, as it is expressively called, and was as much put out of public view as if it had remained in the artist's study. So affected was the painter by the entire destruction of his expectations thus produced, that he immediately sold all that he had and left the country. We are free to admit, that we have no great faith in genius which is depressed by the first difficulties that occur, but there are few minds that can withstand repeated mortifications and disappointment, and the object of our remarks is to aid in awakening those on whom the onerous duty devolves of hanging the pictures at the Royal Academy, to the great responsibility attached to the office, and to induce greater and graver consideration to it than is sometimes given.

We would at the same time bid those who consider the treatment they receive not equal to their merits, persevere in their endeavours, and shew their real power by overcoming difficulties. An estimable member of the Royal Academy writing recently to one who had been to Rome, became national, and the only

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rejected by that body as a student, urged truly, that it would be much better in the end than if he had been admitted on the first trial; and cited various mortifications he had himself experienced, and the advantages which had resulted. At the conclusion of his letter, he says,--" There is a little song on this subject, the burden of which is 'try, try, try, again.' The wisdom of this ditty so struck my mind when I first heard it, that even to this moment whenever I am thwarted in a good object I sing 'try, try, try, again; ' and this we earnestly recommend to all our young readers.

The present exhibition at the Royal Academy, although wanting in the works of some of our best artists, and abounding in portraits, especially in the principal room, to an extent greater than usual, must be regarded as very satisfactory. Of first-rate works, pictures of high class, there are few, perhaps we ought strictly to say none; but in the next grade there are many of great excellence, to which we shall hereafter point attention.

The architectural room contains 138 drawings belonging to that subject, mixed up as usual with heterogeneous oil-paintings,-shipping, burlesque portraits, the Queen opening Parliament, and Austrian pilgrims. Few of the elder members of the profession are exhibitors on the present occasion. Messrs. H. E. Kendall, jun., Railton, Thomas Little, Gwilt, Wyatt and Brandon, Wigg and Pownall, Cottingham, Mocatta, E. B. Lamb, Owen Jones, Beasley, Douthorne, Derrick, &c., have drawings, but, as a whole, the collection offers no great claim for attention. We shall speak of it more at length next week.

For the illustration of our present number, we have engraved, from a drawing made for us by Mr. Richardson, No. 1,222, the Interior of a new portrait gallery now being erected at Drayton Manor, the seat of Sir Robert Peel, Bart., by Mr. Sydney Smirke, which is especially interesting, as being intended to receive representations of the most eminent men of the day. The length of it is 90 feet; the walls are to be covered with green silk of a diaper pattern, and the ceiling grained oak and touched with gold. The floor will have an inlaid Elizabethan border composed of various woods.

ANCIENT MODELS.

"You, then, whose judgment the right course would steer, Know well each ancient's proper character."

OF all the difficult inquiries which have so long delayed the elucidation of the principles of design, no one question in the wide field of esthetics has presented obstacles so insur-mountable as the correct definition of imitation, and the exact analysis of the extent to which it is valuable in architecture. The injury, which the art sustains during the present hiatus in its progress, is not lessened by any general attempt to unravel its fundamental principles; to balance and estimate the exact and relative importance of the antiquarian, the creative, and the purely matter of fact, and to bring about a state, in which the imitation of ancient models shall be an aid to art, rather than its object. It may well be said, that in all the freaks of fancy which have prevailed under the name of taste, the world has never beheld a state so singular and unsatisfactory that at present existing. The whole of Europe seems bent on producing structures, which may cheat the observer into the belief, that he has before him the works of another century, and there is no style at this day which we can call our own. It is not only that we shew an entire lack of invention, but we are not consistent even in imitation. From Grecian to Italian, Italian to Gothic, with short reigns of Louis Quatorzine and Cinque-cento, we change our fashions as often

style for imitation among a people comparatively deficient in inventive genius. Not long confined to the reproduction of Grecian temples, and the adaptation of columns plundered from their original sites, it became essentially different in treatment and in character, and now remains the most complete exponent of the characteristics of the people. So, had we any system, even in imita-tion; had we no more than one or two styles, and were not led away by every new fancy however opposed to the end in view, we might hope to find accurate imitation the forerunne of a style characteristic of the nation and the Exact imitation, even of objects the age. most beautiful, is not the highest quality in art, but it is the first and firmest stepping-stone to excellence. That imitation should be the first aim of the artist, we have the opinion of Sir Joshua Reynolds, who said that "by imitation only, variety and even originality of invention is produced." The choice of style is now regulated by no principle whatever; the same description of edifice may one day rise in the Italian as to-morrow in the Elizabethan, and often under the hand of one archi-tect. We are but students and experimenters, but have not the convictions to which experiment should lead.

We assume that the architect will well consider the purpose and object of his design, for unless these be his main endeavour, it cannot be doubted that the result of his efforts in the art will be incomplete and unsatisfactory. The practice of architecture has palpable and paramount objects; these must be arrived at ere the art of architecture is called into being, or Βy this itself will be defective and spiritless. many it has been argued, and with some shew of reason, that the origin of all beauty is in utility, but in architecture, which has other objects besides the gratification of the eye or even of the understanding, it must especially be allowed that art holds the second place, though it thus acquires a peculiar grace, which it would not have possessed in another mode of treatment.

" Still follow sense, of every art the soul, Parts answering parts shall slide into a whole, Spontaneous beauties all around advance, Start e'en from difficulty, strike from chance; Nature shall join you; time shall make it grow A work to wonder at."-----

But, while we assume that the purpose of the edifice is the first matter for the architect's notice, it unfortunately does not follow, that all are agreed as to the objects in view. The various influences, under which the Church of England at present exists, render it necessary for the architect of every work to choose one of two courses, and with the certain prospect, that in purusing one he will meet with all the enmity of the advocates of the other. There-fore, till the views of all as to the mode of celebrating religious worship are identical, it will continue to be the greatest injustice to con-demn an architect for exact imitation of a particular style, when such imitation is often best fitted to meet the ends proposed by his employers. It is true that the reproduction of Gothic churches has sometimes rendered it difficult to distinguish the architecture of the nineteenth from that of the thirteenth century, but let the requirements in a place of worship be once determined, and another century may commence in the progress of ecclesiastical architecture.

The objects and destination of the edifice being provided for, one of two causes might tend to a characteristic style; one-the com-plete oblivion of every thing we now possess, and a recurrence to the actual wants of manis manifestly beyond our influence; but a complete investigation of every style of archi-tecture, and the adaptation of all beautiful features, which do not militate with each other and with the actual requirements of the building, should lead to originality, and to the highest efforts of genius, unless analogous principles, evolved by the most able investigators in all the paths of art and science, are erroneous and devoid of foundation. It was an unalterable truth long before the time of Reynolds, that "by being conversant with the inventions of others, we learn to invent, as by reading the thoughts of others we learn to think." "There can be no doubt but that he who has the most materials has the greatest means of invention; and if he has not the power of using them, it must proceed from a

feebleness of intellect, or from the confused manner in which those collections have been laid up in his mind." Therefore to the architectural student, who is confused with the number of varying subjects open to his in-vestigation, we would say:--let no style be deemed valueless, but choose that; one as your chief model, which is best adapted to the requirements in view, and bears the character which you would wish to impress upon your works; discover the rules of art by careful examination and comparison of original examination and comparison of existing examples, always observing the pre-cise intention of each. A theory which would banish precepts and data from our notice, with a view to originality, is inconsistent with all investigation, and would name education itself a thing valueless and banaful. The present imitation of Gothic architecture is at least better than the state of that style a few years back, when not only were the principles of pointed architecture, but the universal principles of art, caricatured and destroyed. Our present knowledge is meagre compared with what it may become when the immense number of churches in England have been examined and classified ; our defective knowledge is the cause of the mere reproduction of old churches; but the day is at hand when originality will be as much the characteristic of modern Gothic architecture as of that of the middle ages. Therefore examine, study, and compare the Gothic churches of England; you will discover "more things than are dreamt of in some men's phiand matter which lies not in books losophy," and matter which lies not in books and portfolios. Gothic architecture is not to be acquired entirely at the office or the museum, but in the open air, and under the aspect of Nature, the creator and inseparable companion of the art. Е. Н. **** 1.

ON THE ART OF CONSTRUCTION IN BRICKWORK.

No branch of the constructive arts is of greater megnitude and importance than that of bricklaying. Yet we are assured, and can testify from experience, that no trade stands more in need of improvement than this does. Persons of known ability from their habits and experience, have written upon and improved almost all other branches of the building art, and the constructive art of brickwork has been but very little noticed. The poverty of bricklayers' knowledge is a proverb, and is a disgrace to them. Bricklayers and brickwork bave always of late years been conbrickwork have always of late years been con-sidered of minor or secondary importance, and this is not to be wondered at. They scarcely have any knowledge whatever of the general arts of construction; beyond the mere routine of the scaffold, and packing and piling bricks upon each other, they very rarely attempt to soar. The public-house is their in-fected haunt. There they spend a great portion of their time and more of their money, revelling in drink, which impairs their facul-ties, and keeps themselves and their facul-lies always in beggary. We believe that if a series of cheap publications were thrown in their way, treating upon practical and the most necessary and striking problems of theo-retical geometry, and the most approved methods of geometrical construction, is also an abridged treatise of practical mechanics, made plain, and divested of all technical phrases, but more especially a well-written, well-digested treatise upon brickwork, they would be induced to purchase them, and would become interested in their contents. This would lead to habits of study, which beget inquiry; and from thus understanding how interwoven are all the arts of construction, how dependent one thing is upon another, they would strive to improve themselves, and to execute work soundly and properly. The desire of the writer is to give, if pos-

The desire of the writer is to give, if possible, an impetus to the introduction of a better system of executing brickwork, and to create among all parties, but bricklayers more particularly, an inquiring spirit for the attainment of so needful a purpose. Disposition in this, as in other matters, is every thing; where a person is not disposed to do any thing it is not all the advising or telling in the world will induce him to do it; but create the disposition, and the object is better than three parts attained. If we can induce a disposition in bricklayers to execute work soundly and properly, that is all that need be done; the thing

will then work its own cure. It is impossible that some of the present ill-constructed dwellings can last many years ; they will ever be in want of constant and extensive repairs, and, in consequence, the parties into whose hands they may fall, will be disposed to encourage better work, and that of a more durable description. Let every bricklayer who has the welfare of his trade at heart strenuously apply himself to its improvement; study the excellent and approved specimens and methods of his art which lie scattered around him, and endeavour to raise it to what it was in former times, namely, an art. We feel assured that there are at the present time throughout England, many bricklayers who are eminently qualified to impart this knowledge; and if any one thinks he has more knowledge on this subject than the generality of his fellow workmen, let him apply himself to the laudable task of freely communicating it. No matter how trifling the item of information may be, the aggregate, when collected and properly edited, will be of value, not only to the bricklayer, but to the whole building profession. It is well known, and the history of past

nations and people confirms the fact, that a general taste for the arts and sciences has a considerable tendency towards civilizing and elevating the moral character of the popula-tion. Whatever subject a man may be employed upon, if there be any thing in it which requires more than mere ordinary skill and contemplation, he immediately, when encouraged, seizes the opportunity, and throws his whole energy and spirit into it, becomes in-creasingly interested in its perfection, and endeavours to produce a work that shall rival all former productions. In olden times, when architectural adornment was sought for in the art of brickwork, extreme pains were evinced on the part of workmen not only to give the exterior work a clean, neat, and close appearance, but at the same time the arrange-ment of the bond of the interior of the walls, so as to produce the utmost strength and security, was strictly attended to, as is evi-denced on observing the disposition and arrangement of the bricks in old walls. And in those times the art of brickwork was considered of primary importance, and its details and neatness of execution were to the archi-tect as well as to the workman, a peculiar source of study and gratification.

Bricks when properly made, well-burnt and sound, and when properly laid, are equally as good, strong, and durable for walls as stone. In all alluvial countries where clay is abundant, and where stone is scarce and not easily to be obtained, good, sound, and ornamental brickwork sppcars to be indigenous and general. Very many and important buildings throughout the continent, but more especially those in Italy and the south of France have their various moulded forms and rich details of columns, pilasters, capitals, architraves, friezes, and cornices executed in brick. Many parts of the finest compositions of the old Italian and French architects are executed in the same material : it is wreathed into forms so elaborate and the workmanship is so clean, neat, and regular, as not to require the assistance of any excrescences of plastering to work it up, or to improve its sppcarance. And without going further than our own country, specimens of beautifully executed brickwork may be seen in various parts where the soil has afforded the proper material for the manufacture of bricks.

Many parts of the ornamental details of the works of Wren, Inigo Jones, Vanburgh, Chambers, and indeed of many other architects since them, have been executed in brickwork, without the least dependance upon base, villainous cement-veneer. Beautiful specimens of excellently-executed ornamental brickwork may be observed in and about the metropolis. The back courts of Greenwich Hospital—the works of Jones and Wren—present most eminent examples of arched work; as also Chelsea Hospital, another work of Wren's. Although now in a dilapidated condition, Old Chelsea Church had originally considerable pretensions as an excellent piece of brickwork; indeed the whole neighbourhood of Chelsea affords very many well-executed examples, and more especially along Cheynewalk, fronting the Thames.

attained. If we can induce a disposition in bricklayers to execute work soundly and propoly, that is all that need be done; the thing

Kensington-palace, and the conservatory in the gardens contiguous. This latter may be the gardens contiguous. This latter may approached and closely examined; and sgain, and again, its beautiful well-performed work cannot fail to strike one with astenishment when compared with the villainous, falsely-called brickwork executing at the present time about the metropolis. The only fault to be observed in this beautiful piece of brick work is in the key courses of the niche heads at the north-west angle of the building; and this must have arisen from a default in the templet mould used in forming the other courses. But more respecting this division of the art of bricklaying hereafter. Other ex-amples of good old brickwork may be observed at Marlborough-house, the screen in front of Burlington-house, Piccadilly, Spring-gardens, St. Martin's-lane, and at the back of the Admi-ralty, all in the neighbourhood of St. James'sand the several streets in the immediate park neighbourhood of Covent-garden, exhibit fair examples of this kind of work. Good speciexamples of this kind of work. Good speci-mens may also be seen scattered about in and around the City, and to the eastward of Lon-don. The fronts of several houses in Lincoln's-Inn-fields, and some piers there, present some very excellently executed work.

But no where in and about London, is there any thing in this department of the building art that can vie, or excel the beautiful specimens of well-executed ornamental brickwork that are to be found in and around the Temple-gardens, between Fleet-street and the Thames. A few hours spent here in contemplating these examples cannot be otherwise than both grati-fying and instructive, and would teach bricklayers, if architects would give them the opportanities, to imitate the work. But it may be said that such work requires much time in its execution, and costs a great deal of money. Granted; but no work to be properly done can be performed without them. And, not better argument can be brought forward in its favour, and as to its ultimate cheapness, than favour, and as to its ultimate cheapness, than (withough the present specimens may be worn with age, and what is not?) that they are nearly, if not quite, as firm, sound, and perfect as when they first passed out of the hands of the bricklayers; while the plastering or veneering on walls requires an incessant expenditure of money to keep it decent and in repair. How often do we see beautiful moulded and neat brick fronts of old houses in the me-tropolis being covered with a coarse veneer of wretched cement no better than mud. tinselled and tickled up to please the fancy and taste of the present time; thus blotting out the abihand handiwork of our forefathers, which tics ought rather to be allowed to remain, or restored as it was executed, for workmen to contemplate and imitate, and improve upon it if they can.

In order that brickwork may be executed in a properly bonded, neat, and superior manner, is necessary that much time and labour should be spent in its performance; but ac-cording to the present system of execution, by competition and on speculation, he who can execute the greatest quantity of work, without any attention or reference whatever to its character for quality and stability, in the less time, is considered the best and most useful workman. At the present time, the custom among bricklayers is, that he who will offer to execute work at the lowest possible prices is sure to be encouraged by employers, and thus obtains the work; and in consequence of this debasing practice, each and every one who is striving to obtain employment is lowering the prices of work, and cutting his fellow tradesman down. The general result of this mode of proceeding is, that after commencing a building, the bricklayer finds he cannot perform the work soundly and properly for the prices, and in order to make it pay him, is induced, at all hazards, to execute the work improperly from a desire to get as much money as possible. This, then, being the case, as well as to make the workmen earn their wages, they are forced to execute work in a hasty, careless, rotten, and insecure manner. This method of pro-ceeding begets a recklessness in the general execution, and, in consequence, good work properly bonded is seldom, or never execute JOHN PHILLIPS. ř executed.

•.* We shall be glad to receive remarks and information on this subject from practical men, details of fire-work, &c.-ED.

BCCLESIASTICAL ARCHITECTURE.*

We continue our notice of the valuable article on this subject in the current number of the Quarterly. "It has been doubted whether we possess

"It has been doubted whether we possess any Christian edifice at Rome belonging to the age of Constantine. The late Mr. Hope places the earliest in the reign of Theodosius. This is a misconception, in consequence either of his supposing that the sacred structures of the Constantinian era which still exist were henthen temples, or of his forgetting that a baptistery was essentially a church, though not commonly called by that name. In Italy, every baptistery and every chapter-house has its alter; we believe, that, with respect to the latter buildings, such was equally the case in England. We are, however, very deficient in informa-

We are, however, very deficient in information as to the architecture of the Greek and Oriental charches. This deficiency, we trust, will be supplied by the increasing energy of our travellers. Asia minor might, without doubt, supply far more facts than have hitherto been obtained. Ecclesiastical archæology ought to be investigated with the same cheerful diligence which Mr. Fellowes has exhibited with respect to Hellenic and Lycian antiquity. One very remarkable specimen we possess in our own dominions. It is the portal of the church at Corfu, erected by Jovinian, A.D. 364, known only by means of an imperfect drawing given by Dr. Walsh.

Reverting, however, to the influence of hallowed locality, the first and earliest Christian churches of which we can form any clear idea, either from actual plans or existing remains, are the sepulchral churches of the Constantine sige; we commence our series by the most remarkable monument of the Christian world. In the florid description of Eusebius, we find an elaborate yet confused notice of the sacred buildings raised by Constantine at Jerusalem. The panegyrist exalts our notions of the munificence of the founder and the splendour of the structures: yet amidst his rhetorical phrases, we obtain only a vague conception of their ichnography. The Chevalier Bunsen has bestowed an ample commentary upon the difficult text, whose words, as we have observed, convey but an indefinite conception of the architectural arrangements. This information must be sought elsewhere, and we possess it. But it is not through the medium of the writers of Rome or Byzantium that we have heave heave heave heave

sented with the ground plot, which, however rude, removes all uncertainty as to the type presented by the Church of the Holy Sepulchre, or the plan according to which it was formed. Whence do we obtain this knowledge? Would it be guessed that we derive it from regions covered by almost impenetrable obscurity? Are we to seek our records of the monument raised by Constantine, amidst that opprobrium of our historical research, the Pictish race, or to obtain the solution of our doubts from the enigmatical Pictish realm? Amoagst the shadows of past times, are there any more visionary and unsubstantial than Taran MacEntifidic and Brudei MacDeirly, who flit before as like beings of another world? Yet it is in the remotest, the most secluded of the Western Isles, amongst the Pictish race, and from the Pictish wilds, that the knowledge, denied elsewhere, is obtained. Iona shines in the midst of Cimmerian darkness. Here flourished Abbot Adamnan, so distinguished by his participation in the great Paschal controversy, A.D. 705; and he supplies the architectural antiquary with the knowledge so much desired. We ouve the information to a singular contingency. After a long pilgrimage and continued residence in the Holy Land, a Gaulish bishop named Arculphus, driven to the Hebrides, became the guest of the Culdee monastery. Here he related his perils, describing the holy places he had visited; and the 'Licellus de loce's sanctis' contains his narrative. Rarely has any work been transmitted with

Rarely has a ny work been transmitted with more peculiarity and authenticity. Adamnan wrote upon his tablets from the actual dictation of the stranger; the notes so taken became the book we now possess. The Holy Sepulchre, as might be anticipated, was the main object of Adamnan's curiosity; and, in addition to the verbal description, Arculphus drew a plan of the buildings upon the tablets with his own hand."

* See p. 206, ante.

A copy of this plan is given, and affords some curious information :---

"From its sanctity and celebrity, the holy sepulchre became the primitive type of all the other churches of a circular form. It has been considered by most antiquaries, that the circular temples of ancient Rome, such as that of Vesta and the somewhat hypothetical Minerva Medica, constitute the models for the circular church; but this supposition, though plausible, is quite untenable. The oatline proves nothing. The circular shape would naturally suggest itself for buildings in which a sepulchre was to be the chief object; and there is a most essential difference in the type of the circular temple and the circular church, demonstrating that the latter cannot have been copied from the former. The temple has its detached columns on the exterior, supporting an entablature; the church has its detached columns arranged in concentric circles within, connected by arches springing from the capitals, forming one or more aisle or aisles.

Such was the church which Constantine raised over the tomb of his mother Helen, now called the Torre Pignaterra; but the ruin now exhibits nothing but rude brick walls, and we gain no knowledge beyond the fact of the adaptation of the form.

More perfect is the church of Sta Costanza, the burial-place of Constantia, daughter of Constantine, of which Mr. Knight has given an excellent engraving, plate iii. Some have supposed it to be an ancient Temple of Bacchus.

⁴ This opinion is principally founded on the mosaics with which the ceiling of the aisles is adorned, and which represent vine-leaves and grapes. But the vine is a Christian emblem, and is so frequently introduced in the decoration of Christian places of worship, that little weight can be attached to this circumstance. The architecture of this building is in conformity with the style of the time of Constantine, and not in conformity with that of a much earlier date.³.

The plan bears as much resemblance to that of the Holy Sepulchre as could be needed or expected in an edifice of contracted dimensions. But it shews how that edifice had become a type; and, except in the duplication of the pillars, it approaches closely to what we must suppose the Round Church of Cambridge to have been, before the erection of the modern chancel. San' Stefano rolondo is the largest of the

San' Stefano rotondo is the largest of the ancient round churches now existing, and the most perfect example of structures erected according to this type. The plan shews how very closely the model of the Holy Sepulchre was followed. It has been supposed that portions were added by Pope Nicholas V.; but from the comparison with Adamnan's plan, we cannot doubt that he merely repaired what had stood before. The earnest zeal exhibited by antiquaries to rescue any work of architecture from the reproach of Christianity, has induced them to contest for this church the honour, also claimed for Santa Constanza, of having been a heathen temple. Few indeed, especially of the Italiane, are disposed to abandon its primitive dedication to Faunus, instead of the protomartyr. In this oipnion they persist, though every part and feature of the structure—the difference of size in the columns, the coarse workmanship, the ill-fitted capitals and deficient bases, and above all, its total dissimilarity to any classical building all its characteristics fully prove its original destination. The period of its dedication (467—483), by Simplicius, is well attested. Still it remains a question whether he did more than reconstruct, or perhaps enlarge, an edifice previously existing on the same site.

We cannot pursue the history of round churches, est, ially as connected with the Knights Templars, from whom it is impossible to disjoin them. We can only remark here, that the Templars affected the round or octagon form in Italy just as in England, as is evidenced by the church of the Santo Sepolcro at Pisa, anciently belonging to the order.

Round churches seem, from the scanty remains and still more scanty descriptions, to have been common in Scandinavia. An obvious conjecture would be, that the type was borrowed from Byzantium, through the medium of Russia; but from the only example of which we possess a delineation, namely, the round

church at Soroe; we are certain that they are exactly in the Romanseque style of Western Europe. Soroe is a circular building, with a chancel; the arches which connect the columns are of the usual semicircular form. There is a similar church at Thorsager (the Field of Thor) in Jutland, and four in Bornholm. Greenland displays the foundations of similar round structures, erected by the extinct Scandinavian colony. A very remarkable building at Newport, in Rhode Island, is now supposed to be the remains of a church erected by the Scandinavian discoverers of Vinland, whose further progress in the new continent was so mysteriously withheld. The structure, as it now stands, consists of a circular colonnade; the pillars being connected with circular arches. Without entering into discussion, which could not be estisfactory unless accompanied by accurate drawings, as well as a survey panied by accurate drawings, as well as a survey of the style of masony, which alone could decide the question, it appears to us, on the face of the engravings published by the Co-penhagen Antiquarian Society ('Mémoires de la Société Royale des Antiquaires du Nord,' 1840. 1843) to be ontiguaires invite a cou 1840-1843), to be entirely dissimilar to any structure which we can imagine to have been raised by the pilgrim fathers of New England.

Whatever exaggerated extension may have been given to the principle of symbolism, it is nevertheless quite clear that this species of allegory, suggested by Scripture, did prevail in the primitive Christian structures. Thus we have seen that the Church of the Holy Sepulchre was supported by twelve pillars and lighted by twelve lamps. There were also twelve pillars in the adjoining Church of the Resurrection, upon which twelve lamps were placed, or suspended, in honour of the twelve apostles. From some analogy, not so easily perceptible, the octagon form was conconsidered as peculiarly applicable to the baptistery :---

 Octochorum sanctos templum surrexit in usus : Octogonus fons est munere dignus eo.
 Hoc numero decuit sacra Baptismatis aulam Surgere, quo populis vera salus rediit.'

And the octagon—the outer walls being often converted into a circle—constitutes the germ of those buildings so characteristic of the ecclesiastical architecture of Italy—we mean the detached baptisteries."

After describing the baptistery of San Giovanni Laterano, the writer continues :--"We now approach the Gothic age. In

"We now approach the Gothic age. In Italy, the custom of considering the cathedral, for many purposes, as the sole parish-church, continued unaltered; and with the one parish, the one baptistery. Whilst, therefore, the main type of the baptistery was retained with religious fidelity; still the accident of locality, or the influence of individual genius, or caprice, occasioned several marked varieties. Parma thus possesses a splendid baptistery of a very singular character. Mr. Knight's engraving (vol. ii.; plate xxiii.) gives an accurate representation of the exterior of this edifice; the interior, from its peculiar complexity, as well as from the height and proportions of the building, would almost defy the artist's skill. It was completed, except as to the vaulting, between 1196 and 1216, from the designs of Antelmi. The exterior is an octagon, but within it offers sixteen sides, formed by working in the thickness of the wall. The details of the architecture are very remarkable: for whilst the general forms are Romanesque, you observe, as it were, a species of inroad of Gothic taste, which preponderates in the upper tier of arches by which the exterior is surrounded. The portals below are Romanesque, of a fine character; whilst in the intermediate stories there are Gothic pillars, connected by architravee, upon what may be called the classical principle, though wholly without the classical form.

The detached baptistery continued peculiar to Italy, and perhaps hardly any example can be found beyond the Alps, except in our own island. Elgin furnishes the solitary instance where the octagon baptistery, in the most graceful Gothic style, groups with the cathedral, whose deformed and neglected ruins relate the calamities which the church of Scotland has sustained.

Whatever beauty the circular form may possess, it is, taken singly and simply, most unfit for the Christian liturgy: and whatever interpolations are made, detract from the simplicity

and unity from whence its charm arises, without rendering it appropriate for the service of the altar. Hence it never became a favourite in the west. Though the circular is unsuited in itself for a Christian church, yet if employed Though the circular is unsuited as a part of the plan, and connected with other members, it is susceptible of the highest excellence. Great difficulties, however, attend its application : the Byzantine architects may claim the merit of first attempting to work the problem, never entirely solved until Wren's transcendant talent raised our metropolitan cathedral :---

'An entirely new form for churches was, at an early period, introduced at Constantinople. The oblong was shortened into a square, with a view to the noble addition of the dome, which the Byzantine architects had now learnt how to support. This plan, especially after the creation of St. Sophia, became a favourite in the east, and was adhered to, in those parts, with the greater tenacity, in consequence of the schism which subsequently took place between the Pope of Rome and the Patriarch of Constantinople. There was to be a difference in every thing. The Greeks insisted upon the square form of their own inventions, whilst all the nations who continued to acknowledge the supremacy of the pope continued to employ the long form, which was persevered in at Rome.

'The Greek plan was, in course of time, in-troduced into Italy by the Greeks themselves, in such parts of that country as remained in the hands of the Greek Emperor, and in the north by the Venetians. — Intr., p. iii. Mr. Knight's observations with regard to

the antagonism of the eastern and the western churches, are entirely correct. Except when favoured by peculiar political relations, it is remarkable how little influence was exerted in Italy by Byzantine art. Ravenna and Venice are almost the only localities where we may trace any decided imitation of the type of Constantinople. Indeed, there was little to be gained. Deduct mere barbaric splendour — barbaric, perhaps, in the truest meaning of the word and there is a spirit, genius, energy, in the rudest churches of Latin Christendom, wanting in the most sumptuous edifices of the Greeks. The very buildings reflect the characters of their respective communities. Nor is it less important to remark, how entirely uninfluential are the noblest works of art in eliciting a corresponding talent amongst those who are accustomed to behold them. To judge of the accusioned to renoid them. To judge of the lessons which the productions of Phidias and Praxiteles imparted to the Byzantine artists, look at the 'tre ladri,' the group inserted in the angle of the church of St. Mark! Had it not been for later interpolations, San' Vitale, at Barenna (nlate in) would have been the at Ravenna (plate ix.), would have been the most perfect Italian specimen of the Byzantine

type. • This church was erected in 547, by Julianus, with the the treasurer, at the command and with the assistance of the Emperor Justinian.

The plan at once reveals its Eastern ori-gen, and its affinity to that of St. Sophia, which had been erected at Constantinople a few years before. Instead of a Latin basilica, it is an octagon supporting a dome; not, however, unprovided with the addition of the indispensable absis. This plan must have come direct from Byzantium, and was the first appearance of the Byzantine style in Italy. The chief architectural novelty and leading

feature in this building is the dome. No vaulting of any kind had ever been hitherto employed in the roofs of churches, much less that most skilful and admired of all vaulting, the cupola, samulation and authors of all valiting, the cupola, or dome; a mode of covering buildings per-fectly well understood by the Romans, but dis-continued as art declined, and, for the first time, reproduced by the Greek architects of Constantinople, in the instance of St. Sophia. If it is difficult to support the downwerd area If it is difficult to support the downward pressure and outward thrust of ordinary vaulting, how much more is required when the pressure has to be resisted at every point, and the circle above has, as is frequently the case, to be connected with the square below! This was accomplished, in the construction of St. Sophia. by means of what are technically called pendentives; brackets, on a large scale, projecting from the walls at the angles, and carried up to the base of the dome. At San Vitale, which is not a square, but an octagon, a series of small arches is employed, instead of pendentives, but setting upon the same principle. By this expe-

dient the dome is united to the body of the dient the dome is united to the body of the edifice. The thrust has then to be resisted by the thickness of the walls; and the downward pressure to be supported by arches and piers. In most cases the pendentives are exposed to view; but at San Vitale the mechanical contrivances are concealed by a ceiling. It was always an object to diminish the weight of the dome; and, with this view, materials of the lightest kind were employed in its construction. Sometimes a sort of pumice-stone was used. At San Vitale the dome is composed of a spiral line of earthen vessels, inserted into each other; and where the lateral thrust ceases, and the vertical pressure begins, larger jars are introduced in an upright position.' A long interval elapses before Byzantine

architecture reappears in Italy; for once only,

Sophia is a Greek cross, with the addition of spacious porticos. The centre of the building is covered with a dome, and over the centre of each of the arms of the cross, rises a smaller cupola. All the remaining parts of the building are covered with vaults, in constructing which the Greeks had become expert, and which are much to be preferred to the wooden roofs of the old basilicas.

Colonnades and round arches separate the nave from the aisles in each of the four compartments, and support galleries above. The capitals of the pillars imitate the Corinthian, and are free from the imagery which at that time abounded in other churches of Italy. is computed that in the decoration of this building, without and within, above 500 pillars are employed. The pillars are all of marble, and were chiefly brought from Greece and other parts of the Levant. Whilst St. Mark's was building, every vessel that cleared out of Venice for the east was obliged to bring back pillars and marbles, for the work in which the republic

took so general an interest. The defect of the interior of St. Mark's is, that it is not sufficiently light. The windows are few in proportion to the size of the building. Rich, therefore, as the interior is, it is gloomy to a fault, in spite of the brilliant rays of a southern sun."

The reviewer then proceeds to investigate more closely the causes which rendered the plans of the heathen temple, and the sepulchral church, inconvenient or inappropriate for the general purposes of liturgical worship, and lead to the adoption of another type, more adapted to the Roman ritual.

FALL OF YARMOUTH SUSPENSION BRIDGE.

It is our painful duty this week to record It is our painful duty this week to record the distruction of the suspension bridge at Yarmouth, accompanied by a scene of hor-ror which baffles all description. This dis-tressing and almost unprecendented calamity, involving the death of upwards of 100 per-sons, took place on Friday afternoon, the 2nd inst., and was occasioned by the breaking of the principal chains of the bridge one of the principal chains of the bridge, caused by the weight of an extraordinary number of persons being thrown on one side of the structure for the purpose of witnessing the absurd exhibition of a theatrical clown

drawn by four geese in a washing-tub. An inquest is now sitting on the bodies of the unfortunate sufferers, and doubtless competent persons will be examined touching the quality of the material of which the bridge quality of the material of which the bruge was formed, as well as the mode adopted in its construction. The bridge was erected by the late Mr. Robert Cory in lieu of the ancient ferry across the Bure, of which he was possessed, and was opened on the 23rd of April, 1829. The chain or either side is attached to four pedestals of piers, also of iron, and fastened to abutment stones.

In April, 1844, in contemplation of in-creased traffic to the railway, in order to afford sufficient width for carriages to pass, a platform for foot passengers was erected outside the bars on either side, it being the intention of the proprietors, on completing an arrangement with the railway company, and obtaining an Act of Parliament, which has been applied for this session, to erect a new arched stone bridge. It is to be hoped that Government will fol-

dents at Oldham and Northleach, and issue a commission of scientific and practical men, to investigate the character of the construc-tion in all its bearings; and it is matter for consideration whether they should not forth-with appoint a permanent board of competent persons to inspect all such and similar constructions before they are opened to the public.

It is due to the architect under whose direction the bridge was originally erected to mention, that he was in no way connected with the recent enlargement. In a letter from that gentleman which we have seen, and (although not intended for publication), ven-ture to quote, he says, "I have minutely ex-amined the bridge and the broken frag-ments, and I find that the main chain broke near the pier, from a flaw in the interior of the bar of which it is composed, which no human eye could see or any foresight could enable any one to discover. The fracture did not occur at the parts where the greatest weight was, nor was the weight equal to what the bridge had often sustained.

e all know that the axle of a railway carriage has given way from a similar cause after having stood all tests that human ingenuity could apply, as likewise chain cables break from similar defects in the annealing or moulding of the iron."

HOUSES FOR THE LABOURING CLASSES.

THE best means of improving the dwellings of the poorer classes of the population occupies at this time the attention of many. The effect of the residence on the habits, and of the habits on the morals, is beginning to be understood, and there is a very general desire abroad, in the words of the Duke of Norfolk, "to put the poor man's house in order." At Birkenhead, opposite Liverpool, where a town with docks, sewers, public grounds, and other far-sighted arrangements, is rising with sin-gular rapidity, an experiment is being made which merits attention. By the operations going on, great numbers of workmen have been brought to the place who require dwell-ings. The Birkenhead Dock Company have viewed the matter broadly: they have takon into consideration not merely profit and loss, but the comfort of the inmates and the welfare of their neighbours, and the course they have adopted, as we learn from our contemporary, the Spectator, is as follows :-- " They have They have found it a better economy to build large houses rather than cottages; they have adopted a plan prepared by Mr. Charles Evans Lang, of London; and the buildings are now in progress. The ground which they are to occupy lies between two of eight streets that meet in a circus, and may be described as a triangle; across which, from street to street, houses are erected in rows, with alleys between; there is a school-house at the apex of the triangle, and in the centre of the circus a handsome church. Each row resembles what in Scotland is called a 'land,'-a pile four stories high, comprising several distinct houses, each house having a public staircase communicating with the several 'flats' or stories; each flat divided into two separate dwelling-places. Each dwelling contains a 'living-room,' two bed-rooms, and a 'yard.' The living-room is capacious, and well-arranged for ventilation and comfort : on one side are the entrance-door and the door into the yard; on the next side, near to the entrance are the doors into the two bed-rooms: on the third side, opposite to the bed-room doors, is the window; and on the fourth side is the fire-place : nearly the half of the room, towards this fourth side, is left without any door or other opening, so that the hearth is removed from direct draughts. In this room there is a gas-pipe, for light. The 'yard' is a sort of gas-pipe, for light. gas-pipe, for light. The 'yard is a sort of scullery, but comprising the sink, coal-hole, dust-hole, &c.; in short, all the 'domestic offices,' packed into a very close space, but fitted with conveniences not always found even in the houses of the middle-classes. Up the whole height of the building is a shaft, with which pipes from each yard communicate: at the top is a cistern with a preparation for keeping it full, to the extent of 1,000 gallons of water; from which, independently of individual use, a stream can be at pleasure made to rush down the shaft, low out the course they wisely adopted a carrying away the ejicienda into the sewer, few months since with respect to the acci-

scale, for an Eye Infirmary in St. Mary-street;

that respect the most complete means for securing tidiness, decency, and health. The independent run of water will be a guard against many of the evils even of individual negligence; but it is inconceivable that with such conveniences the humble tenants should not acquire the better habits that await on opportunity. At the top of the building is an 'airing flat,' in which all the families whose dwellings open into the common staircase will have the right to dry their clothes. There is, we believe, some means of regulating the tem-perature of the whole pile of buildings: at all events there are appliances to secure thorough ventilation; and the whole structure is fireproof. The external aspect of these dwellings for the poor is handsome, and even imposing ; in a style so ornate, as quite to relieve them from the aspect of alms-houses; to which, indeed, they bear no sort of resemblance. Now it is calculated that this kind of house-property will 'pay,' even as a commercial speculation: with all this convenience, salubrity, and comfort for the tenant, and let to him at the rent which he usually pays,—the landlord, too, settling all rates and other charges, so that the tenant will pay for the whole house, its gaslight, water, taxes, rates, and all, one fixed weekly charge,-with all these unwonted comforts and facilities, the tenant paying no more rent than he is used to pay for bad lodging elsewhere, the landlord will yet reap a profit of 8 or 10 per cent. on the capital invested. In the present instance, that is not the whole ad-vantage derived by the landlords, the company; for they will find great immediate convenience in the concentration of their workpeople, and great henefit may be expected by all who have a stake in the town from the improved salubrity and the high character which these farseeing plans must secure for it. The experiment may prove to the speculative builder, that he could provide for the humbler classes a very superior kind of accommodation at a profit to himself; it may teach those classes what they should obtain for their money."

At Liverpool, we observed a short time since a file of houses for the poor, several stories in beight, called Kent-terrace, of which the upper stories were approached by means of a general balcony around the outside of each floor, with steps from the road at the two ends of the pile of buildings.

ARCHITECTURAL MEMS. FROM THE COUNTRY.

THE first stone of the new church at Lynn was laid by the Bishop of Norwich last Saturday week. The design is by Mr. Salvin; the contractors are Messrs, Bennett and Son.-Windsor Castle for several days past, between 30 and 40 carvers and gilders have been engaged in embellishing several of the private apartments occupied by her Majesty and Prince Albert when the court is residing there. Very extensive excavations have just been made on that portion of the north-terrace which is nearl opposite the George the Fourth Tower, for the purpose of forming large coal vaults, to communicate with the interior of the castle, so as to enable the coals to be delivered without, as at present, the waggons being driven across the quadrangle. After penetrating to the depth of between 20 and 30 feet, an immense passage, through which a portion of the drainage was conveyed from the castle, was discovered, leading, as it is supposed, to the river. In order to form a communication between the intended new coal vaults and the castle, it would be necessary to cut an operation which, it is supposed, if carried into effect, might not be unattended with some danger; consequently, a morning or two since, just after the labourers had arrived, an order suddenly reached them to discontinue the works for the present, and they have not been resumed.—At a special meeting of the committee of council of the Queen's Hospital, Birmingham, held a fortnight ago, it was resolved to erect additional buildings in connection with the hospital. A subscrip-tion was then entered into, the Reverend Dr. Warneford heading it by a donation of 500l. The intended new buildings will contain eight wards for the accomodation of 50 patients.-At Weymouth, a spot of ground has been selected, and a subscription opened, for erecting a building on an enlarged and improved

very liberal donations have already been made among which that of a lady, distinguished for her philanthropy, stands prominent, being for no less a sum than 400?.—Very extensive -Very extensive no less a sum than 400. Very extensive measures are being adopted by the inhabitants of Liverpool, towards improving the sanitary condition of their town. It has long been a disgrace to the corporation, that while expend-ing thousands upon the decoration of publio buildings, they neglected those true and vital interests which do not meet the eve. Several new church schools are about to be immediately commenced in the eastern dis-tricts of Leeds. Mr. Sugden, of Pontefractlane, has given the site for one in the York-road, and Mr. Rhodes, of Farnley Hall, has given a donation of 200% towards erecting a school in the Leylands. — Yesterday week, the Bishop of Ripon laid the first stone of a new church and schools, for the newly formed district of St. Andrew, East Moor, Wakefield. The government has purchased the lands of Broombill, near Glasgow, for the erection of cavalry and infantry barracks. The price paid for the property is said to amount to nearly30,0007.-----A pedestal 14 feet in height, surmounted by a bust of Sir Walter Scott, has recently been erected at Perth. ----has recently been erected at Perth. _____ James Foster, Esq., has signified his intention of giving the sum of 500/. towards the erection of an hospital in the neighbourhood of Stourbridge, and an annual subscription of 50%. There are about forty new cemeteries projected at present in Scotland. The committee appointed for the purpose of raising funds for the establishment of public walks and baths in Leeds, have determined upon holding during the present month & public exhibition of works of art, models of machinery, speci-mens of natural history, &c., and with this view they have issued a circular calling upon those who are friendly to the undertaking and capable of assisting, to lend them, for a period not exceeding three months, articles suited for such an exhibition.— Yesterday fortnight, St. such an exhibition.----Yesterday fortnight, St. Mark's Church, at Swindon, was consecrated by the Bishop of Gloucester, who took occa-sion to say that he had entered upon the ceremony with heartfelt gratification, from the peculiarly singular and novel direumstance connected with it, that this was the first church which was purely of railway origin.—At a recent meeting of the Ripon Diocesan Board of Education, an inspection took place of the plans, specifications, and estimates of the pro-posed new Training Schools, which had been prepared by Mr. Andrews, of York, and sub-sequently submitted to and approved of by Mr. Railton, of London. The committee having carefully considered the same, determined upon appointing an efficient clerk of the works to superintend their erection, and, with a view to invite public competition, to advertise as pub-licly as possible for tenders. The cost of the licly as possible for tenders. The cost of the erection was estimated at 8,000%, exclusive of 1,250/. for the site.—At a meeting of the Ipswich corporation, held last week, Mr. J. L. Clark, architect, proposed to fit up an apartment as a commercial news-room, for the reception of publications and for the transacting of business connected with the port, entirely at his own expense. The Mayor said this was a very spirited offer on the part of Mr. Clark, and he was deserving of the encouragement of the council, and of the patronage of the public. He hoped the council would permit Mr. Clark to have the apartment he required, for a year, at a pepper-corn rent.——The Sheffield and Manchester Railway is fast approaching completion. From the last report it appears that it will be opened during the approaching July. In the engineering depart-ment, conducted by Mr. A. S. Jee, under the consulting superintendence of Mr. Locke, there are features of considerable boldness. The viaduct over the vale of the Etheron is of three arches, of 150 and 130 feet span, supported by stone piers, built on rock, and 130 feet in height. The next work of magni-tude is the viaduct across Dinting Vale, near Glossop, of five arches, each 125 feet span, and length 500 yards. It crosses the vale at and length 500 yards. It crosses the vale at a height of 125 feet. The greatest work on the line is the tunnel at Woodhead, running through three miles of mountainous country, at a depth of 600 feet. The great difficulties encountered in its construction have tended to retard its completion ; more than four-fifths of the whole is now arched, and the remainder

has a drifting through it .--The Educational Board, in connection with the Diocese Ely, held a meeting last week, at which it was announced that the new schools at St. Ives, towards the erection of which the committee had granted 100*l*., were nearly com-pleted, and would be soon opened. The school at Stilton, which has been delayed for some months, in consequence of a difficulty respecting the site, was reported to be in course of erection. Applications were made by the Rev. Yates Fosbrooke for a grant towards the erection of a scholmistress's dwelling-house at Hurst, to meet a liberal donation on the part of the Lord of the Manor; and by the Rev. H. Randolph for an additional grant for Abbotaley schools.

PROCEEDINGS AT ST. PAUL'S CATHEDRAL,

Sin,-It was with feelings of deep regret I perceived that the stone-work under the western portico of St. Paul's Cathedral was being besmeared with paint, and I hope, by making it generally known through your widely-circulated journal, to cause some person in authority to remonstrate with the dean and chapter, or to bring it under the notice of their architect, Mr. Cockerell, so that we may not have its ornaments filled up with putty, nor its stonework reduced to one monotonous tint of rusty yellow.

It is painful on entering this cathedral to have those feelings aroused which it was founded to repress; but its dusty monuments, its whited walls, the insolence of its vergers, and the careless way in which the service is performed, make us look to the dean and chapter, whom we find, instead of emulating the deeds of their ancestors, resolutely op-posing every effort, however noble or disin-terested, which has been made to embellish or beautify this sacred structure, whilst they have concurred with every measure to spoil or desecrate it; and there is not a single instance of any attempt on their part to carry out the intentions of its illustrious architect, nor even to uphold it in its pristine integrity. The op-portunity of adorning it with paintings was lost when it was nobly and patriotically offered, and at a time when it might have been executed with the greatest ability, its stone-work, so beautiful and so free from stain, was covered with whitewash, and is now hideously blackened and disfigured. And had not the public outery caused those Brobdignagian braziers to be removed whose pipes de-formed its windows, another coat of whitewash would have been applied, so that while they are redeeming ornaments with penknives by inches, they are covering up cunning work, infinitely more beautiful, by acres. Though the bequests of Sir C. Wren, and

Though the bequests of Sir C. Wren, and other pious persons, have never been applied to enriching the dome with mosaic, filling the windows with stained-glass, nor to finish the altar with marble, with brass, and with gold, let them not mar the beauty of its exterior with paint, nor spoil the delicate beauty of those ornaments which the tooth of time has commit impressed. Let them not and avour to scarcely impressed; let them not endeavour to bonour their sovereign by dishonouring the temple of their God: let them make some little effort to prevent the desecration or decay of that structure which was built for the promulgation of the truths of His religion. One of the first bishops spent his whole fortune in erecting the former edifice. His successors enjoy the lands and the revenues, but enjoy the lands and the revenues, our leave the sacred edifice to the tender mercies of the painter, the whitewasher, and the putty-man. And I would appeal to the public also and ask who has a heart so void of feeling, or who has an eye so dull, as not to have been struck with its sublimity? or on passing its sacred threshold, whose soul has not been elevated to the praise of that Deity whose mercy, like the glow of the sun-beam, is re-vealed by the smiling face of Nature, whose power is charactered in flame by the lightning, and thundered by the billows of the deep. Let him, then, strive to save from defilement this glorious achievement of art-this crown of our city—this monument of the wisdom of our countryman, bestowed on him by God for our countryman, his own praise ! I am, Sir, your obedient Servant, G. A. J.

Trinity-square, 5th May, 1845. Digitized by Google



ON THE HAGIOSCOPE AND OTHER PARTS OF ALDERTON CHURCH, WILTS. BY JAMES THOMSON, M.R.I.A.

remarkable that there should exist no early historical record of Alderton Church, With a there are strong indications that it must have been one of the most ancient ecclesiastical structures to be met with in an English village.

I say village because I would not venture to extend my observation beyond that limit. I use it in contradistinction to those which exist in towns and cities, where it frequently happens that erections are made of a more massive and enduring character than are to be found in

villages. With respect to the village in which it is the words of our justly situate, I beg to quote the words of our justly celebrated antiquary, John Britton, who in his

* See p. 217, in present No.

"Beauties of England and Wales," published A.D. 1814, thus refers to it:" "Alderton, or Aldrington, is a village and parish situated to the westward of the Fosse-way,† on the confines of this county with (loucestership) Gloucestershire.

According to the Parliament returns of 1811, the parish contained twenty-nine houses and 153 inhabitants. This manor belonged for upwards of three hundred years to the family of the Gorcs, several of whom were knights or persons of distinction. The old manor house, which is still standing, is situated to the north of the village church, and is now the property

of a family named Hedges. Thomas Gore, an antiquary, and a political

Vol. xv., p. 2.
 † This Fosse-way is one of the Roman roads which pass through Wiltshire, being a branch of the Julia Strata, ex-tending from Beckford, is continued through Bannerdown, Easton Grey, across the turppike-road between Tetbury and Malmabury to Circuester.
 ‡ That was in 1814; it is now entirely gene.

writer of considerable note in the seventeenth century, was born at the manor-house of this village, in the year 1631, and received the early village, in the year 1631, and received the early part of his education at Tetbury, in Gloncester-shire. In 1647 he removed to Margiaken this lege, Oxford, and afterwards went to London, and entered himself a member of the society of Lincoln's Inn. He soon, however, quitted the metropolis, and retired to his patrimonial estate at Alderton, where he followed the beat of his inclination by devoting his attention to the study of antiquities and heraddry. In the lutter branch of knowledge, indeed, he become one of the greatest proficients of his age, and published several works on the subject written one of the greatest proficients of his age, and published several works on the subject written in Latin. Among these was 'A Catalogue of the Writers on Heraldry, with a Prefatory Discourse of Arms and Armoury,' which was first published in London in 1668, and again at Oxford in 1674. Mr. Gore, being considered a man of talent, influence, and property, was nominated high sheriff of his native county for

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the year 1680, and filled that station with great respectability, and with the most scrupulous regard to the just execution of its duties. The es, however, in which he lived, had been too boisterous to be assuaged in the short period which had intervened from the era of the Res-

which had intervened from the era of the Kes-toration, especially under a monarch so regard-less of public opinion as Charles II. Mr. Chiro Two censured by many of the county the three for want of loyalty, because his compared in affect was directed by modera-tion the transfer those of the republican or Whig tion there is those of the republican or Whig faction. This repreach induced him to vindi-cate the republican or Whig faction. This repreach induced him to vindi-cate the republicant of the second of the second Unmediate the second survived three years, having the second survived the

antique antique with the milk of a hind in the forme, me to speak of the church itself, which is said to state the second of the short of the short control of the short of the short of the short center is said to the short of the short of the short center is by birth an Athenian of noble extraction, called in Latin Ægidius, who visited and the short of the short of the short visited and the short of the short of the short of the have been accurated with the milk of a hind in the formed, and that the King of France dishave been accurated with the milk of a hind in the forces, and that the King of France dis-covered him in hunting by pursuing the chase of that hind to his hermitage, where it had sought for the bir at his feet. The, the allowards built a monastery on

covered similar in nonting by pursuing the chase of that kinds to his hermitage, where it had songht for stellar at his feet. The trip allowards built a monastery on the similar his hermitage, and made him an abbox. His hermitage, and made him an an a simple it for feet on his lap, and a simple of a tree sprouting before him, the theory bush not to be penetrated. And in Collectic Images the him is by his side, and an arrow here been be hermit in his thigh. Now, there seems much probability that this church for doubtless several others), was founded, none after the enonization of St. Giles, the best the Sth or 10th century, when the hermits of the saint were yet for the minds of those whose occup-tion is the box of the second of the saint were yet for the second of the second of the saint were yet for the second of the second of the saint were the second of the second of the saint were the second of the second of the saint were yet for the second of the second of the saint were yet for the second of the second of the saint were the second of the second o **While do honour** to his name. I am a **this operator** by several authorities. **The semicles** between which place and **the Senice**, between which place and **the senice** had been frequent intercourse led We have Arle Eng

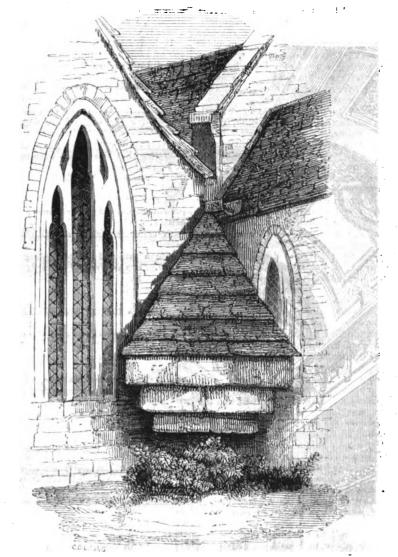
England there had been frequent intercourse from even a much earlier period than 1 have mentioned. It is therefore another work, also edited by Mr. Friend, that so early as A.D. 314, at the state of Arles, three British bishops attended of Arles, three British bishops of London, and Adelphius, or Courtee, and at a later period, but still earlier than the date 1 have referred to, viz., in the 7th century, it appears that the monsateries, both of Malmsbury and Gioucester, t existed. It is therefore not too much to imagine, from It is therefore not too much to imagine, from its local position being not more than 10 or 12 miles from Malmsbury, and the existence of its Norman porch, that this was an early outpost of those Christian missionaries.§

The porch consists of two slender columns, I he porch consists of two siender columns, nearly but not quite disengaged from the jambs of the door; they have capitals formed as in imitation of the stems of trees, just at the point where the limbs branch off, terminating in a square and filleted abacus. These columns support a semi-circular arch having very beau-tiful moulded chevron or zig-zag ornaments interwoven at right angles with each other. This brings me to explain the general features and condition of the church as it appeared in the spring of 1843, and is shewn by the an-nexed plan. It then consisted of a nave, about 40 feet by 17 feet internally, aisle about

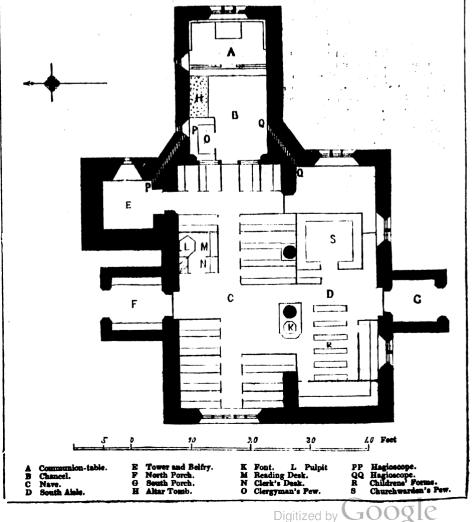
9 St. Oiles is esteemed the petron of cripples from his refersing to be cured of an accidental lameness, that he might be enabled to mortify himself more completely. Septem-ber 1st is the day marked for the commemoration of this enable.

mint. † "The Chromological Histery of Christian Architecture in England, London 1835," and quoted from "Stillingfleet's Origines Brittanica," and "Feules on the Origin and Purity of the Primitive Church of the Britiah Isles." ‡ See Fox, vol. i., p. 147. Monastery of Malmsbury, by one Mckleiphus, a Scot, about the year of our Lord, 640 ; Monastery of Glouesster, by Ulforus and Ethelred, brethren to Kineburgs, an abbess, A.D. 679. § It still remains in the diocese of Glouesster.

EXTERIOR VIEW OF THE HAGIOSCOPE.



PLAN OF ALDERTON CHURCH, WILTS.



40 feet by 14 feet, a chancel about 22 feet by 13 feet, a square tower and a north and south porch.

The nave and aisle were, and still remain, divided by three early pointed arches rest-ing on Saxon (or I should rather consider them Romanesque) pillars, having moulded caps and bases, but without carving, and the whole supporting a roof of solid oak, which also is still preserved. There were also windows down to the latest perpendicular. The Chancel, to which I have more parti-

cularly devoted attention, was, I think, singu-lar in some points, and curious in all. I thad such a mixture of dilapidated dignity in its old features, and clumsy introduction of new ones, as to make one wish either that there were no such officials as churchwardens at all, or that they should be men of better minds.

The oak screen was not less remarkable for the strength and construction of its frame-work, than for the lightness and beauty of its carving. The massiveness of the former carving. The massiveness of the former enabled it to withstand the effect of time or the rude hand of man; but of the finer parts only enough remained to indicate what it must have been, and enable the artist to develope nave been, and enable the artist to develope them anew; some of these were found "used up" in other parts of the church "to patch a wall t'expel the winter's flaw." It con-sisted of three principal divisions, the two sides being divided into five compartments, each with moulded mullions, the lower ones inclosed with pannels, and the upper ones open and terminating in very beautiful tracery. The middlo compartment had an old ledged door, borrowed apparently from some outhouse in the neighbourhood, for it did not even fit the place. It was fastened by a padlock, and served to secure the miserable appendages of the church. These compartments were sur-mounted by a very bold cornice, in the hol-low of which a rich vine-leaf ornament, strung as it were together by a twining rope or cord, was introduced. The top was quite bare, but had a groove, and by chance I met with two or three pointed finials, the *tenoned* end of which upon trial was found to correspond with it.

I must not omit to mention a mistake into which I was likely to have been led by the ledged door just alluded to. It seemed very natural that a screen with a doorway should have a door, and I had proposed one to be made of corresponding character with the rest of the screen, and thought it worked out ex-ceedingly fortunate, as it would just admit of three similar compartments: when I came, however, to examine how a door had been originally applied, I found not only that there had been no door, but that it had not been designed to have one, and that two grooves existed in the side posts, shewing that the head of this opening had also been finished by tracery, to which I subsequently found a sufficient clue. These grooves did not come down more than about 12 or 14 inches from the top,

and there abruptly stopped. I come, therefore, to the conclusion that this aperture, if it had any inclosure at all, had some kind of curtain. The chancel also contained some very interesting monuments of the Gore family, before mentioned, who once possessed the manor of Alderton. One of these deserves particular notice, and an *alter tomb* of mess deserves cient date. This latter (probably of the 15th or 16th century) consists of a massive top having a moulded edge and supported by stone panels, divided into ficture in a support of the store of the store of the store of the support of the store of th divided into Gothic compartments, three of which have shields of an ancient character, attributed (from the hollow scoop on one side) to the time of the Crusades and Tournaments; and the only heraldic device being the chevron, traced in red colour across each shield each shield.

The former monument has a sort of Elizabethan framework ornamented with angels' heads and other devices. Within this was an arched niche deeply recessed in the wall, and containing in alto-relief a figure in an atti-tude of carnest prayer before a table or altar supporting a book; but the figure was at the sume time so gorgeously and quaintly dressed,

"With nip, and snip, and cut, and slish, and slash, Like to a censer in a barber's shop,'

that one was at first inclined to smile at its inconsistency, especially as it was emblazoned in the colours of the rainbow.

I am, however, induced to believe that even this attempt of the sculptor, whoever he night be, reached what in our monu-mental works of this day is not always attained, viz. the comprehension of those to whom it was addressed.

It shewed first that the person referred to was one of rank aad condition, and that his condi-tion did not render him unmindful of his duty to his God! Some indeed might contend that this figure was not designed to represent the deceased person at all, but that of his sur-viving relative who was occupied in saying masses for the soul of the departed. I do not, however, think that was the case, and whether so or not it does not alter the general inference that the parties were not less digni-fied than devout.

But although the church retained these good memorials of bygone days, it was fright-fully mutilated and distigured by the miscalled fully mutilated and disfigured by the miscalled improvements of later times. Thus, the chancel roof, which had been of fine old oak, with collar beams or arched ribs greatly de-cayed by neglect of the tiling, had for its sub-stitute a lath and plaster ceiling flat over the whole. It was deemed of little consequence that the head of the case mindew weeden whole. It was deemed of ittle consequence that the head of the east window was clean cut off, nor that a bulk head filled up the great chancel arch. For all this mischief the *amende* was held to be some new square deal tablets with "Batty-Langly" mouldings, and

Surmounted by a solid heart all on fire! There is something lamentably deserving of notice in this, viz. that the very iconoclastic spirit which led to the mutilation and defacing and destruction, as idolatrous, of what was at least refined in its character and imagery, had run into the grosser error of symbolizing the flame of divine love by so coarse and clumsy a device as this *

The mixed abuse and neglect of the chancel had naturally led to an equal malformation of the church: here and there would peep out a fine piece of old carved-work of various dates to the most decorated English, but these for the most decorated English, but these for the most part were hacked and cut to pieces; while to the solid oak carved ends of the seats were hung dwarf ledged doors, exactly like these of the size structure the seller.

those of the pig-styes in the village. The south aisle was in a worse condition with respect to dilapidations; by the decay of the collar-beams, the roof had so bulged the walls by its lateral pressure, that but for the porch, which acted as a buttress, it would have long been a promiscuous heap.

In the nave was another indication of change-ful times. The font had evidently stood at one time on the north side of the west pillar, thus presenting itself towards the chief door of entrance. This might be gleaned from the existence of a wrought-iron bracket, which had no doubt once suspended an ancient cover. The cover, however, at the time I speak of, was exactly like a copper lid, and the bracket was used to carry a common glazed street lamp to "light up" the church.

The feature of most "pomp and circum-stance" was a large square family new T stance " was a large square family pew, I believe the churchwarden's: it was raised on a platform, with sides so lofty, that no one entering the church could know if any persons were there (even though it might be full), except at those parts of the service where all the people stand.

It may be here proper to remark, that after scraping off the many coated whitewash, there was an appearance of coloured bordering round the arches (not fresco), but a sort of Roman ochre, exhibiting that scroll, the origin of which has been said to designate the waters, from its resemblance to the motion of waves.

And here, with respect to symbols, and ornament, and devices ;-surely the suitable adorn-ings of the church are not less incumbent on us than the bare erection of the walls. So long as we do not rest in them as objects of any vital and saving importance, they may be sim-ply an outward act of the inward grace which prompts the building of a temple to religion. We all know the rebuke which King David received for presuming to erect a temple at all; but nevertheless we learn that his son, Solo-mon, was permitted to build a "house that was magnificent;" and that the temple where

* As this is not the place for expressing theological opinions, I would simply remark what I have somewhere read, "that be the shade of Christian faith what it may, it rarely happens that the religion is in fault, but the errors which the minds of men engraft upon it,"

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the apostles Peter and Paul deigned to enter and preach had its "beautiful gate." But, not to multiply instances, which, in-deed, would be endless, to shew how proper it is that a church should be suitably adorned. I would quote an expression of one of our English poets, who says,-

"How lost to piety and virtue they,

Who with superfluous pageantry and pomp, Adorn their mansions and Neglect their God's !"

The most important marks of the antiquity of this church have yet to be noticed, viz., the formation of a hagioscope,* of which it may not be superfluous (as it is comparatively a new, or revived term in ecclesiology), to offer some

or revived term in ecclesiology), to offer some prefatory remarks. In one of the works published by the Cambridge Camden Society, and which has had very general circulation, the word is thus explained: —"By this term is meant those singular and not uncommon apertures which were made through the different parts of the interior walls of a church, generally on one or both sides of the chancel arch, as at S. Sepul-chre's, in order that the worshippers in the aisles might be able to see 'the elevation of the host. host.

The term in general use is "squint;" that used by some ecclesiologists "loricula;" the former is every way objectionable, and the latter unmeaning; and also elevation aperture was sometimes substituted.

was sometimes substituted. These apertures were usually oblong slits in the chancel wall, opening obliquely into an aisle or chantry; at Tillbrook, Beds, is an example of a chantry piscina, serving also for a hagioscope, as there likewise is at Castle Rising, in Norfolk, and at St. Mary's, Guild-ford, a benatura was thus used. Standground, in Huwingdowing of the set between one Huntingdonshire, has a hagioscope 00 both sides of the chancel.

In early Norman churches, their place is sometimes supplied by a small one on each side of the chancel sisle, &c." I think it is due to the rival societies of Ox-

ford and Cambridge, whether they continue to ford and Campridge, whether they continue to be, or cease to be, to admit that they have *done much* good, in their generation, and that to their efforts may be greatly attributed the revival of our ecclesiastical architecture. They have brought to light much valuable material, and possibly having done so (seeing that would not be in their province, nor, I may add, legiti-mately in their power to adopt them), they may be content with the good they have achieved, and rely upon the just appreciation of their labours both by the profession and by the country country.

To return to the subject of the apertures in question, which are marked on the plan, I would observe that they corre-spond as to their situation and direction with the examples alluded to by the Camden Society, viz., that they were squints in each side of the chancel arch, cut in an angular direction towards the high altar; but as it appears (to towards the high altar; but as it appears (to me) rather formed for hearing than sceing; as although their exterior was bulky, as you will perceive by the annexed engraving of the interior, at the time I speak of, was not more than 12 or 14 inches square. It is true they might have been filled up, and indeed one of them was filled up entirely. They also differ from any example I have yet heard of, in this, that they are cut so entirely through the walls of the chancel, that it became necessary to corthe chancel, that it became necessary to cor-bel out for them, and cover them over with a tiled roof. Moreover, they intersected the splayed jamb of the lancet window on one side, and on the other obliged it to be walled up. Indeed, much of these were not known to many to have existed, owing to the general decay of the church, and that it was thickly covered with ivy in many of these parts. The best in-terpretation that I have been able to come at is one for which I am indebted to a passing remark the other day of Mr. Scoles, and which has reminded me of other facts that serve to corroborate his opinion. serve to corroborate his opinion. He said, with reference to these sportures,

that there might have been side altars at the end of the aisle or aisles (and I believe it is in this day not uncommon in Catholic churches in one of his works, published 1843, ex-hibits such a one at St. Giles's, Cheadle).

* Hagioscope, from the Greek Angios, holy, acoptas, to

This suggestion brought to my recollection that the stone floor of the church at that end was considerably elevated, I should say more than a foot above the common level of the church," and indeed which ever way you passed round the end of the south aisle, you had to step up or step down at opposite ends. To return to the north side, as the tower of

the church is of much later date, it is more than probable that either a north aisle or transept and side chapel may have also existed transept and side chapel may have also existed there, and thus we get a probable solution of the whole matter. It may be also mentioned, as identifying the object of the aperture, that in one of them was found (and I happened to be present at the time) the clapper of a little bell, most probably the sancte bell, which is rung on elevating the host, and that no more should be found than the clapper may be accounted for by the probability that the bell itself was a silver one.

Now several curious inferences may be drawn from these facts; first, that the introduction of these apertures must have been at a very early date, and secondly, that the walls of the chancel must have been of one still more For if it had been considered that such apertares were necessary at the time of its original erection, they would have been better provided for, and the lancet windows would not have been placed in such a situation.

On the whole, I come therefore to the con-clusion (as I ventured to say in the commencement of this paper) that taking into considera ment of this paper) that taking into considera-tion the many features it contained, and some of which are still preserved, especially its Saxon pillars and its Norman doorway; its fine massive oak roof, and the existence of these curious apertures; its approximation to the old Roman road, and its relations to the abbeys of Malmsburyand Gloucester, it must have been one of the meet appear at structures to be met one of the most ancient structures to be met with in a retired rural district.

A few words are due, by way of explanation, for the parts of this church which have been necessarily removed in the recent repairs, as well as those which are preserved. Of the former, especially the hagioscope,

on one side a new chantry has been thrown out for the better accommodation of parish-ioners, and on the other a small turret leading to the before said, most of the ancient features. Of these apertures has been preserved, and, as I have before said, most of the ancient features. Of those which have been renewed I may also add, that they have been done in the most durable and substantial manner at the sole cost of a gentleman whom we have the honour to number amongst the members of the Insti-tute, I mean Mr. Neeld, M.P.: indeed, I think it is due to him to say, that in the restoration of this church, he has spared no expense to render it complete as an example of its kind; and that whatever faults it may have, they neither arise from any arbitrary rule in the proprietor, nor restricted means: the only condition he imposed was, that it was not to be forgotten that it was a village church.

Even the parts which were too dilapidated to be repaired, but to which their time-worn features gave value, he allowed to be preserved by the erection of a *rustic school-house*, in which they would be introduced; so that even for years to come they may (within a few yards of their former destination) be identified as the olden features of the village church.

NEW EPISCOPAL CHURCH IN CONNECTION wirst ris Sallos's Home. — At a public meeting held at Crosby-hall on the 30th ult., the Earl of Haddington in the chair, it was resolved that a subscription be entered into for the purpose of erecting and endowing, under trust, a church with free sittings for seamen frequenting the port of London. Captain Sir Edward Parry, R.N., expressed a hope that the example which they were about to set would have the effect of inducing other churches to be built in every port throughout this great maritime country. Before the meeting separated subscriptions were announced amounting to nearly 1,700%. Measures have already been taken for securing a site for the proposed church in the new street now forming in the vicinity of the London and St. Katharine's Docks.

Bo little care had been taken about the level when it was pplied to a different purpose, vis., burial vaults, that when became necessary to have an even floor, throughout the hunds, we had some difficulty to clear the crown arch of the sale.

THE DISTRICT SURVEYORS.

SIR,—I think your correspondent who signs himself "A Subscriber from the First" is rather too severe upon the new district surrather too severe upon the new district sur-veyors. I am living in one of the new Ken-sington districts, in a row of houses built about fifty years since, and which have the party-walls certainly not more than nine inches thick, if so much. My next door neighbour, an old lady, who has nothing on earth to do, has been amusing herself lately by having the interior of her house very extensively altered ; the staircase has been removed, and turned, I believe, in another direction. Now, Mr. Editor, for several days (within the last fortnight) her workmen were knocking at or into the party-wall between us: through which besides the annoyance that resulted from the noise commencing early in the morning, my furniture had to be removed, and I was in momentary expectation of some of the wall tumbling in. Now, was the new district surveyor informed by the builder of these operations? Oh no, nor was there any thing in the vulgar form of a "barrow of bricks or mortar" placed outside the house, to inform any one of what was going on within. All the brick rub-bish removed was carefully buried in the back garden, and the job was kept snug and comfortable. Before, therefore, a public meeting of the builders is called to consider the means of defending themselves from the arbitrary proceedings of the new district surveyors, I should recommend them to look at home, and to endeavour honestly and in a straightforward way to obey the new Act. I am, Sir, &c.,

May 3rd.

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SIR,-Having been employed to fix some zinc fannels upon the tops of chimneys above four feet high, I have complied with the Act in building two feet of brickwork round the same, but the district surveyors in two of the new districts, viz. Lewisham and Camden Town, are not satisfied unless they finger their fees; whereas none of the old surveyors have taken any notice of them.

The Act, I am sure was not made for the purpose of simply putting fees into the pockets of those gentlemen, but for the better protection of the public. I should feel obliged by your information as to how I am to act in the matter. I am, Sir, &c., Josh. Bird.

Seymour-place, May 5th, 1845.

. The district surveyors can claim a fee if they attend to see the chimney-pot fixed in accordance with the Act. The amount of the fee must be settled by the referees with the consent of the Commissioners of Works and Buildings.

We have received intimation that the next we have received intimation that the bext meeting of the master carpenters will be held at the Freemasons' Tavern on Wednesday, the 21st, instead of the 28th, when the working of the New Buildings Act will be considered by the board, "especially the alteration of the Act by the mercers in the neuroscience of the Act by the referees in the permission to over sail in extending the width of chimney-breasts, and in the fees to the district surveyors as to smoke-pipes and chimney-tubes; also as to the operation of the New Act in the price for party and party fence-walls if built 'previous to the present Act coming into operation."

We suspect the board are wrong in considering that the referees have made any alteration in the Act as to over-sailing to increase the width of chimney-breasts. See our last number, p. 205.

PROJECTIONS FROM BUILDINGS COM-MENCED BEFORE JANUARY LAST.-We have the particulars before us of proceedings relative to a bow from a house built before the 1st of January, which the district surveyor for Lewisham, in the face of common sense and the published award of the official referees in precisely similar cases, has thought proper to take. The matter has been heard by the referees, but as they have not yet made an award, we withhold comment for the present.

HUNGERFORD BRIDGE .--- It is stated that 20,000 persons paid toll between the hours of 12 and 1 on the day the bridge was opened. The directors and others dined together in the evening.

REASONS FOR THE REPEAL OF THE WINDOW TAX.

THE committee deputed by the metropolitan parishes to collect information on the subject of this obnoxious, injurious, and unjust tax, with a view to its repeal, have published a very able report. After commenting on the tone of the late debate on the subject in the House of Commons, the total absence of any attempt at argument in favour of the tax, the unanswer-

direct attention to the innumerable evils affecting the moral and physical condition of society, which originate in the imposition of this cruel tax. A tax on the light of heaven, and on the air we breathe, denounces itself in terms too strong for aggravation, too precise to admit of dispute. But if any confirmation of the ap-palling mass of human misery which it involves were needed, it is to be found, repeated again and again, in its minutest details, in the reports of sanatory commissions, and in the evidence of statistical inquirers, medical practitioners, and ministers of the Gospel; all bearing concurrent testimony against this crying iniquity. Disease, pestilence, and un-timely death; moral contamination, and a consequent large amount of crime, are among the results directly traced by these incontrovertible witnesses from the penalties unwisely imposed by the Legislature on the free enjoyment of light and air.

To what motive then are we to attribute the continuance of a tax so incontestibly noxious in its effects? Grieved, indeed, should we be, to be compelled to believe that it is maintained for no other reason than this--tha**t** while it presses on the poor mechanic and the humble tradesman, with a crushing prepon-derance, the scale under which it is collected is so arranged as to fall lightly on the rich, and scarcely to be felt by the opulent classes of society. Yet, if the tax be continued after of society. Yet, if the tax be continued after the late debate, in which these facts were proved beyond all possibility of doubt or denial, to what other conclusion can we come than that all its monstrous evils are inflicted for the very sake of this unequal pressure on the lower and middle classes, while the upper are purposely relieved by it from bearing their just share of the obnoxious burthen ?

From the data afforded by the Government Tables it will be seen that while houses having 20 windows are charged at the rate of 6s. 21d., and houses having 39 at the rate of 7s. 8d., houses having 180 are charged only at the rate 500 at the rate of only 2s. 7d. per window. But this is taking a very superficial view of the subject, a deeper investigation of which lays bare so enormous a disproportion as would scarcely be credited, if we were not prepared with undisputed and indisputable proofs of its reality. Unless it be the express object of the tax to exclude from our dwellings as far as possible the blessings of light and air, the only assignable purpose of taxing windows according to the above scale, is to be found in the assumption, that the value of houses increases in the proportion, and only in the proportion, of the scale up to thirty-nine windows, and in a much smaller proportion beyond that number. But so far is this from being the fact, that a very little investigation suffices to prove that the number of windows affords nothing like a definite criterion of the value of a house, either above or below the number of thirty-nine; but that so far as it can be applied, it is in houses containing a greater number of windows than that which is taken as the pivot of the scale, that the most rapid advance takes place in value in proportion to the additional number of windows they contain.

For the purpose of illustrating the gross, the almost inconceivable, inequality of the tax, we present the following table (drawn up from official sources), and confidently submit the justice and policy of the continuance of such a monstrous impost to the judgment of honest and reflecting men.

In this table, the *first column* shews the number of windows; the second, the moneyrate at which they are assessed to the windowtax; the third, the annual value at which the several houses are assessed to the property-tax; and the *fourth*, the per centage on their value, as assessed to the property-tax, borne

by the amount, which they pay to the window-

| | I. | TAXBE, | 1845. | · |
|---|--------------------|-------------------------------|--|------------|
| (c) An and the second s | No. of Windows. | Window Daties Assessed. | Rental Assessed to Property Tax. | Par Cent. |
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| 31, Peter-street, Westminster | 50 97 | 6 8 8 9 8 1 | 35 35 | -29 261 |
| 6. Marylebone-court Francis Bocaley, Plasterer,) | 14 | 5711 | 27 | 12 |
| Lancaster const | 90 | 635 | 32 | 19‡ |
| John Westen, Plasterar, Cha- pel-court | 2.21 | - 6 12 - 6 - | : 40 | 164 |
| T. Miller, Tailor, 30, Maryle- | 47. | 4,15,.8 | . 44 | 107 |
| 81, Broad-smoot; Westminster 8, Cross-street, Westminster | .95 99 | 10 0,9 | n 40 | 21‡ 23 |
| 12, Bulstrode-mews, rag and) | 1.9 | 6,14, 1 | A. 50 | 107 |
| 6. Dufours-place, Weetminster, | - 87- | 9 , 8, 1, | 50 | 201 |
| 5, Little Marylebone-street 8. Little Marylebone-street | 23 94 | 7 11 3 | 11 65 | 15 14 |
| 58; Poland-street, Westminster | 28 | 19 27 14 | ····62 | 15 |
| 18. Poland-street. Allesiminater | 85 | 13 2 0. | - 89 70 | 16 |
| 74. Great Portland-street | 26 | F 8 19 0 | 100 | 9 |
| 27, Foley-place | 32 32 | 11 14 9 | 126 | 94 |
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| 189, Oxford-street | - 14 | 1.1.14.0 | | |
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| 33. Upper Grosvepor-street,). | 195 | 37 8 1 | 1990 | 32 |
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No middleity leak justiff, no sephistry can pulliate, injustice 'so glaring,' addr an anequivoes ascriftee of the proter to'the wealther classes,' as are exhibited in this plain table of official facts..' To add to 'its' injugity' would seem impossible; but 'We are much mistaken if the following 'table, illustrative' of 'the comparative amount of relief obtained by the rich and the poor accupions of houses from the repeal of the house tax, in preference to the window duties (which took place in 1834), do not excite equally strong feelings of indignation in the minds of these who reflect by what class it is that taxes are imposed and rejected. If that class has any regard for commun whice; any desire to remove the almost universal inpression that it legislates solely for 'its' own advantage, and without regard for 'the interests of the community at large, it will take the earliest opportunity of effacing from the statute book such a daming record as is here presented of the justice of the charge. Up to this time we may believe that they have legislated in ignorance; but the facts are now laid bare, the plea of ignorance will no longer avail, and the regeal of the window-tax is a debt which they owe to their own characters, if they wish to continue to be regarded and respected as men of honour and as men of principle."

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|--|-----|----------------|------------------|---------------------------------------|--------------------|------------------------|--|
| And State (1997) and (1997) and | | TA | .X2 | s, 19 | 33. | | eved by Repeal House Tax to te atmotint of |
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THE BUILDER.

INSTITUTION OF CIVIL ENGINEERS.

APRIL 29th .- The discussion on the atmospheric system of railways, which had occupied the attention of the Institution for the two previous evenings, was renewed by Mr. Bidder presenting a statement in a tabular form, from which he clearly deduced the tractive force which the atmospheric system was capable of exerting over a pipe of a mile in length, and by taking from this the losses consequent on the friction and gravity of the train, shewed that which was due to the resistance of the atmosphere, &c. His statements were proved by reference to the avowed experiments of Mr. Samuda. His investigations also enabled him to render conspicuous the loss arising from the friction of the air within the tube, which accounted satisfactorily for some apparent discrepancies in the acceleration of velocity of different trains over the mile at the end of the tube. His views on this point were confirmed by the experiments of Mr. C. H. Gregory, and those published in the report of M. Mallet. The discussion of the basis of the deductions, reported by Mr. Stephenson, was then dis-posed of with the decided and generally prevailing admission of its truth.

The commercial part of the question was then entered upon, and the case of the Norwich and Yarmouth Railway was quoted as one of the most simple character, and one which would be of frequent occurrence. It was shewn by facts and authenticated statements of first cost and expense of working, that if Mr. Samuda's estimate for the apparatus, as applied to the projected Croydon line, was diminished by half, or from 6,000% to 3,000% per mile, the mere interest of the outlay at 5 per cent. would amount to 104, per mile per annum more than the present cost of locomo-tive power on the Norwich and Yarmouth line. It had been stated before the atmospheric committee of the House of Commons, that a much smaller apparatus could be constructed to do the work of this line. The fallacy of this assumption and the calculations were analysed and clearly exposed, inasinuch as it was shewn to be mechanically impossible for the contrivance to perform the amount of work for which it was designed, and that that work was not analogous to that which was required by the traffic of the Norwich and Yarmouth Railway, inasmuch as the bulk of the traffic was, of necessity, by particular trains, which rendered their weight about four times greater than had been estimated for.

The case of the necessity of a swing bridge of 100 feet opening for the passage of vessels, as at Yarmouth, was suggested as a mechanical problem upon which the adherents of the atmospheric system might be advantageously exercised.

On reverting to the loss arising from the friction of the air in the pipes, two of the principal mining engineers of England characterized it, from their experience in the ventilution of mines, as being of vital importance to the atmospheric system.

to the atmospheric system. The speeds attained on the South Shields and the Newcastle and Carlisle Railways, with the usual number of stoppages, were given, and the deduction substantiated that a velocity of upwards of thirty miles per hour was attained within, a distance of three-quarters of a mile from the starting point. Experiments were also quoted, shewing, 1st. That a locomotive train could be stopped in a shorter distance than the train on the atmospherie railway, the nett weight, speed, and number of brakesmen being identical; and, 2nd. That the engine and tender alone were stopped in one-fourth of the distance that the train alone was stopped. The main conveniences of the atmospheric system were incidentally alluded to, but were admitted not to be of great importance.

LIGHT FOR ALL NATIONS. -- Mr. William Bush has addressed a letter to the authorities at Lloyd's, in which he states that he has recommenced his arduous undertaking, by boring to accertain the substrate of the Godwin Sands; and, at 50 feet beneath the platform, finds nothing' but hard sand, hearly as solid as the rock itself. He appears confident of success.

Lew Books.

A Monual of Gothic Mouldings. By F. A. Paley, M.A., Hon. Sec. to the Cambridge Camden Society. London: Van Voorst. 1845.

This volume treats of the formation of mouldings, their gradual development, combinations and varieties, with directions for copying them. It is illustrated by nearly 500 examples, and will enable all who study it carefully to determine the dates of buildings with greater accuracy than by any other means. The subject is one of great interest, and, up to this time, only slightly investigated. As the author remarks in the introductory section :-"No person can have devoted much time

and pains to the investigation of Christian architecture, as it was practised in this country during the Middle Ages, without feeling the importance, and at the same time the difficulty, of acquiring an accurate knowledge of MOULD-INGS. That certain conventional forms or de-tails were in use at certain periods, and were uniformly adopted in the constructive decoration of all edifices, ecclesiastical and secular, throughout the length and breadth of the land, with varieties rather of combination or disposition, than of the component members, is an undoubted fact, well known to and admitted by all who have paid any attention to and admitted by all who have paid any attention to the subject. But whence these forms arose, whether from a natural process of gradual development, or from some esoteric principle of symbolical de-sign; whether they originated in some real or pretended secret of freemasorry, or, lastly, in mere secident or convice use curious queetions mere accident or caprice, are curious questions, which, so far as the author is aware, have never yet been made the subjects of much investigation. Again, how far the same forms were arbitrary or obligatory in ancient freemasonwork, how far they emanated from some par-ticular source, and were dispensed by authority through the country, or were assumed by some tacit agreement on the part of the masons themselves, are equally interesting speculations, though, perhaps, equally difficult to determine. However this may have been, it is quite cer-tain that a strict intercourse must have been kept up between the members of this body of artisans, or almost every ancient church would exhibit new and strange varieties in the details of its mouldings. When we consider the difficulty which then existed of constant and speedy communication between distant parts of the country, this general resemblance and uniformity, not only indeed in mouldings, but in all the parts and features of Church architecture, must appear still more surprising. There is in all these enough of licence and variety to make the knowledge of them a comprehen-sive and difficult study to us, and yet such evident resemblance and decided adherence to rule, as to convince us that some system must baye been observed both in designing and executing them."

From the apparent extent of the inquiry, the want of a reduction to leading principles, it has been shirked by modern architects, and many works consequently exhibit in the mouldings most striking, anachronisms and confusion of styles. We are disposed to think the book now before us will do much towards inducing, a more careful investigation of the subject, and we recommend our readers not merely to buy it, but to study it carefully.

The necessity of *copying* mouldings in order to understand them is very properly urged, and the precautions to be observed in using the *lead tape* for that purpose, are pointed out. The practice of copying mouldings by the eye alone is of great importance; by practice the eye becomes familiar with the varicties, and in a very short time, a power of delineating with accuracy may be attained, which renders the student independent of mechanical aids, and enables him to proceed more rapidly than by any other means. The planes in which the mouldings lie, and the relative proportion of the parts are chief points to be observed.

the parts are chief points to be observed. "In considering any series of mouldings previously to copying them, the first point is to lay down on paper the various planes, that is, to ascertain the plan of the arch, or other feature, before the mouldings were cut. When this is done by accurate measurement, the rest of the process becomes comparatively casy, and the most complex and extensive combination, which it appears at first sight impossible to copy with any thing like accuracy, may be res-

Digitized by GOOGLE

dily disentangled, analysed, and sketched with precision. Without attending to these facts, all attempts to do so will be futile.

It may be alleged as a general rule, that Early English mouldings lie on the planes rectangular; that Decorated, according to their kind, fall either on these, or on the chamferplane atone; and that Perpendicular mouldings almost always lie on the last. If some mem-bers seem to fall short of one plane, they will generally be found referable to some other; if they fall on the segment of a circle, which is much more rarely the case, the in-climation must be determined by bending a ruler of piece of lead across them.

A writer in the English Review for Decem-ber, 1844, has the following remarks on the And thus in general we measure, or, if the expression may be used, we read and peruse a Grecian mounding by its lights, and the Gothie by its shadows." Again: "Of the differences between the two classes of moulding, some may be detected by a superficial view. For instance, the Grecian delights in convex lines, the Gothic in concave; the Gre-cian in broad lights, the Gothic in narrow. The Grecian throws out projections to catch the eye; the Gothic endeavours to bury it in deep recesses. The Grecian leads it gently along in sweeping, unbroken undulations; the Gothic fractures its lines, and combines them in angles and curves. The lights and shadows of the Grecian melt and side insensibly into each other; those of the Gothic are planted each other; mose of any count are plant together in strong and hold contrast. . . . In the purest Grecian buildings, vertical mouldings are rare. Horizontal mouldings in the purest Greetan ballings, vertical mouldings are rare. Horizontal mouldings form the leading lines; and it is by these, even in later and degenerated specimens, that the vertical mouldings are regulated. In the Götthic, vertical mouldings are most frequent; and they overrule and determine those which and they overfule and determine those which are horizontal. And Grecian mouldings are simple and easily divisible into parts; Gothic are entangled in labyrinths, and perplexed with innumerable intricacies."

To the subject of Gothic mouldings, their developement and varieties, we shall shortly recur. - . -

. . . .

Correspondence.

DIFFBRENCES IN BUILDERS' BOTIMATE. Syn,-I take the liberty of forwarding to you the amounts of the tenders for a large hotel at Whitehaven, Cumberland, for the Barl of Lonsdale. The difference between the highest and lowest is most extraordinary. Mr. Nelson, one of the parties, is an architect and builder at Carlisle, and a person well acquainted with the place and prices, having built several large edifices in the town. I went down and made strict investigation as to every item, I had to price out, and assure you that I went very closely into the estimates for Messis. Burton: How can you account for the difference, when all parties were furnished with the quantities by the architect, Mr. Carpenter?

| Grimsdell | £ 26.795. | 0 | 0 |
|--------------------------|-----------|-----------------|-------|
| Jay | | | õ |
| Burton | 21.473 | 0 | Õ |
| Nelson (Carlisle) | 21.021 | Ó | 0 |
| Todhunter (Whitehaven) | 20.743 | 14 | 41 |
| Blackstock and Co. (do.) | 19.525 | | 0 |
| Grissell and Peto | 18.860 | 0 | Ó |
| Elger and Kelk | | 0 | Ó |
| Rigby | 17,926 | 0 | Ó |
| Difference 8,869/. | | | |
| t am, Sir, 8 | kc. | | |
| | SEMPER | 1 _{D1} | 2 1 1 |

BRITISH ARCHÆOLOGICAL ASSOCIATION.

SIR,-The very liberal and impartial view you have taken of the dissensions which have unfortunately arisen in the Archæological Association, induces a belief that your columns are open to advocate an adjustment of their differences, which, it should be remembered, by the committee on both sides, have involved the whole body of members in their quarrel. There are few lovers of the history of their own country who did not gladly hail the attempt to form a society having for its objects

the promises their first prospectus held out, and a proportionate degree of disappointment, within a few months, to see the association threatened with dissolution. Not from want of objects for investigation, or money, or talent, but a mere difference of opinion amongst the members of the committee on a truly slight ground, the subject of which, as well as the consequences, are too well known to require repetition. The position of both sides is ab-solutely absurd, if not melancholy, when it is considered the bitter feeling that this really trifling cause has engendered in the lists, in-cluding some of the first spirits of the day, as well as reverend divines.

I would beg to suggest, to the latter more especially, the propriety, not to say duty, of offering their services in a spirit of conciliation to bring about a proper understanding, and I venture to predict, their endeavours towards an adjustment of their differences would be attended with good results. I am, Sir, &c. P. A. X.

INTERCOLUMN AND INTERCOLUMNIATION. SIR, -- According to Nicholson, both the above terms convey a definite meaning. In-tercolumn (from the Latin inter, between, and columna, a column) signifies the open sroe between two columns. Intercolumnistion, the distance between columns, measured by their lower diameter.-I am, Sir, &c. N.

Miscellanea.

FALL OF A VIADUCT AT ASHTON. -- We stated in our last impression, that an inquest was then sitting on the bodies of the unfortunate persons who were killed by the falling of and persons who were killed by the laming of nine arches in the Ashton branch Railway. At the request of the coroner, Mr. Samuel Holme, engineer and builder of Liverpool, in conjunction with Mr. Bellhouse, and Mr. Lee â Manchester, made an examination of the ground and works where the accident occurred, with the view of finding out the cause. In their report they state that on examining the plan they found the interior filled up with rubble stone mixed with scablings and brickbats negligently thrown in, without being regularly bedded, with mortar of a very inferior quality, all of which bore evidence of the slovenly execution of the works. The report. which was lengthy, concluded with the following declaration : - "We cannot close this painful examination without expressing our opinion that great blame has been incurred, and that this accident has taken place through the inferiority both of the material and the workmanship. We refer particularly to the construction of the piers. These were totally insufficient for sustaining the weight which had been placed vertically upon them. The The pressure could only act on the exterior casing, for the interior did not in the slightest degree contribute to their strength, and would not have borne their own weight if the exterior casing had been removed from them. The want of binders also, to connect the two sides of the piers together, has been a most fatal error, and painful as it is to us, we are com-pelled to state that in our opinion, this accident would not have occurred had the works been executed in a proper manner.¹⁰ ,⁴¹he jury returned a verdict of Accidental Death, accompanied by the unanimous expression of their opinion, that they considered the sole cause of the accident to arise from the insufficiency of the works and the inferiority of the material used, together with negligence of the men and the contractors, also that of the company's servants, and a request that the coroners would forward the evidence taken before them to the Lords of the Privy Council or the Board of Trade, with the view to the Government sending down some competent engineer to inspect the whole of the works prior to the line being opened to the public.

NAMES OF STREETS .--- Monmouth-street, named after the unfortunate son of Charles the Second, so well known from its being the residence of the purveyors of second-hand habiliments, has had its name changed to Dudley-street. Petticoat-lane, at the East-end, has in a similar way been transferred to the more euphonious sound of Middlesex-street.

ATMOSPHERIC RAILWAYS .--- The committee of the House of Commons appointed to inquire into the merits of the atmospheric system have reported fayourably of it.

NOTICES OF CONTRACTS.

225

[We are compelled by the interference of the Stamp Office, to omit the names of the parties to whom tenders, dev, are to be addressed. For the convenience of our readers however, they are entroid in a book, and may be seen on application at the office of "The Builder," 3, York-street, Covent-garden.]

For taking down part of the present County Gool of Lincoln, and erecting a New Building on the site thereof, with airing yards and other requisites.

For building a school-room in London near the bridges. For the Masonry Work of several Visducts and

Bridges.

For the performance of the Works connected with the erecting of the new Pier at Pensame. For the erection of the Borough Gaol, Bir-

mingham. For the crection of a Building in London for a highly-patronized purpose, at the estimated cost of about 30,000?.

For the supply of 20,000 slow-grown Larch Steepers, wanted by the Manchester and Dirning

For the accessary piling, excevating, and eart-ing away of the soil, for the foundation of a New Warehouse for the Dock Company at Kingston-

pon-Hull. For the Alteration and Enlargement of the Union Workhouse at Whittlesey, in the wild hour-hood of Huntingsion.

hood of Huntingston. For the Erestion of a Workhouse between Swin-don and Highworth, Wiltshire. For the performance of the necessary works in the construction of a New Ducktin the Borough of

the construction of a ivow sector in the construction of a ivow sector in the construction of a ivow sector in the construction of the constructio

years, from Midsummer-usy much, us consistent street Road, Middlesse, it saw and an For the Erection of a Gastleman's Raudence and Farmery attached, near the Shrivenham Station on the Great Western Bailway. Methods to be de-For Erecting a Market, house at Malmesburg, With the Shrivenham Station of the Shrivenham Station of the Great Western Bailway.

Wiltshire.

For a quantity of proof thein'28, 12 17 Att and inch, wanted by the Universal Salage Company, and the shall seall Arstev

COMPETITIONS. " The

COMPETITIONS. Plans, sections, and elevations for a Terminus, and other requisite accompanying offices, for the Great Southern and Western Reilway, Italand. A premiums of 20 guinger will be pressated to the party offering; the best plan, of Docks, capable of admitting; ships of 1,000 tens burden, to be erected at Burnham, in the Bristol Changel.

APPROACHING SALES OF WOOD, Sec. BY AUGUOR.

"The timber and other trees new standing upon the estate at Woodscaves, Salop. By order of the Lord Chanceller made in the cause 4 Dickin s. Barker.'

Barker." of 68 femous Oak, and six. Ash timber trees with

dt ob samons Cras, and sit. As a timber trees wan At Wiston, Woods, near Nayland, Kases: all the Timber, Timber-like Trees and Seplings (con-sisting of Oak, Ash, Elm, Asy, Birch, and Cherry) arising from the Wood of 13 Acres called "Hilla." At Kerney, near Hadleigh, Essex: 130 Capital Oak Timber Trees, 70 Oak Standels, and about 39 Pollards, lying on "The lwy-tree Farm."

TO CORRESPONDENTS.

"J. J. B. "-- We are unable to invert the letter as it has no public interest. The advertisement shall of course appear if still desired. "J. W. A."—We quite agree with his second

note.

"E. J. N. S.," is thanked for the sketch. We will take an opportunity to look at the house. "C. K." — We could not assist our corre

We could not assist our correspondent in his desire to remodel the front of his house without engravings, and these would not be of sufficient value to our readers generally to authorise

their proparation. "A Young Builder," cannot do better than obtain "Laxton's Price Book." "Herne Hill Church."—We are much surprised

by the tone of the private latter, signed William Sugden, and the course pursued. We allowed all the parties concerned to make their statements, and afterwards, at the foot of a communication on the subject signed W. A. (p. 166 ante), gave our general impression of the whole: Mr. Sugden complaints of Mr. Alexander's emertion, that the statements are "untrue" (p. 130), and offers to disprove it if the architect will pay the expenses of such disproof, and the lose "sustained knowsh him in material and labour ?" he also points out por-tions of the specification which do not agree with the quantities furnished. This, however, which seems admitted, does not at all after the main gues-

tion, and we have not space for repetitions. The general facts are before the public, and from these

boards of management. "R. H. B."-" Themelthorps "-next week.

"R. H. B."—"Themelthorpe "—next week. Received.—" The Quarterly Journal of the Geological Society," No. 2, edited by Professor Ansted—" Old England," part 17 (C. Knight),— "Pictorial Gallery of Arts," part 4 (C. Knight), —Young's "Lectures on Natural Philosophy," edited by Rev. P. Kelland, part 4 (Taylor and Walton).

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, May 12.—Geographical, 3, Water-terloo-place, 8 P.M.; British Architects, 16, Grosvenor-street 8 P.M.; Medical, Bolt-court, Fleststreet 8 p.M.

TUBBDAY, 13.—Medical and Chirurgical, 53, erners'-street, 8 p.m.; Zoological, Hanover-Remera' - str square, 81 P.M.

WEDNESDAY, 14.—Society of Arts, Adelphi, 8 P.M.; Geological, Somerset-house, 8 P.M.; Graphic, Thatched-house Tavern, 8 P.M.; Pharmaceutical, 17, Bloomsbury-square, 9 P.M. FRIDAY, 16. — Royal Institution, Albemarle-

street, 84 P.M. SATURDAY, 17.— Asiatis, 14, Grafton-street, 2 P.M. (anniversary).

ADVERTISENENTS.

ALSTON, Roman Cement, Chimney-belvedsee place, Borough-road.-To Buildes, Bricklayere, and Stonemasons.-A large quantity of the above MA-TERIALS, in great variety of style and pattern, is now SELLING at cost price, to clear the premises. Roman stone coping, trusses and brackets. Country purchases at-tended to with great care and punctuality.-Fortland Cement Window-cilla.

Window-cills. MARTIN'S PATENT CEMENT. TO ARCHITEOTS, BUILDEBS, AND PAINTERS IN PRESCO. SOLE MANUPACTURERS, beg respectfully to announce that this beautiful cement has now arrived at a degree of excellence far surpassing their most sanguine expectations. For all internal work it possenses a great superisetity ower every article hitherto in use; it is now being used extensively by Government in the British Museum and other public buildings. IT DOES NOT THROW OUT ANY SALT, but presents a beautifully plain and perfect auface, which may be painted upon dry work within four days without peeling. It is equally applicable for walls or lath, for mouldings, architrave, skirting, or flooring; and is admitted to form the best ground for freece painting, having been used for many of the prise fraces lately exhibiting in Westminster Hall. It will bear an intense heat without cracking, and for hardness, durability, and sedeomy, cannot be oulded. 160, DRURY-LANE, LONDON.

equalled. 196, DRURY-LANE, LONDON. Agent for Liverpool and Manchester, Mr. R Part, 11, therton's-buildings, Dale-street, Liverpool. A +1

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MER-CHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL

BUILDERS, MASONS, AND PLASTERERS, MER-CHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL¹⁰ JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto in-iroduced.—It will defectually resist Danmy. It will never vegetate nor turn green, nor otherwise discolour. It will never erack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resumbles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will kope fresh and good in the cask in any Climate for any sumber of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Senside. It may be used in the hottest or coldest Climates at any season. It will adhers to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cements begin to periah. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Hosts laid or pointed with this Cement will remain undamaged by the serverst Storms. Any Plasterer may apply it, the Instru-tions for use being very clear and distinct. The first cost of this material does not exceed that of the chespert Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of cornory. Architects and Builders who have used this Cement have

economy. Architects and Builders who have used this Coment have declared that it requires only to be known, to be universally

Architects and Builders was have used this Cement nave declared that it requires only to be known, to be universally preferred. Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application to MANN and CO., SoLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had, JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, supressly intended for Painting over ex-terior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and disco-loured. It is in every swy better suited for this purpose than White Lead Paint, which will frequently come off in flakes, MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure ston-like effect, produccable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the **most exposed Marine situations**.

TKINSONS CEMENT .--- The public is A respectfully informed, that the price of this very ex-cellent Cement, which has now been in use for Architecture and Engineering works upwards of thirty years, is reduced to 28. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Oo.'s Wharf, Holland-street, Surray side of Blackfriars-bridge.

N.B.-This Cement being of a light colour, requires no arti-ficial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

three parts its own quantity of sand. **K** E E N E'S PATENT MARBLE CEMENT.—The Patentees of this composition beg to refer to the British Museum, the Royal Exchange, the new works at Bethlem Hospital, Groenwich Hospital, and the Co-liseum in the Regent's-park, as buildings finished or in pro-gress, in which Keene's Cement has been used as an internal stucco. Its superiority to common plastering consists in its extreme hardness, and the rapidity with which it dries, which qualities fit it to receive paint or other finishing sooner than other water Cement. When employed for skirtings, architrave, and other mouldings, in place of wood, it enceks dry-rot, is impervious to vermine, prevents the spread of fire, and is more eco-nomical in its application than the material for which it thus becomes the substituts. Confirmation of these statements is to be found in the almost universal adoption of Keene's Cement for Skirting and Hall flooring in the new houses on the Hyde Park Extate, where its application is to be seen to the fullest stran-tage.

where its application is to be seen to the inner and tage. In Liverpool and Manchester, Keene's Cement has in several cases been used for the covering of the fire-proof warchouse floors, where its lightness and hardness give it the preference over tiles and flagging, which are much heavier, and noceasenily leave the floor intersected with numerous joints, whilst Keene's Cement is laid down in one unbroken surface. The high polish and marble-like hardness of which this Gement is susceptible render it the most suitable material for the manufacture of Scagliola. Patentees, J. B. WHITE & SONS, Millbank-street, Westminster, Manufacturers of Roman and Portland Cement.

Depót in Liverpool, 36, Seel-street, James Woods, Agent.

TO ENGINEERS, ARCHITECTS, AND BUILDERS. PATENT METALLIC SAND CEMENT. -The Metallic Sand, from its chemical onalities.

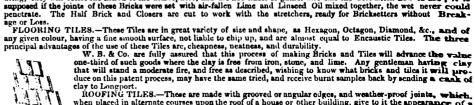
TO ENGINEERS, ARCHITECTS, AND BUILDERS, DATENT METALLIC SAND CEMENT. --The Metallic Sand, from its chemical qualities, forms, when mixed with blue lias lime, a metallic cement of great strength and density, the iron, which is one of its principal constituents, combining with the bed in which it is deposited, and communicating to it a greater degree of hardness than can be obtained by admixture with any other known material. Concrete and mortar in which the metallic sand has been used are more durable than any other, continuing to indust with lime, and not being affected by damp, otherwise than by increasing in hard-ness from the oxydation which is thereby occasined. Employed as a cement to turn water from brickwork in tun-nels, sewers, and other underground works, the Metallic Sand is found chesper, and from its eminent adhesive qualities to form a more solid and hydraulic body, in com-bination with the brickwork, than any other ement at present known 1 and in all cases the Metallic Sand is found the best substitute for possolano that has ever been presented to the public. As an external stucco, the Metallic Coment assumes a rich stone-colour without the aid of paint or thot of any blisters, and continues to improve both in appearance and durability by exposure to the weather. The Proprietors refer-with confidence to works in which the Metallic Sand has been extensively employed as concrets and mortar, specified in the prospectus, where also will be found refe-rences to very extensive crections which hare been stuccoed with the Metallic Cement. Further information will be given, and specimens shewn, on application to Mr. C. K. Dyer, 4, New Broad-street; and at the Metallic Cement.

BRITANNIA IRON AND LINC WORKS, 174, HIGH HOLBORN, STOVE GRATE, KITCHEN RANGE, STEAM-COOKING APPARATUS, AND BATH MANUFACTORY. R. K. BUTLER

R. K. B U T L E R INFORMS ARCHITECTS, BUILDERS, THE TRADE, AND ALL FARTILE DESIROUS OF ECONOMICAL OUTLAY IN GENERAL AND FURNISHING IRONMONGERY. That he has completed very extensive alterations at his Establishment, and invites an inspection of his Show Rootne and Warchouses, which will be found replete with every novelty of USEFUL and ORNAMENTAL MANUFACTURE for GENERAL, HOUSEHOLD), and DOMESTIC USE. Strong, Self-acting Kitchen Ranges, with back Boiler, Oven, and Wrought Bars :-Sft. 3 ft. 3 ft. 3 Sft. 3 ft. 6 ft. 9 Sft. 3 ft. 6 ft. 9 Ditto Ditto as above, with R. K. B's. Improved Wrought Iron Oven, &c., from 30s. each extra. Bright Register Stoves from 41. each to 36 guines. Best Black Metal do., 7d. 8d. 9d. 10d. 1s. per inch. Ditto Ditto Elliptic Do. 3dd. 4d. per inch. Estimates given for every description of Iron Work, Iron Senkes, Bakonics, Staircase Bailing and Palinedes made from Original Designs. Ventilating, Warming by Hot Water, Steam, &c. Experienced and steady Workman zent to all parts of the hinguidors.

By Der Majesty's Royal Letters Batent.

BASFORD & CO., Patentees of the improved mode of Manufacturing Bricks, Tiles and Quaries, &c., respectfully solicit the attention of Architeets, Builders, Brick and Tile Manufacturers, and the Public generally, to their improved Front or Face Bricks for first-rate houses and other buildings. These Bricks are manufactured by a peculiar method; the mould is so constructed as to make that side and end upwards to the plain of the mould that forms the out-face in any building, and not on their flat bods as in the ordinary way of Brickmashing. Thus a smoothness and pollah is given to them, either with or without a costing of fine prepared clay, which it is impos-sible to give to Bricks made with their flat beds uppermost. Thus any colour can be worked on the surface of Bricks made in this way, seen the most expensive, without the body of the article being an expensive material. This process is adapted to making camber and other arches, cornicing, spouting, &c., and owing to the great heat in which they are subject in fring, they will resist the action of the atmosphere, and are not liable to gather dirt like the best Bricks now in mee; it is supposed if the joints of these Bricks were set with air-fallen Lime and Linseed Oil mixed together, the wet never could penctrate. The Half Brick and Closers are cut to work with the stretchers, ready for Bricksetters without Break-sign of Leas.





duce on this patent process, may have the same tried, and receive burnt samples back by sending a crack of lay to Longport. ROOFING TILES.—These are made with grooved or angular edges, and weather-proof joints, which, when placed in alternate courses upon the roof of a house or other building, give to it the appearance of a pannelled surface, as indicated in the plate at the side, showing a section of a roof. These Tiles are of two kinds, the one having a broader, and the other a narrower width. The broader once may be made of any size practicable. They are so constructed as to make a firm and elegant roof, resembling the Stiles and Panels of a Wainscot. HIP, GUTTER, and other Tiles, equally improved and elegant. These articles are manufactured by the aid of a Machine, which is exceedingly simple in its construction, and uniform in its operations. The Patentees will be able to give sufficient information as to their improved mode of firing. Letters of Liecence. together with Terms and Prices, may be had on application to the LONGPORT BRICK & TILE W ORKS, Staffordshire Potteries.

33 HIP TILES. Digitized by Google

HIP TILES to suit slate roofs in colour; Bidgers, with plain or whethed ising will there are HIP TILES to suit elate roofs in colour; Ridges, with plain or rebased joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, heragons, octagons, &c., dif-ferent colours; roofing, in Grecian or Italian styles, ether devices also, or plain; conduits, which do mot injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chinney-tops; also tubular and other fives of poculiar masterial. No agent, but a depôt at WHITEFRIARS, and 32, WATER-LANE, FLEET-STREET, LONDON, under Mr. PEAKE'S per-sonal care, to supply genuine TEBRO-METALLIO goods at fair prices as per quality. The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colo-nies and cloewhere.

HATCHER'S BENNENDEN TILE-MACHINE, Manufactured and Sold eaty by COT-TAM and HALLEN, Engineers, Agricultural Implement Makers, &c., S, Winsley-street, Oxford-street, London. 20

duct of a day of 10 hours is as follows, vis:-1 inch diameter of [12 inches diameter of Tile, 1,000] 12 inches diameter of 14 inch diameter of [13 inches diameter of 14 inches diameter of [14 inches diameter of 14 inches diameter of [14 inches diameter of [15 inches di



MOON'S IMPROVED CHIMNEYS. MOON'S IMPROVED CHIMNEYS, Samples of the Bricks to form the Circular Flue, now coming into general use, also those fiveneted by Ciark and Reed for a similar purpose, may be seen at the Fatenstee's Western Depót, New-road, near Tottenham-court-road, where may be procured the Metal Bars and Throats, also the much-approved Caps for the prevention of Smoky Chim-neys, without causing adjoining flues to smoke, or producing the noise so generally complained of, arising from a large surface of metal being exposed to the action of the wind. Licences are granted to Brick and Tiles Makers for manu-facturing the Bricks and Tiles, throughout the United King-dom, by application as abore, or to Mr. ELIAS DORNING, 27, Gross-street, Manchester.



SATURDAY, MAY 17, 1845.



Conservative Club which Conservative Club, which have been under the hands of Mr. Sang and his assistants for some time past, are now nearly completed,

and will enable the public to judge conclusively of the merits of the painter. We are not of those who would join an outcry against the employment of an artist simply because he is a foreigner, or willingly shut our eyes to any superiority he might exhibit: we know too well the advantage which has resulted both to manufactures and art in England from the contrary course. But it does seem to us, that unless there be a decided superiority on the part of the stranger, unless it be seen positively that we could not obtain so good a result by employing native artists, our own countrymen should be first considered.

Mr. Sang has shewn considerable ability in the decoration of the building in question : the upper part of the hall has a very harmonious and admirable effect; but few will pretend to say that an English artist could not be found who would have executed the commission as well, if not better, for the same amount of money ; 1,500L, we believe, were paid for the hall and staircases alone ; the cost of the drawing-rooms we have not heard.

Mr. Sang has a good eye for colour, and while, by the variety and brilliancy of the tints employed, and the novelty of that style of decoration in England, the spectator is amused and surprised, he produces a whole which is harmonious and pleasing. But examine the design in detail; it is found to consist of the most common and hackneyed forms ; and when you are close to the work you see that the execution of it would disgrace a tea-garden. It is, in fact, scene-painting; and there are several men engaged in our theatres at this time who would do it better.

Nevertheless, the effect of the hall at the Conservative Club is glittering and magnificent; the motive of our remarks is, to contradict the impression that English artists are not competent to execute the coloured decorations of important buildings, and to urge on those who have the direction of them that, as opportunities of this kind are rare, their countrymen should in all cases receive consideration. That the impression should exist is not surprising when we remember that in the only two buildings of any consequence in the metropolis where colour has been resorted to, the German artiste were called in."

certial, and hints that we have suffered in England from not pursing the same plan. On a vertice of the method of instruction in Lyons (says the official report, page 31), as far as it is connected with faradiature, it appears to me to exhibit the true principle on which a school of design ought to be constituted. * * * it's papil intends to become a designer and fabricator of rmall brenze work, pendules, ite., or a curver in wood, or a liver chaser, or a house decorator, unless the human figures

In several respects the Conservative Club may be expected to exercise considerable influence over internal fittings and decorations. The tessellated, or mosaic pavement of the hall and vestibule above, executed by Mr. Blashfield, is an admirable example of that description of flooring. It consists of cubes

of different sizes, varying from the eighth of an inch to an inch and a half, placed so as to form certain patterns, and uniting so as to produce one harmonious whole. The effect is exceedingly good.

The extensive use of real woods for the doors and other parts of the structure,--sycamore, bird's-eye maple, &c.; the introduction of electrotype adornments, and the pains taken to obtain furniture in accordance with the building, by the employment of a professed designer, are all worthy of remark and commendation.

In the general arrangement of the structure, the architects, Mr. G. Basevi (the architect of the Fitzwilliam Museum, at Cambridge), and Mr. Sydney Smirke, have displayed great skill and ability; convenience, fitness, and beauty have all been studied, and no young architect can walk through it without gaining much useful information. The vestibule, or inner hall, which is the most peculiar feature of the interior, is full of striking effects and beauties, perhaps more so than any other with which we are acquainted in the metropolis. The size is 35 feet square, and the height 60 feet, and it communicates with the staircase (which is also 35 feet square), and has a circular gallery about midway, giving access to the principal rooms on the first floor. Each side of the hall is divided into three arched compartments, and the whole is lighted by a glazed dome 20 feet in diameter. The centre arch on the west side on the ground floor opens to the first flight of the principal stairs, which is 12 feet broad, whilst all the three arches on the gallery floor are open to the staircase; the return flights of the staircase, each 91 feet broad, entering the gallery at the two side arches.

In addition to the brilliant colourings with which we have said the hall and staircase are adorned, scagliola is profusely applied, and the perspective effects produced by the plan are multiplied by several mirrors.

The dimensions of the morning-room are 92 feet long by 261 feet wide in one part and 344 feet in another; those of the coffee-room are 80 feet by 28} feet; those of the house diningroom 36 feet by 23 feet, and all the rooms are 20 feet high. The morning-room is divided in its length into two comparements, and enriched with fourteen Sienna marble scagliola columns and pilasters of the Italian Ionic character. The coffee-room is divided in its length into three compartments by twenty Devonshire marble scagliola columns and pilasters of the Italian Doric order, with gilt capitals. The walls of both rooms are panelled, and the cornices and ceilings enriched. The drawingroom is 92 feet long by 261 feet wide, and 25 feet high, and is enriched with scagliola

columns and pilasters of the Corinthian order. Above the entablature, in the frieze of which are ornaments composed of the rose, thistle, and shamrock, alternately, springs a cove terminating with a broad band of fruit and flowers. The card-room is 40 feet by 19 feet, and 25 feet high, subdivided by Corinthian columns. From the card-room is entered the library, which is 80 feet by 22 feet high. This is divided into three compartments by square panelled scagliola pillars and pilasters of various green and gray marbles. The ceiling is divided into square panels, with enriched mouldings and frets, and the whole is painted oak and gilt. Polished oak bookcases line all the walls up to the height of 13 feet. The appearance of the library is peculiarly good.

The exterior of the building is rich and stately, displays much originality as well as careful study, and is admirably executed. In the whole it may be said, that the Conservative Club House is one of the most successful achievements of modern skill, and entitles its architects to take a very eminent place in their profession.

THE ARCHITECTURAL ROOM AT THE ROYAL ACADEMY.

WE mentioned last week that few of the elder members of the profession were among the exhibitors, and we might have added, not one of those who are members of the Academy. On first looking round the room, the impression is far from satisfactory; churches, and Eliza-bethan maneions very much like other churches and Elizabethan mansions; a few Tudorhouses, and some village schools : there is nothing which at once arrests the eye and bespeaks which at once arress the eye and despeaks attention. On looking further, however, its character improves, and it is seen, although there are no particularly important or striking designs, that there are many other compositions displaying much good taste and proper feeling, exceedingly well drawn. Without awarding this praise to all we may

mention, we will pass round the room and mention a few of the more prominent exhibitors

G. H. WATHEN has a design for a lighthouse and telegraph tower for the new Birken-head Docks, near Liverpool (1100), which has much originality : it exhibits evidences of its author's recent travels in Egypt.

J. THOMSON, whose paper on Alderton Church as it formerly was, we printed last week, exhibits a view of that structure as rebuilt by

him. WYATT and BRANDON have only one drawing (1104), a perspective view of the north entrance to Kensington Palace Gardens, --the new road now in the course of formation from Kensington High-street to the Bayswater Road. This locality affords two other drawings (1150), the Garden Front of the Mansion now erecting there for J. M. Blash-field, Esq., by J. FINDEN and J. H. LEWIS, and (1235) the Garden Front of Villa, No. 3, by OWEN JONES. The former is after an Italian Palazzo, with an arcade in front of both the two Palazzo, with an arcade in front of both the two principal floors, and although somewhat heavy in appearance on paper, has a certain air of grandeur. Mr. Owen Jones's design looks better in execution than in the drawing. No. 1273, by the same, an Ornamental Cottage and Deirw is more ancessful and merita and Dairy, is more successful and merits commendation.

S. S. TEULON in 1126, St. Mary's Lodge,

Hastings, displays much taste. H. E. KENDALL, jun., exhibits a Mansion in Progressnear Chalford, Bucks (1127), which would seem to be of more than ordinary importance, and is treated with his accustomed ability. It is a Tudor structure castellated, with a tower over the principal entrance.

THOMAS LITTLE has several drawings, all THOMAS LITTLE has several drawings, all displaying a cultivated taste. 1134 is a view of Fairlight Church, near Hastings (of which some notice will be found in another part of our present number), not All Saints' Church, St. John's Wood Road, as it appears in the catalogue; 1286 represents the latter, about to be built under Mr. Little's direction, although this is termed in the catalogue "a Church. E. Thompson." These are not the only mistakes

BUILDER. THE

⁶ That there is a lack of decorstive artists in England we do not protein d to deny; and if so encouragement be offered to those who do practise this branch it will be long before there are more. On the subject of decorative art a letter upreared in The These two sets to or three days ago, inquiring what our school of design for nine years; it has cost the cost for econtry parties will be wanted for the House of Lords, are there now poils adquate, or do any give promise of being so? or will the writese to an the result? When decoraters will be wanted for the House of Lords, are there now popula dequate, or do any give promise of being so? or will the writese to a obliged (as was done not two years since in scotter place) to send to Manich for half-adven?"
The writese quotes a report on the schools of design abroad, in 1440, shewing that fine art was there made the basis of accorative art, and that the system had been eminently succerval, and hints that we have suffered in England from not parsuing the same plan.

occur in the catalogue : it is to be hich

hoped they will be wetfied in the next edition. EDWARD HALL, whose writings have ap-peared in sour journal on several decasions, arbibits is design for a Gothie House, 1142,000 and Magaziand Pownatc, in 1167, give a de-sign submitted for the Somerset County Lunatie Asylem; the plan forms three sides of a

tie Asyland; the plan forms three sides of a square; the character Elizabethan. 1178 and 1186; by W. H. BRAKSFEAR, are drawings for the Chapels at Numbead Combery, which were submitted in competition, and ob-tained the second premium. They are exceed-ingly good designs. This same gentleman ex-this a very beautiful view of the Parker Monument; in Paignton Church, Torbay, 1214, perhaps the finest drawing in the collection. L. N. Cortinenant and Son give a view of the Church of St. Helein, in the course of erection at Thorney, 1179; "A plain Norman structure, with bell tower at the word end, and the right character all view it.

the right character all dver it. A section west end, and b. Mocarea exhibits an interior view of

Meddato Williamer and Briwarby's' new show-moon, in: Oxford street, No. 19184; hovel and instantil mons, and bilance as the street and

F. E. Fownsw's Villa at Greenhaff (1198) m much propriety. Min is better known to

Mb. Wi Ho Lingie, who is better known to the anchibebturat public 'By Mis' writing's than his drawings, esthibits two designs, No. 1204, Architoctaval Ienovation, and No. 1205, Study for the facede of a small patarzo, both desorv-ing consideration, and patarzo, both desorv-ing consideration, and patarzo, both desorv-ing consideration of the observation of the J.M. Durator's Design for the Ohoristers' School and Master's buildings at Magdalen College, Oktord Tooks as if it were an original part of the newschold Cety-no ineau praise, duce who said at the thie about certain de partore from the regulations of Mr. Derick, which, df Bree, nothing the in attrapartness from the 'statut at the time about certain a e-partness from the 'statut at the time about certain a e-Derist, which, di' bee, notifitig 'sh jastify', bertaisent is however,' Thit so fat as external appearance is order and the fat as external appearance is order and the fat as in the 'so in order is order and the fat and 'she is a 's baran a constraint and the fat and 's a 's blanch, not on the order of the fat and the blanch, not on the order of the fat and the blanch, and other the of the fat and the polychromatice destribut, a tained a glas, and 'other atominents' the 's considerable ex-tents are atominents' the 's considerable ex-tents are atominents' the 's considerable ex-tents are atominents' the a considerable ex-

"Er Britishin fini Befers! Very Clever works, 1929, 1949, 1956, wid "P599:" His design for the Charisters" School, Oxford, 1256, is very excellent. a yild off and it off a sery excellent. at vital or

W: A. PATHORTH's hows' considerable ability: In (1236; Arch of Peace and Plenty, designed for cretcion at the north end of the broad walk of Kensington Gardens.

W. RAILTON exhibits among other drawings, W. KAILTON exhibits among other drawings, an Elisabethan mansion, erecting for William Herrick, Esq., Bean Manor Park, Leicester-shire, 1260; and A. F. Ashron, a design for a public institution, which has several points of merit

H. CLUTTON, in 1264, a design for a Ceme-tery Chapel, adopts a Chapter House for his model very successfully. To also a stati

there where NEW CHURCHES AND THE OFFICIAL Lines REFERBES

SIR.--I beg to call destation of the Sin, -1' beg to call other attention of the architectural profession, through the medium of your valuable journal; to the working of the new Metropolitan Buildings Aut as regards the creation of buildings of the third, or public building class, sepecially churches. A market By clause 6, these buildings arb placed ander the apartal supervision of the efficial referees and the supervision of the efficial referees

the (sparsel supervision of the efficial referees as, well and the district surveyor, and the alaute 15; the official weignees are required, on noise; to make a survey of the buildings when the darease is erceted; and then to order any works which they may does requisite to add security to the stillion.

By classe 16, it is required that plans, any classe 16, it is required that plans, abrations, &c., of all isuidings comprised in schedule B: (which uses not include: churches) should be anoministed to the referets previous to the commengement info the works; and as this course is not prescribed for buildings generally of the third class, it might be presumed, that in this littler case; the ket does not make it im-perative moto do. Front scome inication, however, which it has the collect from the registrar, it appears that the collect referees apprehend, in the clause in schedule O, part 5, placing fra the walks and other construction of buildings of this class under their special approval, it oothes "practically necessary ", to submit the designs to them in the first instance.

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I am certainly inclined to take this view myself of the operation of the Act, and how-ever irksome it may be to architects to submit ever inksome it may be to architers to submit their drawings to other gentlemen, whose experience and practice may not perhaps be superior to their own, yet as the legislature has thought proper to give them the power to pre-vent a building being used, it would be hazardous to erect a structure without ascer-Saining their opinions previously. But the point which I wish to discuss is the manuer in which this controlling power is worked out, and the effect which it will produce. The system at present adopted by the referees is this: the architect sends them his design, the referees require alterations or not as they deem proper, they then take copies and lithograph them, issue these lithographic copies to the architect and district surveyor with their seal affixed, and in an instance, which has occurred to myself, refuse to deliver up the original drawinge. A charge is also made to the party for taking these copies, as also for the correspondence.

It will immediately occur to all professional the with minimulatory occur to all processional gentlemen that there is much which is highly objectionable in these proceedings. To say nothing on the minor points of charge, &c., can it be possible that the enactments of the Act make it legal for the referees to print and making the designs of as architect whereas which blish the designs of an architect, whereby his copyright is infringed ? or what clause autho-rises them to take copies of drawings, and

charge for so doing ? The Act is sufficiently stringent to cause much tunoyance to practitioners, and it behoves the profession to guard against its provisions being stretched one inch beyond their bounds. The course, I apprehend, which the fair constrac-tion of the Act requires, and the least objec-tionable one to the profession, would be to mabuit the designs, and receive them back again with such remarks and referred them back again with such remarks as the referres might think proper; they would still have the oppor-tunity of seeing, during the progress of the building, of their remarks had been attended to, midd full power of conforming them afterwards. This appears to have been the intention of the legislature, but by the present system, it seems to be the object to prevent the architect exerobing any judginess doring the progress of the works, while an inquisitorial power is obtained over the works and designs of the profession.

This also suggests another point connected with the subject. Do the official referees, by with the subject. Do the official referees, by their sanction and required alterations, take the responsibility of the building upon them-selves, and is the architect relieved thereby? In an instance which occurred under the Commissioners for Building New Churches, who had sanctioned and scaled the design, this was held, I am informed, to be the case; and on the failure of the roof at the Lower Norwood Church, the expense of reinstatement was defrayed by them. Is it not evident that the fear of this respon

eikility, with persons who have nothing to gain in reputation by bold and skilful construction, will induce a humdrum tame style of execution in our public works? they will naturally be inclined to reject the untried and novel, and to pest satisfied with the old and earsly com-may be shown by the architectaral canons at me time imped by the Commissioners for Building, New Churches, one of which enforced that no node would be allowed to be executed without /a, wie being 1 -- thout many Gothic problet /a. the behavior and book many a Goldic, aborches/warn disfigured before they despect that it stars about thus to fissif constructive pricess before a new surgers ad and wather proceedings above surgers a would find the proceedings above surgers and the proceeding and the proceedings above surgers and the surgers are surgers and the surgers and the surgers are surgers

official referees would obtain sufficient previous control to prevent any improperly con-structed building being attempted without obstructing the architect in the free exercise of his science and knowledge; the responsibility of the construction would remain with him, and not with the referees, while the security of the public would be guaranteed by the survey of the referees on completion of the carcass, when any new mode of construction could be fairly tested by them, and they themselves be relieved from the liability of sanctioning or rejecting an architect's design. I believe this will be found to be in the spirit of the Act, and indeed its letter.

I hope it is needless for me to disclaim all imputation upon the abilities of the present Na to transitional data

referees, their characters stand too high to be affected either by my praise or consure. My objection is against the system, and not the individuals; this is a fair subject of discussion, and you must yourself, Mr. Editor, be aware that there is a strong under-current of disatisfaction among the profession on many other points, which alone would render it soviesble to avoid hurting the feelings of experience

As this is an important public subject, 4

THOMAS DOPPENSIO 36. Northumberland-street, New-road, A Er ach

REVIVAL OF THE CAMBRIDGE CAMDEN SOCLETY OF AT TEST .

THE sixth annual meeting of the Caulotter Camden Society, shout which so mach that been said in consequence of the proposit of the committee to dissolve the secoristion, was held on the 8th inst. The main business of the evening was to ascertain the general scattments of the members as to the proposed dissolution or one manufers us to the proposed dissolution, as shown by the voting papers which had been transmitted to every member who could be reached by post, with a request that they might be returned by the 6th of May. I A impe-number of the papers were reteried, but the president announced that if any gentieness present had not sent in their votes and desired to do so, the committee would receive them now. A considerable number of voting papers were consequently inid apon the table. The president then senounced that the numbers

livered this, exempg mingo was a ranged bestim Assents of a total of a construction of the first of the first of the total of total And a set Mijort, Contract Server and the structure of the server of the

From the Spancial, statements it appeared that the society had a balance of about 600%, in hand. The report contained intimation, amongst other matters, that "a member of the society, who has departed this life since the last anniversary, bequeathed the sum of 6,000, to be expended by the society in the building and restoration of churches. The employment of this legacy according to the wishes of the testator will form a subject of great importance to the new committee:" and it concluded thus:

thus:--"The committee have already given full notice, by addressing a circular to every member, of the circumstances which coupelled them to withdraw their proposed recommen-dation of the dissolution of the society. They also issued at the same time voting papers in order to ascartain the general sense of the members with respect to the expediency of attempting to accomplish a dissolution in the way indicated by the pouncil. In answer, they have received the written votes of about half the members of the society, which give the proportion of above two to one against the proposition; while a very large number of the proportion of above two to one against the proposition; while a very large number of the minority accompanied their votes with the in-timation that they assented to the proposition, against their own wishes, merely in order to support what they supposed to be the wish of the committee. the committee.

"This result has shewn satisfactorily to the committee, that the great majority of the members are averse to the stopping at this time of the society's labours. Very many also have expressed in their correspondence, an earnest wish that the affairs of the society may be conducted on the same principles as have been hitherto maintained.

"These considerations have induced the committee to believe that it is their duty as the present executive of the society, to offer to the meeting this evening a scheme by which, in

• It has been stated since by the president that the com-mittee held at their disposal 199 (ascertained) prozies. ال والدروقة الوالدروية .

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"After the reading of the present report the

"After the reading of the present report the sommittee will have given up their office. The president will then submit a resolution which shall embody the obunge in the society's rules performended by the committee. ""The committee in conclusion will merely refer to the nature of the changes proposed. [They will be such as shall retain those parts of the society's operations which are confess-elly beneficial, discarding, so far as this society is concurred, everything which hings it into is concerned, everything which brings it into contact with this university."

A code of " have as proposed to be revised," was then distributed for the information of the members, and the following resolution pro-

"That the committee to be elected this utile he instructed to revise the laws on the sistefn the scheme: now submitted to the

deligent to sentene of new substitute to the statistical and the periodi of mestings were to be disentioned on The President, Archdencon Thory, shid, in the course of a long address, "this portion of the sociaty's functions the tee thought scarcely compatible with aisdamic duty, and they were therefore an-willing to be connected with it any more. They did not think is right to undertake the self of mosting where they should bell together, particularly in this place where they were themselves under discipline and autority, a great many persons who hight be supposed to form a sort of imperium in impurio, and whose meeting tegether had given office to those whose commons hught to be respected. That circumstance, which was inmeetings, came to be very different when it included unneggivits members persons com-mitted to particular opinions, and had accurate, if it, were not presumptuous to say so, some-what of a mational instead of a local character. what of a national instead of a local character. They wished the society to continue as it was —its framework, prive pites, and operations the same, all the same exception, and weident members into so prominent a position in the eyes of the priversity. It was possible they might have the committee just the same as before if so, if the Cambridge Camber Society bias to go on the tworld meintain the neuroinles the other in the value in the control of the society is to go on, it would maintain the principles identified with its name. It might be a good thing to give up the society; but if that could nut be done, do not let it subsist on any other principle. He should deprecate the existence had be done, do not let it subsist on any other principle. He should deprecate the existence of a society under that name which did not adhere to its principle. He was far from defending all that the society had done, and all that its members had published, but he did not come before that meeting to accuse people who had done injudicious acis—he told them them-selves. The society, however, had adopted vertain principles, and not without effect; something had come of it let not those principles be changed." In conclusion, the president threw out a suggestion for the for-mation of mather society by those who could not conscientiously go on with the Camden. Professor Lee was disposed to support a society having almply the study of church architecture in view. To the study of archi-tector he should be the last to object; but here other principles were propagated under the cloak of sirchitecture. The public were alarmed aboat this society, and many members had withdrawn in consequence of such alarm.

had withdrawn in consequence of such alarm. The Church had enemies enough already, what The Church had entemies enough already, what with Romanism with out, and something very like Romanism within, to say nothing of Dissent. He thought the society should be dissolved forthwith, and constructed de novo, and he moved to that effect, the funds to be handed over to the Church Bailding Society. Mr. Scott rose to order, and said the pre-sident had had an opinion that the society could not be dissolved, and therefore he submitted that the amendment could not be

The President asked if it were competent for The President asked if it were competent for him to put a motion for the dissolution, after the feeling shewn by the voting papers, in the namer directed by a legal opinion?-(" No, ".") If they wished it ever so much the society could not be dissolved: the question "", what were they to do? But to save time,

he would take the sense of the meeting as to

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his power to put the amendment. The meeting decided, by a very large majority, that the amendment could not be put. Professor Sedgwick said, "He was an old member of the society, and had stuck to it through good report and evil report: he hoped at one time that certain appearances which had manifested themselves on the face of it were, like pustulary eruptions, of a temporary character, but was sorry to say that those eruptions had now assumed the form of a virulent sourvy, damaging the whole constitution, and requiring a strong and active remedy. Professor Lee's prescription was an entire extinction: amputa-tion or depletion might be useful, but it was not necessary to smother the society like a mad dog. Everybody knew that men con-nected with the society had sent forth books the language and principles of which no con-sistent member of the Church of England could possibly approve of. The society had made itself responsible to a greater or less degree for publications that were a disgrace to the academic body. He had attended one meeting of the society in which the subject of Ecule-stastical Architecture was properly discussed, but afterwards there was property discussed, course of which it was broadly stated that Granmer, Latimer, and Ridley, had suffered death or martyrdom, he knew not which, as a judgment for having consented to the confiseasion of momentic property. This was per-mitted to go on, and the man who uttered such a detestable insult to the Church of England proceeded without being called to order by the chair."

The President asserted that the paper in

question had been stopped. Professor Sedgwick next alluded to the Ecclesisetical Calendar published last year, and setting forth in large type, that it was by a member of the Camden Society. As a mem-ber of the church he americal, as strongly as he could, that that production was an insult to the Church and University. He did contand that if the Society were to be carried on, he who could violate, the destrines of the Church as they were violated in that Calendar was not fit to be entrusted with its administration. The Society required a deeper purgetion than a mere change of its rules. Afterwards, when the author of this work was named to serve in the committee, the professor denounced him as unfit to be a member of the society at all.

Various amendments were proposed and lost and ultimately the original motion was carried. A committee of eix, including the author of the work referred to, and the chief of those who have heretofore conducted the society who have heretofore conducted the society is to be looked for in the proceedings of the Society. It is not to be called an academic hold mean and the holding of unstimute it to body new, and the holding of meetings is to be discontinued for the present, but in all other respects the Society remains' precisely what it 1. 1.1

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ata sainty in the 'near the entry with a spore institution for the party out of parameting "the improvement and increases with the liferary "the data shtform were "Lood "Broughamy" Lotd Kimnaird, the Binhop of St. David's, dW: Educe, Esq., M. Pi; Mri Jo S. Buskinghamy Miss Mds-dingen; dow Jlasid Brougham piscaided i "fills lordship, after stating that Lord Radner. to have taken the staing that hold issues was ito have taken the shair; enterisd into a bistory of the institution from its foundation up its the present time, shewing how great had been its boneficial influence:over those who had availed themselves of its privileges. The learned lord concluded a long address by calling upon the matting to aid in environ and the object for meeting to aid in currying out the object for which they assembled, by each person sub-scribing as much as he was able. Mr. Wood, the honorary socretary, then read letters from several of the nobility and gentry, excusing their non-attendence, and inclosing a subscrip-tion in support of the institution. Amongst them were the following :--His Royal High-sess Prince Albert, 201. ; Marquis of Lans-downe, 251. ; Hom. C. P. Villiers, 51. ; Bishep downer, 200. ; 11000, ct a . v interior, cr. , interior, of Durham, 5/. 5s.; John Grote, Esq., 5/.; Mr. Hame, M.P., s istur; Earl of Durie, 5/.; Dr. Bowring, 3/. 301; and Ghee, Knight, Esq., books to the amount of 20%.

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WE ended our last notice of the article on WE ended our has notice of the arbors on this subject, in the *Guarler by*, at that point where the reviewer begins to transithe crises which led to the adoption of the transithe crises which led to the adoption the heathen temple and the baptistery. The circuit form was not calculated to receive a Christian form

Covenant as under the fold, the faithful rame together not as a tranultious crowdy but as an arganisad amembly:) For this we have very early authority. Whether proceeding of not from the per of Saint Clement, the doctrial treaties, and that the the percelia Constitutions' breather a spirit which rould scatterly have ex-isted later than the percelia Constitutions' breather a spirit which rould scatterly have ex-isted later than the the percelia to the the dency, to favour, the percelianties of the Ebionites, the spiron scatter of some the the do constitutions be rejected, we gather from the voucher, for their high satisfies the formation ritualists, that the different orders of domains' service, according to their several depresent for divisions are distributed; when convenient for divisions are distributed; when convenient for divisions are distributed; the positest was to stand apart service, according to their several signess or preficiency... The pasitest was to steed is part from the members permitted for periodesto in the hely communion in the imparted only to the confirmed. According to the general Belling of the East, brought no doubt from fermalent... for Jewish traditions form the basis of the for Jewish traitions form the basis of the Boman ritual and litergy, the men were to be separated from the women, sociated from the general gave, or at least kept sportfrom the general concourse, "Again, sod widow, sach had her; peculiar, place; assigned to In the chart had her; peculiar, place; assigned to In the chart had her; peculiar, place; assigned to In the chart had her; peculiar, place; assigned to In the chart had her; peculiar, place; assigned to In the chart had her; peculiar, place; assigned to In the chart had one in the synagogue; in which bisheps add one in the synagogue; in on provide the state hishop whils, acting, in conjunction with the pristhood; the priests less than priests, when sttempting to exercise, say jurisdiction for de-liberation, uples, upder, the presidency of this successors of the apostes. (The holy shifts the readers-relation the lofty pulpis, the the meaders of the set of the lofty pulpis, the the was required, into, which an stranger build in-trude. Readers, and chausters, were so be stationed conveniently, to nearly were so be stationed conveniently, to nearly the congre-galine, to hear, the descons and houdles, epistle, and gapel, and to join in the common prayer; lastly, it was needed that the none altar should be protected, from the storaging of the multitude, and yet that the whole body of the multitude, and yet that the whole body of the multitude, and yet that the whole body of the multitude, and yet that the whole body of the congregation should be body mysterices of the multi-boad celebrating the boly mysterices of the such a system, could the professors of the tianity find any congenial edifices raised by the heatten bet inpiolated; and whole if the acknowledgment of of faith it could be made boldly, and before, the fight of the yet - n 2

which Rome messadorned, the desular basilies, yied with the saged temple in quagalicanes and glory. The many of the basilies (esys Bunsen, when discertation, we with phridge) yes, daries from the position situated in the Athenian, Caramique, instediately beneath the Roys. It was here, that the Archon (inveyed in the robes of royalty, discharged the duties of judge in all matters, canceted, with the sanguary. Pausatus describes the imaging by which the Athenian hasiling was adored. But the structure which he simple and of which all the structure which he simple and of which But the structure which he show, and of which all traces have disappeared; only copleced the ancient adjunct to the palace of the Athenian kings, for the kings had been the septem-judges of the people of The Seen, with the Homeric three, afforded the Seen, with the hasiling. Such a set of justice was open-the character of Hellenis jurispindénos was publicity... The sizailet affriction of the sel-ministration of justice is the insidence of the king, obtained at Bone, in the labibit set and originally the royal palice stood as the result, on the ancient Forum nuder the Palatine Hill, quite in the situation of the Athenian basilies... But the chiracter of the Athenian king was sacerdotal as well as regal. There-fore after the suppression of the kingly dignity,

> . See page 220, ante, Digitized by Google

the ancient palace was consecrated for religious purposes, whilst the basilica was severed from its ancient associations, and erected on those sites where the jurisdiction of the popular tribunals could best be exercised.

Greatly modified by the Romans—whatever the Romans borrowed they borrowed as conquerors—the basilica appeared, at an early period of the Republic in the Forum. The form of the building was an oblong, terminated by the tribunal. In the midst of the semicircular apsis arose an elevated platform, upon which the seat of the prestor was placed. This is the portion to which in Scripture (St. John, xix. 13) the name of Gabbaths, or Lithostroton (pavement), was assigned. On either eide, but lower down, were the seats of the centumviri, the officers, the scribes, and all others who participated in the honours of the tribunal or the duties of judgment; guarded from the intrusion of the infariar orders by the *cancelli*, or grated inclosures. Still lower down was the portion allotted to the notarise and advocates. Three-fourths of the oblong composed a vast hall, whilst a transverse aiele, or transept, if we may so call it, separated this hall from the apsis—the posuliar region of dignity and awe. In all the basilicas, the great hall was divided by columns into a portion similar to the centre aiele of a church, flanked by side aisles; and these columns usually supported a gallery above. The central nave generally received light from windows in the upper wall. Sometimes the whole building was covered by a roof, sometimes and portions. This seems to have been the case particularly in those basilicas in which a section of the nave, being left open te ahe sky, constituted an atrium within the aiales.

Such was the general type; but without any material departure from the normal form, there was, nevertheless, a considerable degree of variety in the arrangements, resulting from the greater or lesser convenience of site, or magnificence of building. With respect to the particular evidence, it has been collected by M. Bunsen, with singular labour as well as acuteness, not only in the works which we have already noticed, but also in his Esseys, inserted in the Transactions of the Roman Archeeological Society; and we shall now present our readers with some scanty gleanings from his ample harvest.

Bunsen assumes that the basilicas of the Campanian cities form, as it were, a connecting link between the Hellenic and the Roman plans. They want the semi-circular apse, found in all the Roman examples; but its place is supplied by some equivalent. The first and simpler is found at *Pompevi*; a rectangular building, the columns supporting the side aisles. At the extremity is the tribunal, raised about seven feet above the ground, beneath which are cells or prisons corresponding exactly in position with the crypts at the altar end of our ancient esthedrals. A porch forms the entrance from the Forum.

forms the entrance from the Forum. The remains of the Basilios Ulpia, A.U.O. 865, 866, remained, until recently, covered by the soil at the base of the Trajan column. These relics of the most magnificent of the structures which decorated the Forum of Trajan, have been partially brought to light by excavations: its elevation is preserved upoh medals, which afford some notion of the external form. The plan differs very materially from all those which we have hitherto described. At each termination was seen a magnificent apse, and before each apse was a corresponding transept, with three ranges of columns, forming double cross-aisles. Two rows of columns in the main body of the building formed the nave and side aisles, the nave rising about thirty (Roman) feet above the other portions of the edifice. Within, this central nave exhibited two, if not three tiers of orders, the uppermost being composed of Caryatides sustaining the rich roof, crossed by beams of gilded bronze, which crowned the edifice. It was this building which, above all others, excited the admiration of Constantine. And although the ancient capital was now mourning in widowhood before the presence of the Emperor, who had transferred her dignity to a younger rival, yet Constantine enjoyed one of the three aspirations of Saint Augustine—Cicero pleading—Paul preaching Rome in her glory.

Had the basilics, such as we have described

it, been planned for the express reception of a Christian congregation, it scarcely could have received a more convenient or appropriate form constitutions, was to be an oblong, like thick a ship, that is, to the vessel of the ark. Look at the preceding plans: does not the outline of the ground plot of the basilica entirely meet the suggestion? and the terms nave, nef, or vais-seas, applied to the main portion of the edifice shew how enduringly the idea prevailed in subsequent ages. The elevated apse, in which the prætor administered justice, surrounded by the centumviri and other judges, offered a dignified tribunal for the bishop and his clergy, the dark chambers below suggested the subterraneous chapel, in which might be deposited the re-mains of saint or martyr. The inclosures, the cancelli for the notaries and advocates, might, receive the singers of the choir. The length-ened sisles would furnish space for the congregation of the faithful, the galleries seclude the women and the porch, fronting some of the basilicas, or the uncovered portion, which, if separated from the rest by a wall, would constitute a court, was prepared for those who had been separated from the rest of the congregation by their sins, or were not yet allowed to participate in the sacraments. Hence we find, from one of those incidental notices which often are more instructive than the set narrative of history, that the Basilices had been given up, bodily, for the purpose of Christian worship. A post, but also a ractor, addressing an emperor, tells him that these structures, heretofore wont to be filled with men of business, were now thronged with votaries praying for his safety: ' Basilica olim negatifs pleno, nuno vatis pro tua selute susceptis. This occupation of the Roman basilice was, never occupation of the Roman basilice was, hever, theless, only transitory. They did not be-come the abiding-places of faith. Why was this privilage denied them ? In situation they were most convenient, placed in the centre of business and population. Their plan and form so convenient as to invite the purposes of wor-ship. Unpolluted by the idol or sacrifice, they were free from the recollections renderthey were free from the recollections render ing Heathen temple odious. With the smallest proportionate expense or labour, the basilism of the forum might have been rendered the most stately and dignified of sanctuaries. Yet they fell ! Only one example can be found of a secular basilica actually converted into a Christian church—and that example, memorable as it is, does not exist in Rome. As II for the purpose of constantly demonstrating to mankind the visible triumph of the spiritual kingdom, every stage in the early develop-ment of the empire of Christianity seemed destined to efface the honours of heathen sovereignty. The Christian basilica, though entirely modelled upon the heathen basilica, able as it is, does not exist in Rome. As if entirely modelled upon the heathen basilica, and constructed with the spoils of the basilica, was therefore fated to be its ruin and destruction.

A single cause suffices—a cause of which we new can searcely appreciate the potency. Veneration for the graves of the martyrs, as an almost irresistible motive, attracted the Christian basilica away equally from the preciset of the secular basilica, as from the site of the heathen temple. By determining the locality assigned to the Christian edifice, this fueling necessarily determined the neglect, ruin, and destruction of the proud monaments of senators and Casars. The demolition of carlier structures, for the purpose of farnishing materials, had already been long practised. Thus the interior of the coliseum displays the friesce and fragments, mixed up in confusion, amidst the masonry of the beautiful yet appalling circuit of its walls. These, perhaps, may have resulted from the removal of other buildings previously existing on the site; but under Constantine similar demolitions proceeded, as it should seem, equally from the desire of sparing expense, and the increasing inability to execute works of art. The spiendid Forum of Trajan, which had excited Constantine's admiration, fell at his command, and furnished by its spoils the decorations of the arch of the first Christian emperor. Abandoned for more hallowed ground, the civil basilicas were destroyed, and the columns which supported them transported to the new sites, where they arose in lengthened

perspective and barbaric splendour. By their very aspect, such of the Christian churches as retain their original features, show the haste and unskilfulness with which they were reared: one capital cut through and deprived of the lower range of the acanthus, to fit it into the required space; another projecting over the shaft; a third shrinking within; a fourth, the leaves blocked, and prepared for the touch never to be given—of the chisel that was to have imparted Corinthian elegance; — the columns themselves of unequal circumference or unequal height, deprived of their due proportions, or rudely stilted to attain the necessory elevation. The richest materials are mixed with others of inferior quality; pavonaszo and verd antique, the products of the quarries of Syene or of Paros, and the homely travertine, are intermingled without choice or discrimination.

The pillars, or 'bearing shafts, 'ware often connected, according to the classical system, by the architrave ; but the plan of employing the arch for this purpose had already been suggested, and, on the whole, became more prevalent. Upon these were raised the lafty walls constituting the superstructure of the building. But the columns in the Roman Christian Basilics were never connected into piers ; they were only bearing-shafts; the thin brick-walls, the only weight the columns were able to support, never being of sufficient solidity to reaist the pressure and transverse thrust of a vault. Let this characteristic be carefully marked. It therefore became impossible to give, as in the Tentonic Romanesque of Germany, or the Gothic, its derivative, the addition of a vauk of brick or stone; and thus the adoption of the ancient fragments for the columns determined the material of the roof. Recourse was also had to timber. So much for the main construction of the building. The minutar development of the parts resulted from their adaptation te the purposes for which the building was raised.

from their adaptation to the purposes for which the building was raised. The reminiscences of Hierosolyma, as well as the discipline of the church, suggested the addition, in front of the Basilica, of a cloistered area, a Court of the Gentiles, the *Atrisum*, where those who were excluded from the full participation in the ordinances of the church, might yet in some degree share in its misistrations. This atrium was also used as a cemetery, yet only for persons distinguished by rank or holiness. In the centre was a fountain, or '*Canthorue*.' Following the ancient traditions of Jerusalem, it was enjoined that, as a symbol of inward purity, the worshipper was to wash his hands previously to entering the sanctuary.

Plain almost to rudeness — a low and unpretending portico constituted the chief, or rather only adorement bestowed upon the front of the Basilies. Above this portico were usually three long, round-headed, undivided windows, symmetrically arranged, and these surmounted by a round window in the pediment. A few sculptured decorations might grace the portal, but they rarely extended beyond the symbolical lions who guarded it on either side. Beyond this, and within the walls of the structure, the Narthew, or Pronzes, furnished further means of separation, and yet of union, between the catechamen and the penitent. The derivation of the term narther is uncertain; perhaps it was more permanently adopted in the Greek Church than in the west. But the same purpose was answered by the porch, or portico.

Towards the upper end of the nave was placed the choir, surrounded by its Cancelli, or enclosures. In the early Oriental churches, these cancelli may have been of wood; in the West, all the examples and fragments which remain are of richly worked marble, very generally adorned with the species of mosaic, partly of glass and partly of precious marbles, known by the term of 'opus Alexandrinum.' On either side of the choir arose the Ambones, the pulpits from whence sub-deacon and deacon respectively read Epistle and Gospel. From the Gospel pulpit, the loftier and more richly adorned, were promulgated the Episcopal injunctions and censures. From this pulpit siso the 'bidding-prayers' were read, and the sermons preached by priests or deacons; but the bishop preached sitting in his faldistorium before the altar. A small pillar before the Gospel pulpit supported the paschal taper. Within the cancelli of the choir were stautoned the singers, by whom the savise was chaunted,

who, in the earlier ages of the church, were all clergy having minor orders; priests or deacons did not perform this portion of the divine service, for to them were the higher mysteries reserved. We apply the term chancel to the portion of the church enclosed by the cancell. The Germans give the name of Kanzell to the pulpit standing on the cancelli, and all the languages of Europe the title of Chancellor, or Cancellarius, to the successor of the officer who stood within the cancelli. In this example we are able to trace each derivation to its source, the channels are yet visible through which the ideas have flowed. But how useless must be our conjectures when the channels are filled up! Hence the imperfection of all histories of language.

The high altar, the only Communion Table —for the primitive Church was a stranger to the multiplicity of the modern Romish ritual —stood within the santuary, more or less advanced towards the choir. Causes which it is not necessary here to enumerate, might occasion some slight changes in its position, but it was always free and isolated, surmoanted by its tabernacle, or baldachino, and detached from the wall.

Lastly, the Sanctusry was terminated by the Apsis, sometimes called the Exedra or Bema. Here sat the archbishop or bishop—his chair, or throne, in the centre—the seats of his suffragans and presbyters around. This division of the building was considered, so to speak, as its crown. Protected, like the choir, by cancelli, no layman could enter its precinets ; rich curtains shrouded its recesses from the sight of the congregation, until the completion of the Eucharistic consecration.*

Whilst the exterior of the Basilica was naked and simple, almost to poverty, the interior exhibited the utmost splendour which could then be effected by all the resources of art. The roof was invariably composed of wood. In the churches built by Constantine, and some other of the earlier churches, it is said that the beams and rafters were concealed here a flat ceiling of gilt panels. We doubt by a flat ceiling of gilt panels. We doubt much, however, whether this assertion, grounded upon the very obscare text of Eusebius, be correct. We should rather suppose that the enapplied to the beams themselves, as is the case at San' Miniato, one of the most curious and interesting objects which Firenze la bella affords'. At all events, there is no one early, or even mediæval, specimen of a flat ceiling at Rome; the panelings all having been added at comparatively modern periods. On the whole, the concealment of the beams has not been an improvement. Those who recollect the north transept of Winchester Cathedral before the masquerading and destruction effected by the "refined taste" of poor Dr. Nott, will agree with us in deeply lamenting the loss of the tranquil and stern simplicity of the ancient open roof-the durk beams, solid in their strength, and the spex of the concave losing itself in darkness."

After some remarks on mosaics; the most characteristic decoration of the basilica, and on the absence of sculpture in the structures of the ancient Estholic church, some of the principal basilice of Rome are described and illustrated by plans and sections, including old St. Peter's, the memory of which is almost effaced by the modern marvel.

GOVERNMENT PROPOSAL TO ERECT THREE New COLLEGES IN IRELAND. — Sir James Graham during the past week, in explaining the views of Government with respect to academical education in Ireland, recommended the establishment of three colleges for the cultivation of literature and arts; one in the north, another in the west, and the third in the south. The building of each college he estimated at 30,000*l*., or in round numbers 100,000*l*. for the three. He further recommended, as localities for the proposed crections, 1, Derry or Belfast; 2, Galway or Limerick; 3, Cork.

* For details let the reader consult Bingham. Many years ago (vol. xxvii., p. 320), we pointed out the utility of the old-fashioned parson of Havant, as a guide to Christian archæology. No book, either here or abroad, has yet appeared, which can supersede his *Origines*, which should be found in every clergyman's library. The general form of the Basilica has been adopted with great skill in the building of Hungerford Market. The shops, which have recently been built up in it, now unluckily spoil the perspective, comfort having been preferred to picturesque beauty. But the whole is strikingly *Roman*, and will afford useful hints **19 the exclasionized architect**.

FALSE HERALDRY ON THE NEW HOUSES OF PARLIAMENT.

A WRITER in the Art-Union of the present month, has drawn attention to a number of asserted heraldic blunders which appear on the exterior of the new Houses of Parliament. He states that many of the shields are charged with devices copied from coins of various sovereigns which were never intended to represent arms, and that it would be as reasonable to take St. George and the Dragon for the arms of George IV., as to adopt those devices for the arms of the monarch on whose coinage they appear. He points out too, amongst other objections, that supporters have been assigned to every sovereign, beginning with the Conqueror, though it is known that supporters were not used by the kings of England till the reign of Richard II., three hundred years after the Conquest.

We have so much confidence in the ability and caution of Mr. Barry, that we feel little doubt he will be able to explain away the apparent mistakes; if, however, by oversight the heraldic adornments have been left to those who were not competent to the task, and errors have been committed, they should be immediately corrected to the utmost possible extent. Heraldry is very closely connected with architecture, and we hold that, when employed, the most scrupulous accuracy should be observed.

A morning paper estimates that the Houses of Parliament will be at least twenty years more in hand; and adds that such an opinion is strengthened by the arguments of Mr. Barry binself, who, in justifying the small progress at present made when the peers complained of his delay, said, "The time it will take to complete even the architectural portion commot be exactly specified." In looking at the time that the erection of other edifices of extraordinary magnitude and splendour occupied, it will be found that it was sometimes the work of centwices. St. Peter's, at Rome, took a century and a helf to complete; Milan cathedral twice as long. The most persiment comparison is St. Pau's, because it is both nearer to our own day, and was the work of one architect throughout; there was no material interruption to its progress, yet it took thirty-five years to complete (1675-1710); and whereas its cubic contents are 11,000,000 of fect, those of the palace of Westminster are estimated at 16,000,000 of cubic feet---half as much again.

SOCIETY FOR THE PRESERVATION AND DESCRIPTION OF FRENCH HIS-TORICAL MONUMENTS.

THE congress of the Society for the preservation and description of French Historical Monuments is fixed to take place at Lille, on the 3rd of June, and the seven or eight succeeding days. Dr. Bromet has obligingly forwarded to us a list of the questions immediately relating to architectural antiquities to be discussed at the meeting, to which we gladly give circulation. We hope that some of our readers may be induced to attend. Part of the time will be spent at Tournay, one of the meat interesting towas in Belgium, and very close to Lille.

1. With respect to monuments of the middle ages, is there any remarkable difference between the architecture of the north of France and that of the south of Belgium, or of the seventeen Belgic provinces; and have the architectonic types of East and West Flanders, Hainault, the Cambresis, and Artois, been borrowed from France, or from the great monuments of the most northern of these provinces, or from Germany? And what are the differences and the analogies of other contemporary works of art in those countries?

2. As it does not appear that either in French Flanders, or French Hainault, or the Cambresis were ever any such vast basilical churches with statuary fronts as still exist in the countries adjacent to them, it is desirable to seek the cause of this almost total absence of statuary decoration, which renders the study of Iconography in the provinces abovenamed so difficult.

3. It being generally thought that the new styles of Gothic architecture were but slowly adopted in French Flanders,—can this opinion be supported by any monuments of well

attested date, which were constructed according to the styles of periods which preceded their erection?

4. As several religious edifices without any thing remarkable in their architecture, contain very interesting pulpits, stalls, confessionals, reliquaries, tabernacles, shrines, fonts, processional crosses, and bas-reliefs, &c., a description of such objects may enable the congress to ascertain the state of the fine arts in those provinces now under consideration, during the middle ages.

5. Does it appear that Spanish manners exerolsed any influence on the architecture of Flanders and Artois? Were all the buildings attributed to the Spaniards, such as belfries and town-halls, &c. really constructed by them, and what are the peculiarities of that architecture of which the towns of Lille and Arras afford so many examples.

60 many examples. 6. Can it be proved that any Romanesque churches with large courts before them ever existed in the northern provinces of ancient Gaul?

7. Are there in other parts of ancient Gaul any churches of Romanesque architecture, which have never had any other than flat ceilings of wood?

8. Are there any existing apsidal ends or sther parts of Romanesque churches of octagonal form ?

9. Are there any specimens of pointed vaulting put up after the completion of edifices of pure Romanesque style?

10. What churches are there of a transitional epoch from the semi-circular to the pointed styles, which are exteriorly Romansique, and interiorly pointed? and, where such exist, has not the interior been added when a vaulted ceiling may have been put up? 11. How, in the morth of Brance, during the above named epoch, are the two architectural styles generally combined?

12. Did the serveral (people of Germanie origin similarly adopt the different changes in architectural style ?

13. Are these any crypts under the churches of Belgium and the aorthem provinces of France in these styles prevalent from the eleventh to the sixteenth conturies.

14. What was the ancient destination of crypts, or subterranesa churches, and what peculiar ceremonies were therein celebrated?

15. To what epoch may we refer the introduction of zodiacal signs in monuments consecrated to Christian worship, and are they frequently employed on their walls or pavements in the north?

16. Are there any church pavements formed of stones sculptured in low relief, having in their cavities a coloured cement?

17. Are there any mosaic pavements in churches of the pointed style?

18. What examples are there of that peculiar kind of pavement called labyrinths, or roads to Jerusalers, sometimes seen in the pavements of middle-age buildings? and to what epoch may we refer their introduction? 19. How happens it that there are so many

19. How happens it that there are so many large religious edifices of the first and second styles of pointed architecture still existing in these provinces on this side of the river Loire, formerly called the county of the Langue d'oil, compared to the small number of religious edifices of the same epochs in the provinces south of the Loire, and which is called the country of the Langue d'oc?

20. Do Belgium and the northern provinces of France afford any examples of Romanesque churches paved with glass?

Gentlemen proposing to attend the discussion of the above-stated questions are cordially invited by the authorities of Lille to its grand "Fêtes Patronales," which will take place on the first, second, and third days of June, and during which there will be several opportunities of observing the ancient memory and usages of Flanders, as exhibited at its. "Kermesses" and other assemblies. The admission card to the Congress, which costs but ten francs, including the privilege of partaking of a banquet to be given by the city of Tournay, may be prosured on arrival at Lille from Mons. de Contencin, to whom, or to M. de Caumont, the director of the society, Dr. Bromet, will be happy to make known any person who may be desirous of joining him at Lille, and which by steam to Ostend, and thence by railroad, may be reached from London in sixteen or eighteen hours.



THE BUILDER.

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A second second second second and the second are proceeding republy. Upwards of the second second search have been reted, and in several places active preparaas are being made for laying down portions are being made for laying down portions to ver the river Darwen, at Hoghton, which have formed one of the most difficult over the undertaking, are now up to be level of the water, and several of the moment. The works at the Blackburn end, and the have on the Heghton contract are comow upped to water, the increased energy, and the increased energy, and the increased energy, and the increased energy, and the increased are reputly on upped to water is used for the the opening of bit. Nicht sessions for the the togenesing, The event use on prior the town of the ons of the tow is visual sestion to a mode on the tow is visual sestion are reputly on the of the tow is visual sestion and the togenesing of the tow is visual sestion and the ons of the tow is visual sestion to a mode on back the tow is visual sestion are the printing of bit visual visual sestion are town and ons of the tow is visual visual and the town are the one of the tow is visual sestion and the tow is a set to a new

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ARCHITECTS, section of new chu and general meeting, held on the Start, in the parish

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ANCIENT CAPITALS FROM THE SOANE MUSEUM.

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ANCIENT CAPITALS FROM THE SOANE MUSEUM.

THE accompanying engravings represent other ancient marble capitals in the Soane Museum,^{*} and form a class almost anknown

The used in," and form a class almost anknown to the public. They were mostly brought from Italy by C. H. Tatham. Figure 4 consists of two separate marble fragments. The diameter being nearly the same in each, Sir John placed one on the top of the other of the other. Figure 6 represents the side of a marble

Capital of an engaged column brought from Pompeii and now in the museum at Naples; this was copied from Mr. Hakewill's sketch book.

NORFOLK CHURCHES,†

THEMELTHORPE. " Churchwork is slow."

THIS little edifice, dedicated in honour of THIS little edifice, dedicated in honour of St. Andrew, comprises a chancel, a nave, and a square tower at the west end: the bearing by compass is 12° south of east. Our first visit found the general condition one so re-pugnant to a wholesome feeling of what became the God's tabernacle, that we have shoice repeated it, to find at length some par-tial improvement, a few things meanly, though tial improvement, a few things meanly, though

not altogether injudiciously, repaired A niche for the venatura occurs on the right within the outer doorway of the porch, which has for its sill an ancient coped tomb without cross. The dilapidated voussoirs of the arch have been replaced by a framework of wood, now fast verging on a similar state : the windows are perpendicular, of two lights.

Between the doors of the nave, that on the north side having a large hole in it, stands the font, a massive octagon, its rim much broken in wrenching out the staples of the cover. The sides, now plain, appear to have been charged with coloured scrolls, of which one the letters I H S, the monogram of the name of Jesus-may perhaps be deciphered : the bowl is lined with lead and has a drain. On raising the top, we found in it a coil of rope, the sexton's grave-tackle, the only present use, as our informant very innocently informed use, as our informant very infocently informed us, to which the orifice is now applicable. And yet, in the orders and directions given by Bishop Wren, A.D. 1636, to be observed in his diocese of Norwich, it is enjoined, "that the font at baptism be filled with clear water, and that no dishes, pails, or basins be used in it, or instead of it." At the period of our last visit the ropes had yielded place to a linen blouse. louse.

The rood-screen yet survives, although in a putilated state, the "beautiful gates" having fong since disappeared. Portions of elegant tracery remain on the panels of the lower section, and several piers or buttresses, section, and several piers or buttresses, having the fronts terminated by small attached half-round shafts with caatellated capitals, present models of no ordinary attraction. Would that we might speak in praise of some recent attempts at restoration here, but such work is far above the skill of a common artisan. The sedilia are graduated in three separate seats, a form by no means usual in this deanery; a square perforation next the upper one communicates with the trefoiled fenestella adjoining. A shelf forcuts here, supposed by some to have been a recentated for the holy oil cruets, and beneath we faid the sual water drain. esual water drain.

" It is always desirable that there should be narrow entrance at the side of the chancel a narrow entrance at the side of the chancel, sppropriated to the use of the clergyman ? and this convenience has been carefully pro-vided by the original builders. A crop of dandelions, *leontodon taraxacum*, rooted in the crevices of its broken sill, indicates, however, that to use it is a thing out of mind here. An early English triplet occurs over the ammuearly English triplet occurs over the commupion-table, that and the altar-rails forming no exception to the general decay. The deca-logue, flanked on the gospel side by the royal arms, appears on the rood-screen. The lateral windows of the chancel, two of them lychno-scopic and the languiger complete of the para scopic, and the lanciform couplets of the nave, have all been blocked with fint to above the centre of elevation.

We have spoken of a partial repair; it con-

* See p. 211 ante. † See page 209, ante.

sists mainly in a remodelling of the pulpit and reading-pew, situate southward without the reading pew, situate southward without the rood-screen. We were pleased to find the offensive backing upon the altar no longer dis-gracing them; but when will all confess, and act on their convictions, that the place of prayer is in the chancel! An effigies in brass occurs in the central avenue near the font: it is well worthy of inspection.

The weather moulding of the ancient roof, seen on the western façade of the tower, indi-cates the extent to which the present meagre affair has been dropped. Would that it offered the only instance of spoliation ! but how gross in many ways the disregard of this place where the only instance of spoliation ! but how gross in many ways the disregard of this place where His honour dwelleth; how niggard the supply that has been extended to its necessities; how secular the tastes and dispositions by which that supply has been directed. The sleek steed in the rich man's stall, the costly furniture of his dwelling, have left an obolus only for the sanctuary, and even that hus been ill-expended. But "is it a time to dwell in ceiled houses, and the Lord's house not regarded?" С. Т.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the annual general meeting, held on the 5th of May, Earl de Grey, President, in the chair; the report of the council on the affairs and finances of the institute was read, and the following office bearers for the ensuing year were elected :-

President .- Earl de Grey.

President.—Earl de Grey.
Vice-Presidents. — Messrs. H. E. Kendall,
J. B. Papworth, W. Tite.
Ordinary Members of Council. — Messrs.
Thomas Bellamy, W. Burn, E. M. Foxball,
George Godwin, James Noble, Charles Parker,
W. F. Pocock, John Shaw, Sydney Smirke, James Thomson.

Hon, Secretaries-Messrs. Ambrose Poynter.

and George Bailey. Hon. Secretary for Foreign Correspondence. -Mr. T. L. Donaldson.

Dar. T. L. Donaldeon. On Monday, the 12th inst., Mr. Kendall in the chair, the Rey. Richard Burgess, B.D., read a paper "On the Walls of Ancient and Modern Rome." In opening the subject the rev. gentleman sketched the history of walling, and laid down as a haw that no walls could be properly termed Cyclopean where any of the sten beyond Cyclopean. He traced the gradual step beyond Cyclopean. He traced the gradual progress of Roma from the time of Romalus, and, taking his hearers round the enlarged city, and, taking his hearers round the energed city, explained the various gates and walls in the circuit. The whole circumference was thir-teen miles, and he had estimated that they population had never been more than 160,000. Custom battered down walls and prejudices, and even the great wall of China was likely and even the great wall of China was likely soon to fall.

EARL DE GREY'S CONVERSAZIONE.

EABL DE GREV, as President of the Insti tute of Architects, entertained the members of that body at his relidence in St. James'sthat body at his relaidence in St. James's-square, on Friday, the 9th instant, and invited a large number of the nobility, and men distinguished in likenture, selence and art, to meet them. By ten o'clock his lordship's saperb suite of rooms were thranged, and pre-rented a find appropriate. The presence of many of the handsomest women of whom the English Court can boast, added meturially to the obsern of the even int, and served to render English Court can boast, added maturally to the charm of the evening, and served to render this unquestionably the most brilliant conver-sezions of the season. His Royal Highness Prince Albert was expected, but was unfortu-nately prevented from attending. The tables were filled with choice portfolios, and works of art. The council of the institute, compris-ing Mr. Papworth, Mr. Kendall, Mr. Noble, Mr. Roberts, Mr. Pocock, Mr. Godwin, Mr. W. Donaldson, Mr. Booth, Mr. Poynter, Mr. Bailey, Mr. Foxhall, Mr. Thomson, Mr. Grellier, and Professor Donaldson, dimed with Earl de Grey previonsly. In reply to an acknowledgment, on the part of the souncil, of the services rendered by the noble host to the Institute, very admirably tendered by Mr. Institute, very admirably tendered by Mr. Paparorth, his Lordship expressed himself as ever most anxious for the prosperity of the association, and willing at all times to exert himself in its favour.

ARCHITECTURAL MEMS. FROM THE COUNTRY.

THE talked of appeal to the House of Lords has been entirely abandoned in the matter of the Stone Altar at the Round Church, Cambridge, and the costs have been paid by the church-warden's proctor. A table of oak elaborately carved, is nearly ready to take the place of the stone altar which, as we have already stated, has been removed, and com-munion rails are prepared. The church will be re-opened in a few Sundays for divine service. At Cambridge, that venerable structure Jeaus Callege Chapel is now in course of being rescued from the melancholy state in which it has been left for many years. From a legacy, benfactions and other sources, the master and ballows are enabled, and have de-termined to spend about 1,000% on its restoration; the works were commenced in the Easter maction, and are to be continued in the long vacation, the ceilings are to be removed long vacalies the cellings are to be removed and the streades set free, and the whole to be brought more nearly to its ancient cha-racter.....At a meeting, held recently, of the Ripon Diocesan Charch Building Society, the following: grants were made in sid of the erection of new churches, viz.: 400% to Mid-dleton, in the parish of Rothwell, to contain 509 siting estimated ceat 2.290% - 300% to 502 sittings, estimated cost 2,290/.; 3004, to St. Mary's, Sowerby, in the parish of Hali-fax, having accommodation for 404 adults and 150 scholars, estimated cost 1,635.; 5004. to St. Andrew's, Wakefield, having accommoda-tion for 700 persons, estimated cost 2,880. — The works on the Blackburn and Preston Railway are proceeding rapidly. Upwards of 100,000 cubic yards of earth have been re-moved, and in several places active preparations are being made for laying down portions of the permanent way. The piers of the via-duct over the river Darwen, at Hogbton, which have formed one of the most difficult portions of the undertaking, are now up to she level of the water, and several of the bridges on the Hoghton contract are com-menced. The works at the Blackburn end, menced. The works at the Blackburn end, which have only lately been commenced, are now urged forward with increased energy. ——At Scarborcugh, the improvements at the opening of St. Nicholas's-street are rapidly progressing. The excavations for the founda-tions of the new houses are completed, and not many weeks will elapse before the new frontage is reared, and the row of commodious shore prepared for the coming season. — The shops prepared for the coming season. —The Lords of the Admiralty have appointed James Walker, Esq., C.E., and Captain Vidal, R.N., to inquire into the plans of the South Wales Railway Bridge over the Severn, at the Hock Crib, the proposed cut or canal from that spot to Framilode, and the other works connected therewith, with the view of ascertaining the probable effects of the same upon the navigaprobable effects of the same upon the naviga-tion of the river. — It is expected, that during the summer, the Grand Junction Railway Company will build more cottages at their "new town" of Crewe, the number of cot-tages at present being inadequate for their nu-mercus workpeople. Every house is now oc-cupied, and several of them by more than one family. The Chester Courant in mentioning the fact monends the following remerk: the fact sppends the following remark :----"Among the many speculations of the day, it is a matter of surprise to us that no company has, yet been formed to build towns conpany has yet been formed to build towns con-tiguous to the principal stations. No doubt, if building societies were organised for this purpown a good per centage would be obtained for money." — The Earl of Derby has contracted for the erection of a stuppedous conservatory and aviary of a great height, and mostly glass on all sides, in Lancashire. — At a meeting of the Huntifder Commissioner of Paysment on Huntingdon Commissioners of Pavement, on Wednesday week, the subject was renewed of introducing a new system of road making lately solopted at Burton-upon-Trent, and found to answer there exceedingly well. It consists of an under stratum of angular broken stones, then a layer of smaller stones and gravel, and the upper coat of gravel mixed with gasand the upper coat of gravel mixed with gas-tar, the whole being about six inches in depth. It resists the wet, is perfectly free from dust, and unattended by any of the inconveniences of the wood-pavement; whilst the cost would be less than the present system of using cobbles. After much discussion, it was re-solved to try the experiment on about 150 yards in the High-street, and should it be

found to answer, it is not improbable the whole town will ultimately be paved with it. A gigantic wooden-bridge has just been erected over the river Lowther, between Clifton and Brougham-hall, and close to the stone visduct over the same river new in the course of erection for the Lancaster and Carlisle Railway. It is 530 feet in length, 18 feet in width, and 110 feet in height; and there have been used in its construction upwards of 26,000 cubic feet of timber, and thirty tons of iron. Some very extensive alterations are in progress at Ely Cathedral. An arcade of fifteen or sixteen arches, from a design by Professor Willis, of Cambridge, is about to be introduced at the communion-table; and the four windows under the lantern are to be filled with paintedglass, executed by Wales; one of them at the cost of Mr. Edward Sparke, son of Bishop Sparke, and the other three at that of the dean and chapter.-----The foundation-stone of the Royal British Orphan Asylum was laid at Devenport, on Wednesday, the 30th ult. Earl Fortescue, as Provincial Grand Master, came purposely from Ireland to attend the coro-time since.—Mr. Laycock, of Liverpool, after having built an iron palace for an African king, and a residence of the same material for a. West Indian family, has just finished an iron house for a family in Nove Scotia. During the past week two new churches, both of them exected after the designs of Mr. Benjamin Ferrey, have been consecrated, vir., All Saints, Dorchester, and Christ Church, St. Giles's, London, notices of which will be found at pp. 104 and 114, ante. In addition to our former remarks respecting the Dorohester structure, we may state that the design of the principal doorway Westminstern Abbey ; and that the roof is of open .woedwork (i the principals are curved, and meat upon projecting bemmar-beams, which continue through the walls into the side sisles, and there form the tie-heams. | These hammer-beams are again supported by bracketformed trusses, which rest on stone-moulded corbels inserted over the piers of the arcade. The timbers of the nave and chancel roof are also connected by curved braces.-----At a very respectable and influential meeting, held a few days since at Bristol, it was resolved, that for the maintenance and advancement of the trade of that city it was essential that a floating pier at Portbury, as designed by Mr. Branel, be constructed. A provisional committee was appointed for the purpose of taking the requi-site measures for the formation of a company to carry the undertaking into effect.-----The new church at Greenstead-green, Halstead, is rapidly approaching completion, and is expected to be consecrated in July next. A parsonage house is also in the course of erection on the same plot of ground, at the sole cost of affered to complete the Clifton Suspension-bridge on condition of receiving the tolls, but that it will be carried into effect without his individual assistance, ------ It seems probable that the building of the churches at Morton and Stockwith, in the parish of Gainsbro', which has been in abeyance, will be com-menced forthwith. It is said that the follow-ing parties are the contractor wir Mr. Behart ing parties are the contractors, viz. Mr. Robert Wood, of Doncaster, builder; Messra. Oates and Newton, plumbers, Gainsbro'; and Mr. springing from low piers of plain mouldings. The chancel has two hooded windows of two lights, and a priest's door. The windows of the aisles are square-headed, the side walls shire, is just completed by Messrs. Binks. A new font has also been erected. The whole has been executed at the expense of the Rev. Chas. Constable, of Wassand .-----The foundation stone of a national school, at Whitby, Yorkshire, was laid on Monday, the 5th instant, by H. Welder, Esq. The site

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THE BUILDER.

selected is close to the entrance of the tunnel on the Whitby and Pickering Railway.——A company is being formed to establish waterworks on an extensive scale in Bristol. The proposed capital is 200,000%. Many of the leading merchants in that city have consented to be placed on the provisional committee. The present supply is obtained from public or private wells at a cost averaging 30s. per annum for a family. The committee propose to afford an increased and permanent supply at a much less cost, besides improving the health of the city by a constant cleansing of the sewers as well as the streets by means of water jets.

FREEMASONS OF THE CHURCH.

May 13th.; the Rev. G. Powell, L.L.B., in the chair. Mr. J. Sedgwick and Mr. William Papineau were elected members. Mr. Rogers exhibited an ancient and rare specimen of Italian ware by Lucca del la Robbia, the property of Mr. C. B. Wall, V.P., M.P.; also a curious specimen of the work of Bernard Palissy, representing fish, herbage, and pebbles, at the bottom of a circular dish, by permission of the Right Hon. the Earl Cadogan, V.P., &c.; also a specimen of early Italian carving in walnut tree representing the death of the Virgin Mary, which was preserved by Mr. W. Gill, M.P., from the now destroyed convent of Annecy, in Savoy, and a carved wood trophy for his Majesty the King of the French.

Wood trophy for the angle of the second former of t

Mr. W. H. Rogers exhibited several sketches and models of ecclesiastical architecture from Alderton Church, Wilts. The subjects exhibited were—part of a boldly carved cornice of rope and vine leaf in the oak screen of the church, stone corbels, embellished with the emblem of the boar and vine, the pelican in her piety, monster representing an evil spirit, an angel in adoration, serpent with the forbidden fruit, St. Michael, the tree of life, the crown of life, swallow building her nest, shield of St. George, the phœnix of resurrection, the Good Shepherd, the Rose of Sharon, hart and waterbrook, six angels bearing the Passion of Our Lord, viz., a cross calvary—heart and nails scourges—spear and sponge—crown of thorns and pillar of flagellation, &c.

Mr. Thomas Leeson presented a mould and a cast of a bronze, representing Richard I. in armour, on horseback, as a Crusader; above the king's head is a trefoil, in the centre foil is a lion's head, and in the remaining two, helmets, swords, and other implements of war, suspended by a chain from the lion's mouth; beneath the feet of the horse are two Saracens, slain.

Mr. C. H. Smith then delivered a very interesting lecture on building stones, treating both of their composition and decay.

FAIRLIGHT CHURCH, NEAR HASTINGS.

THE necessary arrangements are completed for rebuilding this church. The old church, consisting of a nave 30 feet by 20 feet, a chancel 20 feet by 15 feet, and the remains of a western tower, is said to have presented no vestige of architectural interest, and was in a most dilapidated state. The principal proprietors of the parish having resolved to rebuild a structure suitable to the increased population of the village, and worthy of the purpose to which it is dedicated, raised subscriptions sufficient to defray the expense without a parochial rate. Mrs. Milward, of Hastings, whose activity in forwarding all good works is well known, contributed 1,000*l*.: Mr. Lucas Shadwell, bestowed 500*l*., and granted the free use of his stone quarry. By the exertions of the Rev. Mr. Pearse the subscriptions amount to 2,500*l*. The new church, designed by Mr. Thomas Little, is a single aisle church, and consists of a nave 62 feet by 24 feet, chancel 20 feet by 17 feet, north aisle, and a massive western tower, 80 feet high, at the end of the aisle. The nave and aisle are separated by three archee springing from octagon piers. The style is early English, with am equilateral open-framed roof. The building throughout is of stone.

HISTORY OF A COMPETITION. st. simon's chubch.

Sin,—A history of this competition, which has now been before the public some weeks, has just come under my observation in the monthly part of "The BEILDER." This history is signed a "Looker On;" but I would suggest to that individual, that be ought to have well *looked* into the details of this affair, and ascertained the trath of his information, before bringing himself and his history so unceremoniously before the public. As the author of the design "Ignatius," I feel myself called upon to correct a "Looker

As the author of the design "Ignatius," I feel myself called upon to correct a "Looker On" in one or two particulars, which might otherwise be injurious to my reputation; and, in doing so, I shall state nothing which I cannot clearly prove, and which is not quite requisite in shielding myself from unnecessary blame.

Any one reading the account alluded to, would infer, that the committee had chosen a design, which might be a "pretty picture," but which, in reality, was worthless, and soon found to be good for nothing. The architest also, a reader would conclude to be of the same character, and ignorant of his profession. Proofs are brought forward sufficiently pointed to warrant such a conclusion; to which I must oppose the following facts. When first this design was sent in to the

When first this design was sent in to the committee, it was distinctly stated in the description, that the cost would exceed the sum named in the instructions. Of course they were perfectly at liberty to reject it if they thought proper; however, it was retained, even after the general estimate was found above the 3,000*l*, whereupon the working drawings were at once proceeded with.

Here, I think, was no "ridiculous" professions on the part of the architect, or any attempt to deceive a committee endeavouring to perform an onerous duty. "The walls for the aisles in the nave, and clereatory were not to be 14 inches thick, or thereabouts;" but drawn to scale, and figured two feet. The difference between 14 and 24 inches in too great for me to suppose such a mis-statement should have arisen accidently. I therefore conclude this falsehood was created wilfully, and probably from malicious or interested motives.

Our well-informed historian says, the committee agreed themselves to bear the expense of thickening the walls, which, he states, would be about 250*l*. How far does he imagine that sum would go in such an operation? Two feet may not be too much, but he would be content with 18 inches.

With respect to the rejection by the "Incorporate Society," I must make the following statements. It was necessary to obtain pecuniary assistance, for which purpose the drawings were forwarded to the society for inspection, aid being only given in building churches of approved accommodation; that is, a certain number of free seats for the money. The "objections" which I received from the society's secretary were the following r manely, 61b. instead of 81b. lead was specified for the gutters. The specification had not provided for the excape of the water condensed on the windows. The "beard" found fault with the arrangement of the free seats (not mear smough the minister), and the children's seats. Also that the font was not in the right place; and

that the walls appeared too thin. The objections which "poured in," to the committee, and which I heard of, were these. The tower was more intended for display than utility (not uncommon this,) and it was suggested that one of the vestries might be dispensed with.

Now, it will be seen, these objections are not of very great moment, and the committee can hardly be blamed, though they did "obstinately" try to "get rid of them."

At length the society, perhaps annoyed at the obstinacy of the committee, and their dulness in not taking the hint, and dismissing their architect with his plans, sent down the final decision of the "board;" which was, "that this design is fundamentally erroneous. arising from the disproportion between the side and centre aisles." (The centre aisle is more commonly by architects termed the nave.) Of course after this the committee found themselves under the necessity of adopting a fresh design, or building without the society's grant; and as the lesser evil, the

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chosen design was abandoned, and another sought for. The reason advanced for procuring the assistance of another architect was, that they had already lost much time, and Mr. L. had a set of plans ready prepared, which might at once go up to the society. It only remains for me to make a few re-

marks on this evidence, and first I would ask: had the society sufficient grounds for causing the rejection of an already adopted design, and the dismissal of an architect already gaged? Some of the objections are too trifling to be worthy of notice; only observing, that it is by no means unusual for an architect to make alterations from his original design, even during the progress of the building : and this is often called an oversight in construction.

The charge of disproportion between the nave and sisles may seem very formidable to those ho de not exactly know what it means, and the committee were no doubt surprised to find the design they thought the best, which pleased them the most, was just a jumble of error and disproperties. Now, there are churches built t aisles, and some with them; and there are various proportions between the mave and sinks. I thought I saw some advantage in my proportion, and so it appears thought the comproportion, a mittee. If, however, a certain proportion was at all requisite, why was it not mentioned at first. If the error was so very glaring, why was it not sooner discovered ?

Bupposing the saciety justified in rejecting the design, then I ask of any competitor, or any one connected with this competition, was it of the "Incorporate Society," and guaranteed to pass the examination of the "board?" There are many churches half where the

regulations are not complied with, and which would not be canationed by the society. Ac-cordingly, I did not consider myself bound to comply with the regulations of any society, except society in general, and I was a good deal snrprised to find that any one had the power to take a building out of my hands which I had fairly won in competition, and which was mine by right of conquest. I am, Sir, Sre., R. H. BENTHAM.

T think it is not unreasonable to ask "A Looker-On" for his authority for some of his statements relating to my design, and I may also observe, that he himself has the "advan-tage" in being merely "A Looker-On."

THE IRON TRADE.

THE extravagant height to which the price of iron had reached has been followed by a reduction equally sudden, although by many persons confidently expected. According to the best anthorities the reduction may be taken at 20s. Pigs were stated at the last quarterly meeting to be 64. 10s., they are now to be bought at 54. 10s. In merchant-iron there is a reduction of 22, per ton. It appears to be the prevailing opinion that the late extraor-dinary advance of 24 within three months was artificial, uncalled for, and highly isjudicio it proved very injuries to the iron manufac-turers of Staffordshire and Shropshire, un-settled the business of the Birmingham factors, and was the cause of orders to a considerable amount being sent to Germany

When we reflect that pig-iron was selling in the Clyde at 35s. per ton, and has been lately quoted at 51, 10s. to 61., and that bars were selling at 47.5s., and have recently realized 10%, and even 11%, it may very well be imagined that the iron-masters must have been doing a good trade.

THE SMOKE NUISANCE .- We are told that an economical plan of consuming the smoke made in furnaces is being generally adopted by manufacturers whose premises are situated in crowded localities. The principle is exceed-ingly simple, consisting merely of a course of brickwork at the back part of the furnace. The space under the boiler is closely built up with the excention of with brick and mortar, with the exception of two holes left at the bottom, through which the flame is directed; this being quite filled by the fame, the smoke which occupies the other space is intercepted by the brick-work, and brought back upon the fire, where it is consumed, and a small quantity of white vapour only escapes into the atmosphere.

THE ELIZABETHAN PERIOD.*

HADDON HALL, like many other magnificent abodes, appears, on close examination, evi-dently built when comfort was not a peculiarity of art in household construction. The doors are very rudely contrived, except when pic-turesque effect is the object; few fit at all close, and their fastenings are nothing better than wooden bolts, clumsy bars, or iron hasps. To conceal these defects, and exclude draughts of air, tapestry was put up, which had to be lifted in order to pass in or out; and when it was necessary to hold back these hangings, there were great iron hooks fixed for the purpose. All the principal rooms, except the gallery, were hung with loose arras, and their door were concealed behind.

The universal rage for building in the sixteenth century (felt by no one more than Henry VIII, who built, improved, or com-pleted no less than ten palaces), caused a rapid development of the new style then in process of formation—the Tudor Gothic. This style was in effect the latest form of the eccle-sisstical Gothic, but modified by the necessities and proprieties of a domestic residence. Thus, more light was required for a room than for the interior of a chapel or a church; so the fronta of houses became one vast expanse of glass. "You shall have sometimes fair houses so full of glass, that one cannot tell where to come to be out of the sun or cold" (Bacon). Chimneys of all shapes and sizes, and some of them exceedingly ornamental, sprung up. But in Elizabeth's time a new element came into operation. Italian art was introduced. Henry VIII., in a spirit of rivalry with Francis of VIII., in a spirit of rivalry with Francis of France, had sought to bring foreign artists to England; and though Raffaelle and Titian declined the invitation, other eminent men from different parts did come; among them Holbein, the universal artist. Many of the chief buildings erected after the middle of the chief buildings erected after the middle of the sixteenth century shew the influence of the Italian architects. Somerset House was built by John of Padua, and became, as the first Italian edifice erected in England, an example Italian editice erected in England, an example for others to follow. But the English archi-tects did not servilely copy them or any other works. They preserved some of their own Tudor-Gothic tastes; they admired, and there-fore added something from the Italian; they also admired, and therefore also borrowed from Holbein and the German and Flemish schools, and they arout was unsuestionably. schools, and the result was, unquestionably, magnificence.

As presenting generally a notion of the plan of Elizabethan mansions of the first rank, Buckhurst House, Sussex, may be usefully studied. This was built about 1560 by the author of the glorious poetical Induction to the Mirror for Magistrates, Lord Buckhurst, afterwards lord treasurer and Earl of Dorset. We regret to say, not only for the sake of the building, but for the associations connected with its author, that Buckhurat has long since disappeared. But magnificent as were these great massions in their size, arrangement, and general aspect, there was little even in them that would harmonize with our notions of what the interiors should be to correspond with such exteriors.

Walpole justly observes, with regard to the manaions of the sixteenth century, "Space and vastness seem to have made their whole and vasciless seem to have made their whole ideas of grandeur; the palaces of the memo-rable Countees of Shrewsbury are exactly in this style. The apartments are lofty and enormous, and they knew not how to furnish them. Pictures, had they had good ones, would have hear has in chambers of each would have been lost in chambers of such height: tapestry, their chief moveable, was not commonly perfect enough to be real magnot commonly perfect chough to be real mag-nificence. Fretted ceilings, graceful mould-ings of windows, and painted glass, the orna-ments of the preceding age, were fallen into disuse. Immense lights, composed of bad glass, in diamond panes, cast an air of poverty over their most costly apartments.'

Hardwick, in Derbyshire, between Chester-field and Mansfield, the property of the Duke of Devonshire, is one of the "palaces of the memorable Countess of Shrewsbury," here re-ferred to. A strange story is told in explanation of this lady's building propensities. A tradition, recorded by Walpole, says, the countess was told by a fortune-teller that she

* "Old England, a Pictorial Museum of Antiquities." C. Knight, London,

should not die whilst she continued building ; so she went on, crecting mansion after mansio until her proceedings were arrested one winter by a bard frost, which rendered the workmen unable to continue their labours, and then she died. Two or three portraits of the countess, or as she is more popularly called, Bess of Hardwick, are to be found here. The gallery is of the amazing extent of 195 feet, and con-tains some interesting pictures; among them one of Mary Queen of Scots, whose residence as a prisoner in the mansion has given to it a still higher interest than is attached to the wellknown countess its founder. Mary spent a considerable portion of her long nineteen years of imprisonment at Hardwick, during which time she occupied some of her dreary hours by embroidering the black velvet chaircovers that are still preserved in the mansion. Indeed, one of the most delightful features of the place is its perfectly Elizabethan character. Every thing remains unaltered from the days of

the two queens-the oppressor and the oppressed. Of old castles, as well as old churches, we take our leave in the present period. Their uses had passed away. Many of these built in imitation, to a certain extent, of the ancient castellated style, were but superficial imitations, calculated to please the still lingering military tastes of the owners, but utterly unsuited for the real wear and tear of military defence. Indeed, Elizabeth, as well as her father, would no doubt like to have seen the man who were have ventured to have spected a real strongno doubt like to have seen the man who would hold in her time. Power enough was reserve for the aristocracy, but it was to be hence-forth the power of station and wealth only, whether exercised in public or in private life. So, although castles were erected, and strong and strong ones too, no subjects were the builders. There were to be defences provided, not to facilitate internal warfare, but as a protection from foreign aggression. Henry VIII, caused a chain of fortresses to be raised for the protecchain of fortresses to be raised for the protec-tion of the northern and environ coasts as Sandown; and otherns. The Elizabeth we owe the commencement of the coasts named after herself at Jersey, to which Clarendon resided for two years, and wrote a large pertion of his "History of the Rebellion." Mount Orguell, also in Jersey, commandingly situated on a rocky headland that projects forward into the sea, is famous as the prison of Prynne, and the residence of Charles II. during a part of his exile. Upnor Castle, on the Medway, a little below Chatham—now completely in ruine...is distinguished as being one of the last, if not the very last, of those places of last, if not the very last, of those places of defence that were built on the old principles of fortification.

We cannot better take leave of the general subject of castles, than with a few words upon a fortress that formed a most perfect example of the class in all its genuine strength, and sternness; and inconvenience for residence, and which, to the regret of those who like to have something better than mere descriptions of antiquity to rely upon, has been recently much damaged by fire. Naworth stood on the edge of a ravine, had walls of enormous thickness, and was altogether in the style of a eastle of the fourteenth century; when all such works were built with the expectation that occasions might arise to test their strength, and with more than expectation— the certainty—where castles like Naworth were concerned. To the strength of wall, and narrowness of window that marked the exterior of such places, must be added, in order to combine their chief characteristics, the dun-geons within for prisoners, and the fire-places of the hall, which were really of almost incredible dimensions. That of Naworth was seventeen feet broad.

PROPOSED AERIAL TUNNEL OVER THE MENAL.—Mr. Randall proposed last week, be-fore a committee of the House of Commons, to carry the Chester and Holyhead Railway across the Menai Straits, by means of a huge tube composed of sheet iron, and to support the same midway on the Britannia Rock, thus forming a kind of aerial tunnel, consisting of two spans, each being about 450 feet in length. General Pasley on being questioned as to the merits of the proposition said, that he con-sidered it sound in principle as well as safe in practice. He also was of opinion, that two small tubes, one for each rail, would be pre-ferable to a single large one.

LIST OF NEW PATENTS RELATING TO ARCHITECTURE, ENGINEERING, &c., GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office fur Petents of Inventions, Lincola's-Inst Fields. ħ

[SIX MONTHS FOR ENROLMENT.]

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William Robinson Mulley, and George Mason, jun., of Ipswich, contractors, for improvements in collecting and raising stone or sub-stances from below water. April 2.

Otis Tufts, of Boston, in the state of Massachussetts, America, engineer, for a certain new and useful mode of building or constructing either the hulle or decks, or both, as the case may require, of ships, beat, and various other miling or fosting vasels made of iron, or other witable metal or metably. April 2.

John Dewrance, of Liverpook, angineer, for certain improvements in steam beilers, and in the construction, composition; and manefactore of bearings, steps, and other rabbing surfaces of steam rugines and other (a scholery, and also for a method of lubricating the same. April 7.

Thomas Metcalfe, of Elizabeth-street, Eaton-

Thomas Metalfe, of Elizabeth-street, Eaton-nutro, dirach-maker, for certain improvements in propelling curriages, which improvements are also applicable to driving certain ma-ohinery. April 7. James Lamb Hancock, Frederick Augustus Lamb Hancotk, and William Lamb Hancock, of Guidefield, Montgomery, for an improved retary steam ongine. April 7. Edward Bary, of Hanalopa, Buckingham-shire; civil angineer, for certain improvements in lobomative engines, cerriages, or wagons zonning upod sailways or seminon roads, for the prevention of accidents. April 7.

une prevention ice accidents. April (. "Elifab "Gelloway, 'of the Strand, engineer, för furproventents' in 'propelling' raitway car-risges: 'April Stöcker,' of 'Canonbury-place, en-gineer,' för improventits' in 'machinery of apparatus, for lifting, forcing, or conveying liftidh in vestels, for Nolding Hquids; and im-provements in wheth-closets. April 9.

provements in water-closes. April 9. John Coope Haddan, of Liverpool street, King's-cross, Middleser, engineer, for im-provements in praparing sleepers, chairs, and spikes, and constructing wheels for railways. April 14. Frederick Rosenborg, of Kingston-npon-Hull, gentleman, for, certain improvements in machinery for cutting and shaping wood and other materials into various forms or figures, and also for cleaning and smoothing the

and also for cleaning and smoothing the surfaces of the same forms or figures. April 15.

George Carter, of Willenhall, Stafford, job-bing emith, for certain improvements in locks and latches. April 15. John Lord, of Friday-bridge, Birmingham,

merchant, for improvements in supplying steam-boilers with water. April 15. George Boyle, of Church bill, Wednesbury, Stafford, whitesmith, for improvements in loco-

mative, marine, stean, gas, and other tubes. April 17.

William Mackie, of Baggot-street, Dublin, builder, fon improvements in window-sashes. and shutters. April 22.

Freeman Roe, of the Strand, engineer, for improvements in the manufacture of pipes for onveying water and other fluids. April 22.

Joseph Maudsley, and Joshua Field, of Lam-beth, angineers, for certain improvements in propelling, and, propelling, machinery. April 24.

Robert Beart, of Godmanchester, gentleman, for improvements in the manufacture of bricks and tiles. April 24. Samuel Wilkes, of Wolverhampton, iron-

founder, for improvements in the manufacture of binges. April 26. John Sylvester, of Great Russell-street,

Bloomshury, civil engineer, for improvements in stoves and firs-places, A pril 29. Glimoer, Wilson, of Earl street, London,

engineer, for improvements in the construction of wheels for carriages. April 29, Fraderic, Lannard, of Kepple, street, engi-

neer, for improvements in generating steam and evaporating liquids. April 29. James Nassyth, of Arandel-street, gentle-

man, for certain improvments in engines or machines for obtaining and applying motive power. April 29.

Correspondence.

THE BUILDER.

ARCHITECTURAL MODELLEBS. Sig.—Your correspondent who writes an architectural modelling at page 190 of your excellent periodical seems to entertain a mis-taken and somewhat prejudiced feeling towards architects, builders, and plasterers, which I shall endeavour to correct.

Your subscriber states: "In almost all cases the modeller is not employed by the ar chitect, but by the builder, who, having little taste for works of art himself, employs any body he can get to do it cheap, mostly some plasterer, who understands little about modelling, nothing about drawing or style of composition, the artist of acknowledged talent is enwhile tirely deserted by the architect.

In reference to the above remarks, I shall admit that the decorative modeller is seldom directly employed by the architect; but instead of being employed by the builder, it much more frequently occurs that he is engaged by the plasterer, as was the case at Buckingham Palace, Windsor Castle, York House, &c., where architectural modeling was carried out to an extent of beauty and magnificence, if not to an extent or beauty and magnificence, if not unequalled, at least unsurpassed, and that too, under the immediate guidance of a *plasterer*, whose name will go down to posterity as the greatest man in the line ever produced in England.

Your correspondent also (with all due deference to his talents) evidently writes on a subject he does not quite understand when he states, that "the drawing made by the architect seldom for more than a quarter part, gives a very ambiguous idea of the subject wanting, and in many cases no drawing at all; the models so made are consigned to the tender mercies of some hod boy to cast, and to fix by others who know as little about it."

others who know as little about it." Surely, Mr. Editor, your *decorative modeller* is sadly out of his latitude in the above asser-tion. Firstly, are we to understand him that in some cases the architect makes no drawing at all ? if so, pray what is the architect's office? Secondly, there is not such a class of individuals in London, or elsewhere as "hod boys. ere is not such a class of indivi-I presume your correspondent or your printer's devil has made a mistake, for this should have been "odd boys;" and certainly odd lads they are some of them, and clever fellows too; really boys of intrinsic value, some of them really boys of intrinsic value, some of them bright young geniuses of the very first magni-tude. I have had many of these same lads to cast my enrichments, and when properly trained, they do it in the most expert manner; their proper cognomen is "hawk boys." Thirdly, the decorations after being modelled and cast are in all good establishments fixed by expert plasterers, picked men, masters in their particular branch; and, lastly, to wind up this statement, and to shew that your subscriber is labouring under a delusion, I have to add that the very best architectural modeller, as regards minuteness of detail, &c., served his time to be "a plasterer" with the late Mr. Geo. Robson of Durham, never had an hour's instruction in drawing, and has immortalized his name in the annals of modelling by his copies of various sizes from the remains of the Temple of Jupiter Stator, &c. Need I name the justly celebrated." Tom Gillespie." Further, the concurrence, a om Gillespie." Further, the very best general modeller and designer ever known in London was originally a "hawk boy;" and again, the best men in the line practicing at the present day, have more or less originated from the plasterer and, the hawk how. If I have hear concurrent hawk boy. If I have been somewhat ungentle in my remarks, and indulged in a touch of pleasantry in this matter, I trust your correspondent will forgive me, my observations being well meant, and originating in the wish to set both him and the public right, for I merely lifted the pen to correct his erroneous con-clusions, and to defend the architects, builders, and plasterers, from imputations they do not deserve; the former of whom, instead of deserting talents and genius when they see them eveloped, invariably encourage them to the fullest extent. The fault does not rest with the architect, as your writer supposes, but in ninety-nine cases out of a bundred, with the modellers themselves, some of whom possessing talents of the very first order, are unbappily too much given to gaiety and midnight carousals, in-stead of attending to the instructions of their patrons the architects. Others, again, do not pos-sess those peculiar abilities requisite to carry out

the ideas of the architect, and consequently are rejected. So ends my present theme, and if he and the public will not assent to its truth, why verily they are dissenters worse than pagans, as Fraser or some of his writers would have said, and consequently not entitled to con-sideration.—I am, Sir, &c., FBANK TYREELL.

Newcastle-upon-Tyne.

SKETCHING INTERDICTED IN CATHEDRALS. SIR,-Pray enter a protest in your influ-ential journal against the exclusive system of preventing architects and others sketching in cathedrals, churches, &c., To-day, seeing some excellent bosses in the Lady Chapel at St. Saviour's, and being of course anxious to sketch, I was told, as usual, "No sketching is allowed, Sir, without a permission from the warden," which, having only an hour or so to spare, was not to be obtained. It is the case all over this construct. all over this country-at Canterbury, Here-ford, Westminster Abbey, and wherever I have been,-Durham is the only honourable exception, and I do not think that the cathe-drai has suffered for this unusual liberality. In France, I have skotched, measured, and In remove, 1 have succeed, measured, and studied in the eathedrahs without any hinder-ance whatever, and I think that you will agree with me, that it ought to be the case here. If you will make this a subject of consideration, and notice it in your paper, you will much oblige, Sir,

Your obedient servant, A SUBSCRIBER,

*** We fully agree with our correspondent, that such prohibition, where it exists, is unwise and veratious, and will gladly lend our assistance to induce the discontinuance of it.- Ep.

COVERING FOR ROOFS.

Sin,-I shall be glad if some one of your correspondents will give me some inform respecting a really good and light material for rooting, in a chimate such as that of America. Zinc I am fearful of, as the heat of the suc Zine I am fearful of, as the heat of the sum draws it out of shape, and wherever there is much condensed anoke or toot settling upon it, it corrodes most provakingly. The build-ings I wish to roof are in one story; they are built of wood, and the roofs are wasted a good apan, say 50 feet. I have heard of galvani and iron, but wish to hear how those who have tried it find it to answer, and the expense per square foot. Any of your correspondents able square foot. Any of your correspondents able to furnish me with this information will confer to furnish me water and so. a great favour by doing so. I am, Sir, &c.,

A SUBSCRIBHR.

ESTIMATES FOR HOTEL AT WHITEHAVEN.

Sik,-My attention having been drawn to a letter in THE BUILDER of last week, professing to give information respecting the tenders for the proposed hotel at Whitehaven, I have to observe that it is not my practice to a supply quantities on any occasion, and with reference to the business in question, that the quantities were abstracted by Mr. John Blyth on my behalf, as architect, and by Mr. Eppy on the part of the builders.

I shall be obliged by the insertion of this letter, and remain, Sir, your obedient servant, R. C. CARPENTER.

Guildford-street, Russell-square,

May 12th, 1845. . .

HAGIOSCOPE IN BARLY CHURCHES.

SIR,-In "THE BUILDER" of the 10th inst. I find inserted a very interesting account, historical and architectural, of Alderton historical and architectural, of Alderton Church, Wilta. The writer refers, at some length, to a very curious "hagioscope" in the said church, and inclines to the opinion, which he quotes from the Cambridge Camden Society, that such openings were found in early Norman churches.

In a late charge of the Venerable Arch-deacon Shirley, I find the early origin of these architectural features of a church questioned. Would you, or any of your readers, have the goodness to mention any instances of "hagio-scopes" of undoubted early character. I much scopes" of undoubted early character. question if there were any in Norman times. I am, Sir, &c., J. F.

STRENGTH OF TIMBER BEAMS.

SIR, - I have made a model of a truss beam to a 1-inch scale, its bearing is 25 inches, the flitches are 27 inches long, and 11 by 78, the fitches are 21 inches long, and 12 by Ta, its contents are about 24 parts, it carries a weight of 168lbs, with very little flexibility. Now, I should be glad to know (and by what rule) how much a beam of 25 feet bearing will carry whose fitches are 15 inches by 64, which is none the size of first model according which is near the size of my model according to scale. If any of your talented readers will solve this question, it will oblige, yours respectfully,

À CONSTANT SUBSCBIBER.

. Maiscellanea.

PROPERTY-TAX AND WINDOWS. -- Lord Dancan, the member for the city of Bath, has procured, by order of the House of Commons, a return shewing the total number of house assessed to the property tax in the year 1844, in respect of certain streets, squares, and courts, in Westminster and Marylebone; also a similar retarn of the amount of window duty paid by the several bouses assessed in each, of the above classes, distinguishing the amount paid for each class, &c. It is hence accertained that the total number of houses assessed in 1844 amounted in Regent-street to 302-of which 21 were under 150%, 65 under 200%, 115 under 250%, 49 under 300%, 26 under 400%, 8 under 500%, 5 under 1,000%, and 3 under 2,000%; in St. James's-square, 28—of which 4 were under 150%, 1 under 200%, 3 under 750% 12 under 1000% and 8 under 200%. 4 were under 1502., 1 under 2002., 3 under 7502., 12 under 1502., and 8 under 2,0002.; in Berkeley square, 45—of which 1 was under 1002., 3 under 1502., 3 under 2002., 7 under 2502., 6 under 3002., 5 under 4002., 7 under 5002., 11 under 7502., 1 under 1,0022., and 1 6 dubier 2,000% and 35 above 2,000/; hr Peter-street, Westminister, to 89; in Berwick-street, Sohoy to 88; in Chapel-street, Westminster, to 15; in Little Sunbope-street, to 18; in Dui face's-place, St. James's, to 10; it Cross-street, St. James's, to 14; in Broad-street to 49; in Poland-street to 63; and in Lancashire-court, Westminster, to 14; all the houses in in conversion with the attern. The smooth in comparison with the others. The amount of window duty paid by the several houses was in Regent street; 2,060/.; in St. James'ssquare, 6694; in Berkeley-square, 7124; in Ox-ford-street, 2,3104.; in Grosvenor-square, 9834; in Piccadilly, 1,7914; in Peter-street, 1144.;

in Piccadilly, 1,7914; in Peter-street, 1144; in Berwick-street, Soho, 4834; in Chapel court, Westminster, 3s. 6d.; in Little Stan-hope-street, St. George's, 624. 13s.; in Du-four's-place, 784. 7s. 6d; in Cross-street, 774. 13s. 6d.; in Broad-street, 3324; in Po-land-street, 4154.; and in Lancashire-court, 224. SOCIETY OF ARTS.-May 7th, Mr. G. Moore, V.P., in the chair. Mr. J. Scott Russell described an opright drill, the invention of Mr. J. McDowall; the novelty and advantage of which consisted in the application of the power employed being in the direction of the axis of the drill, instead of at right angles, as in the ordinary drill. Mr. Boulter described his im-proved compensation pendulum spring, where proved compensation pendulam spring, where-by he is enabled to regulate the pendulum without altering the adjustment, and vice versd. The pendulum is attached to a rod (of white deal) by means of a pivot passing through two small steel plates let into the rod. The secretary read a paper by Mr. Dicksee on the manu-facture of his pressed glass mosaics, applicable alike for pavements, mural decorations, and furniture, several specimens of which were laid on the table. The mosaics may be produced of any colour. They may also be modelled into any required shape, while the glass is in a fused state, by means of a double-action screw press. In order to prevent the surface of the mosaics being bloated and uneven, it is necesmosaics being bloated and uneven, it is neces-sary that the pressure should be continued on a sufficient time so that the glass may harden before being removed from the mould. Dr. Jarvis, of Connecticut, U.S., explained to the meeting his "Surgical Adjuster," the objects of which are to reduce dislocations, to adjust all fractures, and preserve the fractured ex-tremitics in apposition during the process of confidential, Lettern pre-part. reunion.

WESTMINSTER IMPROVEMENTS.—A public meeting of the inhabitants of Westminster was held last Saturday, at the Mechanics' Institution, Great Smith-street, for the purpose of having submitted to them the report of the committee appointed on the 7th of February, to consider the best means of carrying out the projected improvements in that district. The Hon. Captain Rous, M.P. presided. It ap-peared that the committee had had an interview with Sir Robert Peel, who approved of their proceedings, and recommended them to communicate with the Commissioners of Woods and Forests, which they accordingly did. The Earl of Lincoln informed the com mittee that he was so pledged to Mr. Rigby Wason's line and plan of improvement, that he could not even examine other plans shewn,

much less entertain them. We gave a short time since (see page 147, ante), the names of those gentlemen who had sent in plans. It was stated at the meeting, by one of the committee, that on the question being put to each of those gentlemen, as to his being prepared with suffi-cient means to carry out his design, if approved of, not one of them could answer in the affirmative, with the exception of Mr. Abraham, whose plan is the one adopted by Mr. Wason. We are indebted to the excellent secretary to the Westminster Improvement Committee (Mr. W. H. J. Traice), for a copy of the report laid before the meeting, and shall refer to it next week.

depressed state, chiefly arising from the use of machine-made nails, and also from a spirit of competition among the employers. The average earnings of the nail-makers in this quarter; for some years past, have not exceeded 7s. a week; for though in some few instances 8s., 10s., or even 12s., have been realised, yet these 10s., or even 12s., have been realised, yet these sums were only got by extra labour, or perhaps a better paid kind of work. About six months ago the workmen obtained a penny additional for making 1000 nails; and after some agita-tion on the part of the workmen, several of the employers have this week advanced another 3d. on the same quantity. This will have the effect of raising the nail-maker's weekly earn-ings to about 8s. 6d. or 9s., or from 20 to 30 ings to about 8s. 6d. or 9s., or from 20 to 30 per cent. on their wages, which, though still a small pittance, must be productive of a little more comfort to this long-depressed body of men .- Scotch Paper.

THE KING'S ROAD, READING .- Relative to the late competition at Reading, 'we are informed that, after thoroughly considering the whole of the designs submitted to the adjudicators, the proprietor has decided to adopt one of the designs which received a premium both from the suitability of the design to the situation and aspect of the land, and the wants of the town of Reading. The land on the north side of the King's-road is intended to be laid out in one square of ample dimensions, in the area of which an ornaother arrangements with respect to walks and borders similar to Hyde Park-gardens, London. That on the south side will also form a terrace, with a diversified shrubbery in front. The style is to be restricted to the Italian, and care taken to preserve the character of the whole design. Our readers will find in our adverdesign. tising columns a notice of the land as now offered to the public.

SMORE NUISANCE.-It appears by the re-ports made from Woolwich and Portsmouth dockyards, that after a lengthened trial of nearly two years, it has been determined to adopt Godson's patent smoke-consuming upparatus in the Government yards, in consequence of its satisfactory performance. This invention combines the two principles of coking the coal and introducing heated air into the farmace, by either of which methods, scientific men are agreed that a very large proportion of the smoke of furnaces may be consumed; and by the joint operation of the two, it is to be expected that the most perfect combustion of the smoke will be obtained .-- Morning Paper.

THE SCHOOLMASTER ABROAD .- The Archdeacon of Middlesex at a recent visitation stated, that the National Society had raised above 197,000% between the 5th of July, 1843, and Christmas last, a period of only sixteen months. That no less than 845 schools had been built or enlarged, and accommodation provided for 108,937 acholars. A statistic the and statistic for 108,937 acholars.

HOT-AIR PIPES USED AV. THE BOMANS. It is stated, in a letter from Treves, that a curious and interesting, discovery has been made, in the course of the excivations among made, in the course of the excevations among the foundations of the uncient Round builties of that place-shoat to be restored, in its primitive form, as a Lutheran Church. Be-neath the mosaic pavement of its principal ball, which rests on brick buttresses, has been found a complete system of metal pipes, of a large calibre, which have obviously, it is said! been used for warming that apartment by means of steam or beated air+thus proving that a method of heating believed to have been of recent invention was known and practised in the days of the Romans.---Not far from the Webersbach gate of the same city, and about. four feet basesta, the surface of the soil, has been likewisa dissovered an extensive end been likewipa discovered an extensive and magnificent payament in mossio, also resting on brick pillers and which appears to have belonged to some shately edifice. It is divided into large compartments of which, eleven are uninjured, and represent mythological subjects, one as combase of gladiators, and military, and havehand tenhing. and bacchanal trophies.-Athenœum.

BASAAR IN COVENT-GAEDEN TREASAR' An extraordinary effect has been produced in Covent Garden Theatre by the specie-geinter and the expression money is a shiking. The whole house, including the stage, to ithe back while house, including the stage, to ithe back wall, is formed into a vist hally with open timber such; chestered cobusts, and pointed arches, elaborately adpried with paneling and colours. Soch from the upper bixes, which form the exploratory galling, the effect of the lengthened peroperties is very striking and the lengthened peroperties is persurbing and the lengthened peroperties is departed for the set of a strike to the the the bing of the set of the lengthened peroperties is the bing of the set of the for whose purposes the binary is opened; who BASAAR IN COVENT-CARDEN TREATER out: seference to the the the total new the set in the set is the set of the

public and a manual promised service and a service and a service and the service and the service and s most of the meteorological changes, may be greatly altered by having from conductors tra-versing the country in all directions. Thus, iron transmits electricity easily from due end of the country to mother; but not being in-sulated, it only opens a communication of, easier transmission in all the directions of the iron rails. It has been said that not more than half the quantity of rain has fallen during the past year. The electricity of the clouds would be puzzled were the surface of the earth covered with a non electric, as glass; and why should not a complete conduction in certain lines give passage to much electricity, which in the ordinary character of the usual surface of the ground would be more naturally and more beneficially distributed?

oenencially distributed? DESTRUCTION OF PIPE's ELM.—The cele-brated Piff's Elm, near the parish of Ucking-ton, was some time since sold by auction by order of the Dean and Chapter of Westminster. It was hought by Mr. Crook, of Hasfield, hear the Haw-bridge, for the sum of 124. About a fortnight ago, the work of demolition com-menced, and was commisted at 20 million comand was nine days - six in stocking h, erecting the scaffolding round it, and hopping off the limbs, and three in felling the trunk, which was about eight or nine feet in diameter. Nine was about eight or time teet in manneter. It no sawyers' were employed in catting the training through the centre, and afterwards in sawing it across at the root. A great many bets were made by gentlemen as to the soundness of the tree; the timber was found to be perfect.... Chellenham Free Press. 4. 11

ELECTION OF A SUNVEYOR FOR THE PARISH OF ST. JAMES'S. A hotics has been PARISM OF ST. JAMES'S. A DOILOG has been issued by the Middlesex 'magistrates, signed "Heaton'Ellis, 'clerk of the peace," to the effect that the court will proceed on Thursday; the 29th instant, to the election of a surveyor for the parish of St. James's; in the liberty of Westmann to the more at James's in the liberty of Westminster, in the room of Mri Jumes Gray

have some notes in type relative to the recent failure of this construction. So many con-failure of this construction. So many con-dictory opinions, however, are before the public, and so little information that is satis-factory, that we defer publishing themain and an longed blocking of a specia with an element.

NEW REVOLVING RULE FOR MEASURING NEW REVOLVING RULE FOR MEASURING LUMBER, &c.—A patent has recently been granted in America for the above purpose. The invention consists in a wheel of one foot in circumference, so arranged in a case as to have a portion of its periphery project beyond the case, and a portion of its face visible through a hole, the edge of which is graduated in the manner of the common lumber via through a hole, the edge of which is graduated in the manner of the common lumber rule. The shaft of this wheel is geared with the shaft of a cylinder, so that the latter will make one revolution to thirty-six of the former, there being thirty-six divisions to indicate the number of revolutions made by the wheel; and the shaft of this cylinder is geared with another cylinder which makes twelve revolutions to one, to mark the number of revolutions made by the first cylinder. The scales on the wheel and cylinders are so arranged, as to give the superficial as well as the running measure. The name of the inventor is Charles Ross.

ROYAL BOTANIC SOCIETY, RECENT'S-PARK.—At a recent meeting of the society an announcement was made by the secretary, that the council had at length succeeded in completing the necessary arrangements for the immediate commencement of the conservatory, Immediate commencement of the conservatory, or winter garden, and had with this view entered into a contract with Mr. Turner, of Dublin, already known by similar works in progress, or executed by him for the Boyal Gardens at Kew, the Earls of Derby, Aber-deen, &c. The building, the framework of which is rupon the suggestion of Mr. Deciwhich is upon the suggestion of Mr. Deci-mus Barton, under whose superintendence works are conducted, to be constructed the wholly of iron, was to be made available for the purposes of the society within the ensuing half-year.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omis the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers however; they are entered in a book, and may be seen on application at the office of "The Builder," S. York-street, Covent-garden,] Covent-g

For taking down part of the present County Gaol of Lincoln, and erecting a New Building on the site thereof, with airing yards and other requisites.

For building a school-room in London near the hridges.

For the erection of the Borough Gaol, Birmingham.

For the erection of a Building in London for a highly-patronized purpose, at the estimated cost of about 30,000%.

For the supply of 20,000 slow-grown Larch Sleepers, wanted by the Manchester and Birming-

ham Railway. For the Alteration and Enlargement of the Union Workhouse at Whittlesey, in the neighbour-

hood of Huntingdon. For the Erection of a Workhouse between Swin-

don and Highworth, Wiltshire. For the performance of the necessary works in the construction of a New Dock in the Borough of Kingston-upon-Hull.

For repairing and keeping in repair for three years, from Midsummet-day next; the Cannon-street Road, Middlesex.

For Erecting a Market-house at Malmesbury,

Wiltshire. For a quantity of proof chain 2}, 11, 1, 1, and inch, wanted by the Universal Salvage Com-

pany. For the reparation of Ten houses in Hounsditch.

The whole to be finished by the end of August. For Lighting the Public Lamps within the City of London with gas, for the term of one year, from

Midsummer-day next. For Building Sewers in the eastjend of Tower-

street, Herplane, and St. Mary Hill, and other places adjacent thereto, within the City of London. For Building the Carcasses of certain first-rate Houses, with Shop Fronts, in the new line of

Oxford-street, leading into Holborn. For laying the Carriage-way of part of the Parishes of St. Giles-in-the-Fields and St. George,

Biomsbury, with Wood; also for supplying the same parishes with the best new squared Aberdeen, Mount Sorrell, and other Granite, and the best Eland Edge, Yorkshire, and other Foot Paving.

COMPETITIONS.

Plans, sections, and elevations for a Terminus. and other requisite accompanying offices, for the Great Southern and Western Railway, Ireland.

A premium of 30 guineas will be presented to the party offering the best plan of Docks, capable of admitting ships of 1,000 tons burden, to be erected at Burnham, in the Bristol Channel.

Designs for houses to be crected at Dover. The ground is nearly seven acres in extent, and lies on a gentle slope between the south-west boundary of gentic slope between the south-west boundary of Dover Castle and the town. A premium of fifty guineas is offered for the set that may be most approved of.

APPROACHING SALES OF WOOD. &c. BY AUCTION.

The timber and other trees now standing upon the estate at Woodseaves, Salop. By order of the Lord Chancellor made in the cause "Dickin v. Barker."

At Mitchell's Farm, near Saffron Walden. A fall of 68 famous Oak, and six Ash timber trees with the top wood. At Wiston Woods, near Nayland, Essex: all

the Timber, Timber-like Trees and Saplings (con-sisting of Oak, Ash, Elm, Asp, Birch, and Cherry) arising from the Wood of 13 Acres called "Hfils."

Artsing from the wood of 13 Acres called "Hifs." At Kensey, near Hadleigh, Essex: 130 Capital Oak Timber Trees, 70 Oak Standels, and about 30 Pollards, lying on "The lvy-tree Farm." At Earlsham, a quantity of oak, ash, elm, and poplar timbers. Oak, ash, elm, and other pollards, tea

Co. On the premises, West Harding-street, East Harding-street, Middle New-street, and Great New-street, Fetter-lane, the building materials of six houses, by order of the Goldsmithe' Company.

BY TENDER.

A Virgin Forest of Valuable Timber in Wala-chia. The principal part of the Trees is Oak. The said Forest may produce about 500,000 cubic feet of Timber.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, May 19. — Statistical, 11, Regent-street, 8 P.M.; United Service Institution, White-hall Yard, 9 P.M.; Chemical (Society of Arts), Adelphi, 8 P.M.; Medical, Bolt-court, Floot-street, 8 р.м.

TUESDAY, 20. - Civil Engineers, Great

George-street, 8 P.M.; Pharmaceutical, 17, Bloomp-bury-square, 11 A.M. (anniversary). WEDNESDAY, 21.—Society of Arts, Adelphi, 8 P.M.; Microscopical, 21, Regent-street, 8 P.M.; Ethnological, 27A, Sackville-street, 8 P.M.

THURSDAY, 22.— Royal, Somerset-house, 84 P.M.; Antiquaries, Somerset-house, 8 P.M.; R. S. Literature, 4, St. Martin's-place, 4 P.M.; Medice-Botanical, 32, Sackville-street, 8 P.M.; Numis-

matic, Somerset-house, 7 P.M. FRIDAT, 23. — Royal Institution, Albemarle-street, 8¹/₂ P.M.; Philological, 49, Pall Mall, 7 P.M. (anniversary). SATURDAY, 24. - Royal Bolanic, Regent's-

park, 4 p.m.

TO CORRESPONDENTS.

ondents are anxious to receive intelligence of the 2001. premium offered for the best design for land-

"W. P. G."-Pressure of occupations would not allow us to comply with the request. "Building Societies."-It is so long since the statement appeared to which Mr. Kerr's letter refers that we must decline renewing the subject. "Terra Cotta,"-Mr. Sharpe's letter relative to this material shall appear next week.

"Pantasee."—The plan he suggests is hardly practicable. In the case mentioned information ned inform may be obtained from William Taylor, 3, Collegegreen, Dublin.

"Henry Johnstone" and "Parker Ayers" next week.

Recovered. --- " The Journal of the British Archa-ological Association," No. 1 (Bohn), of which we shall speak shortly-- " Dawn Island, " a tale, by ological Association, "No. 1 (Bonn), of which we shall speak shortly—" Dawn Island," a tale, by Miss Martineau, written for the Anti Corn-Law Bazaar—Mr. Spencer Hall's enclosure; "Plan for Improving the Condition of the Working Classes." — John Weston—W. L. Short — John Workman.

ADVERTISEMENTS.

Just published, price 5s., neatly bound in roan, with tuck, gilt edges, and lettered, a Pocket Edition of CYCLOPÆDIA of the NEW ME-TROPOLITAN BUILDINGS ACT, together with the Act itself, a Folio Table of the Metropolitan Districts (old and new), a List of the Surveyors, with their Residences and Offices, and a Table of Fees to be paid to the Registrar for astrongen performed.

and Omces, and a labe of res to be pair to an argument. In the Cyclopædia all the details of the Statute are arranged Alphabetically, so as to be instantly found, and accompanied by extensive references and counter-references to the sections of the Act itself and its mainter provisions.

By the late A. BARTHOLOMEW, Esq., F.S.A., Architect, Surveyor of the Horney District. Published at the 'Offlee' of 'The Builder," 'A, 'Fork-street, Covent-garden; and to be had of all Booksellers.

DUTY OFF ORNAMENTALWINDOW GLASS.

DUFY OFF ORNAMENTALWINDOW GLASS. CHARLES LONG begs to inform his priseds and the Public, that he can now supply Orna-mental Gizes at 1s. 3d. per foot superficial, and having just built two of the largest Kilm in London, is esabled to case-cute extensive Orders with unprecedented dispetch, 1, King-street, Portman-square,-Terms, Cash only.

DUTY off WINDOW GLASS. - On D April the 6th, Squares stouter and of better make than formerly for Glasing purposes at 6d. per fost.

than formerly for Glasing purposes at 6d. per foot. NURSERYMEN, MARKET GARDENERS, AND OTHERS requiring Small Glass, will find a greater variety of aises (a large Stock of which is constantly on hand) that is kept by any other house in London, from 4d. per finit. Flattened Sheet, Stained, Fluted, the BIRMIN GRAM Sheet Flate (superior in all respects to every other make), and Ornamental Glass of every description. Complete Lister of Glass, Lead, Colours, &c., at ready-money prices, may be had (gratis) on application to R. Cogan, at the Western Glass, Lead, and Colear Wardhouse, 5, Princes-street, Leicster-square, London. SUBVYORS CONTRACTORS FOR PUBLIC.

SURVEYORS, CONTRACTORS FOR PUBLIC WORKS, and the TRADE generally, sending specifici-tions of quantities required, will receive by return of post an invoice as the very lowest cash prices.

A parcel of very Superior Spruce Oker, suitable for PLASTERERS AND PAINTERS, to be sold at 6s. per

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and HIP TILES to suit slate roofs in colour; Ridges, with plain or related joints, roll tops, and vertical tornaments; drains, many sizes, with plain or solk it joints; paring in squares, hexagons, octagons, dcc., dff-ferent colours; roofing, in Greekan or italian styles, other devices also, or plain; conduits, which do not injure plane water; fire-bricks and ille; clinkers, and out-door paving; sundry wall-coping, garden-borders, clinmey-tops; also tubular and other flues of peculiar material. No agent, but a dept at WHITEFRIARS, and it, WATER-LANE, PLEET-STREET, LONDON, under Mr. PEAKE'S per-sonal care, to supply genuine TEBRO-METALLIC goods at fair prices as per quality. The TULERIER TUNSTALL, STAFFORDSHIRE, and

The TILERIES, TUNSTALL, STAFFORDSHIRE, as near the centre of England, whence bosts are sent diract it any inland place; or to the Monsy for the consts, the cost nies and classwhere.

HATCHER'S BENNENDEN TILE-MACHINE, Manufactured and Sold only by COT-TAM and HALLEN, Engineers, Agricultural Implement Makers, &c., 3, Winsley-street, Oxford-street, London.



This is the most efficient Machine that has been invested for the purpose of making Drain Tiles. Any shaped This can be made by merely changing the die, which can be done in a few minutes. It requires but few hands, vin., one man and three boys. With this amount of labour, the pre-duct of a day of 10 hours is as follows, viz :---

Tile, 5,896 ,, 3,200

See Letter of Thomas Law Hodges, Esq., in the "Transac-tions of the Royal Agricultural Society of England," page 551, part 3nd, vol. v. The Machine is moveable down the drying-abeds, so that it requires no extra boys to carry the Tiles, nor we subtree required in drying. It has been in full operations for upwards of four months at Hempstead Park, near Cran-brook, Kent. No charge made for Patch dues or licence. The parchase of the machine includes free use of it.

TOTICE. - INVENTORS desirous of NOTICE. — INVENTORS desirous of obtaining LOANS ON or of SELLING their IN-VENTIONS, or Patenta, should apply to Mr. M. JOSCELIN COOKE, at the OFFICE for PATENTS, 20, Half Moon-street, London, where English and Foreign Patenta are ob-tained, and Designs registered. An INDEX is kept for inspection of all Patents granted for the last cultury; also copies of every Patent of importance. Instructions te Inventors and a list of charges gratis on application.

OFFICE FOR PATENTS REMOVED FROM No. 16 TO 117, CHANCERY-LANE.

PRACTICAL ASSISTANCE GIVEN to A parties taking Letters Patent, by Mr. J. Wildson, Regioner and Patent Agent. Rever description of business relating to or connected with Patents, Registration of Deregimor and Patent Agent. Every description of busisters relating to or consected with Patents, Registration of De-signs, Patent Agency, &c., conducted at his offices, 127, CHANCERY-LANE, opposite Carey-street. Negotimitiens entered into with parties withing to dispose of or purchase patented se registered inventions. Every necessary infor-mation may be obtained at the offices as above, where also may be had printed instructions (gratin), to which Mr. W. begs particularly to draw the attontion of parties about to take out patents Mechanical drawings of every description, original designs for machinery, models, &c., excuted with dispatch and ceonomy.

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MORTGAGE and ANNUITY OFFICE, No. 123, Chancery-lane.-Persons requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from 1001. to 200,0001., or so much as the property will bear, by applying to Mr. BRAY, Surveyor, Land and Estate Agent, at the offices as above, where a Registry for the sale of Estates, Houses, Land, Life Interests, and Reversiona, is kept for inspection. N.B.-To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of tile, planes, &c.

All communications for Money are considered strictly confidential. Letters pre-paid.

"George's Pier Head, Liverpool,"--Two corres



SATURDAY, MAY 24, 1845.



N our journal of the 12th ult. (p. 169, *ents*) we communicated two awards by the official referees, as to bows and projections to houses commenced before

last January, establishing conclusively what we had before urged, that projections which were part of the original design, although not yet formed, were "already built" in the eyes of the law, and did not fall within the provisions of the Buildings Act,—always provided that the same should be finished and the houses rendered fit for use before January, 1846.

At the close of the article we remarked, "we need say no more on this subject." The law seemed so clear to common sense, and the referees had so strongly enforced it by these awards, that we thought it was not likely that the question would be again raised. We were, however, wrong in that belief, and are induced to state the particulars of one other case in point, with the referees' decision, as a warning to the obstinate and litigious.

In the autumn of last year, Mr. Harvey, a builder, erected a detached house on Lord Dartmouth's land in the Lewisham-road, with a porch in front and bow window at back. The carcass was covered in, and the basement story of both porch and bow erected by December. The upper part of the bow was to be formed in timber (so shewn on the plans originally made); and when the builder last month completed it, as always intended, Mr. Badger, the district surveyor, gave him notice of irregularity, and ultimately he was summoned to appear before the referees at the "Lion and Lamb," Lewisham, — not an inapposite conjunction.

The facts above stated were proved and admitted: and it was shown at the hearing that the registrar, on receipt of the district surveyor's information against the builder in question, had actually directed his attention to the awards we have alluded to, so that he was unable to plead ignorance in excuse. Lord Dartmouth's surveyor, Mr. Godwin, who attended for the builder, called on the referees (in the full assurance that they could do no other than award against the interference of the district surveyor) to provide for the payment of his client's personal costs, urging justly, that when the builder is wrong they force him to pay an extra fee to the district surveyor for his attendance, and therefore when he is right they ought not to allow the expense of professional assistance to fall on him.

The award of the referees, which has just been taken up, does not go quite so far as this, but determines that the bow does not fall within the provisions of the said Act, and that all the costs and expenses, so far as relate to the Office of Metropolitan Buildings, are to be paid by Mr. Badger.

We may hope that this award will have a salutary effect; it will be aided by a second, made by the referees, on a case heard at Lewisham on the same day as the preceding. This relates to repairing the chimney shafts of some houses at Hither Green. The owner had requested a builder to stop a leakage in

THE BUILDER.

one of the roofs, and make good the pointing. Upon examination, it was thought necessary to point the chimney shafts; and, according to the builder's statement, about a dozen bricks were replaced by new. The whole repair did not amount to 3*L*. The district surveyor seeing what had been done, remonstrated with the builder for not giving him notice, and, as a correspondent informs us, declared he would, in consequence, compel him to raise the chimney shafts, as they were not of the height required by schedule F; that is, not less than three feet above the highest part of the roof, flat, or gutter adjoining thereto.

The award of the referees, and it is one of considerable importance, is as follows :--

"That inasmuch as the repair in question was not a repair involving a structural alteration, the same was not liable to be raised to the height of three feet, according to the rule in schedule F of the said Act;

"And with regard to the costs and expenses attending this proceeding, they do further award that the same be *paid by the said Charles Robert Badger*; that is to say, as to the fees and expenses of the Office of Metropolitan Buildings, that on or before the 17th of May, inst., the sum of 2l. 6s. be paid to the Registrar of Metropolitan Buildings, at the said office, at No. 3, Trafalgar Square, London."

One word to the district surveyor on whom these expenses have fallen, and we say it from a sense of duty, prompted by no less than five statements now before us, and without any illnature, or desire to annoy. He is placed in his office to see an Act of Parliament carried out for the protection of the public, not to bring that Act into disesteem, and to induce evasion of it by uncalled for interference, or even by stringently enforcing the letter, rather than attending to its spirit; and we sincerely hope that he will take a fresh view of his position, and do nothing needlessly to render the office of district surveyor unpopular.

OUTSIDE WINDOW BLINDS .- Some of the district surveyors having considered that outside window blinds must be regarded as projections from face walls within the meaning of the Buildings Act, summoned the makers to remove their work. A meeting of muster window-blind makers was in consequence held, and they, finding great want of information as to whether they could proceed in finishing the various orders they had received, addressed a requisition to the referees setting forth this fact, and asking an award or certificate to enable them to follow their business without interruption or delay. They forwarded diagrams of the ordinary window blinds (known as Oriental, Florentine, Spanish, Hood-blind, Venetian-shade, and Shutter-blind), and the referees have certified that such window blinds "are not projections from face walls within the meaning of the Metropolitan Buildings Act, and do not come within the operation of the said Act."

PORTLAND TOWN CHUROH.—It has been proposed to erect a church to contain 1000 sittings in Portland Town, a district of the metropolis containing a population of at least 5,000, of whom the greater part are very poor. The cost of the site will be 1,700*L*, and the building is estimated at 6,500*L*, making a total of 8,200*L*. Towards defraying this amount Her Majesty's Commissioners have granted 500*L*, the Metropolis Churches Fund 1,500*L*, and subscriptions have been promised amounting to 2,440*L*, making up altogether the sum of 4,440*L*. For supplying the deficiency of 3,760*L* an appeal to the public has been made, and a subscription opened.

ON THE WALLS OF ANCIENT AND MODERN ROME.

241

BY THE REV. RICHARD BURGESS, B.D.*

WHEN I had the honour of attempting to describe and illustrate the aqueducts of ancient Rome, I remarked that there was some asso-ciation between those great works and the walls of the city. The first period of the ruin walls of the city. The first period of the ruin of Rome was marked by the partial destruction of the walls and aqueducts; the materials of the one served for constructing a fortress, while the other were falling before the de-structive engines of the Goths; and the breaches were subsequently repaired under the cars of Belisarius with the large peperine blocks of the Claudian arches. nounced my intention of making the walls a separate subject, beginning with those of Romulus and Remus, which perhaps never ex-isted, and ending with the Aurelian circuit, which existed too much for the theory of antiquaries. I thought it a desirable subject to learn how walls were made when arrows were instruments of war, without meaning, however, to illustrate that point by shooting with a long bow. I shall confine myself as nearly as possible within the limits of historical truth, and I hope I shall not violate too much your rules of architectural proportion.

Although walled or fenced cities reaching up to heaven are now of little use in modern tactics, they were of great importance in the time of ancient warfare. The huge masses of stone piled one upon another were a sufficient defence against the rude engines of attack, when brute force without skill aimed its blow upon the immoveable barrier. In very remote times, carrying us back to the days of Homer, at carrying us back to the unys of riomer, at least, walls of cities were reared of huge poly-hedric stones, uncut and unshapen, with the interstices filled up with small stones or broken pieces of flint, and this has received the name of Cyclopean. It is not properly Cyclopean construction, if there be any attempt at cutting or squaring the blocks. I have observed a specimen of this construction in the island of Cephalonia, where, in the walls of Cranii, I measured an irregular block of stone to be 13 feet 10 inches in length, and 6 feet 10 in depth. Another specimen is to be seen in the walls of Tyrins, at the extremity of the plain of Argos, where the huge stones are laid one Argos, where the huge shows are that one upon another without any attempt at cutting out the angles. The walls of Mycense, although containing similar specimens, are upon the whole an improvement: the interstices are sometimes removed by a slight linear adjustment of the blocks, and such a step in masonry destroys in part the character Cyclopean. The next step was angularity, and then came the construction which is properly speaking Hellenie, and this had prevailed in Etruria long before Romulus began to enclose the Palatine Hill at Rome. I cannot enter into a disquisition on the walls of antiquity generally, but if any of you are curious upon this subject you will do well to consult the atlas which belongs to Micali's work, entitled "L'Italia avanti il dominio dei Romani," published at Florence in 1821. Sir William Gell has also illustrated this subject with his usual accuracy and skill.

The most ancient buildings of Rome of which vestiges now remain, were of stone brought from Alba, commonly called peperine. This was used under the kings, as we see in the Cloace Maxima, and in the Mamertine prison built by Ancus Martius. It was of the same material that Servius Tullius built his walls, and Tarquin fortified his agger. We find it in the tomb of the Scipio, in the Temple of Piety, in the substructions of the Capitol, and in the aqueduets of the republic. But as this stone was not accessible to the Romans before the conquest of Alba under Tullius Hostilius, we cannot admit Romulus into the primitive society of free masons. If we may still adhere to the old story of that hero having surrounded the Palatine Hill with a wall, and made three gates to his new city, we can afford him very little material better than baked mud and pumice stone; and the innocent freak of poor Remus leaping over his brother's fortifications has thrown immortal contempt upon the walls of the founder of Rome. This may be altogether a subject too remote and too insignificant to claim your attention, but the descrip-

• The substance of this paper was read at the Institute of British Architects on the 19th inst.

tion of the walls of Roundos: and the position of his gates have employed the pens of learned antiquaries, and it has always been considered a cusus belli to decide whether Romulus made three gates or four.

To settle this difficult point Varro and Festus have left on record no less than eight names of gates, the very enumeration of which would cause serious alarm to this meeting, lest I should enter upon the etymology of them all, I shall, however, content myself with referring you to a plan of the eity of Rome as it was left by Romulus, that is to say, when to the Palatine the Capitoline Hill (taken from Tatius) was added, the space (afterwards the Roman Forum) being included within the walls. I need hardly add that of those walls wais. I need hardly add that di those wais every vestige had disappeared before we come to any authentic records of the city; and it is only for the sake of beginning and following out the successive enlargements of Rome that I have mentioned either Romulus or his forti-fications. The other hills of Rome are said to have here odded hy the encourted there to have been added by the successive kings, and when they had got to the number of seven they were surrounded by a continuous wall. The eastern side of the city being exposed to the Sabine territory, without the advantageous defence of a hill, was fortified by a high mound strengthened by etrong walls; and thus was the circuit, begun by Servius Tullius and ended by his successor, complete. This was Rome in her fullest extent during all the ages of the Republic; and although Pliny informs us that the suburbs of Rome extended for many miles in every direction, as so many additional towns, 'yet the city properly so called maintained its contracted circuit until the walls of Aprelian in the third century re-vealed the fatal secret that the mistress of nations required a defence of bricks and cement.

Of the old walls of Servius Tullius some vestiges are traced in the vineyard be-neath the Villa Barberini; they exhibit a regular good specimen of the Etruscan stone wall, regular square or oblong blocks of peperine, resembling much in gonstruction, though not in material, the walls of a neighbouring Etruscan city, which I consider one of the most interesting monuments of antiquity; I allude to the ancient Falerii, not far from Civita Castellana. A rough plan of the circuit of those walls almost intact. I have circuit of those walls almost intact, i nave found among my fugitive pieces. It is pos-sible that some remains of walls upon the Capitoline Hill may also be as ancient as the kings of Rome. Upon a part of the Tarpeian Rock we yet see a mass of wall standing, built of the same materials and masanry as those of the same materials and masonry as those vestiges of the walls of Servius Tullius to which I have alluded; but, as these might be construed into treasonable words if any learned Roman antiquary were to hear them, I will hasten to quit that peperine subject and bring you, through eight centuries, to plain bricks and cement.

In the time of Vespasian and Titus, Pliny measured the circuit of the old walls, which in many places were so blended with the build-ings of the city as to render it difficult to trace them. If Pliny's text has come down to us unscathed, he found the measurement to be about thirteen miles, and we hear no more of the walls of Rome until the time of the Emperor Aurelian. Before he began his expedition against the Queen of Palmyra, in the year 271, he thought it advisable to consult the senate, and take measures for preventing a repetition of the insults which the Goths, under the effeminate Gallienus, had offered to the majesty of Rome. Several authors of that time have dropped a few words respecting the new forti fications, but none, except Vopiscus, have told us to what extent the work was carried; and he has given us a measurement so incredible

that all critics have given it up in despair. The circuit of Aurelian's walla, says that respectable writer, was nearly fifty miles. No traces of a wall, corresponding to such a cir-cumference, have ever been found; and, if we must believe the text of Vopiscus, there is no way of explaining it but by measuring from Castra or Septio to another, which were one built, or planned to be built, at different points about the city. We leave, therefore, Aurelian, and his fifty miles of walls, to rival the new fortifications of our Gallican neighbours, which are probably destined to puzzle posterity as much as those of Aurelian now puzzle us.

Down to the reign of Arcadius and Honoriusthere is not another word to be found which relates to the walls of the city. The only historian of that period is the poet Claudian, who was born to chaunt the praises of Stilicho, and awake the muse once more ere Rome became a desert. Claudian tells us, in wellmeasured hexameter verse, that the new walls of Honorius gave a handsome face (pulchrum vultum) to the city; that more hills were added to the famous seven, and that flanking towers and lofty walls were got up with wonderful rapidity, in consequence of a threatened irrup-tion of the Getæ, a people from the north. Three inscriptions, of which two still exist and are legible, are a key to the poetry: they tell us, that at the suggestion of Stillecho, the great captain of the are the prefect of the great captain of the age, the prefect of the city, Longinianus, took upon him the care of rebuilding the walls, gates, and towers; and as this Longinianus held office in the sixth consulate of the Emperor Honorius, we get at the date of the present circuit of the walls of Rome on this side the Tiber, viz., about the year 403. The whole was got up in haste, and this may account for our finding, in the line of the walls, various edifices which appa-rently stood in the way, but which, to save time and materials, it was very convenient to enlist in the service. The present walls and gates, therefore, must be considered as pre-serving the limits drawn under the Emperors Arcadius and Honorius, subject, of course, to the repairs and alterations made by Belisarius and the Goths, and variegated, through at least ten centuries, with the patchwork of belligerent popes and engineering cardinals. But before I proceed to point out some specimens of construction varying in antiquity from the Augustan to the present age, let me finish my historical sketch of the circuit of Rome.

The dilapidations caused by the Goths and Vandals during the fifth century were made up by Theodoric in the year 500, and in 535 Beli-sarius entered Rome by the Porta Asinaria, while the Goths fled by the Porta Flaminia; at that time the gates were fourteen in num ber, and all made to open as portcullises. The general of Justinian fixed his head quarters on the Monte Pincio, to be near that side of the city which was the least defended. The ravages of Totila were more considerable, and when Belisarius returned a second time to rescue Rome from the hands of the barbarians, it cost him twenty-five days to fill up the breaches in the walls, and his handy-work still remains to be seen near the Lateran Church. The reign of the Lombards in Italy, from 566 to 774, placed the municipal arrangements of the city in the hands of the bishops. Sisinnius was the first of them who attempted to repair Sisinnius the walls; but little was done until towards the close of the eighth century. It was when the circuit of Rome was in this state (that is, in the first half of the ninth century), that a curious description of the walls was made by a swiss or German pilgrim, who appears to have been (for his day) a diligent observer and excellent scribe. He counted all the turres, propugnacula, posternæ, and neces-sariæ in the whole circuit of the walls as they then stord, the target man 222 the held. then stood: the towers were 383, the battle ments 7,020, the posterns 6, and the temples of Venus Cloacina 106. Butthis mediaval writer (generally known under the title of the anonymous of the ninth century) gives no de-scription of either form or materials : we are therefore left to find our way through near three centuries before we alight upon another date wherein to fix a specimen : an inscription of 1157, contemporary with Frederic Barbarossa, directs us to a now walled-up gate be-neath the Cælian Hill. But the thorough re-paration of the whole circuit, exclusive of the Vatican, was reserved for Pope Nicolas V.; and it is one of those historical coincidences which sometimes strike us in the vicissitudes of empire, that while the Turks were taking Constantinople and putting an end to the name and power of Imperial Rome, Nicolas V. was restoring the walls of the ancient mistress of the world, now transformed into a Papal city. The works of the popes who succeeded Nicolas V. were mainly on the Vatican side, and these I shall point out when we pass the Tiber. The works on the Monte Pincio, begun by Leo XII., are the most important of modern improvements connected with the walls of Rome.

through which those walls have passed; T propose to offer some description. It will not be easy to captivate either the eye or ear by a e description of bricks and mortar ; and me in order to have rendered the subject at all in-teresting, I ought to have pressed into the service of this conversazione as many pencils as there are towers enumerated by the anony-mous of the ninth century. The interest of thesubject for this institute, at least, lies chiefly in exhibiting brick and stone work of every age, from Servius Tullius the king, to Gre-gory the pope. I must content myself with offering you but a few specimens, as they occur in the circuit which we will now make to-gether, beginning at the Porta del Popola. By this arrangement we shall gain in coavenience what we lose in chronological order: by taking the specimens as they come in the circuit we shall have to pass from popes to emperors and back again without breathing, but it will be easy when we have made our round to adjust the whole in the order, of time.

Between the Tiber and the Porta del Popolo occurs the first specimen of the work of Nicolas V., made in the year 1452: the construction is of thin bricks, mixed with irregular pieces of tufo; and this is all the description I intend to offer of the reparations made by that pontiff, which chiefly exist on the north east side of the city : the Porta del Popolo and itself, substituted to the ancient Flaminia, exhibits in its external elevation the genius of the celebrated Vignola in 1561; but the two square towers which flank the entrance were erected nearly 100 years earlier: the ancient gate stood in the time of Justinian further up the declivity of the Pincian Hill; and the Flaminian Way, by which Rome was approached from the north, passed more immediately under the broken rock on which now the Villa the broken rock on which now the Villa Poniatowska stands; but, leaving the gate by which our modern pilgrims now enter Rome, now defended by the Dogana Pontificia, we come upon a piece of wall built of small blocks of red tufo, probably the work of Ladislaus, king of Naples, in 1408. I mention it, because it is a peculiar style of con-struction called the "Saracenic:" it is so called from the circumstance of its being first adepted at the period when the Saracens pol-luted the Lavinian shores, and turned the basilica of St. Peter into a stable, in the early part of the ninth century. Why the builders of walls should have adopted blocks of red tufo on such an occasion, we cannot tell, unless that was the only method they could devise of representing a Saracen's head; in [which case the surpassing device of London city is manifest in that splendid portrait, which will be familiar to all who are yet reduced to travel by stage-coaches; but the "opus Saracenicum" holds a conspicuous place in the walls of the Papal city, and in the vocabulary of Roman antiquaries.

The next object which occurs in our circuit The next object which occurs in our circuit forms a peculiar feature in the walls. The north angle of the Monte Pincio is built up by a mass of "opus reticulatum," which needs no description, because of its well-known con-struction. Procopius describes this portion of the walls of Rome just as it is at this day, and no one doubts that it was originally built for the purpose of sustaining the Collis Hortorum where the gardens of the Domitian family were, and in which Nero was buried. Belisa-ius observing the same aleft and inclination rius observing the same cleft and inclination which is now to be seen in this immense mass of tufo work, and which gives it the name of Muro Torto, was afraid it would be insufficient to sustain the assaults of the besiegers, and he proposed to pull it down, and rebuild that por-tion of the walls; but the Romans assured him that St. Peter had promised them to take that quarter under his special charge; and the opinion was worth several hundred men to the Roman general; for, during the whole siege, the Goths, even in their nightly attempts to scale the walls, never came near the Muro Torto. We must assign a date as early as the 1 orto. We must assign a date as early as the year 40 A.D. to those vast substructions of the Domitian gardens. The general features of the Roman walls are a plain curtain of brick, with square towers of like materials, projecting from the line at intervals of 100 feet; some of the towers, however, are round. We do not get the original work of Honorius alls of Rome. After this brief account of the changes garden of the Villa Medici. ... One tower rising

from a foundation of tufo, ends in a summerhonse; another finishes in an artist's studio; a third is made of basalt-lava work of the a third is made of basalt-lava work of the twelfth century; but when we get to the fifteenth tower, reckoning from the Muro Torto, we see the greater regularity of the brick-work belonging to the decline of the empire of the west. The only difference in the works of Belisarius is, that there is greater thickness of cement. This appears to be the distinguishing feature in the ancient laterities works of the Romans. In the best age, viz., that of Nero, as may be seen in the arches of his aqueduct, the cement is so thin as only to be discernible like a pencil line drawn between the bricks; but as we advance drawn between the bricks ; but as we advance it becomes more visible between the courses, antil, at last, we get it nearly of the same thickness as the bricks themselves. This might, I think, be accounted for by an analysis of the cement at different periods, where the defects of the sand, whether fluviatic or marine, were more difficult to correct; but this would be a digression from our immediate subject, and I shall not think it necessary to recur to it. The works of Belisarius may be recur to it. The works of Belisarius may be considered as the most genuine, in the neigh-bourhood of the gate which led to his own residence on the Monte Pincio, but which is now closed. A profound silence reigns under the "lofty walls of Rome" here, and the melan-choly interest which tradition has thrown around this gate (still remaining with its portcullis and its Greek cross in a discus upon the key-stone of the arch) makes one linger in the solitude. It was here where the veteran warrior, fallen from the height of his glory and the imperial favour, sat and held out his hand to the passengers, as they entered the scene of his former splendour, and accompanied the humiliating act with " Date obolum Belisario." may be a fiction, but the spirit of it has atory foundation in some truth; for the hero who twice recovered Rome and Africa from the Goths and Vandals died neglected in a land of exile, and two places on the Bosphorus and Chalcedonia shores respectively contend for the glory and the shame of his last sojourning. If is in this way that much abstract truth is embodied in fiction, not only in poetry and romance, but in art and in architecture; and it only becomes hurtful when thus conveyed in religious worship. It was an ingenious device of the two Spartan architects who erected the magnificent Portico of Octavia at Rome, and only asked as a reward that they might have their names inserted in the inscription,—an honour which was refused;—I mean the inserting in the columns the ornaments of lizards and frogs, which carried down to posterity the fame of Saurus and Batrachus as effectually as if the historians had recorded their names. The sculpture which fills the tympanum of our Royal Exchange, though fiction, might convey the truth to other generations in the absence of historical records, that the commerce of Great Britain was then opened with China and ex-tended to every part of the world. It may be worth a thought, Gentlemen, among you who are engaged in immortalizing the age in which you live, to see how you can convey to posterity, by means of art, the characteristics of a period of our history more brilliant than ever existed

"when Rome was free." But I am forgetting my walle, or rather running my head against one of my own erecting. The Pretorian Camp, which was not dismantled until the age of Constantine, stood conveniently for the purposes of Stillcho stood convenently for the purposes of Stilicho and the Prefect Longinianus, and it was there-fore adopted as a defence for that portion of the east side of Rome. It was originally built by Tiberius, and therefore presents us with a specimen of brickwork of eighteen centuries standing. The circuit of it as now forming the walls measures 5,400 feet; in several places the original work has been patched up with farge stones, not improbably by Belisarius, or Narses the eunuch. Several popes have mingled their contributions, and thus made an heterogeneous mass: but amidst it all the practised eye easily discerns the clussical age of Augustus and the Cæsars. To mark the varied constructions and repairs of different ages, as they occur in the curtains and towers, would only be a wearisome repetition of bricks, selce, lava, tufo, and blocks of stone and marble, stolen, as occasion required, from the meighbouring tombs. I shall, therefore, pass on to the Porta San Lorenzo, where the inTHE BUILDER.

scription of Honorius is to be still read, and which, therefore, fixes the certainty of the period when those walls were made. I shall go on to the Porta Maggiore, which has already been described by me when I treated of the aqueducts, and, leaving that gate to continue our circuit, we find another curious ex-pedient for inclosing the city. The arches of the Claudian aqueduct are closed up, and adopted as the wall for a length of 1,200 feet, and then, quitting the direction, we begin again with the general aspect of Honorius' walls. The many breaches which in successive ages have been repaired between the squeduct and Santa Croce, perhaps shew where the King of Naples in 1408 made his impressions upon Rome and the cardinals; but the next object we get into our circuit is the outer wall of half an amphitheatre. Its elevation consits of arches supported by half-columns of the Corinthian order surmounted by a second row of pilasters, all of brick; and the walling up of the arches is easily distinguished from the original work. The period of the building may be dated as far back as 211 A.D., and the great object for which this amphitheatre was built accords with the policy of Caracalla: it was to afford the favourite recreations of the Romans to the Dentering quark with the degree of Prætorian guards, without the dangerous ex-periment of their mingling with the people; and it was therefore called the Amphitheatrum Cartrense. In passing from this to the Lateran Gate, we descend gently past the walled-up Porta Asinaria, which figured so conspicuously in the conflicts of Belisarius with Vetiges and In the condicts of Belisarius with Vetiges and Totila: many a struggle was here sustained by the besieged when the Roman general repulsed the foe and appeared to his soldiers to be every where present at the same time. The walls still tell the history of those battles: a large piece is built up of peperine stones, and upon comparing them we find they have been taken from the neighbouring acceduct and taken from the neighbouring squeduct; and here we have unquestionably a specimen of the repairs of Belisarius, that is to say, the irregular-built wall, as we now see it, here stood for thirteen centurics. I have mentioned the Porta Metionis, which is now no longer used, because we have an undoubted specimen of work in the middle of the twelfth century: the inscription upon it bears date 1157.

The Porta Latina, now closed, and the Porta San Sebastiano, leading on the Via Porta San Sebastiano, leading on the Via Appis, would tempt me to detain you with some observations; but I have not forgotten my pledge, that this paper should be of ordi-nary length. I shall therefore make a sweep-ing curve, and a sweeping assertion at the same time, that there is nothing remarkable in the walls from the Porta Metionis until we come to the Bastion di San Gallo. This is the carliest specimen of modern fortification where we see the upright plain wall, with the spertures for missiles, giving place to the pro-jecting masses, to resist the thunder bolts of war; and the apertures made to receive those more convenient implements called cannons. war; more convenient implements called cannons. Pope Paul III. employed the celebrated San Gallo to erect this bastion. It is an object of great curiosity to engineers, on account of its being the earliest example of fortifications suited for a modern siege; it is now, however, fast falling into decay, and the resources of the papal states, in the present financial emergency, are not adequate to prevent its final ruin. It stands in the old line of walls, like a polished officer in a row of old-fashioned dowagers, where the one uses powder and shot, and the other arrows without points; it is a curious contrast, and takes us at once from the war-fare of the sixth, to the tactics of the nineteenth century. The rest of the walls, to the Porta century. The rest of the walls, to the Porta Ostiensis, is composed of towers and curtains, the patchwork of all ages. And here, again, Ladislaus must be blamed for the irregulari-ties: he, like Totila, entored Rome by the Porta Ostiensis, and there was little to choose between the two visits of the Vandal and the between the two visits of the Vandal and the Christian. "Besieging Rome by land and by water," says Gibbon, "he thrice entered the gates as a barbarian conqueror; profaned the altars, violated the virgins, pillaged the mer-chants, performed his devotions at St. Peter's, and left a gurrison in the castle of St. Angelo." We now include in the walls, the pyramid of Caius Certios, at the foot of which, within, are the graves of our countrument and we are the graves of our countrymen; and we reach the Tiber, after having made a circuit of eight English miles. The Transtyberian region now only remains for our consideration;

but, as imperial Rome had but little to do beyond the Tiber, the whole being comprised in one of its fourteen wards, we must consider the circuit we have made as comprising the magnitude of ancient Rome. From documents of the fourth century we learn that in all the wards or districts there were 46,000 of those places called Insulæ, which meanta large building isolated from others, and inhabited by the common people. There were also 1800 and upwards of Domus, or houses of the rich; and upwards of Domus, or nouses of the rich; and making every allowance for the population, the barracks or stationes, I cannot make out that ancient Rome could possibly contain more than 1,104,000 souls. That is to say, the population of ancient Rome never reached that of our own mattenatis that of our own metropolis.

The walls of Honorius were carried beyond The walls of Honorius were carried beyond the Tiber, so as to include that part of the Janiculum called Mons Aureus, or Montorio; and they still exist, though no longer serving the purpose for which they were originally made. The rest of the walls which are to occupy our attention are Papal, and possess a greater historical interest than the more a greater historical internation and by the loss of Pope Sergius, and by the pro-fanation and plunder of St. Peter's by the Saracens, that [Leo IV. was elected by the nefarious Saracens (says a writer of that day) in returning to Africa laden with their sacrilegious spoils, were averwhelmed in the sca by the intervention of St. Peter and Benedict; but this circumstance did not prevent the new pontiff from taking earthly precautions against a return of those fierce invaders. He set about repairing the walls of Honorius in one direction: but his main object was to secure the Shrine of St. Peter from the profane hands of those enemies; he therefore fortified that part of the Vatican Mount which rises that part of the Yalican Mount which rises behind the Basilica, and his walls and towers still remain, though now enclosed within the more ample circuit of Pius IV. The activity of Leo IV is the admiration of his bio-grapher. The pontifion horseback, and some-times on foot, went round the walls to encourage and promote the works; be found fifteen towers in the circuit entirely destroyed, which he renewed; two of them were near the river, and which were so arranged with a chain drawn and which we so arranged with a chain that with a cross that no vessel could pass, and it was done, says the admiring biographer, "cum magna supientia et subtili prudentia." He began the walls round the Basilica in the began the walls round the Basilica in the second, and finished them in the sixth year of his pontificate. The Emperor Lothaire sent a large som of money; the monasteries, cities, and municipalities within the pontifical do-minion each gave a subscription to build the walls; and, when they were finished, the space enclosed was called the Leonine City. The consecution was done with great power and at enclosed was called the Leonine City. The consecration was done with great pomp, and at each of the three gates the procession stopped until holy water was sprinkled, and each put under the protection of a saint. The walls were built of tufo, of which I have a spe-cimen; and the tower called the Torre dei Venti, rising above the heights of the Papal gardens, is still one of the most picturesque objects of modern Rome. The space enclosed by the Leonine walls is in shape quadritangal, and in circuit about two miles; they under-went repairs in 1370 and 1452, but they were rendered useless as walls by Pius IV., who made a large addition to the Papal city in 1560. Beginning at the Fort St. Angelo, he erected all those fortifications which now ex-tend to Porta San Spirito. The line of his walls tend to Porta San Spirito. The line of his walls in one part nearly coincide with the Leonine, and in two places they come in contact. The next addition was made by Barberini Pope Urban VIII., now two centuries ago. The Urban walls enclose all the rest of the ancient Janiculum, but they afford but little matter for description.

We have then three distinct cities of the pope's besides the diffinal space enclosed by the Emperor Honorins, and if we now adjust our works in some chromological order, we shall have a long range of about 24 centuries

- shall have a long range of about 24 centur for our practice: The Mamartine prison A.c. 630 The remains of the walls of Ser-vius Tullius, as observed in the Villa Barbarine A.c. 520 The Tabularium..... A.c. 26 Prætorian camp..... A.D. 30 Claudian aqueduct..... A.D. 44

| Amphitheatrum Cartense | A.D. 211 |
|-----------------------------|---------------------------|
| Honorius' work | |
| Beliserius | |
| Narses the Eunuch | A.D. 552 |
| Leonine walls | A.D. 847 |
| Porta Metrones | A.D. 1157 |
| Ladislaus' reparation | A.D. 1408 |
| P. Nicolas V. | A.D. 1452 |
| Sextus IV | A.D. 1471 |
| Pius IV. | а.д. 1560 |
| Urban VIII. | A.D. 1630 |
| Benedict XIV. | а. д. 1750 |
| Clement XIV. | м. <i>д</i> . 1770 |
| Pius VII. | л.д. 1821 |
| Leo XII. Monte Pincio works | ▲. Ď. 1828 |

If to the eight miles of circuit already given for the walls on the left bank of the Tiber, we add five for those beyond, it will make the whole circumference of Rome as it now is about thirteen Roman miles. The space enclosed has not above one-third of it populated; so that this ample city, capable of holding a million, remains for the convenience of about 160,000 souls : the walls are now of the same use as our coast guard, -- viz. to prevent the con-traband commerce of free-traders. In many places, however, they present a picturesque effect, and they are of use in rendering Rome an object of interest to the historian and the artist. There is yet room for an illustration of the Roman walls as they now exist, by shewing in chronological order the work of different ages; and with but few exceptions, we might find a specimen for each century. But such illustration requires the pencil rather than the pen, which would only be required to put the date beneath each drawing, and perhaps add a page of text for the sake of Belisarius. I know of no other use to which we can now put the walls which have cost emperors so much anxiety, and popes such a store of prudence. The city is not well off whi ch must needs be defended by walls and fortifications. Schrapnel and Congreve would have astonished Stilicho and the prefect Longinianus; and perhaps some "long range" has yet to be invented which will bring to the ground the firmest fortress. The walls of a city are now best built of good laws, and na-tional freedom, cemented with good will towards foreign or hostile nations; but if any others are wanting, we may be content with those old wooden ones which have served the purpose since the days of Queen Elizabeth. Commerce is the mighty engine which batters down walls; whether reared in the shape of national prejudice, or custom-house regulations : even the great wall of China promises to give way under the silent action of this civil battery. But Rome must be an exception to all such ruinous speculations: let her remain, I pray you, ye free-traders, as an old picture hung upon a wall, which, if you attempt to remove, will bring a cloud of ancient dust into your eyes, and antiquaries will haunt your slumbers. I know that opinions vary upon your eyes, I know that opinions vary upon slumbers. I know that opinions vary upon the mode of defending a city, or preserv-ing an empire; and Gregory XVI. has just refused his consent to a railway run through the woods of Laurentum, by Appil Forum, and the Three Taverns. That is his mode of and the Three Taverns. That is his mode of keeping out those Gothic invasions, which cost Belisarius so many stones out of the Claudian aqueduct. Our martial neighbours, not averse to frequency of intercourse, still are of opinion that brick walls are needed to defend their great metropolis, and the lines are now being drawn at an expense of countless millions. Mr. Polk thinks there is magic in the boundary of the Oregon territory to be a defence for the United States; the honest Swiss confides in walls reared by nature herself, and, safe behind their mighty barriers, claims his right to quarrel with their limits. But we are beginning to think that the sole defence of a kingdom is a tariff without duties, and the wall of defence a tax upon income that is of gold and silver. Perhaps I, and a few others, may think that there is nothing for national defence like the walls of our Zion, and the towers thereof; the circumvallation of our Christianity, and the defence of our national church !

ON THE ART OF CONSTRUCTION IN BRICKWORK.

It must be manifest to those persons who have made the constructive arts their study and profession, and therefore are conversant with the art of bricklaying, how greatly its quality has deteriorated within their me-mory. The style and character of brickwork executed now-a-days, compared with that executed formerly, are totally diffe-rent. Very few modern structures, executed in brick, can compete with the neat and sound workmanship of buildings erected some hundred or two hundred years since; and it would appear that the debasement of the art of bricklaying has taken place simultaneously with the introduction of Roman cement, and the taste or necessity of architects and builders in applying it to the covering of walls. Among very many modern architects and builders rough and uneven brick work is regarded only as the most fitting and efficient groundwork for architectural embellishments; and the coarser it be executed the better, as then there is no necessity for backing and chipping the surfaces of walls in order to obtain a key for the adhesion of the *stuff*. The almost general practice of covering the exteriors of new walls with cement, so as to give them the appearance of stonework, has had a considerable tendency towards depreciating the general excellence of brickwork, as it has led to the execution of hurried, coarse, and unsound work. The cross-joints are commonly struck up for scarcely more than an inch back from the faces of the walls, and, in consequence, the interstices between the bricks of each course are usually left unfilled with mortar. The walls, therefore, are raised half-hollow and honey-combed; thus presenting an interesting but bewildering labyrinth for the passage of mice from the extremity of one wall to that of another.

The majority of the buildings which are now being erected, are built on speculation and competition; and, in order to obtain a great return for the outlay of their capital, it is the interest as well as the invariable practice of speculators to get them run up cheaply, and completed as quickly as possible, for the purpose of letting them, or getting them into the market, and so off their hands. Much of the bad qualities and unsoundness of brickwork, and the carelessness of workmen, is to be attributed to this system. The workmen, from knowing that their work is to be hidden with cement, take little or no pains in its execution; and, from being scarcely ever employed on any other kind of work, it leads them to habitual carelessness in the disposition of the bond; and they also become inat-tentive to the performance of their general work. Indeed, how is it possible, after this manner, that bricklayers, and young ones more particularly, can ever become accomplished workmen, seeing that during the last halfcentury, and more especially during the last ten years, they have not been exercised in close, and proper ornamental work, but neat have been called upon to execute scarcely any thing else than that of the meanest and coarsest description? Care and attention are seldom paid to the general quality of brickwork, and the strength and durability of structures are hardly considered. The whole of the atten-tion that is evinced appears to be directed towards the production of architectural show and effect on the exterior surfaces, and ornaments and small cornices are very often stuck upon a cradling of nails, which are driven into the walls with twine woven between them.

The fashion of late years of dressing up the doorways, windows, cornices, &c. of buildings with cement, and leaving the plain brick surfaces exposed, has also led to a prevalent system of carrying up those surfaces in a rough and uneven manner, for the purpose of being tuck-pointed afterwards. In the execution of all rough brickwork workmen do not evince that pains which they would do, provided it were required to be performed in a neat, clean, and regular manner; and thus, what would appear to be gained in present effect is sacrificed in quality and durability. These surfaces, therefore, should always be finished as the work proceeds, and afterwards protected from the cement dirt. The bricks at those parts should be laid evenly and uniformly, and

* Sec p. 218 ante,

with fine, neat, and parallel joints, of regular thicknesses, struck straight and flush with the surfaces of the walls; and the *perpends*, or alternate cross-joints, should be regulated vertically over one another throughout the whole height. The practice of carrying up the brickwork roughly, for the purpose of being tuck-pointed afterwards, is very often of more advantage to the bricklayer, when he has con-tracted for its execution, than if the joints were neatly struck and the work finished as it proceeds; for, whether the joints of the brickwork are to be left rough, or struck, it is very seldom any distinction is made in the labour prices of either. Tuck-pointing of new work is only an inducement for the bricklayer to perform rough and unsound brickwork. Any irregularities in the vertical direction of the cross-Any joints can be stopped, and false ones made on the bricks in order to correspond with those above or below them; in fact, all the visible faults and multitude of sins in its execution can be smothered, hidden, and dandied up by pointing. An extra price at per foot superficial ia allowed (besides the price of the brickwork) for the pointing ; whereas if this extra price were given for laying the bricks on the out-sides in a proper and even manner, the per-pends strictly kept, and the joints made fine and neat, struck clean, and their ragged edges cut off and picked out, much superior and effective work, and of far greater strength and durability, would be the result. By this method the work would not only look much better, but would retain its character for a considerable number of years afterwards. A beautiful old specimen of the kind of work the author means, may be seen in the Temple, facing the gardens.

It is perfectly notorious that the approved methods of execution which constitute ex-cellence in the workmanship, both of the outer appearance of brickwork, and in the proper disposition and arrangement of the component materials of walls, are scarcely to be obtained without much watching and scrutiny, as well as by a great deal of trouble and anxiety. It would appear, therefore, from the influence of many concurrent debasing causes, that the age of executing close, clean, neat, and good sound brickwork has passed away, its decline being considerably as-sisted by the recent, as well as the continued speculative building mania; and even under the fostering care of the new Building Act, what is termed good and durable brickwork is a mere subterfuge and a farce. The violent haste with which buildings have recently been and are now being run up, and the slovenly and scandalous manner in which brickwork has been, and is still being performed, are causes which not only tend to depreciate still more, if possible, the excellence of workmanship, but at the same time tend to create on the part of workmen a disposition to carelessness in the general routine of execution ; and also reduce their moral character ; as from these habits they are continually on the alert, when not properly looked after and watched, to heap up improperly bonded and irregular masses of deception, and, in consequence, no dependence can be placed in them or their performances; works, therefore, are sometimes brought to premature decay and ruin, and the character of respectable persons is liable to be in-jured by such lamentable and disgraceful practices. The materials of a vast majo-rity of buildings already reared, and even many of those now under execution, are jumbled together; and the arrangements of the pressures formed contrary to all static principles. The medley is in such a disordered state, that attention to the proper disposition of bond, and the necessary rules and guidance in carrying up the work, would appear not to have been considered, and, in consequence, uniform gravitation, and equal solidity of the walls, are thrown entirely out of the question ; and thus many portions of them, especially the parts over apertures, are split, rent, and cracked in all possible directions. The bind-ing and adhesive properties of the mortar and the solidity and compactness of the walls are, from the numerous fractures, altogether destroyed, and are thus rendered tottering and insecure.

Instead of a whole or united support being obtained, by a proper arrangement and combination of the materials, scarcely a wall is built now, in which great numbers of bats are not seen huddled together, and here and there,

TERRA COTTA.- A statue of Sir John Crosby, executed by Mr. Nixon in this mateabout to be placed in front of Croshyrial, is Hall Literary Institution, Bishopsgate-street. We understand the artist has taken for his model the figure from the altar tomb of Croeby, in St. Helen's church, hard by.

throughout the base arrangements, two, four, six, and even more upright joints are seen, directly over one another, and the walls built up in an indirect and out-of-perpendicular direction, as may be observed in many modern streets by scanning the faces of the walls. And not only is very little attention paid to the arrangement of bricks in walls, but they are sometimes laid in a composition of mud, or vegetable mould, mixed with a small quantity of lime, and drowned with water; and the bricks are laid in this conglomeration, with great, staring, irregular joints, sometimes half an inch, inch, and more in thickness. It is impossible that the outer walls of buildings, carried up with this stuff, can ever become perfectly dry, or remain so but for a very short time, as the action of the atmosphere will be continually includes the joints away; and it also readily imbibes and retains moisture from rain, &c., as such a mixture is always of a soft and spongy character. With reference to the bond of brickwork,

most bricklayers feel unconcerned, and scarcely evince any interest or take any pains about it; indeed, at the present time, such is the spathy of bricklayers that a vast majority of them are totally unacquainted with its properties—of the manner in which bricks should be disposed and arranged so as to obtain the greatest amount of strength, and that the walls may thus afford the atmost resistance both to transverse and longitudinal pressures. And this is very re-markable, when it is considered that bricklayers markable, when it is considered that bricklayers are constantly laying of bricks, and are thus con-tinually observing their arrangements. But it is well known that invariably they evince the utmost degree of carelessness in this all-im-portant particular. Experience has very often proved to us these facts that while your model proved to us these facts, that whilst young workmen have been kept constantly upon the performance of the coarsest and meanest of work. they never evinced the slightest disposition to improve themselves in the execution of their work, which was slways inferior and badly done; and no advice to act otherwise would induce them to alter their proceedings. But immediately that they were placed upon superior descriptions of work, and some little pains were taken to instruct them in it, it was remarkable to observe with what avidity it was received, and how very soon they improved in their manner of execution, and afterwards performed their general work better and neater. All who have had experience in building, know full well the trouble and anxiety that are usually caused in the selection of good, wellusually caused in the selection of good, well-informed, and qualified workmen, fit for the execution of particular kinds of work in the art of bricklaying; in whom trust and confi-dence can be placed to execute work neatly, soundly, and regularly. The workmen's want of attention, and just appreciation of the paramount importance of the quality and mondpass of their work are well known: and soundness of their work, are well known; and the responsibility which they not only subject themselves to, but their employers as well, ought to deter them from attempting hasty, bad, and improper work of any kind for any neglect or false arrangement is almost sure, sooner or later, to be found out, and the consequences of such neglect may be attended with serious disasters and expense. Failures are of common occurrence, and many of these cannot be attributed otherwise than to slovenly, improper, and inefficient execution, and to the ignorance of superintendents of workmen. Sometimes the carelessness and habitual inattention of workmen, both to the orders given to them and the general manner of executing their work, are the cause of failures. This their work, are the cause of failures. state of things is to be deplored, and it behoves all who have any influence over the execution of works to aid and assist in having it per-formed at all times in a neat and sound manner; no matter where or in what position it may be situated. Works that are placed underground require more attention to these particulars than those which are placed on the surface, in order Works, to ensure their stability and success. therefore, of any magnitude, or where responsibility is involved, require in all cases to be strictly attended to and watched; and the performances of workmen should be placed under constant supervision as they proceed. Good, sound, and regular bond, and neat,

close, and clean workmanship, are the leading points to be observed by workmen in raising brick walls. The nature and properties of the materials used in the manufacture of bricks

and in the composition of mortar are of that resisting or silicious quality-when the bricks are properly made and burned, and the ingredients of the mortar are proportionably and properly mixed together—that time and atmospheric influences will but very slightly affect or impair them; indeed, Pliny says, if he be considered as an oracle in the matter, that bricks which well burned, nard, and of good quality, are will last for ever. Then, as good materials can be procured, bad work should not stand in the way of so desirable an acquisition,—of handing our works down to posterity; and all parties, but more particularly workmen, ought to keep this always in view, namely, that good, sound, well-bonded work and sound inate-rials will last for ages. The practical operations of executing brickwork are usually left to the supervision of a foreman of bricklayers, who ought to be a well-informed and an accomplished workman; and he should understand the nature and properties of the ma-terials he is using—of brick-bond—of the general arts of construction, and of the principles of statics. During the supervision of his men he should endeavour to make them perform their work, at all times and in all cases, in a neat and sound manner; for then, not only will he bring credit to his employers, but to himself likewise; and he will stand a chance of being encouraged, and of rising in the world.

It is highly essential to the exterior appearance, s well as to the soundness, good workmanship, and durability of all vertical and direct walls, that every brick should be laid horizontally, perpendicularly, and straight with the outer face. In the cases of curved walls and arches, pains should be taken to lay the bricks tangentially to the curves, that is, the middles of the faces of each course of bricks next the faces of the walls, or next the centres, should be laid per-pendicularly to the extremities of the radii of all those points; and in battering walls, the bricks should be laid with their beds at right-angles to the faces of the batterings. In all cases it is extremely desirable that the outer faces of all kinds of walls and the soffits (undersides) of arches should be made as even, smooth, and uniform, as possible; which are the principal points to be attended to for the purpose of warding off and preventing the penetration and action of the weather upon the purp them.

The production of beauty in the plain surfaces of walls is mainly dependent upon the symmetry of their parts; and a more pleasing effect may be produced by neat, well-executed brickwork, than with irregular-sized stones. Succession and uniformity in the disposition of bricks arrest the attention, and impress the imagination; for, when the eye wanders over and traces the successive pyramidal and vertical directions of the perpends without any interruption, the whole uniformity creates an excitement and produces a pleasing and lasting effect; but when the succession is in-terrupted, or any irregularities are observable, the sense of beauty and effect is directly marred and checked. Perpendicularity, and marred and checked. Perpendicularity, and absolute uniformity of disposition, then, should be the constant aim of the workmen in the arrangement and execution of brickwork. It is, therefore, of the utmost importance in the production of neatness, uniformity, and excel-lence in brickwork, that in the building of all kinds of brick-walls and arches the vertical joints or perpends should be preserved and scrupulously attended to, or, in other words, that the crossjoints of the alternate recurring courses of bricks should be kept straight, so as to corre-spond, and fall perpendicularly over those eneath. This important process in the art of beneath. This important process in the art of bricklaying is, we are sorry to say, very seldom considered by workmen; hence the almost universal waving, and dissimilar direction of the cross-joints: and here we cannot too deeply impress upon the oricklayer, that, not only is a beautiful effect produced by paying particular attention to this important particu-ar during the actual expectation but transverse lar during the actual execution, but transverse and longitudinal ties, which produce strength and durability to walls, are also dependent upon its observance. The proper arrangements and disposition of bond are nearly destroyed when the perpends are neglected ; and we are perfectly aware that irregularities, both in the widths and lengths of most common bricks, render attention to this truly irksome, or, indeed, scarcely possible; but still, when work-

men take pains in the execution of their work, these little minor difficulties can be easily overcome, and are made to vanish by proper regulations in the thickness of the cross-joints, and during execution by selecting bricks of approximating widths and lengths. JOHN PHILLIPS.

OBJECTORS TO THE CAMDEN SOCIETY.

THE determination of the general meeting reported in our last number has proved unsatisfactory to a large number of the members. A document containing the following passages has received the signature of a large number of influential persons, and is now in circulation among the resident graduates of the uni-

no alteration in the laws to which we think it necessary now to advert, except that the law requiring periodical meetings at Cambridge , should be abrogated. But whilst this change would not meet the objections which the committee had themselves avowed to exist against the society, it would throw the whole management of the society's affairs more exclusively than before into the hands of the committee. Added to this, the committee, with the majority of the society present, evinced their determination to continue to act upon the same principles, and to pursue the same course of operations which had deprived the society of its ecclesiastical and academic patrons: and, as an earnest of the spirit in which that majority are prepared to act, all suggestions for any material change in the executive of the society were rejected.

Thus the executive of the society remain-ing virtually unchanged, and being supported by a majority in the determination to maintain a position which we consider still to be pregnant with evil, and alike disrespectful to the authorities of the church and university, we deem our longer connection with the society inconsistent with the respect which we owe to both these bodies. At the same time we disap-prove of the spirit which has of late guided the society's proceedings, and which will avowedly influence them in future, as slien from the objects for which the society was originally founded. We have, therefore, determined to withdraw from the society." We have received several very strong

very strong letters on the subject, urging that the Protes tant members of the society should at once form another society for the study and improve-ment of church architecture alone. An influential resident member writes us, what must be evident to all, that under the present executive the Cambridge Camden will continue to be a polemical association.

ART-UNION OF LONDON.

LIST OF THE PRINCIPAL PICTURES SELECTED BY PRIZEHOLDERS, TO MAY 21ST.

LIST OF THE PRINCIPAL PICTURES SELECTED BY PRIZEHOLDERS, TO MAY 21ST. The Origin of the Guelph and Ghibeline Quarrel, by A. Elmore, price 2621. 10s.; Jews lamenting over the Ruins of Jerusalem, M. Claxton, 2001.; the Parting of Sir Thomas Moore from his daughter, S. A. Hart, 3001.; a Stone Quarry, F. R. Lee, 1261.; the Greeting, Witherington, 1501.; View near Ournelo Cas-trada, W. Leitch, 1001.; the Guagers are Coming! J. P. Philips, 1501.; Sunshine and Showers, F. R. Lee, 632.; the Song of Olden Time, J. C. Hook, 801.; One of the Propa-ganda Fide, S. A. Hart, 841.; Mill Ford, Devonshire, F. R. Lee, 1001.; the Stranger in-quiring his Way of a Hungarian Goatherd, Zeitter, 1001.; Landscape and Cattle, E. Wil-liams, 401.; a Summer's Evening on the Beach, Hastings, A. Clint, 841.; Scone from Peveril of the Peak, Solomon, G31.; Entrance to New-haven, A. Clint, 701.; Pedlars' Camp, W. Shayer, 841.; the Market Cart, F. R. Lee, 1001.; the Happy Italian Boy, G. Stevens, 601.; the Departure for Battle, J. E. Collins, 651. 5s.; the Island of St. Giulio, G. E. Hering, 601.; Bacchante and Bacchanal, W. Salter, 853.; Bianca and Lucentio, Wehnert, 601.; Cross-ing the Ford, A. E. Jeffray, 501.; River Nid, near Knaresboro', H. Jutsum, 501.; Fortune-Telling, E. D. Lealey, 601.; the Gipsies' Re-treat, W. Shayer, 471. 5s.; Amoret and Prince Arthur in the Cottage of Sclaunder, F. R. Pickersgill, 501.; Shady Lane, Summer, F. R. Lee, 604.

THE BRITISH ARCH & OLOGICAL ASSOCIATION.

THE committee appointed at a special general meeting, held on Wednesday, March 5th, have published the first number of their Journal, consisting of eighty-six pages of letterpress and forty-four illustrations.* It is prefaced by a very temperate and ingenuous statement of the events which led to the recent and greatlyto-be-regretted disagreements, and contains much interesting antiquarian information. On this statement we do not intend to enter; our readers are already acquainted with all the facts of the matter, and our own general opinion. We cannot, however, avoid saying, that the case of the appealing party—the party whose journal is now before us—has been greatly advanced in the minds of many who have not yet interfered, by the gradual explosion of certain *charges*, prejudicial to the reputation of individuals, which have been industriously circuculated by unwise opponents. The high character of Mr. Corner, and the other members of the committee, is beyond questioning, and affords of itself sufficient answer to some recent assertions.

The principal papers in the Journal are by, Mr. C. Roach Smith ("On Roman potters' kilns and pottery, discovered in Northamptonshire"), Mr. Daniel H. Haigh ("On Deerhurst Church, Gloucestershire"), Mr. Thomas Wright ("On Medleyal Architecture," illustrated from illuminated MSS.), Mr. F. C. Lukis ("Cromlech du Tus, Guernsey"), the Rev. Stephen Isaacson ("On Roman remains and other antiquities, at Dymchurch, Kent"), and Mir. J. R. Planché ("Remarks on an enamelled Tablet, preserved in the Museum at Mans, and supposed to represent the Effigy of Geoffrey Plantagenet"), whose valuable paper is entitled to the attention of all heralds. Mr. Wright's paper we are enabled, by the kindness of the committee and the author, to print entire.

MEDIEVAL ARCHITECTURE ILLUSTRATED FROM ILLUMINATED MANUSCRIPTS.

BY THOMAS WRIGHT, M.A., F.S.A.

BUILDERS AT WORK. In the volume of the "Archeological Journal" published under the direction of the central committee of the Association during the first year of its existence, several instances have been given of the valuable assistance which may be derived from the illuminated manuscripts of different periods, in illustrating architectural antiquities. The details of these old pictures are not in general drawn with sufficient minuteness to enable us to derive much benefit from a comparison with existing monuments; but we learn in them the disposition and arrangements of buildings of different classes, of which there are now no perfect examples left. It has been already shewn that, with regard to Anglo-Saxon architecture, the drawings in manuscripts of a date anterior to the Norman conquest furnish us with data of great importance in identifying the few existing remains, which without them are extremely doubtful. The Anglo-Saxon drawings present sufficient characteristics for our purpose. But after the conquest, when existing monuments, the dates of which are known, become more numerous, the drawings in the manuscripts have fess value in this respect, and in many instances the architectural characteristics are so badly designed as to be altogether useless. But, as a compensation for this default, the manuscripts represent to us interiors and exteriors of castles and monasteries, palaces, manor houses, cottages, with street views, and the various buildings peculiar to town and country, as they stood in different ages and under different circumstances; and these are in general further explained by the descriptions in the corresponding text. The earlier illuminated manuscripts are

The earlier illuminated manuscripts are chiefly copies of the Scriptures, or books of a religious character, and the buildings represented in these are mostly ecclesiastical. We find little to illustrate the domestic and military architecture of the Anglo-Saxons. The same remark applies in some degree to the Anglo-Norman period; and it is not till the illuminated romances became common, in the thir-

*." The Journal of the British Archaeological Association, established 1843, for the Encouragement and Prosecution of Researches into the Arts and Monuments of the Early and Middle Ages. No. I. H. G. Bohn, York-street, Covent-garden."

teenth century, that we find many drawings of houses and castles. But there is one part of the subject which is illustrated by these illuminations at all periods when they are found, and one which cannot fail to have an interest for all our readers - the occupations and the tools of the builder and mason. It would be no difficult thing to give a very numerous and perfect series of drawings of builders occupied with their labours, at every period from at least the tenth century down to the sixteenth ; but I will be satisfied in the present instance with giving a few examples, in regular suc-cession of date, although belonging to periods separated by somewhat long intervals.

My first cut is taken from the same manuscript of the translation of part of the Scriptures by Alfric, which has already furnished our illustrations of Anglo-Saxon architecture (MS. Cotton. Claudius, B. iv. fol. 19), and which was executed at the close of the tenth or in the earlier years of the eleventh century. It represents the building of Babel, and is here considerably diminished from the original. The

drawing is somewhat rudely executed, though not without spirit; and the workmen shew as much contempt for the laws of gravitation as the artist has exhibited ignorance of perspective. On the right, a workman is carrying the squared stones for the wall one by one up a ladder. On the left, two men are employed in raising either a large squared stone or a beam of timber to a rather singularly formed scaffold, on which another labourer is lifting a hod of mortar to the workman above. At the top a man is working on a dome with a hammer and chisel, while below him another is similarly employed on a sloping roof. Two others are working with tools of the same description at the door. The next example is taken from the painted

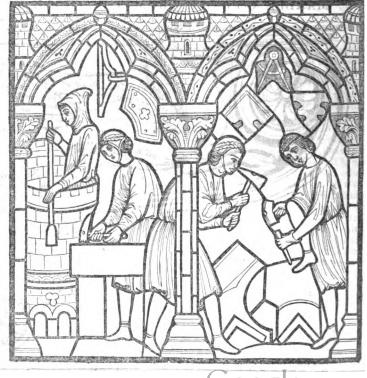
The next example is taken from the painted glass of a window in the cathedral of Chartres in France, executed in the thirteenth century. Our cut is reduced from a larger plate given in the interesting "Annales Archéologiques," by the distinguished French archæologist M. Didron. In the right-hand compartment two masons are at work on the stones which are apparently intended to form parts of mouldings; at their feet are their squares and their compasses, and the models of the mouldings are suspended above. In the other compartment a mason is employed in equalizing the surface of a stone,

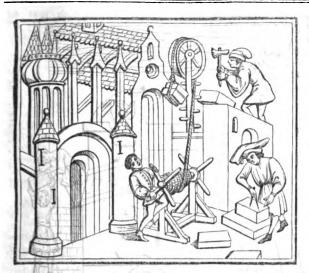
with a tool which appears to have a serrated edge; and the architect is applying a plummet to ascertain if the work be accurately vertical. Above are sus-pended another instrument, apparently a saw, and a board on which is traced the plan of a building with four corner co-lumns and a large clustered pier in the centre. Two of the masons have small caps tied by a band which goes under the chin; and it is singular that both these and the third mason have crowns, ap-parently of laurel. Didron remarks that gloves, to be presented to masons and stonecutters, are often



mentioned in old documents. In a subsequent number of his valuable "Annales," he gives the following examples. In 1381, the Châtelan of Villaines en Duemois bought a considerable quantity of gloves to give to the workmen, in order "to shield their hands from the stone and lime," In October 1383, as we learn from a document of the period, three dozen of gloves were bought and distributed to the masons when they began the buildings at the Chartreuse of Dijon. At Amiens, in 1486 or 1487, twenty-two pairs of gloves were given to the masons and stone-cutters.

Our third woodcut is taken from a manuscript of the earlier part of the fifteenth century (MS. Harl, No. 4431, fol. 111), containing the poems of Christine de Pisan. The stones are here no longer carried up by the hands of the labourers, as in the Anglo-Saxon manuscript, but they are raised by a wheel and axle—a rather rude attempt at a crane. The mason at work on the wall is squaring his stone with a serrated tool, like that which is in the hand of one of the workmen in the foregoing scene. The other is measuring the stone with a compass. One part of the building on which they are employed is a church, with flying buttresses. All the dresses of the men employed here differ from cach other, and perhaps dis-





tinguish the different classes of the workmen. The last example is taken from a beautifully T

The last example is taken from a beautifully 7 illuminated manuscript of the latter part of s the fifteenth century (MS. Harl. No. 4376), t containing an ancient history of the world t



in French. Each book is headed by a large miniature, several of them representing the building of towns and cities. Our cut gives only a portion of one of these miniatures, and is reduced from the original. The buildings of the town, seen in the distance, are neatly executed, and the ornamental conduit, behind the tower on which the workmen are employed, is extremely beautiful. The whole forms a very interesting picture. The crane employed here is a much more perfect machine than that exhibited in the preceding cut. The tools used by the workmen in front differ little from those seen in the two preceding groups. The architect, with his staff in his right hand, is represented in the act

of receiving his orders from the prince or duke, under whose auspices the city has been founded. The smaller cut, taken from the same manuscript, represents a group of builders, with a trowel and hod of mortar, at work upon a tower,—not upon a chimney, as the artist's proportions would have led us to suppose.

In reviewing and comparing these various representations of the same process at so widely distant periods, we are struck much less with their diversity than with the close resemblance between both workmen and tools which continues amid the rapid and continual changes in the condition and manners of so-ciety. Whether this be in any measure to be attributed to the circumstance of the masons forming a permanent society among themselves, which transmitted its doctrines and fashions unchanged from father to son, it is not very easy to de-termine. But it is certainly remarkable, that at the period when architecture flourished most, the date of some of the richest portions of the cathedral of Chartres, the masons should be represented with crowns of laurel on their heads.



ses of the men employed a other, and perhaps dis



MARBLE CONSOLE FROM THE SOANE MUSEUM.

The engraving below represents a marble console from the collection in Lincoln's-Inn Fields, similar in character to the ornamental capitals which have appeared in former numbers.

THE BRITTON TESTIMONIAL.

SINCE our last notice of the proposed testimonial to Mr. Britton, the Earl de Grey, Mr. Decimus Burton, Mr. Edward Willson, of Lincoln, Mr. G. Baker, of Northampton, Mr. Moran, the Dean of Hereford, Mr. Joseph Hume, M.P., and many other eminent men have joined the committee. At a meeting held last Saturday it was decided, as Mr. Britton had disinterestedly declined receiving any personal offering, that a premium of 100 guineas should be offered for the best "Bibliographical Review of Illustrated Literature devoted to the Architectural Antiquities of Great Britain," to be inscribed to Mr. Britton, and published by the committee. Of this essay every subscriber of one guinea, will receive a copy, and it is further proposed, if the sum subscribed should prove sufficient, either to have a portrait of the worthy veteran painted and engraved for distribution, or a good medal struck. At the same meeting it was resolved that Mr. Britton should be invited to a public dinner at Richmond on the 7th of July, his 74th birthday, to meet his friends and the lovers of architectural antiquities; and a sub-committee was appointed to make the necessary arrangements.

quities; and a sub-committee was appointed to make the necessary arrangements. Few men have laboured so long, steadily, and successfully as Mr. Britton. No one can examine his beautiful work on the Cathedral Antiquities, and then look at the works illustrative of our architecture which had appeared before his time, without seeing what a step in advance was then made; and we must remember that he could not then find artists to draw and engrave with facility and precision, as it is easy to do now, but was compelled to lead them up to it, and may be said to have produced a school. We sincerely hope, and have no reason to doubt, that the subscription will be very large, and the result a erowning gratification to Mr. Britton. We will gladly transmit to the committee any subscriptions which may be forwarded to our office.

MOVEMENT IN SOCIETY OF ANTIQUARIES.

OUR readers will remember that a series of suggestions were referred by the members in March last to the council for their consideration, with a request that they should report on them at the anniversary. (See p. 139 *ante*). The arniversary passed by, and no reference was made by the council to the matters submitted to them; much discontent was exhibited, and many of the members have been led to fear that the governing body would draw upon themselves some sweeping interference from without, which might have been altogether avoided by a timely concurrence with the generally expressed opinions of the members.

bers. We are glad to be the first to announce that the council have begun to act on the suggestions then made. The payment of 2s, 6d, to the librarian by each member on receipt of his half-yearly " part" of the transactions is abolished: the price of former publications of the society is reduced to members very considerably; and other alterations are contemplated, and it is to be hoped will be made, so that confidence may be restored and dissension avoided. A young and zealous man should be appointed to assist Mr. Carlisle in his duties as secretary; the council should meet a little oftener; and no gentleman should be elected president or vice-president who is not sufficiently interested, and sufficiently at liberty, to enter into the affairs of the society. To the council we say, seriously, continue to show a desire to meet the wishes of the members, and on all accounts preserve peace.

on all accounts preserve peace. It is singular, as well as unfortunate, that dissensions should exist at the same moment in three important societies. At the Antiquaries it will be entirely the fault of the council if unanimity is not restored forthwith.

TERRA COTTA.

SIB, As my name has been mentioned in connection with Terra Cotta in your numbers of the 26th April and 5th May, and as state-ments were on both occasions made in reference to me without my knowledge or authority, you will, perhaps, admit a few words from me in explanation.

Your first correspondent inquires where Terra Cotta is to be obtained, and whether a church has not been built of that material near Bolton-le-moors. A note from yourself, at the foot, explains that the church at Lever Bridge was constructed from this material, and that the moulds were made under my superintend-ence. You also explained that the material was prepared by Mr. Fletcher of Vale Bank, who had established works at Ladyshore for the manufacture of the material, and that Mr. Sharps would probably afford any further information that might be required. In all these statements you were quite correct, and I did not therefore, think it necessary to answer your correspondent.

Fletcher interposes, however, in your Mr number of the 5th May, to save me all further trouble in this respect, and gives what may be looked upon as sufficiently good reasons; namely,-first, that I have no connection with bis works; and secondly, that he can best answer such questions.

Now, in stating that I have no present connection with his works, Mr. Fletcher ought, in justice, to have added, that they owe their existence to me; that the application of fireclay to architectural purposes, on a large scale, and in a, highly ornamental form is, as I believe it to be, and certainly so far as he is concerned, due to me.

The church at Lever Bridge is, so far as I

know, the first building constructed entirely within and without of Terra Cotta, in the rich style of the fourteenth century, in this country. The experiments which determined the committee to adopt this material were made under my superintendence, and by one of my work-men. And the design of the construction, so essentially different from that of an ordinary stone or brick building, as well as of all the ornamental details, was made by me.

And now, baving claimed this much on my own account, I must at once explain, that in regard to the preparation of the material-the mixing, grinding, tempering, squeezing, dry-ing, and burning of the clay, in fact, the whole of the potters' work-I desire to take no credit. Whatever merit the works at Ladyshore possees on account of the quality, colour, hardness, and durability of the material, belongs to Mr. Fletcher. Neither, on the other hand, do I desire to assume the responsibility which attaches to the proper execution of this department of the works in order to secure these essentials. I have satisfied myself of the excellence and darability of the material if pro-perly treated: it rests with the manufacturer to maintain its character in these respects.

that I cannot subscribe to Mr. Fletcher's assertion, that works in Terra Cotta can be constructed from " Plans prepared in the ordinary manner," if by that he means it to be inferred, that a design for a stone or brick building is equally applicable to fire-clay.

It is clear, that a knowledge of the power of resistance, tenacity, porosity, and specific gravity of the material is as essential to the safe construction of buildings erected from it as a knowledge of the limits, in regard to size and form, which admit of the material being thoroughly and completely burned. It is upon these points, therefore, in designing the con-struction of such a building, that the skill and care of the architect, as distinguished from that of the manufacturer, has to be exercised, and upon which the safety and integrity of any such structure will depend.

I am, Sir, &c., EDMUND SHARPE. Lancaster, May 14.

HACKNEY NEW CHURCH. - The founda-

tion-stone of a new church for the extensive district of South Hackney was laid last week,

in the presence of a numerous assembly of the

residents of the district. The church is to be built by voluntary contributions, at a cost of upwards of 10,0001.

Having made this explanation, I will not trespass on your space further than to state,

" Dressing the Bride" (127), by T. Clater. A very nice work, painted with truth; the still life is exceedingly well put in. Immediately under this is "The Favour," by J. W. Wright, under this is "The Favour," by J. W. High, another very pretty little picture, somewhat marred by the ill drawing of the arm. 144. "A Sketch," by W. Mulready, R.A. A wonderful hit of finish and colour. There

A wonderful bit of finish and colour. is a lovely little sketch in chalk by this artist in the miniature room. 149. "Scene from Moliére," by C. R. Leslie, R.A. This work has a peculiar ap-

THE BUILDER.

THE ROYAL ACADEMY EXHIBITION.

as very satifactory, though deficient in works of the first class. It is satisfactory, as exhibit-

ing considerable progress on the part of the

younger artists. Much has been said against the number of portraits it contains, but it

should be remembered that, amongst the finest

and most beautiful productions bequeathed us, the portraits of Vandyck, Holbein, Kneller, Sir Joshua, and others, hold a high station in the estimation of those who are able to appre-

Gordon, Herbert, and Grant have forcibly proved, in the present collection, the excel-lence of this branch of art. Maclise and other

artists, whose works are missed in the present exhibition, are probably at work for the ensu-

ing Government competition. "Aurora and Zephyr" (12), W. Etty, R.A. A copy of Titian's Venus in the front figure is

A copy of Attan's venus in the front figure is very palpable; the picture itself is wonderfully brilliant in colour. His picture of "Cupid interceding with Venus for Psyche" is even more excellent. No. 185, "A Flower Girl;" 186, "A Votive Offering;" and No. 259, are all beautiful speciment

More excentent. No. 103, "A Flower Only, 186, "A Votive Offering;" and No. 259, are all beautiful specimens.
No. 13, "Amoret, Æmylia, and Prince Arthur in the Cottage of Sclaunder," from the "Facrie Queene," by F. R. Pickersgill; a good picture, broad and well drawn; but "The Four Annu" (260) her the serve suit is better

Ages" (362), by the same artist, is better. Of Mr. Roberts's pictures "Jerusalem" is preferable: they are both in his best style. "The Mole, at Ancona," with "Trajan's Arch," by Stanfield, is a very beautiful compo-ition two in colour and natural in effort

sition, true in colour, and natural in effect.

There is a certain lucidity in all this artist's

"Peasants bringing fruit into Naples" (92), by J. Uwins. This is a favourite subject of the artist, treated with his usual skill. Mr.

Uwin excels in portraying Italian life. Mr. E. Landscer's picture (141), without a name, is a beautiful work. The painting of

the sheep's wool is miraculous; it seems distur-

bable by a breath. A solemnity, truly asto-

nishing, pervades the picture; the very animals

pictures peculiarly refreshing.

are engaged in prayer.

The general exhibition of works of fine art has been already characterized in THEBUILDER

Leslie, R.A. This work has a peculiar ap-pearance of blotchiness, but is of good conception and clever composition. A very beautiful landscape is that by W. D. Kennedy (148), nicely toned and composed.

Turner, R.A., though extravagant and ob-scure, stands alone in his power, and is above either praise or censure. 200. "Fetching the Doctor." W. Collins,

R.A. A humourous production; the pony is

capital, the light well managed. A nice piece of colour is No. 203, by Muller, entitled "Head of a Cingari, Xanthus."

"Dutch Boats running into Suardam, Am-sterdam in the distance," by C. Stanfield, R.A. The water of this is a perfect master-piece, transparent, clear, and effective; this picture must be welcome to all who have any idea of the heartiful the beautiful.

222. From "Milton's Comus." by C. L. Eastlake, R.A. A very fine production in the highest walk of art. It is to be regretted that one head has been made to serve for the whole of the Cherubim."

The landscapes of F. R. Lee, R.A., are of great beauty. Among the best are "The Water Cart" (233), "The Market Cart" (24), and No. 43, "The Mill Ford, Devonshire."

Creswick's "Spot to be Remembered" is a

perfect triumph. Others of his are very beautiful, such as "Rain on the Hills." "The White Cockade" (244), by Farmer, is a nice picture, with his usual little fat redcheeked boy. 258. "Miranda," by R. Redgrave.

A clever picture, the head remarkably beautiful : still we cannot imagine this the artless creature depicted by Shakespeare, but rather an actress playing the part.

A most beautiful landscape is that of Danby (272), unequalled for its intensity of warm light and shade : the effect of the rising

sun behind the trees is perfectly marvellous. The third picture from this is C. Land-seer's "Eve of the Battle of Edgehill." An

seers "Eve or the battle of Edgenit." An improvement on last year; but a monotony pervades the picture which is disagreeable. E. M. Ward's (292) "Scene in Lord Ches-terfield's Ante-room." This work, evidently of much research, full of Hogarthian feeling and human is an excellent picture description of much research, full of flogarithm scing and humour, is an excellent picture, deserving high commendation. The heads, well studied, high commendation. The heads, well studied, are characteristic of their several professions; and the whole is carried out with care and skill. We understand Mr. Vernon has bought

this picture. "Ariel," by J. Townsend. A fanciful ides, Unpression in the state of too much of the manner of Maclise.

. Frost has a fine composition, illustrative of "Sabrina borne by Water Nymphs to aged Nereus' Hall," from Comus.

327. " Burial Ground, Smyrna." W. Muller. This seems an excellent picture, but is placed so high as to defy examination, even at the risk of a broken neck.

A very good specimen of Herbert's peculiar style is "8t. Gregory" (338). The monka' heads are very clever, as are some of the boys'.

Mr. Kennedy's picture of "The Two Nymphs" (347), for colour, style, and per-

fect keeping, cannot be too highly praised. "Repose" (357), by A. D. Cooper, is a beautiful bit of colour, but is too close an imitation of Sir Joshua.

Mr. Webster's "Dame's School" (360), and Goodall's "Le Bon Curé" (361), are face specimens of finish and refinement.

Mr. Marshall Claxton's picture, "Jews la-menting over Jerusalem," can boast of much that is clever, but has a chaotic effect.

Mr. Haydon has produced a fine study of a head in 394.

"Gregory passing through the farket," by J. Sant, is clever, but weak. Slama Market," by J. Sant, is clever, out w can-459. "The Baudit Mether," by W. D.

Kennedy, a good picture in an excellent style.

A miracle in point of finish and study is No. 471, by Mr. Lance, though the general

effect is not pleasing. Robinson Crusoe has made his re-appear-ance in a picture of Mr. Fraser, whereof the tone is excellent.

Mr. Middleton's "Jeanie Deans" appears deserving of better treatment than it has received.

Mr. Müller's beautiful painting, immediately under this, is remarkable for depth and solemnity of tone. We prefer it to those by the same artist already mentioned.

"The Young Squire's Wedding," by T. F. Marshall. A very nice picture, full of truth, and displaying a visible improvement on the

part of this artist. Frith's "Village Pastor" (498) is a perfect piece of truth, genuine feeling, and good draw-ing; it awakens sympathy and touches the heart.

A picture near it, by A. Solomon (502), has much that is good in it, but the faces are

decidedly too long. Mr. M'Jane' (514) is an interesting picture. "Going to Pasture," by J. S. Cooper, can boast of its nicely painted cattle, but wants his accustomed warmth.

Mr. Johnson's fine work (546) will be appreciated by all; the style is broad, clean, and effective. The head of Lady Russell is not sufficiently characteristic t still this picture is one of the best in the collection. "Connamara Girls bathing their Feet," by

F. Goodal, is nicely coloured, but in parts has the fault of being horny. Mr. Bell has succeeded in his water nymphs

(552), but the figure of Hylas is awkwardly placed. "Autolycus," from the "Winter's placed. "Autolycus," from the "Winters Tale," by Egg, is exquisitely painted and

drawn, tells its own tale, but is rather hard. The hackneyed subject of "Boaz and Ruth" is again presented to us by Mr. Le Jeune, who makes a pretty picture of it in spite of its want of originality.

A fine picture of Mr. Eddis, under the title of "Jochebed," hold a prominent situation in the exhibition.

"The origin of the Guelph and Ghibeline Quarrel," by A. Elmore, is an ambitious and clever picture, with much in it to be admired and praised, though not without faults.

" Uriel and Satan" displays Mr. Haydon's

knowledge and his love of grandeur. Mr. Harding, the water-colour artist, has contributed the "Mountain Pass," deserving of the highest praise,

Among the pictures in the black hole (octa-Among the pictures in the black hole (octa-gron room) are some good works; the best, by Mr. Philip, "An Illicit Still," is rather too melo-dramatic; the rolling of the wo-man's eyes, as if to court the plaudits of an audience, might be dispensed with; but the light in this painting is skilfully managed. Among the miniature painters, Thorburn, Ross, Carrick, Newton, and Cruikshank dis-play the finest works. Some by Thorburn are pictures.

pictures.

A ministure, by Hiedmanns (761), is well worthy of notice for its beautiful finish.

There are some good specimens of sculpture, by Bell, Marshall, Weekes, and others. No-thing can be more beautiful or simple than Mr. Marshall's "First Whisper of Love," or Mr. I. Bell's "Child's Attitude." J. A. S.

PROVINCIAL WATER WORKS.

THE health of towns so much depends upon a plentiful and cheap supply of pure water, and the public at large are now so thoroughly convinced of its importance, that a company has been formed for the purpose of affording to provincial cities and towns this necessary of life. In almost all localities there exist ample sources, which require only skill and capital to make them alike valuable to the inhabitants, and profitable to those who shall render them available. In our last number we stated that a private company was being formed to esta-blish water-works on an extensive scale at Bristol. Since then a meeting of the towncouncil has been held, and the propriety of the

council has been held, and the propriety of the city being supplied by the corporation, instead of by a private body, was discussed. Mr. Thomas impressed upon the council the importance of taking the subject in hand before it was too late. The docks had failen into private hands, and now the step was lamented; they ought certainly to be the pro-perty of the city. At Manchestar the people were supplied with gas by the authorities, and from the profits made by it great improve-ments had been effected and were still going on in the town. He contended that Bristol might be not only well supplied with water by the council, but that a profit would accrue, which could be expended in improvements. Dr. Green thought there could be hardly a doubt that a measure would be introduced into Parliament empowering or compelling local

Parliament empowering or compelling local bodies to form water works. He trusted that the council would take the subject in hand, for there was no doubt that such a work would not there was no doubt that such a work would not only be remunerative for the outlay of capital, but also that a large sum would be derived from it, to be expended in public improve-ments. A supply of water ought to be secured, not only for private purposes, but for the esta-blishment of public baths, and a ready supply to be used for the extinguishing of fires. Had the gas-works been in the hands of the council a large profit would have been secured.

a large profit would have been secured. The Edinburgh Water Company, which is, we believe, a private body, charge only four, and, in some instances, only three shillings per annum for water supplied to cottages let for less than 54 per annum.

MRTROPOLITAN RAILWAYS .-- The project of a metropolitan railway tunnel is said to be of a metropolitan railway tunnel is said to be seriously entertained, and a prospectus has been issued, pointing out its practicability. It is proposed that this subterranean railway should commence at Hyde-Park corner, and have intermediate stations at each chief thoroughfare with a street frontage. A prospectus has been issued for the forma-tion of a London Central Railway Terminus in the vicinity of Charing Cross and the tion of a London Central Railway Terminus in the vicinity of Charing Cross, and the connection of various lines, by means of a double line of rails, adjoining the Hungerford Suspension Bridge. A South-London Sub-urban Railway, on the atmospheric principle, is also proposed, for the accommodation of Kennington, Stockwell, Clapham, Balham Ilill, Tulse Hill, Brixton, and other rural retreats. The rage for speculating in shares retreats. The rage for speculating in shares is now so great, that if a railway from Hyle-Park corner to the middle of August were advertised, all the shares would be subscribed for in twenty-four hours.

THE IMPROVEMENT OF WESTMINSTER.

As some of our readers have expressed a desire to know exactly what the committee appointed February 7th stated to the public meeting on the 10th inst., alluded to in our last number, we are induced to print their report

"The committee were appointed to con-sider the various lines of improvement proposed to be made by new or enlarged streets in the vicinity of the Houses of Parliament, and to report to a future general meeting, and were directed by the meeting to impress on the government and the legislature the propriety of withholding their sanction from any plan for improvement which may not be spproved of by the inhabitants.

The committee having by public advertise-ment invited communications relative to the best measures for carrying out the improvement of the neighbourhood, received several plans to promote this object. Mr. Wason attended the committee and stated, that he would not take any step in par-

llament for one month. In consequence of further advertisements by the committee for further advertisements by the committee for plans accompanied by written statements, shewing their practicability, they were favoured with several plans, accompanied by explana-tions and estimates, relative to proposed lines of improvement.

The committee having solicited an inter-view with Sir Robert Peel upon the subject, explained to him the objects for which they were appointed, and his attention was drawn to the several plans which had been sub-mitted, and which the committee were as-sured were practicable. Sir Robert stated that he would speak to Lord Lincoln upon the subject, and recommended the committee to subject, and recommended the committee to put themselves in communication with his lordship. In conformity with this recommen-dation, the committee addressed a letter to Lord Lincoln, and the following correspondence ensued :

iterary and Scientific Institution, Great Smith-street, Westminster, 18th March, 1845.

My Lord,-The Committee for the Westminster Improvements having been honoured with an interview with the Right Hon. Sir Robert Peel, and authorized to enter into com-munication with Her Majesty's Office of Woods and Forests on the subject of the pro-posed improvements request to be promitted posed improvements, request to be permitted (before they solicit an interview with your lordship) to submit the various plans and calculations on which they have been induced to conclude, that no plan should be finally adopted without full consideration of all the peculiar circumstances of the improvement, and the various suggestions made by ex-perienced architects and surveyors. —I have the honour to be, My Lord, your lordship's the honour to be, and most obedient servant, W. H. J. TRAIOB,

Secretary to the Westminster Improve-ments Committee.

To the Right Hon. the Earl of Lincoln.

Office of Woods, &c., 19th March, 1845.

SIR,--I have to acknowledge the receipt of your letter of yesterday's date, and beg that you will inform the Committee for the West-minster Improvements that I shall be happy to receive the plans and calculations, and will not fail to give my best attention to their details whenever the committee may favour me by sending them for my inspection.

I remain, Sir, your obedient servant, LINCOLN.

W. H. J. Traice, Esq., Secretary, &c. March 22, 1845.

My Lord,-The Committee for the Westminster Improvements desire me to convey their sincere thanks for your lordship's early reply to their communication requesting permission to submit certain plans and state-ments, furnished to the committee for your lordship's examination.

In conformity to your lordship's kind assent to the committee's request, I am, therefore, directed to forward several plans and state-ments of the estimates on which such plans have been prepared, of the following archi-tects, viz., Mr. Sidney Smirke, Messrs. Scott and Moffatt, Mr. Bardwell, Mr. Tarring, Mr. Lenidre and Mr. Dorthern Lapidge, and Mr. Donthorn. The committee also beg to solicit the honor

after your lordship's examination of the plans and estimates as may be convenient to your lordship.

I have the honour to be, &c., W. H. J. TRAICE.

Whitehall-place, 29th March, 1845.

SIR,-I have looked over the various plane for the improvement of Westminster which for the improvement of Westminster which you have been good enough to send me, and with one at least of which I have been much pleased. The Commission for Metropolis Improvements meets on Wednesday, the 9th of April, and it will then be my duty to report to the commissioners the communications which I have meaningd from your and the fact of I have received from you, and the fact of

I have received from you, and the fact of several new plans having been proposed since the report in favour of Mr. Wason's line was agreed to. It may possibly be the wish of the commis-sioners to see the gentlemen composing the Committee for Westminster Improvements, and I would therefore prefer postponing my, further communication upon the subject until after the meeting on the 9th of A pril, which I hope will not occasion any inconvenience, to the Committee. I am, Sir, &c.

LINGOLN.

To this the secretary replied, that in the event of an interview being desired a deputa-tion would be prepared to attend the commissioners; and represented that the committee assumed that the bill before parliament would not be allowed to pass to a second reading till the further decision of the commissioners should be made.

The concluding letter was as follows

10th April, 1845.

Sir, - The Commissioners of Metropolis Sir, — The Commissioners of Metropolis Improvements met yesterday, and agreed to Athe report to her Majesty in favour of the new aline of street through Westminater proposed by Mr. Rigby Wason, the substance of that t report having been decided upon at the last previous meeting. I had before the commissioners your letter, if I had before the commissioners your letter, if

and informed them that you had sent me seve-ral plans, as substitutes for that which they had sanctioned.

The commissioners felt that they were committed to Mr. Wason's plan, and could not in fairness adopt any course which should preju-dice the bill now before parliament. They therefore concluded the report with the follow

however, by the fact of such engagement, they, do not feel themselves at liberty to call for with a view to their investigation."

Under these eiroumstances, I shall be glad. to learn from you whether it is the desire of ... the "Committee for Westminster Improveor that I should retain them for the present, in, the event of the Commissioners being willing in to examine them at some future time when , Parliament shall have decided upon the , bill, now before it. I am, Sir, Sec., Lincoln.

The committee have since had several communications with the promoters of Mr. Rigby Wason's plan, who express a disposition to extend their lines of improvement as much as possible upon certain conditions; but they have not been attended with any definite result. (Signed) W. FREEMAN, Chairman.

(Signed) W. FREEMAN, Chairman. 10th May, 1845. With the proceedings of the Metropofis Improvement Commission, in this matter, we are far from satisfied, but, for want of space, must defer comment.

IMPROVEMENTS IN THE TOWER OF LON-DON. - Upwards of 100 of the military are daily employed, in addition to the ordinary labourers, in proceeding with the works of this ancient fortress. The site of the old armoury has been nearly excavated, and concrete laid for the foundations of the new barracks. The The. earth taken out of the latter has been thrown. over the Tower into the most to fill it up, and , it is not now intended to make it into a planta-... tion, but into an exercise ground for the mili-The committee also beg to solicit the honour of an interview with your lordship as early the fortress. Digitized by

911 19 HAND BOOK FOR LONDON. dedicat into Z od.

AME MURBAY's hand books for travellers are iknowniover Earope. W berever you meet English tourists mnd where on you go without meeting them ?- you may be certain of see-ing the sed-covered guide book. Uniform with these he has just amounced a hand-book for London, past and present, wherein it is proposed among much new matter; to give the origin of the names of places, and to distin-guish, as far as possible, the residences of re-markable men. The author of the book is Mr. Péter Cunhingham, and we anticipate, from his zeal and ability, a peculiarly interesting volume. It a morning's walk we pass miny houses without emotion which; if we but knew the names of former occupants, would ford) matter for much pleasant thought.

nhigham's prospectus azad yatedora off Rarticular residences of remarkabiermes, or streets connected with their hames : Chaucontand his account of what he observed in Friday-street; the house in Aldersgate-street in which the first Lord Shaftesbury lived, in the time of Charles II.; Milton's house in Petty Brance, Westminsters Andrew Mar-vell's reione: in: Maiden-lane, Covent-garden; and Vokalre's London ledging at the Blue Periory, in the same lane; Dryden's house in Gerard-street; Southerne's house in Tothillstreet; Sir Isaab Newton's house and Observatory in St. Martia's street; Hogarth's house on the ent side, and Sir Joshua' Reynolds' house on the west side of Leicester-square; Dr. Johnson's west and of Actoester-square; Dr. Johnson's west and Cough-square; atte of his house in Boit-court, Flett-street; Lord Byron's residence of Johnson wrote his defence of his folkeling and Fall; the house in which Baural the bit graph of Johnson diad the Baswall, the biographer of Johnson died ; the house an shield Horace Walpole died ; the house in which Thomas Gainsborongh lived; the house in which Wilkie painted his 'Blind Fiddler ; the studios of Flazman and Chantrey, and the residence of Sir Thomas Lawrence.

Vie Marchins WIRE ROPES.

MR. CARPHAEL read & paper at the Royal MR. CARPSAR, read & paper at the Royal Institution on the 9th inst., on the mand-facture of wire-ropes. He stated, that the process had grown up within the last four or five years. Till the year 1839-40 there were no real wire-ropes in this country, *i.e.* no manipulation of wire, first producing straads, and then combining these strands into a single rope

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He briefly noticed the improvements which had been made in the manufacture of hempen oordage during the last fifty years, and laid great atress on Captain thuddatt's contrivative for varying the length of the yarns, according to their distance from the control of the rope, so that each, throughout its course, being kept at the same distance from the central strand, was subjected more nearly to the same amount of tension. The characteristic difference between the mechanical principles of the manufacture of the hempen and the wire-rops was then inculcated. Twisting is essential rope was then inculcated. Twisting is essential to the structure of the former, but would be des-tructive of the latter fabric. This principle, long, everleaked, was discovered by Mr. Ne-well, the patentee of the improved wire-rope, and the object of his machinery is to carry, that principle into effect. The wire-rope con-sists of a hempen, core, the horizontal section of which orbitic machinery could be conof which exhibits seven equal circles,-six round a central one; these, according to a Rnown geometrical law, touch the central circle, and also sach other. Round this central core are six strands, formed exactly in the same way, except that while the central core is of hemp (as is the core of the rope), it is sur-rounded by six wires, the diameters of these wires being equal to those of the yarns of the core; so that a section of the rope exhibits forty-nine equal circles (thirty-six wire and thirteen hemp), arranged in a sort of hexagonal form, the lines joining the gentres of the hempen cores of each strand producing a regular hexagon. Having exhibited the ma-chines by which Mr. Newall lays the wires in the strands exciding call track the wires in the strands, avoiding all twist, Mr. Carpmael stated some of the purposes to which this massificature had been applied. He premised, that the greatest strength is obtained when

wire made of hard iron is used. Ropes thus manufactured arestronger, lighter, and cheaper than hempen cordage bearing equal weights; consequently, when materials are raised from a depth in mines, a heavier load may be lifted with equal power whenever the wire-rope is used. For the same reason, this fabric is preferable in the fixed rigging of ships; and its value for railway purposes has been proved by decisive tests. As long as hempen ropes were used on the Blackwall Railway, there were often two or three breakages a-day. Since these have been superseded by the iron-wire, there have not occurred more than twelve fractures in twelve months, and during six thousand journeys.

Correspondence.

CHURCHES AND CHURCHYARDS. SIR,-In your account of Norfolk churches

no minute is given of -1, Length; 2, Breadth; 3, Height to roof-ridge; 4, Ditto of tower; 5, Materials with which fabric is built;

6, Churchyard, as to size, trees, keeping. In foreign churches we often find the height from the floor to the roof-ridge 60 feet to 100 feet,-in England seldom or never so much. them " Our modern churches are most of playthings" in comparison with those of our forefathers.

As to materials, we should find, I think, that they were chiefly taken, very wisely, from such matter as was found in the locality.

As to churchyards, a report would shew, I fear, that our English cemeteries are a dis-grace to us. Horses, sheep, geese, footpaths, weeds, and filth are the usual features of an English churchyard.

Our clergy would readily, as a body, resign the right of making a churchyard a piece of grazing ground, wherein the kicks and knocks of animals deface or break to pieces tomb-stones, and others violate the sod of the poor man's last tenement.

man's last tenement. Whilst trees add much to the beauty of a churchyard, an avenue of limes, kept clear of boughs inside, forms a fine arcade to the west door of a religious building. Besides, if a parish was once invited by its pastor to make the graveyard an object of attention, there is no doubt but a wilderness would soon be sepulture symmetrically, the spot would become an ornament, instead of eyesore, to every an ornament, instan village in the kingdom. I am, Sir, &c., W. MASON.

Swaffham, Norfolk, May, 1845.

MODERN BRICKLAYING.

S18.--As you invite remarks on the subject of bricklaying, I consider it my duty, being a journeyman bricklayer, and having the welfare of my trade at heart, to accept the offer. I wish to remind you that the generality of our modern builders know nothing of bricklaying, and care less; and I wish to call your attention to the total disregard many surveyors pay to the art of brickwork, who consider that to make a drawing that looks pretty to the eye and can be worked out in cement no better than mad (as "J. Phillips" justly observes) is all that is required of them. The common system of builders is to let these have the work whe undertake to do it for the lowest price, without any regard to quality; and I have worked on jobs of this kind where the bricks have been thrown in the wall quite dry without any mortur. If you wish it I can give you the have been declining since we have had so many Builders: men who care nothing and know nothing about trade, and whose only object is to realize all the profits they can; for I think we had better work done when we had masterbricklayers and master-carpenters, and each man kept to his own trade; I do not con-sider there is one builder who knows the right bond of brickwork, if I except Mr. ----, and it was in his employ that I saw so much bad Was in his employ that I saw so much bau work done. I wish to point out to you the manner in which some surveyors appoint their clerk of the works. They mostly seek for some carpenter to superintend a building,—a man that don't know Flemish bond from old English, and who never thinks of gauging work to see what it rises; so, instead of having four courses to 111 inches, he mostly gets three courses and a half to the foot; and here is the evil, for instead of having so much brick you have the quantity in mortar; and that not of the hest wirt. 1.12

It is a great pity that surveyors do not ap nint a man that is competent to see to the brickwork, and have it properly bonded to-gether and executed according to the specifications, and not allow so much bad work to be done; I can mention a firm in London, who made an excavator foreman of their bricklayers, because he was a bully to the men, and hurried them on. In the same firm that I am now speaking of, I have seen (and I have done it myself) two 4-inches carried up for an 18-inch wall, and the inside S-inches filled in with the clearing of the brick-field, and a course of headers run on the top : then it has had grout covered over it, and ran down the sides of the wall. Yes, Mr. Editor, there is a firm in London, I can mention, who employ the greatest bully they could find as their foreman of bricklayers; a fellow who could not obtain his living as a journeyman, and who takes the brickwork piece work. O Saturday night he is allowed to pay the men, andwhat is the consequence? Why he employs one or two good tradesmen, and the remainder consists of any thing he can pick up that is cheap, he charging his employer 5s. per day for all his men, and paying the majority of them 3s. or 4s. per day, while he pockets the remainder. By this system of *building* a re-spectable workman has but a bare chance of getting employment, much less of having the opportunity of exerting his skill.

I am, Sir, &c., HENRY JOHNSTONE.

BBROBS IN CATALOGUE OF EXHIBITION AT THE ACADRMY.

Mr. Leeds presents his compliments to the Editor of/" THE BUILDER, and begs to say, that among the strange mistakes in the cata-logue of the exhibition, No. 1205 has a wrong title effixed to it. Instead of being called "Street Architecture ; study for the face ule of a small palazzo,"-as which it must seem little less than absurdity,-itshould have been, "Caprice of Architectural Innovation;" it being like No. 1204, not a design for any thing in particular, but merely intended to shew some novel ideas, fanciful or fantastical-cortainly by no means orthodox ones,---and hints for composition and detail.

•.• Our correspondent is not the only exhibitor who has reason to complain of the carelessness shewn in the catalogue.

' ' BUILDERS' ESTIMATES.

SIR,-The following are the prices given in for a new parsonage and out offices to be erected at Brocklesby, in the county of Lin-

coln. Bricks, time, and sand found by the pro-prietor; architect, Mr. S. S. Tealon, of Lon-

- la est dans en stort destit de constant de Monthead, Hull 14 desens tats en **62,040**
- Fewster, Hulls, and in artifactor, 2,486 Forman and Frow, Hulls, and 1,650

- Hally May 20. at 1 and A Sussering the

"" We occasionally receive letters objecting to the publication of builders' tenders i, and indeed are not quite certain ourselves, that any advantage results from the indiscriminate insertion of such. In a case like the above, however, where the difference is so frightful as to shew conclusively that something must be wrong, we consider it our duty to publish it to draw attention to the system, and induce greater care on the part of builders when estimating.

DECORATION OF HOUSES OF PARLIAMENT. -Mr. Pugin, the architect, has had several artists employed in Lynn, making casts of dif-ferent parts of the architecture of St. Mar-garet's church, and St. Nicholas's chapel, as examples for the decorative parts of the New Houses of Parliament, the arrangement of which, it seems, has been intrusted to him.

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Atiscollanea.

-, ANGIENT MONUMENTS. - The Morning Chronicle, in a notice of the British Archmo logical Association, says " From ancient monuments we derive more vivid impressions of past ages than we can in almost any other way. They are themselves portions of the reality of those ages, and they give a wonderful stimulus to our power of canceiving the life and manners with which they were origi-bally associated. On this account the minutest fragments of antiquity are worth preserving. Every ancient building, however much decayed - every half-effaced inscription every braken weapon or industrial tool, aids us in recreating the megnificent picture of a by-gone age. The minute and painful diliby gone age. The minute and painful dili-gence of the antiquary, therefore, which so often provokes a smile, is as truly scientific, and ultimately as productive of important results, as the close observations of the naturalist. Sir, Walter Scott, perhaps, is entitled to the merit of making it widely felt, that the mis-cellaneous collections of the antiquary may suggest more valuable knowledge than the orate and classical narratives in which such things are neglected as unworthy of the dignity of history.' We shall not know how rich we are in the memorials of the past in England until an interest in the subject has been created in every part of the country, and this interest we trust will be excited by the proceedings and publications of the Archæo-logical Association. Wherever an ancient monument of any kind exists-whether church, or castle, or tombstone, or even the earthworks of an ancient encampment-the people of the neighbourhood ought to be inspired with a pride in it which would lead them to with a pride in it which would lead them to guard it from further injury. In many cases this feeling exists, and produces a disposition to restore ancient buildings as nearly as pos-sible to their original state. Whatever tends to strengthen this feeling contributes not a little to the education of the people. If there were no other reason than this, the Archaelo gical Association is well deserving of public support." - C1 21

STRAM BOAT PARES ON THE RIVER Some time since, in consequence of an alteged right on the part of the authorities of the city of London to the soil and bank of the river and under such right of way and soil to erect piers and other buildings thereon, some communications took place between the Lords Commissioners of the Woods and Forests, who claimed the right of way and soil of the river on behalf of the crown, and denied that any right to the bed and bank of the niver existed in the Lord Mayor and Commonalty of the city of London. The authorities of the of the city of London. The authorities of the city, however, asserted their right, and an information is now pending at the instance of the Woods and Forests, on behalf of the Crown, to test that right, and which is expected to come on for argument during the ensuing term before the Lord Chancellor. Notwithstanding these proceedings, the city authorities thought proper to commence the erection of a steam-bost pier at Blackfriars'-bridge, and a number of piles were driven into the bed of the river, Representations of these facts were made known to the Commissioners of Woods and Forests, by whom a communication was forwarded to the Lord Mayor, requesting that all further progress in the erection of the pier should be suspended until the question of right, which has been at issue between the Crown and the city, and which of necessity involved the same question, should be disposed of. Since the receipt of this communication, the Navigation Committee have not met, and the works are suffered to proceed, notwithstanding the re-monstrance of the Woods and Forests on the part of the Crown.

URIVERSITY COLLEGE HOSPITAL. - A public dinner in aid of the funds of this liospital will take place at the London Tavern on the 3rd proximo, Viscount Morpeth in the chair. The committee bave issued an appeal to the public for funds to complete the build-ing. The site of the north wing is now unoccupied: such a wing, if completed, would allow of an increase of fifty in patients, and would confer facilities much desired for the better classification of cases of disease, and for other improvements in the administration of relief, by affording accommodation for a larger number of resident officers.

THE BUILDER.

BOOISTY OF ARTS. --At a meeting held May 14, the secretary read a paper by Mr. Napier on separating metals from their orea by means of electricity. After giving an account of the progress made in the application of electricity for the purpose of manufac, turing metals from their ores since the year 1839, the paper described the author's method of operating, for which purpose he uses a black lead crucible, lined inside, within an inch or two of the bottom, with a coating of fire clay, which is allowed to dry, and a second and third coat superadded. The ore to be operated on (which if a sulphate should be previously roasted) is put into the crucible together with little lime or other fur for the crucible a little lime or other flux for the purpose of giving it fluidity. The crucible with its contents is then placed in a common crucible furnace; a battery of zinc and copper is prepared with five pairs of plates excited by very dilute sulphuric acid. To the zinc of this battery is attached an iron rod, the end of is inserted in the furnace, and caused to which touch the outside of the crucible. Another rod. either of iron or copper, is used, having at one extremity a disc of iron, or coke, which is made to rest on the surface of the fused mass in the crucible; thus the electricity passes down through the whole fluid mass in the crucible, and in the course of an hour the metal is separated from the ore, and deposited at the bottom of the crucible. The society's repository was lighted with two gas lights on Mr. D. Grant's ventilating principle, the chief novelty of which consists in substituting earthen or glass ventilating tubes for those of metal, whereby less heat is given out and the unpleasant odour arising from heated brass or iron entirely obviated.

PROPOSED NEW DOCK IN JERSEY. Committee of Harbours met on the 11th inst., and had a lengthened conference with Mr. Walker respecting the proposed new outer dock. Mr. Walker read the draft of a report dock. embodying his views on the subject, and sub-mitted also to the committee four designs, He also gave an approximate estimate of cost of each plan, as follows:-No. 1, 200,000/.; No. 2, 210,000/.; No. 3, 240,000/.; No. 4, 280,000/. In these sums are included 10,000/. for unavoidable expenses required for the improvement of the inner harbour in the event of its being left a dry barbour; and also 10,000%. for the filling up of sites for stores on each side of the dock. The cost of the inner dock had been estimated at 130,000%. Mr. Walker's plan for certain improvements at Rozel Harbour, estimated at 2,000%, was approved of; and he was instructed to prepare a plan for Bouley Harbour. Mr. Nixon, Mr. Walker's assistant, remains on the island to complete the plans and estimates.

SUBSTANTIAL NEW WAREHOUSES Hull.—The contracts for the Hull Dock Company's new warebouse, at the south end of the Junction Dock, have been let during the past few days. The warebouse will be entirely fire-proof. The length will be 217 feet, the breadth 60; and the height five or six stories; the cellurs will be vaulted, the pillars and groining of the floors cast iron, and the floors themselves of brick, in arches; the thickness of the walls above the ground 3 feet thickness of the walls above the ground 3 feet 2 inches, tapering to 18 inches at the roof, which will be of iron. The warehouse will stand 40 feet from the edge of the dock, and equi-distant from the lock-pit... The com-pany are erecting another strong warehouse on the Old Dook-side, near Lowgute, for a depôt, the walls of which, are to be three feet thick.

LANCASTER AND CARLISLE RAILWAY A few days since the foundation stone of the last under-bridge on the line in the neighbourhood of Penrith, situate at a place called Thucka Beck, in Messrs. Harper and Booth's contract, was laid, with the usual ceremonies, by Mr. Virtue, Mr. Stephenson's managing engineer. Under the south wall were deposited a number of rare and curious coins, namely-from George I. to Queen Victoria; a bronze coin of the reign of Augustus Dominitian, and several Roman, English, French, and Spanish coins; they were forty in number. One of the coins deposited was 1,600 years old, which when re-discovered, if ever it may be, will no doubt give rise to much speculation to the antiquarian and the wise in centuries yet to come, and prove a rare and valuable relic of antiquity.

a terra di Mona Le la di Mona

BRIDGE ACROSS TER I WHED THE DITORS which it will be necessary to serect fiver the Tweed, for the connection of the North British and the intended Newcastia and Bernick Bailways, should the laster obtain the sangtion of Parijament, will be 726 yards in desgth, said 100 feet above high-water market It will c siet of thirtsen arches (the present bridge has ifteen), each of 70 feet span, oine or ten abut-ments being in the river. The expense of this undertaking, inclusive of the viadact which must be formed on the south of the bridge, will be 65,0002, while south, again, of the viaduct, it will be necessary to construct an em-bankment 56 feet high, and half a mile long, the expense of which will amount to 30,200/

YARMOUTH SUBPENSION BRIDGE. --- MC. James Walker, the engineer, has surveyed the bridge, and in investigating the cause of the late accident by direction of the Home Office. Before the date of our publishing, Mr. Walker will probably have made some statements to the jury now eithing on the bodies of the sufferers. Mn. Corry, the owner of the bridge, bas met the inquiry most openly, and humpnoduced all the original drawings and specifications of the construction. ว สายสาทาง

THE ROTUNDA. - After endergoing variess mutations, this building in the Blackfriars's road, is about to be opened at a branch of the Government School of Design at Somemet House. | Scarcely twenty years (have alapsed since it was known as the Surrey, Institution) at which: Dr. Grotch and Mr. Goldsworthy Gurney, were arcostomed An ideliver their attractive lectures on masic and chemistry grand the Reve Thomas Hartwell Horne and Mr.

and the second

bord Byron's research brod The following Tenders have been toolyd for creeting a Rectory in the partain of Flowton, manifipswich. participante, princharke many frances, figuration and D. Bischberge 2(1). M. (2007, 2008) of a statuBeanets and Whight: 20(2), 20077700 b). A "SonSt Baldiston of U. or. in proceeding 750 b). A Fred Mason Mr. Mason's tender was accepted.

We are compelled by the interforence of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the conventence of our renders however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, Yorky street, Covent-garden.] For value

For taking down part of the present County Gaol of Lincoln, and erecting a New Building on the site thereof, with airing yards and other reouisites.

For"the erection of the Bordugh Guol, Blrmine/win. 1

For the creation of a Building in London for a highly-patronized purpose, at the estimated cost of about 80,000 a radii to do not be at the at the For the performance of the necessary works in

the construction of a New Dock in the Borengh of Kingston-upon-Hull.

For a quantity of proof chain 23, 14, 1, 3, and br a quantity of proof chain 23, 14, 1, 3, and b inch, wanted by the Universal Salvege, Company.

For the reparation of Ten houses in Hounsditch,

The whole to be finished by the end of August. For Lighting the Public Lamps within the City of London with gas, for the term of one year, from Midsummer-day next.

For Building Sewers in the east end of Towerstreet, Harp-lane, and St. Mary Hill, and other places adjacent thereto, within the City of London. For Bailding the Carcases of certain first-rate Houses, with Shop Fronts, in the new line of Oxford-street, leading into Holbern and the interior For the execution of certain Works, to be dome.

in the parish of Bethnal-green, for the extension of the Goods Depôt of the Eastern Gousties Reilway Commany . 119

or the supply of British Iron, also Ironmongery. and Screws to the Bast-India Company. For executing Works on the Leeds, Dewabury.

and Manchester, Railway, heing a distance of about 44 miles. The principal work on this division is the summit Tunnel, near Morley, which is upwards of 3,000 yards in length.

For supplying the trustees for repairing Groswith the best Pit Flints, Kentish Rag-stone, Pit Gravel, Chalk, Aberdeen Granite Kerb, York Paring and Guernsey Granite, &c. For such Masons' and Paviers' work as they be

required during one year; from Midsummer mert, by the trastees of the parish of St. Lake, Middlesson 3,000.12 4413 36.13

THE BUILDER.

A SA COMPETITIONS.

Plans, sections, and elevations for a Terminus, and other requisite accompanying offices, for the Great Southern and Western Railway, Ireland.

A premium of 30 guineas will be presented to the party offering the best plan of Docks, capable of admitting ships of 1,000 tons burden, to be erected at Burnham, in the Bristol Chanael.

Designs for houses to be erected at Dover. Lesigns for houses to be crected at Dover. The ground is nearly seven acres in extent, and lies on a gentle slope between the south-west boundary of Dover Castle and the town. A premium of fifty guineas is offered for the set that may be most approved of.

AFPROACHING SALES OF WOOD, &c.

The timber and other trees new standing upon the estate at Woodscaves, Salop. By order of the Lord Chancellor made in the cause "Dickin v. Barker

Barker." At Wiston Woods, near Nayland, Esser: all the Timber, Timber-like Trees and Saplings (con-sisting of Oak, Ash, Elm, Asp, Birch, and Cherry) arising from the Wood of 13 Acres called "Hills." At Kersey, near Hadleigh, Esser: 130 Capital Oak Timber Trees, 70 Oak Standels, and about 30 Pollards, lying on "The Ivy-tree Farm." At the Three Sarah Inn. Hungerford 400

At the Three Swans Inn, Hungerford : 400 valuable Oak Trees of first-rate quality, felled on

the Chilton Lodge Estate. The Foarth Portion of the Materials of the Fleet Prison, comprising the entire South Wing of the Principal Building, and the Infirmary. At West Wickham: 31 Oak, Ash, and Elm

Trees of good quality, and 60 sound Pollards. At Eversdea Wood, Cambridge : 80 Oak Timber Trees, clean, sound, and of useful dimensions.

At Bourn, Cambridge : a capital Fall of prime Oak Timbar, comprising about 100 Trees of good usions

At Monk Sherborne Brick Kiln, Basingstoke, Hants : upwards of 200,000 new Building Bricks, 40,000 Arch ditto; 25,000 Thes, &c.

At Little Bentley Hall, Essex: soveral Acres of Plantations, consisting of superior Firs, Larch, Sprice, &c., to be taken down by the Purchaser.

At Brandon, near Coventry: several Thousand prime Oak Trees, and a quantity of Planks and Quarterings.

BY TENDER.

A Virgin Forest of Valuable Timber in Wala-chia. The principal part of the Trees is Oak. The said Forest may produce about 500,000 cubic feet of Timber.

MEETINGS OF SCIENTIFIC BODIES

MEETINGS OF SCIENTIFIC BODIES During the ensuing week. MONDAY, May 26.—Geographical, 3, Waterloo-phoe, 8‡ P.M. (anniversary); British Architects, 16, Grosvenor-street, 8 P.M.; Medical, Bolt-court,

Floot-street, 8 P.M., TURSDAY, 27.—Medical and Chirurgical, 53, Berners-street, 8 P.M.; Civil Engineers, 25, Great George-street, 8 P.M.; Zoological, Hanover-

Great George-succe, Successful of Aris, Adelphi, WEDNEBDAY, 28.—Society of Aris, Adelphi, 8 P.M.; Geological, Somerset-house, 81 P.M.; Pharmaceutical, 17, Bloomsbury-square, 9 P.M.

THURSDAY, 29. — Royal, Somerset-house, 8 p.m. FRIDAY, 30. — Royal Institution, Albemarle-

et, 84 p.m.

SATURDAY, 31. — Institute of (Society of Arts), Adelphi, 8 p.m. - Institute of the Fine Arts.

TO CORRESPONDENTS.

"Westminster Abbey."-" A lover of Gothic" complains of the incivility of the vergers here, and of the haste with which, against his will, he was hurried round the church and not allowed to pause, on the ground that "if let alone he might do some injury." Surely some arrangement could be made so as to allow visitors who wish to use their n eyes, and examine the wonders of this building for themselves, to take their own time in doing so?

for inemsetees, to take their own time in a ong so / "An Architect" (Nottingham), "Cam. Cam.," "the Rev. J. S.," will see that the subject of their letters has not scaped our attention. "C. A. jun." is thanked for his communication. "John Ledger."—We shall be glad to receive

local papers containing notices of the proceedings at Lille.

"Sir Robert Peel's Portrait Gallery." number of THE BUILDER containing the engraving of the premier's new portrait gallery at Drayton Manor, is still on sale at the Office in York-street. "W. L. Short."—The account forwarded is gene-

rally known, and hardly requires to be reprinted. We are nevertheless obliged, and may make some

use of it. "X.Y.Z." (Nottingham.)—We cannot cast a "X.Y.Z." (Nottingham.)—We cannot cast a shur by implication on the parties employed. If

our correspondent has any direct charge to make, and will favour us with his name in confidence, it shall have all consideration.

"A Constant Subscriber" (City), asks a very wide question. Mr. Manby, the secretary of the Institution of Civil Engineers, could probably give him the information he seeks. "G. Collier."—The weight of the tin box should

be given. Plan for Ameliorating the Evils and Improving

the Condition of the Working Classes," is the publisher's for the writer, with thanks. "Tubes for Chimney-flues." — A su is left at - A subscriber

wishes some information on this subject, and to

Where some information on this subject, and to know where they can be obtained.
 "C. T." (Norwich.) — Two copies were sent to Reepham as directed, another shall be forwarded.
 "New Churches." — A correspondent remarks, that in several of the new churches no "closets"

are provided for the use of the congregation, and urges their necessity. "Hotel, Whitchaven."-Messre. Burton

47.

"riotel, whitebaven." - Mesore. Burton, Al-dersgate-street, request us to state that the letter signed "Semper Idem" did not emanate from them. F. T. (Newcastle)." - We cannot give any gen-eral reply to the inquiry. If submitted, we shall be happy to remunerate our correspondent for what-ever we may consider enailable

ever we may consider available. Received.—" Messes. Rigby "—" Proceedings at the Institution of Civil Engineers."

ADVERTISED STT

HOLBORN AND FINSBURY SEWERS, MIDDLESEX. THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratia) by persons about to Purchase or Rent Houses or Property, or take Land of Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Dwinage, and which they recommend all such Persons to apply for at the above Office. By the Court, STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Sobo-

O BUILDERS and Others interested in

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by water-courses falling into the river Thames, between the city of London and the parish of Fulham. The Commissioners hereby give notice, that by an Act of the 47th Geo. 111. (chap. 7, local) it is required that, pre-viously to the making of any new sever in any street, lane, or public way, or it any part intended to become a street, lane, or public way, or to carry off or drain off water from any house, building, yard, or ground, into any sever under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and into any new sever shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise. And, in order to prevent the serious evils and inconveni-ences that must arise from ground proposed to be built upon being exevated at too great a depth, the Commissioners have directed that, upon ary lication being being information shall be given as to the clowest depth at which the same can be drained. And the Commissioners do also give notice that, when-

be given as to the lowest depth at which the same can be drained. And the Commissioners do also give notice that, when-ever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into severs, to be made for the service of such buildings. It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers. All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their appli-cation, and the name of any party not present when called on to support the application will be struck out, and the pro-ceedings must in consequence be commenced de novo. All communicationers will be cut off, and the parties making the same will subject themselves to a fine. By order of the Court, LEW 18 C. HERTSLET, Clerk.

WESTERN LIFE ASSURANCE VV SOCIETY, OFFICE, 49, PARLIAMENTSTREET, WESTMINSTER,

Physician. William Richard Basham, M.D.

William Richard Basham, M.D. Surgeons. Alfred Leggati, Esq.; George D. Pollock, Esq. Bankers. Messrs. Cocks, Biddulph, and Co. Solicitors. Messrs. J. L. Bicknell and J. C. Lethbridge.

Measures. J. L. Bicknell and J. C. Lethbridge. The attention of the unassured portion of the community cannot be too pointedly drawn to the unusual advantages offered to the Public by this Society over those of many others, as it enables all classes to effect life assurances in the manner most convenient to themselves, and amongst other of its popular features that of allowing the Assured (by Table 2) to leave HALP THE ANNUAL PERMIUNS unpaid for seven years, will not be found undeserving public attention. Immediate and deferred ANNUTINS, and every description of Life ASSurance business, undertaken by this Society. Prospectuses and all other requisite information will be furnished on application to the Secretary, or the Country Agents of the Society. EDWARD T. BICHARDSON, Secretary.

NOTICE TO INVENTORS. OFFICE FOR PATENTS OF INVEN-TIONS and REGISTRATIONS of DESIGN&, 14, Lincoln's-imn-fields.-The printed INSTRUCTIONS grain, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Design Acts, may be had by applying personally, or by letter, pre-paid, to Mr. Alexander Frince, at the office, 14, Lincoln's-inn-fields.

A TKINSON'S CEMENT.—The public is respectfully informed, that the price of this very ex-cellent Cement, which has now been in use for Architecture, and Engineering works upwards of thirty years, is reduced to 28. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-strest, Surrey dee of Blackfriars-bridge.

N.B.-This Cement being of a light colour, requires no arti-ficial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

MARTIN'S PATENT CEMENT. TO ABCHITECTS, BUILDERS, AND PAINTERS IN FRESCO.

STEVENS and SON, PATENTEES and SOLE MANUFACTURERS, beg respectfully to announce that this beautiful ement has now arrived at a degree of excellence far surpassing their most sanguine supectations. For all internal work it possesses a great used extensively by Government in the British Museum and other public buildings. IT DOES NOT THROW OUT ANY SALT, but presents a beautifully plain and perfect surface, which may be painted upon dry work within four days without peeing. It is equally applicable for walls or submitted to form the best ground for freeco painting, having been used for many of the prise freecos lately exhibiting it westminter Hall. It will been an intense heat without or equilibrium. It will been an intense heat without any for hardness, durability, and economy, cannot be equilibrium.

be equalled. 186, DRURY-LANE, LONDON. Agent for Liverpool and Manchester, Mr. B. Part, 11, Atherton's-buildings, Dale-street, Liverpool.

Atherton's-buildings, Dale-street, Liverpool. **TKEENE'S PATENT MARBLE** CEMENT.—The Patentees of this composition beg to refer to the British Museum, the Royal Exchange, the new works at Bethlem Hoopital, Greenwich Hoopital, and the Co-lieum in the Regent's-park, as buildings finished or in pro-gress, in which Keene's Coment has been used as an internal stucco. Its superiority to common plastering consists in its extreme hardness, and the rapidity with which it dries, which qualities fit it to receive paint or other finishing sooner than other water Cemengs. When employed for skirtings, architrave, and other mouldings, in place of wood, it checks dry-rot, is impervious to vermin, pawents the spread of fire, and is more eco-nomical in its application than the material for which it thus becomes the substitute. Confirmation of these statements is to be found in the and Hall flooring in the new houses on the Hyde Park Estate, where its application is to be seen to the fullest advan-tage. In Liverpool and Manchester Kenne's Comments in the statements of the statements in the substitute.

where its application is to be seen to the fullest advan-tage. In Liverpool and Manchester, Koene's Cement has in several cases been used for the covering of the fire-proof warchouse floors, where its lightness and hardness give it the preference over tiles and flagging, which are much heavier, and necessarily leave the floor intersected with numerous joints, whilst Keene's Cement is laid down in one unbroken surface.

surface. The high polish and marble-like hardness of which this Cement is susceptible render it the most suitable material for the manufacture of Scagliola. Patentees, J. B. WHITE & SONS, Millbank-street, Westminster, Manufacturers of Roman and Portland

ement. Depôt in Liverpool, 36, Seel-street ; James Woods, Agent.

O ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MER-CHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL. то

JOHNS and CO.'S PATENT STUCCO JOHNS and CO.'S PATENT STUCCO' CEMENT.-The following are the positive advantages possessed by this Invention over every Cement hitherto in-troduced -It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, bliater, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep freah and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any acason. It will adhere to any substance, even to Wood, iron, or Glass. It will carry a larger Proportion of Send than any other Cement. Yit matures by age, and be-comes perfect when other Cements begin to periah. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain usdamaged by the severest Storms. Any Plasterer may apply it, the Instru-tions for use being very clear and distinct. The first cost ef-this material does not exceed that of the cheapest Cameat now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in pount of conory. Architects and Builders who have used this Cement have

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally

declared that it requires only to be known, to be universally preferred. By commas may be seen, and a Prospectus fully describing the Cament and its mode of application, together with a volume of Testimonials from erery part of the Kingdom, may be obtained on application to MANN and CO., SOLK ACENTS for the Patenters, 5, Maiden-lane, Queen-street, Cheapside, London : of whom also may be had. JHNS and CO.'S PATENT STONE-COLOUR STUCCOPAINT, expressly intended for Painting over ex-terior Walls of Houses that have been covered with Roman or other Cementa, and which have become dirty stud disco-loured. It is in every way better suited for this purpose than of other Cementa, and which have become dirty stud disco-being in direct chemical opposition with Cement; whereas affinity for Slucco, binds itself with it, stopping the-auction, thereby rendering the wall proof against weather, and in the other Paint whatever. It is cheep in its application, — and when be used by any Painter, in any climate, even in the most exposed Marine site.

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SATURDAY, MAY 31, 1845.



THE late dreadful accident at Yarmouth has led various correspondents to address us; some on the safety in general of bridges erected on the suspension principle,

some on the cause of this particular accident. and one on the apparent lightness and instability of the new Hungerford Bridge. We have before us various statements, too, for and against Dredge's principle, and a notice of Andrew Smith's suspension and parabolic tension bridge, which does not require piers.

"A fatality seems to attend chain bridges," says one writer, "even when the most eminent engineers erect them. At Paris, two attempts failed a few years since, through, I fear (good mathematicians as our neighbours are), some omissions in the formula. The Montrose suspension bridge partially gave way at the opening some years ago ; and at the time, I was told, several individuals were impaled on the ironwork for hours, before tackle could be brought to bear to relieve them. Since that, both it and the Menai have been injured by storms; and I must say, from what little consideration I have been able to give to the subject, as a mechanic of the humbler class, I do not think suspension bridges are built strong enough or sufficiently braced."

The Broughton suspension bridge at Manchester broke under a body of only sixty soldiers passing over in marching order, - the simultaneous tread of the feet having the effect of a series of heavy blows.

One of Mr. Dredge's bridges in the Regent's Park is understood to have fallen with only a dozen boys on it; and others are said now to be in a state of dilapidation, if not danger. We have no wish, however, to be alarmists, and to raise fears which may not be so easily quieted. Still, feeling that calculations are not to be entirely relied on in these cases; that much depends on the goodness of workmanship which has not been tested; and that the mere fact that a suspension bridge has carried heavy loads nineteen times is no reason why it should not break down the twentieth,-we are impelled to urge the necessity of constant examinations by efficient persons. "From the rapid advances which have, of late years, been made in the sciences," says a writer in the Mining Journal, "and their application to the arts, we have discovered that iron undergoes most important changes under various circumstances - such as continual percussion, electricity, galvanic action, &c. - and I think it becomes a subject of deep interest, and one which ought to be most searchingly investigated, whether these agents, or any of them, have contributed to produce the effects in question; and the public must be informed whether any, and what, examination of the chains, suspension rods, &c., takes place in these erections, and how often; for, be it remembered that, while a stone structure gives token of decay, and openly exhibits to the eye any danger or necessity of repairs, one corroded bolt in a suspension bridge-one portion of iron, which, though having stood the proof before being used, may, from some of the abovenamed causes, have become chemically altered-

THE **BUILDER.**

may at once, unnoticed, and without the slightest warning, be the cause of irreparable mischief." The jury who investigated the late melancholy catastrophe at Yarmouth are much to be commended for the determination they evinced to have the cause of the accident examined into by a scientific engineer. When the towncouncil refused to furnish them with such assistance they addressed a memorial to the Secretary of State, setting forth : " That in consequence of the excitement which exists in the town and neighbourhood, and of numerous reports in circulation as to the state of the bridge, your memorialists considered it absolutely necessary that they should have the evidence of some scientific practical engineer, in order to enable them to arrive at a just and proper conclusion; but the coroner having no power to pay the expenses which would be incurred by the employment of such engineer. your memorialists addressed a representation of the circumstances to the town-council of the said borough, requesting that body to authorize the employment of an engineer for the purpose before mentioned. That your memorialists have received a formal communication from the town-clerk of the said borough, stating that the town-council, at a meeting held on the 8th inst., had declined to comply with your memorialists' request, feeling that it was not in their province to do so. That your memorialists are still of opinion that the evidence of an engineer in their investigation is imperatively called for; because they not only know that it would be satisfactory to themselves and to the public, but they also believe that the publicity which would be given to his evidence might be the means of preventing the recurrence of so frightful a catastrophe :"-and praying that he would direct some civil engineer to attend

Mr. Walker was accordingly sent down, and there can be no doubt that much good will result from the clear and able statement which he made after his survey. This statement involves several questions of great importance, and we deem it desirable to transfer it to our pages nearly entire; the more so, too, as it gives a history of the bridge, and the addition that was made to it.

on the spot.

"The bridge belonged," said Mr. Walker, "to the late Mr. Cory, father of the present owners, and was constructed from a design of Mr. Scoles, an architect in London. At first it was only a substitute for a ferry over the river Bure to the marshes, and to certain pleasure grounds called Vauxhall-gardens, belonging to Mr. Cory. Mr. Scoles, who has attended from London on this occasion, and who has assisted me very liberally with his drawings and calculations, states, that he made designs for a bridge of sufficient width for a carriage and two footways. The design was made from memory of the particulars given to him by Mr. Cory, but I understand that he never was at Yarmouth until the day before the bridge was opened; that these drawings were given to Mr. Green, a surveyor at Yarmouth, who was at that time employed here, and who was well known in this district. Mr. Scoles thinks Mr. Cory had at that time in view the making of a turnpike-road from Yarmouth to Aclewhich-road, which was to pass over the bridge, although Mr. Cory at that time did not so inform him. It appears that the work was offered for competition, and that Mr. Goddard was the contractor (who is since dead) for the bridge work, according to specifications pre-pared by Mr. Green, the surveyor I before re-ferred to. These specifications were embodied in the contract, which contract I have seen, but which does not give the size of the principal parts, although it refers to drawings which it states are attached to the contract, but which are not, nor have I been able to see them. It appears that they are either mislaid or lost. The specifications describe that the iron shall be of the best quality. The specifi-

cation describes it as the best charcoal iron. Now, this is a description of which very little is made in this country; the meaning of the term is, that it was to be British iron of the very best quality. The specifications make no mention as to the quality of the iron being tested, as far as I have observed. From a drawing which is now in Mr. Scoles's posses-sion there appears no reason to doubt that the main or suspending chains and other parts of the bridge are of the size which was intended. The drawing which I have in my hand is executed in a very excellent and workmanner manner. There are altogether four suspending bars, two on each side, to form a chain. The bars are connected together by bolts passing through openings or eyes at each end of them. These bars are 21 inches wide by seven-eighths thick; from them rods of 1 inch square were suspended to carry the roadway, which was 14 feet 9 inches in width, and divided by an iron kerb or carriage-way from a footpath on each side 4 feet in width. The length between the centre of the towers is 92 feet; the deflection of the chains is 7 feet 4 inches. An Act of Parliament, constituting the bridge a turnpike-road, was passed in May, 1830, and the road was opened in 1832; in 1842 the Yarmouth and Norwich Railway Act was passed, which contains a clause, obtained. understand, after much litigation and opas I position, by which this bridge was constituted the only communication between the railagreeing to receive the tolls, stipulating to widen it and afterwards to suspend It appears that on this occasion Mr. Scoles it. again consulted respecting the widening of the carriage-way to a width sufficient for of the carriage-way to a much density of the footway two carriages to pass abreast—the footway being formed on each side by planks separated by iron straps attached to the framing of the bridge. This footway was therefore outside the suspending chains. That was in 1844. Mr. Cory says, that after the above alterations were made, he consulted an eminent engineer as to the sufficiency of the bridge, who said that it was fit for any traffic. I cannot help observing on this, that any opinion taken from an engineer, however eminent, in an off-hand manner, is what the engineer would not con-sider himself bound by, and which I should think it very unfair to implicate him in; because sometimes a gentleman is asked a question in an off-hand manner, and either from a feeling of politeness, or a desire to get rid of it altogether, he answers in a favourable man-ner; much more so than he would if he had an opportunity of examining it. The foundaan opportunity of examining it. The founda-tions appear to have been piled well, and to have stood well. Mr. Scoles shewed me a drawing of the piling, and, if the work were executed according to that, I have very little doubt of the soundness of the foundation. You are probably aware that I am very well acquainted with the foundations of this part of the country, having been consulting engineer to the Haven and Pier Commissioners for many years. I have also made drawings for a fixed bridge over the Yare, and I erected the temporary bridge which is now there. It is stated that the crowd collected on the 2nd of May was confined to the south side; that the crowd was composed chiefly of children in the front rank, with adults behind, to see some exhibition which was then to be seen on th water. They were supposed to be four or five deep, and it appears that they had collected on the bridge to the number of from 300 to 500. The coroner has stated to me that he has seen double the number on the bridge (or even more than that), but that on those occasions they were spread over on both sides of the bridge, so that all four bars or two chains were equally loaded. It has been stated, I believe, by one of the witnesses who has been examined before, that some sort of cracking noise was heard, which induced him to look up, when he saw that one of the bars or rods of the suspending-chain was broken-that two points where the fracture had taken place were entirely separated, and that in about five minutes afterwards came the fatal catastrophe. This cracking was no doubt occasioned by the snapping in pieces of the bar which first way. There was now only one bar left to support the whole weight, and this bar consequently gave way in five minutes after the one on the opposite side; the platform, being then entirely unsupported, fell in the river. I

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have seen and particularly examined the two bars which gave way - they form the link next but one to the saddle or top of the chain on the east or Yarmouth side of the bridge. The fracture in the bar which first gave w is about eight inches from the other end, and there is the same distance from the lower end of the bar. It appears that in forming these bars the two circular ends and about six inches of the straight bar were first made. Between these a straight bar of the proper length was afterwards introduced, each of the pieces having been what is termed scarfed—that is, terminating disgonally, and not in a straight line across. These three pieces being heated and welded together made one bar or link. Then each bar had in it two joints, six inches from one and six inches from the other. In work of this kind there is great difficulty in getting iron so constructed as to make a perfect getting if on so constructed as to make a perfect union or junction with the two ends. It was at these points that both bars in the pre-sent case broke. On minutely examining the fracture of the bar, it is evident that for some length of time, or from perhaps its original manufacture, the "weld" was imperfect—not more than one-third of the melting surface being united, and the other two-thirds pre-sented a rusty surface. This would have been doubtless seen, as it is evident on a very slight inspection. The joint or weld of the other link is good—the corresponding one forming the bar. But I find that this bar (the second one) is one inch longer than the one which broke first; in the bar which broke second, putting the bolts through the eye at the lower end, I find that it does not fit, but passes obliquely, and is one inch longer than the other. This extension or difference of length is caused without doubt by the stretching of the unsupported rod before it broke, during the five minutes that it had the whole weight to carry. I have no doubt but that this caused it to stretch quite an inch in length. Having had the quality of the iron tested in a variety of tways, by a very intelligent blacksmith (Mr. Gooda), I find the straight pieces, or middle of the bar, to be much better than the other end; the straight piece is better than the end pieces, which contain the eyes, which are very coarse and inferior in quality. This (holding a bar up to the jury) is one of the middle pieces; not the one which broke, but one taken indiscriminately. I desired Mr. Gooda to lengthen it, and to apply a power to twist it. As far as I can judge this iron is good. I also desired a screw to be formed in another bar, and I am of opinion that that bar is also good. There is another straight piece between the two ends. I think generally that the quality of the ends is not according to the specifications, nor are they in my opinion proper for the purpose. Had any sufficient means been used to prove and test them, the inferiority of this iron must have been at once discovered. This is a piece of one of the ends, which is a very open, coarse-grained, and inferior piece of iron, and which broke when the blacksmith referred to was applying a hammer to the middle of the Was applying a name to the induct of the bar; the part which he did not strike broke like a piece of cast-iron. The blow was applied, remember, at some distance from where it broke. If care had been taken to test this iron properly, it is impossible but what this defect must have been discovered. No one could have expected that it was going to break, but it did. Another bar was taken by my di-rection for the purpose of testing it as to fibre, and it broke in pieces just in the way a carrot would do, and did not bend like a piece of stout fir timber, which it would have done had it been sound. I shall now make a few remarks upon the strength of the bridge, as com-pared with the load. Taking the load at the time to be all on the south chain, I find by calculation that the two rods of $2\frac{1}{4}$ inches by $\frac{7}{4}$ are capable of supporting a temporary load of 56 tons without injury. Of course, I am as-suming in that, that the bridge should be properly constructed. I need not say, that in order to arrive at any thing like accuracy, a great deal of calculation is required, because the deflection of the iron and the span of the bridge ought to be taken into account. I find that the strain, taking 400 individuals at an average of seven stones each, and allowing for the weight of the bridge, was, at the time of the accident, about 44 tons. Therefore, but for the defect in the quality of the iron and in the workmanship, the strength of the bridge ex-

Mr. Walker said-I saw in the original speciceeded the load upon it; but even then the excess was not sufficient where the effects of failure are so important. I say so because experiments are generally made with good iron, and at all times large allowances ought to be made for imperfections. If we suppose any of the pieces to be bad, as was the case here, then we have the strength less than the strain. The bridge appears to me to have been by no means too strong as originally formed, and the additions made to its width have been in the present case exceedingly injurious by the weight being placed outside the suspending chain. The weight had therefore to be carried en-The weight had therefore to be carried en-tirely by that chain in place of being equally borne by all, which is the case when the weight is within the chain. In reference to the sufficiency of the bridge to carry the greatest load which could be placed upon it, I find that its strength is somewhere a little above the weight which it would carry, but so small as not to be practically sufficient, even without any allowance for imperfections. It without any allowance for imperfections. It without any andwance for imperfections. It is proper, however, to say, that the question is not, how many people can be packed *en masse* upon the bridge, although even that contin-gency ought to be provided for. After the bridge was widened the strength exceeded the strain, of course, less than it did before; but, even before, it does not appear to me to have been sufficiently strong to ensure perfect security, supposing a mass of people to have been packed upon it in the way in which I described. It appears that on other have occasions a very great number of persons had been upon the bridge, and that it had borne them without falling; the coroner has in-formed me that he has known twice or thrice the number upon it that was collected on the occasion alluded to, and therefore we have it evident that for the load at that time the strength of the bridge was adequate. It is also evident that when a bridge has been frequently loaded to the utmost which it will bear, it becomes weaker and weaker each time, and the bridge may ultimately give way, although at first it was sufficiently strong to resist the weight put upon it. I have now only a few remarks to add in the shape of general conclusions from what I have stated, and they are these :-

1. I consider the immediate cause of the accident to have been a defect in the joining or welding of the bar which first gave way

2. That the quality of the iron and the workmanship, as far as I have been able to examine them, are defective; and I believe that the accident would not have happened had the work been properly examined at the time of construction.

3. That the widening appears to have been made without sufficient reference to the original strength of the bridge, and the weight which it had to support, and therefore that it acted as an aggravation of the evil.

4. That in the original construction of the bridge, the casualty of a great load, all on one side, does not appear to have been contem-plated; if it had been, I think that the links on that side would have consisted of more than the two bars, any one of which was unequal to the load which the bridge was likely to carry.

I am bound to add, that in this investigation I have received every possible assistance from Mr. Cory with reference to all documents which were in his possession; this has enabled me to come to the conclusions I have done in less time, and I hope with a greater approximation to accuracy, than otherwise I could have done. I believe I have said all I have to say, as far as the case has gone. I can only add, that under the direction of Sir James Graham any ques-tion which any gentleman might put to me I shall be very glad to answer. Perhaps I may also add, that the whole weight of the bridge has been taken with great accuracy by Mr. Scoles, and that the addition to the width, as far as its own weight goes, is comparatively unimportant. The weight of the bridge, including the suspending chains, before the additional width was added, was 17 tons, 14 cwt. 3 qrs. 25 lb.; with the additional width, cwt. 3 qrs. 23 10.; with the auditional width, and the railing added, its weight was 20 tons, 8 cwt. 9 lb., making an addition of 2 tons, 13 cwt. The evil of it is, the footway being outside the chains, and therefore throwing the whole load upon the two suspending chains, without any part being thrown upon the chain on the north side.

In answer to questions put by Mr. Evans,

fications that all the wrought iron should be proved by heating it red-hot; and, if this had been adopted, we should not have had the weldings which we have seen to-day. I observe, in the specifications, that all the mate-rials to be used in the before-mentioned works should be of the best quality, and that it should be in the power of Mr. Cory, or his surveyor, to reject any materials which he or they might deem insufficient for the works. It was most undoubtedly the duty of the person undertaking to be the surveyor of these works to have as-certained by some such means as I have described the quality of the iron, and the manner in which it had been welded. If the surveyor, who is since dead, and whose duty it was to watch and see the contract carried out according to the specifications, had done so, this accident would not have happened, in all proba-bility;—I mean that the defect must of neces-sity have been discovered. If a person had watched, as he should have done, the welding of every link, this defect would not have arisen : the defect in the quality of the iron must have been very apparent to any one at all acquainted with the subject. I have made my calculations as to the weight of the people upon the bridge upon six to the square yard. should think that, practically, such crowding seldom, if ever, occurs. It is with reference to such packing that I have spoken, and I think the bridge would hardly have borne it. I think even if, as I believe to have been the case, the crowd consisted chiefly of women and children under fourteen, that seven stones is about a fair average weight. It is too much of course for children, but not enough for a good fat woman. It is perhaps rather a large average. I took it partly because it has been frequently adopted before. Looking at the contract generally, I do not think the gende-men who built the bridge originally had taken the necessary precautions to have the work properly done, more particularly as regards the mode of doing it. I think the contractor should have given the engineer or inspector of the work the power of having it tested in such a way as he should think fit. I do not find that in the contract. The clause which empowers the engineer to reject any materials which he might deem unfit gave this power indirectly, and in a manner; but I think the surveyor ought to have the power to do so without such a clause as that.

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By the Jury.—In my opinion, and speaking from the general result of experience in these matters, the defective iron bars were probably made in the country; they were sent here, and the good iron (the middle pieces) was sup-plied at Yarmouth and used here. The weldplied at Yarmouth and used here. The weld-ing, or joining, was most likely done here. The difference between good and bad iron was shewn mainly by the breaking; good iron broke like a piece of good fir timber; bad, as I have before said, like a carrot—it snaps in two the before said the number or the two. He had estimated the number on the bridge at 400, because the statements he had heard were 300 and 500. If 300 were the proper number, you have only to deduct one-fourth from the estimated weight on the bridge.

GOVERNMENT GRANTS. — In the Parlia-mentary estimates, under the head of "Public Works and Buildings," we find the sum of 112,217*l*. appropriated to public buildings and royal palaces, 6,500*l*. to the palm house at Kew, 8,395*l*. to the temporary houses of Par-liament, 85,000*l*. to the new houses of Parlia-ment 3,236*l* to Labrack backwar and roads ment, 3,8361. to Holyhead harbour and roads, 50,000% to the Caledonian Canal, and 24,6614 to public buildings in Ireland. Under the head of "Education, Science, and Art," we find a sum of 75,000%, applied to public educa-tion in Great Britain, 75,000% to public edu-cation in Ireland, 4,911% to schools of design, 2,0061. to professors at Oxford and Cambridge, 4,540% to the University of London, 7,380% to universities in Scotland, 5,910% to the Royal Dublin Society, 2,100% to the Belfast Acade-mical Institution, 52,040% to the British Dublin Society, 2,100% to the Benast Acade-mical Institution, 52,040% to the British Museum, 52,020% to the British Museum buildings, 6,217% to British Museum pur-chases, 1,500% to the National Gallery, 8,850% to the Museum of Economic Geology, 5,920% to calculate and experiments 5,8391. to scientific works and experiments, 1,5001. for the monuments of Sir S. Smith, Lord Exmouth, and Lord De Saumarez.

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WESTMINSTER IMPROVEMENTS AND THE WESTMINSTER REVIEW.

In our leading article of March 15th (p. 121 ants), we drew attention to the lethargy of the Metropolitan Improvement Commission, and certain defects in the plan sanctioned by them for the improvement of Westminster; and we described some plans emanating from the Metropolitan Improvement Society, wherein by a slight deviation from the intended line and the sacrifice of an old workhouse, the abbey was brought into view; the roadway was continued round the south side of the abbey, leaving the Cloisters untouched, and terminating with the Victoria Tower of the new Houses of Parliament.

Houses of Parliament. These latter were afterwards submitted to the commissioners; but they declined to reopen the question, considering themselves pledged to the plan now before the House; and unless some effort be made, the new road will be formed so as to shut out the abbey and render its isolation unlikely for many years to come. The same society proposed a road from Buckingham-palace to the new Houses of Parliament, which would dovetail admirably with their proposed Westminster line, and is imperatively required, and by which the Victoria Tower would be visible at the palace gates. If the Westminster plan now adopted be carried out, this important improvement will be entirely prevented.

In a very interesting article on Old and and New London, that appears in the present number of the *Westminster Review* (for June), and to which we may have occasion to refer again on other ground, there are some remarks on the subjects that may be usefully circulated, and we accordingly transfer them to our columns. "The site of Westminster Abbey was, in

"The site of Westminster Abbey was, in the Roman time, an island formed by a branch of the Thames, and a stream from the uplands, called the Ty-bourne. It was a wild place, overrun with thorns, and was hence called Thorney Island; the name it still retains in old writings."

The ground, in the course of centuries, has been considerably raised, but a large portion of the district, where the old streams flowed, is still below the level of high-water. The first church, or *Minster*, erected here, was called the *West Minster*, from its being situated to the west of London.

Nothing is known with certainty of the history of any buildings in Thorney Island at the period alluded to by the old monk, when he said: 'the suburbs of Thorney offer incense to Apollo.' A church or an abbey was undoubtedly built about the seventh century, and according to Flete, by Sebert, King of the East Saxons, and nephew of Ethelbert; instigated to the work by Mellitus, Bishop of London. The account of its dedication is fabulous, but not more so than that of a thousand other churches; and is curious as characteristic of the times.

'It was to be dedicated to St. Peter, and the preparations were already made for that august ceremony, when, according to the relation of several writers whose fidelity we leave our readers to judge of, the apostle himself appeared on the opposite bank of the Thames, and requested a fisherman to take him over. There he was desired to wait while St. Peter, accompanied with an innumerable host from heaven singing choral hymns, performed the ceremony of dedication to himself; the church, meanwhile, being lighted up by a supernatural radiance. On the return of St. Peter to the astonished fisherman, he quieted the latter's alarm, and announced himself in his proper ebaracter, hidding him at the same time go to Mellitus at day-break, to inform him of what had passed, and to state that, in corroboration of his story, the bishop would find marks of the consecration on the walls of the edifice. To satisfy the fisherman, he ordered him to cast his nets into the river, and present one of the fish he should take to Mellitus; he also told him that neither he nor his brethren

• The whole of the abbey and palace precinct, south of Pall Mall, was called by the Normans, "Thorney Island and tout le champ." From the latter phrase Mr. Bardwell derives the word Tot-hill. As there is no hill near the Abbey Tot-Aill Street would be a misnomer, but it is certainly not at all improbable that the French phrase of foul te champ was first clipped into tout le and then corrupted into toutite and Tot-Aill. In like manner the favourite Norman sign of Bealogue Mouth became the Bull and Mouth; L'aiguille et fils was corrupted into the Eagle and Child; and the more classical sign of the Satyr and Bacchanals was ultimately changed into the Deril and Bag of Nalls.

should want fish so long as they presented a tenth to the church just dedicated, and then suddenly disappeared. The fisherman threw his nets, and, as might have been expected, found a miraculous draught consisting of the finest salmon. When Mellitus, in pursuance of the apostle's mandate, went to examine the church, he found marks of the extinguished tapers, and of the chrism. Mellitus, in consequence, contented himself with the celebration of mass. We may smile now at such a story, but there is no doubt whatever that for ages it obtained general credence. Six centuries after, a dispute took place between the convent and the parson of Rotherhithe, the former claiming a tenth of all the salmon caught in the latter's parish, on the express ground that St. Peter had given it to them; eventually a compromise was agreed to for a twentieth. Still later, or towards the close of the fourteenth century, it appears fishermen were accustomed to bring salmon to be offered on the high altar; the donor on such occasions having the privilege of sitting at the convent table to dinner, and demanding ale and bread from the cellarer.'

The abbey was rebuilt by Edward the Confessor in the eleventh century, a short time prior to the foundation of old St. Paul's. A portion of the Confessor's building still remains in the Pix-office,^{*} and adjoining parts against the east cloister and south transept; but the greater part of the existing abbey was erected by Henry III., about the year 1250. Henry the Seventh's Chapel was commenced

Henry the Seventh's Chapel was commenced January 1503; but was still unfinished when Henry died in 1509. In his will, in which provision was made for the completion of the chapel, he names the Prior of St. Bartholomew, Smithfield, as 'the master of the works.' Henry the Seventh's Chapel is the chef-

Henry the Seventh's Chapel is the chefd'œuvre of decorative architecture. In its construction, to use the words of Washington Irving, 'stone seems by the cunning labours of the chisel to have been robbed of its weight and density, suspended aloft, as if by magic, and the fretted roof achieved with the wonderful minuteness and airy security of a cobweb.' But we need not comment upon a work of which the exquisite beauty is acknowledged; we seek only to interest the reader in its preservation, and to shew its connection, at the present moment, with the measures now in progress, professedly for the improvement of the metropolis.

The fire of London, which laid eighty-nine churches in ruins,—the fire of Hamburg, which lately destroyed the Church of St. Nicholas, an extensive edifice, nearly as large and as lofty as St. Paul's,—the fire which consumed the two Houses of Parliament, in which Westminster Hall escaped by miracle,—shew the importance of effecting a complete isolation of Westminster Abbey, by detaching it from the old and decayed buildings by which it is in part surrounded; while public convenicnce, and the architectural embellishment of our streets—both of which require a worthy approach to the tomb of kings, warriors, poets, and statesmen, and the seat of British legislature—point equally to the same object. What stands in the way? The apathy (ap-

What stands in the way? The apathy (apparent at least) of a Committee of Taste sitting as a Metropolitan Improvement Commission; the natural obstructiveness of a chancellor of the exchequer upon all questions of ways and means not belonging to routine, and the cost of purchasing a mass of inferior third-rate houses and miserable tenements.

The houses in Snow-rents stand in the direct course of a straight line drawn between Buckingham Palace and the Victoria Tower of the new Houses of Parliament; a line which, if adopted for a new street, would isolate the abbey by bringing a roadway on the south side.

A plan for such an improvement was submitted to the commissioners a twelvemonth back, and is given in plan 3 of their third report, just published.⁺ It is dismissed with the following brief

It is dismissed with the following brief remarks :---

remarks:----'The Society for Metropolitan Improvements submitted a plan, of which copy is appended, involving a total re-arrangement of the district. Her Majesty's commissioners have declined, therefore, to include the plan of the society in their inquiries.'

* The pix was the box for the consecrated host. † Hansard, price 5s. The reason assigned appears singularly inconclusive, for 'the total re-arrangement of such a district as lower Westminster' was almost, in the very terms of the commission, one of the objects for which it was appointed. The line proposed would have been a short one, entering the park near the Broadway, and thence proceeding to the palace through an avenue* of trees. From the palace gates the Victoria Tower, 300 feet high, would have been visible as the termination of a grand vista, corresponding with that of the Champs Elysées and the Triumphal Arch of Napoleon, but superior in effect; and the cost of a line, thus forming a fitting connecting link between the residence of the monarch and the seat of popular representation, would not have been attended with a very serious expense. The cost, we believe, would have been less than that occasioned to the French by the removal of the column of Luxor, now standing in the Place de la Concorde ; which was 100,0004.

Another line was at the same time proposed with the same eastern terminus, consisting of a modification of Mr. Wason's new street leading to Belgrave and Eaton squares; and the commissioners took a right view of the subject when they decided, that a thoroughfare in that direction was of more immediate importance to the public than an improvement upon the communication with Buckingham Palace already existing by way of Great Georgestreet. They would have been fally justified in deferring the latter project: they were wrong in abandoning it; and they have put themselves still more in the wrong by adopting such a deviation from the plan as, if carried into effect, will render the complete isolation of Westminster Abbey for ever impracticable.

Mr. Wason's line is the proposed street to which we have before alluded; sanctioned by a committee of the House of Commons in 1832. As modified, it will be a street 80 feet wide, with a natural and excellent terminus at the upper end of the Vauxhall Bridge-road, leading to the new and fashionable suburbs of the south-west. So far all is well; but at the other end of the line, approaching Westminster Abbey, what have the commissioners done? To avoid the additional outlay required to purchase an old and dilspidated workhouse, held upon a lease which has but sixteen years to run, the commissioners have made the line crooked at its eastern extremity, cutting off the direct approach to the new Houses of Parliament, and building out of sight, to all persons passing down the line, both the Victoria Tower and Westminster Abbey.

Let us hear no more of taste in England. Love of art, reverence for its noblest monuments, respect for the dead, pride in the past, progress in the present, are sacrificed to a pseudo-utilitarianism; not that which Bentham loved, but scorned;—a rotten workhouse is weighed in the scale against the most sacred objects of British nationality, and the latter, in the estimation of a Metropolitan Improvement Commission, kick the beam !

When the intentions of the board became known the commissioners were urged by the Metropolitan Improvement Society to reconsider the plan in reference to the eastern terminus, with a view that nothing might be done to impede further and greater improvements in the vicinity of the abbey; however long they might be delayed. The application was unsuccessful. The society then forwarded to the commissioners a new plan, accompanied with a sketch shewing the abbey as it would appear on the south side, with the cloisters, chapter-house, and other parts of the old cathedral restored, if the abbey were isolated as proposed, by a roadway carried entirely round the edifice; but the commissioners again declined to re-open the question, on the ground that a definite engagement had been entered into with the promoters of the bill now before the house, which could not be honourably brokeu. The society might have replied, that the practical part of this question is not one of keeping or breaking engagement, but simply of money. We will answer for Mr. Wason and his friends that they, at least, will be willing to re-open the question, if the Government will re-open is exchequer. The abbey is now chiefly seen from the north; a view of the southern elevation would

* This is not properly shewn by the plan published in the report, which, as coloured, makes the road appear as an encroachment upon the park.

be a novelty to the oldest inhabitant of the metropolis.

A copy of the drawing referred to is given in the review, and the following extract from the explanatory statement by which it was accompanied.

'3. The society, therefore, propose that the line should be so far modified, that its present eastern terminus should be in front of the western towers, and that thence the line should be prolonged on the south side of the abbey, through great and little Dean's-yard, leading directly to the new Houses of Parlia-

4. While suggesting this line of roadway, the society desire that it should interfere in the smallest possible degree with the legitimate smallest possible degree with the regulation of the college, connection between the abbey, the college, and the ecclesiastical buildings and residences attached. With this view they propose to accommodate as great a number of residents in immediate connection with the abbey as practicable, and to construct connecting archways across the roadway, forming covered communications between the abbey, the college, and the residences. At the same time, the extension and restoration of the cloisters by for the convenience of the residences, the most beautiful perspectives and effects of light and shade would be opened to the roadway. A picturesque foreground is obtained to the general elevation, as seen from the south; and it is from the south that all buildings should be viewed, from the superior effects produced by the direct rays of the sun.

6. The magnificent architectural combination of the cathedral buildings with the Victoria Tower of the new Houses of Parliament, which might thus be realized, would cost a very inconsiderable sum, as the buildings required to be removed are of very inconsiderable value, exclusive of that part of Abingdon-street which, it is understood, the Government have already determined to pull down without any reference to the present plan. The im-proved value of the ground available for building, should the plan be adopted, would, it is thought, be nearly equivalent for the purchase-money required in the first outlay. 7. The property belongs chiefly to the dean

and chapter, and the proposed plan would allow of far more eligible sites than at present for the buildings required, either as connected with the abbey or the school.

The society, taking into consideration that we owe to the church the noblest architectural monuments in the world, cannot doubt the cooperation of the dean and chapter, and of the highest ecclesiastical authorities, if the object be favourably recommended to their attention by her Majesty's commissioners.'

It is certainly within the bounds of possibility that another prior of St. Bartholomew may arise in Dean's-yard; but at present, the dean and chapter of Westminster have the reputation of being hostile to all improvement connected with the abbey, or the district in which they reside. We believe this supposed hostility is merely indifference. The wretched state of their property arises from the system of fortyyears' leases, which is about to be changed. They have submitted no plans of improvement leases, which is about to be changed. to the commission, and contemplate none, only, as they say, because they are not projectors of schemes they could not carry into effect, Sleeping men carry nothing into effect; and it is natural to deans and prebendaries to think more anxiously of preserving a secluded corner for quiet dreams that of Henry the Seventh or dward the Confessor. But what have we of] to do with a dean and chapter ! They are but the trustees, not the owners, of Westminster Abbey; it is not for them to decide for the public what approaches shall or shall not be made either to the abbey or the imperial senate house. Let the nation look to its own. An act of Vandalism is about to be perpe-trated. It may yet be stopped. Without in-terforing with the provess of the private Bill

terfering with the progress of the private Bill Mr. Wason and his friends have introduced, powers may be taken by the Crown to reserve the question of the eastern terminus of the proposed street, or to repurchase, before new ouses are built, the ground required to isolate the abbey, and complete in a satisfactory manner the approaches to the new Houses of Parliament.

We appeal to the Metropolitan Improvement Commissioners to revise their judgment, although at the eleventh hour. Among them |

are men for whom we entertain the highest personal respect, but we would not see them shut their eyes (nor should the best friend they have) to the true nature of their position. They have undertaken the discharge of a great public duty; and they owe it to themselves they owe it to their countrymen-they owe it to posterity, which, if we mistake not, will criticize their proceedings with more severity than the present age,—that the mischief now in progress should be remedied, ere it be too late.

THE DISTRICT SURVEYORS.

SIR,-In the Times of May 22nd, there are the following remarks :-

"The best friend to the lawyers is a crotchety law reformer, who is permitted by the courtesy of Parliament to turn his conceits into statutes; but such a legislator is any thing but a blessing to his country. If, in addition to an irresistible inclination to alter, be happens to try his hand on subjects with which he is but imperfectly acquainted, the risk that the country, minus the lawyers, will run of regarding him with any thing but gratitude will be so much the greater."

Are not these observations, Mr. Editor, very applicable to the new Building Act? Again in the *Times* of May 24th :--"The Hong Kong papers have been re-ceived, but they contain little more than a

number of ordinances exhibiting extreme fertility of invention in the art of raising taxes ' (alias fees). "Such legislation, as was to be expected, had produced considerable discon-tent, especially as it was feared, if commerce were shackled with so many burdensome regulations as were either in actual operation or proposed, merchants would resort to some port with a less active legislation."

Would not a less active legislation in building affairs be equally desirable?

The case of arbitrary and dictatorial supervision under which the profession model. -, the working of the Metropolitan Buildings Act vision under which the profession labours (as set forth by your correspondent "Mr. Thomas Little," in your paper of the 17th May) must come home to every professional man

However, by the report in your paper of last week, 24th instant, of the decision of the official referees in the Lewisham case, there is a gleam of hope that the building world will not be so much annoved and badgered as the inclination of some officials would cause them to be.

It is to be hoped that the frequent complaints of the system will have the effect of causing amendment, as dripping water ope-rates, "non vi, sed sæpe cadendo." sed sape can I am, Sir, &c., Philoclarus.

-Some observations having been made SIR,through your journal against the new Buildings Act and the surveyors appointed to carry it into effect, allow me to state that, in my humble opinion (if honestly carried out), it is a great improvement on the old, and you will find the majority of the surveyors appointed under it are men of sound judgment; and I do hope before the public condemn the whole, they will observe in the several districts how their surveyors act, and report accordingly to magistrates in the respective the several ties, in order that efficient men may fill such offices : for it is a more serious matter than has been heretofore considered for the general good of the working class and the public.

I can assure you, with truth, that many buildings have been abandoned in the parish of Bermondsey, owing to the surveyor having been very litigious; and (if I am informed correctly), in six cases out of ten which have been forwarded to the registrar, he has failed. Now, if this be a fact, it is quite time one of our members for this county should move in the House of Commons for a return of the number of cases sent before the registrars under the new Metropolitan Buildings Act, and their results.

I think that would in a great measure make known who are the inefficient persons, and who are competent to fill the office of district surveyor.

Allow me to trespass further on your time, in giving you a statement of facts as to a cir-

these last few weeks. My child having received a present last summer of a pair of pigeons, I had a house, or cage, made for them at the back of my dwelling, but finding I had not made it sufficiently high for the child to view the birds from the window of the sittingroom, I had it raised four feet higher, merely room, 1 had it raised four reet ngner, merely elevating the same covering and enclosing it with lattice-work. This was done either the last of December or beginning of January; be that as it may, I have received notice after notice from the district surveyor to pullit down; and at last a meeting of the referees, who, after some conversation on the subject, viewed; but I have not yet heard the result: when I do, I shall feel great pleasure in forwarding the same to your journal for the benefit of the public. I send you a copy of the several notices received, as also the questions to the referees.

Can you inform me if or not I can proceed for the expenses I have been put to in opinions on the Act, caused to be taken through the re-ceipt of the several notices,—not wishing to act on my own opinion, which is, that the district surveyor has no jurisdiction over it, and which I find to be the opinion of most surveyors? Lean... please of these, I am, Sir, &c., W. S. HOLLANDS. 24th. Leaving you to make what use you

• • As this matter is now before the referees it would be unwise to discuss it. When the award is taken up we will give attention to it.

The new number of the Westminster Review (for June), has the following note :-

"An occupier of premises in the city wished to introduce in his house some of the zinc ventilators recommended by Dr. Arnott (price 2s.), but was informed that before any cutting in an external or party wall (without which they could not be inserted), notice must be given to the district surveyor, pursuant to section 13; and a fee paid. On consulting the list of fees in schedule L, it appeared that the fee would be 14. 15s. the house being a firstrate, and possibly 3/. 3s. if the cutting were made in a chimney breast. The official referees had, however, the power to reduce the fee if they thought proper, and an applica-tion to them would only cost a guinea for The ventilators are, of course, the hearing. deferred for the present; and as the act makes no mention of any apertures for ventilation beyond a window and a chimney, it is to be hoped the official referees will publish some instructions on the subject, without waiting till an object of such importance is brought before them on appeal. All decisions, how-ever, of the official referees should be advertised and sold, with the act, or they will be useless to the public, as district surveyors do not hold themselves bound to supply informstion gratis. The act does not enjoin them to give any assistance to a builder in the form of explanation or advice, but, on the contrary, it places them in the position of public informers, profiting by every error committed; one fee being chargeable if the act be doly **observed**, treble fees in every case of neglect."

We may again mention that all awards made by the referees are open to the public on payment of 6d. for each class of awards consulted. We have taken some pains to communicate to the public all the most important decisions pronounced by the official referees, and shall continue to do so, with even greater minuteness, as we are satisfied we may thus prevent much litigation and ill-feeling.

The district surveyors meet periodically, for the discussion of the various questions which arise from the act: if they would enable us to place the result of their deliberations before the public also, difficulties would sooner cease, and much advantage be gained.

REDUCTION IN THE PRICE OF GAS.-Mr. Hedley stated a few days since before the committee of the House of Commons on the Caledonian Railway, that in consequence of im-provements effected by him in the manufacture of gas, so great a saving in price to the consumer had been effected, that in Liverpool alone it amounted per annum to 20,000%. He further stated, that all over Scotland the gas was better in quality than in England, owing to cumstance which has occurred to me within the superiority of gas-coal in the north.

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ATTACHED OFFICES TO BUILDINGS COM-MENCED BEFORE LAST JANUARY.

ONE of the latest awards made by the official referees is still further confirmatory of the view we have taken of attached offices and projections, not yet formed, to buildings commenced before January last. After what has appeared in our pages, it ought not to be necessary to publish this award, but as it affects a large number of persons, and some of the surveyors are not convinced without difficulty, it may mot be useless to insert it.

Mr. James Bonnin had commenced, and in some instances covered, in before January last, a number of houses in Thurloe-square, in the district of South Kensington. He was in course of completing them by the construction of certain offices attached, and party fence walls, when the district surveyor claimed the superintendence of these offices and walls, on the ground that the footings had been laid since the 1st of January, that they were outside the houses, formed a distinct addition, and were therefore subject to the regulations of the Act.

The builder appealed to the official referees and urged that the offices and walls were a component part of the houses as commenced, and had been delayed merely for the convenience of scaffolding for the higher parts.

The referees awarded (May 24th), that inssmuch as the buildings in question formed, together with the main buildings to which they are or are to be attached, one general design, as shewn by the plan, and that such main buildings were commenced before the 1st day of January, 1845, the said buildings in question, that is to say the aforesaid attached offices and party fence walls to the three unfinished houses in Thurloe-square, are not subject to the operation of the said Act, as to the original building thereof.

And with regard to the costs, they further awarded, that, "inasmuch as the case was one of reasonable doubt," the same (41. 2s. 6d.) abould be paid by the builder and surveyor jointly.

ENGLISH ARCHITECTS AT HAMBURG.

THE committee for rebuilding the church of St. Nicholas at Hamburg (destroyed by the great fire) having some months back offered premiums for the best designs for that building, which they wish to make one of the finest modern churches in Europe, have lately, out of forty-four designs submitted to their consideration, selected that of Mr. George Gilbert Scott and William Bonython Moffatt, of London, as deserving of the first, and those of Professor Strack, of Berlin, and Mr. Ludwig Lange, of Munich, as those meriting the second and third premiums. In coming to this decision, they were aided by the advice of Mr. Boisserte, of Munich, and of Mr. Zwirna, the architect to Cologne Cathedral. A design by Mr. Atkinson, late of Manchester, is said to have been much liked. The selected design is in the style of the

The selected design is in the style of the fourteenth century (the decorated); and may be regarded as one of the most successful efforts of modern architects. The tower is in the centre of the west end, and is surmounted by a lantern and lofty spire of open-work paneling, the whole very elaborately adorned. A peculiar effect is given to the upper part of the tower by a parapet around the base of the spire which projects considerably before the face of the building. The aisles outside present a series of gables, with buttresses and crocketed pinnacles at the points of junction. The commencement of the chancel is shewn by a stone lantern, rising from the ridge of the roof, and a small turret with pinnacle against the clerestory wall on each side. We hope the architects may see their very beautiful design satisfactorily carried out.

INSTITUTION OF CIVIL ENGINEERS.

At a meeting held on the 20th inst., the president in the chair, Mr. P. Barlow presented, as an appendix to his paper on the atmospheric system, the result of a series of experiments upon the force employed in drawing carriages up an incline plane of 1 in 43, by a stationary engine and rope traction, upon the Canterbury and Whitstable Railway. From these experiments it appeared, that the stationary engine of 25-horse power, with a rope, would produce a useful mechanical effect equal to the engine of 100-horse power on the Dalkey Atmospheric Railway; thus proving, by direct facts, the deduction of Mr. Stephenson as to the amount of lost power by the latter system. These statements were ordered to be printed with Mr. Barlow's paper.

to be printed with Mr. Barlow's paper. A paper by Mr. Thorold, M. Inst. C. E., gave an account of the late failure of the Suspension Bridge at Yarmouth. After giv-ing the dimensions of the structure, which appear to have been altered from the original design without the consent or superintendence of the architect, the immediate cause of the failure of the bridge was attributed to the fracture of one of the main links near the point of attachment to the pyramid: on examination it appeared that the iron was originally of indifferent quality, and that the weld had been made so imperfectly that only one-twentieth part of the sectional area of the bar had been welded: it was therefore evident that these links could never have been properly tested. An interesting discussion ensued, in which the principles of the construction of suspension bridges were laid down; and it was insisted upon, from the experience of the Menai, and Montrose, and other large bridges, that the platform of such bridges should be rendered perfectly rigid, so as to prevent any undula-tion, and that the chains should be merely used to support the actual weight of the platform and the road. The novel and ingenious plan for the bridge over the Menai straits, proposed by Mr. Stephenson, (?) to be constructed of a large wrought-iron tube, supported by chains, was also mentioned, and the principle appeared to be considered sound.

The next paper was by Mr. Grantham: it gave an interesting account of the wreck of the "Vanguard," iron steam vessel, which went on shore on a ledge of rocks, at the entrance of the Cove of Cork, and after remaining there until the rocks were cut away at low water, so that a high-water tide carried her off, was found to be so little injured that a few days sufficed to repair all damages. The engines were scarcely strained, and nothing was broken. This led to mention of some very remarkable instances of the power of resistance of iron vessels, and to the experiments now in progress of trial at Woolwich, on the powers of iron vessels to resist shot. It appeared that with a light charge of powder a hole was merely punched through the plate by the ball, but that with a heavy charge the ball striking the plate with great velocity rendered it brittle, and the fragments fled about in an extraordinary manner.

extraordinary manner. On the 27th instant, the paper read was by the president, giving "An account of the ancient Harbour of Ostia." From the concurrent testimonies of the classical writers. Ostia was originally founded anno 634 B.c. by Ancus Martius: it was situated at the mouth of the Tiber, about fourteen miles below Rome, and as the supplies for the capital arrived by the river, it was of importance to improve the navigation, and, at the same time, to provide for the shelter of the fleet which usually lay in the roadstead. Accordingly the Emperor Claudius determined to construct a new harbour entirely indepen-dent of the river, but at the same time having a connection with it. The general plan of this work, as described by Suetonius, and as given in Cannia's great work on the architecture of the ancients, is shewn to have consisted of extensive outer harbour, formed by two arti-ficial moles, each projecting about 1,900 feet into the sea, enclosing a space of about 130 acres. Between the extremities of the 130 acres. moles was situated another detached mole. which formed a breakwater, supported a lighthouse, and gave two entrances to the harbour, across which chains could be drawn, to form a closed port in time of war. A small inner har-bour was also constructed, in which vessels

could always remain afloat. This covered about 7 acres, and communicated with the Tiber by means of two parallel canals, furnished with stop gates, in order that the water of the river might be turned through the harbour, for scouring away the mud, or for other pur-poses. There is no evidence to shew that the pound lock was known or used. The walls of the moles were constructed upon arches, so as to give free access to the current, but at the same time they were sufficiently solid to break the sea, and to produce tranquillity within. This was very necessary, for, from the geological condition and the geographical position of Ostia, the coast was subject to constant advance from the alluvial deposit brought down by the Tiber : by this means a delta has constantly been in progress of for-mation, and in the course of 2,480 years the line of shore has advanced about 3 miles 600 yards. All the attempts to improve the entrance of the Tiber were, by this deposit, rendered completely abortive, as the project-ing walls only increased the deposit. Eventually the ports of Claudius and of Trajan suffered the same fate, and although the works at Ostia were considered by the Romans as their greatest labour, they were of necessity abandoned, and the harbour of Centum Cellæ, or Civita Vecchia, was constructed as a substitute.

In the work of Ostia there was visibly much novelty and ingenuity in design and in construction; indeed, it must be observed, that almost every principle adopted by the improved skill and science of modern times, appears to have been there carried into effect pears to have been there carried into effect with singular perseverance and ability. By a careful study of the original plans of these ancient works and the results, engineers might read very useful lessons for the treat-ment of many of the harbours of England, perticularly the south courts of the south particularly those on the south-eastern coast, where, as at Dover, great difficulties are to be contended with from the motion of shingle and silt. The position of English harbours differs in some degree from that of Ostia, on account of the former being subject to the action of a great rise of tide and strong littoral currents; while the latter was situated in the Mediterranean, where there is scarcely any tide, and of which the shore currents are sluggish. The deposits of silt would be in the latter case very rapid, as the water of the Tiber entering nearly at right angles with the shore, would arrest the current, and the whole speedily would become comparatively stagnant.

In the discussion which ensued upon this paper, the cases of Dover, Rye, Ramsgate, and many other harbours were explained, and the probable result of the present works commented upon.

INSUFFICIENT SCAFFOLDING.

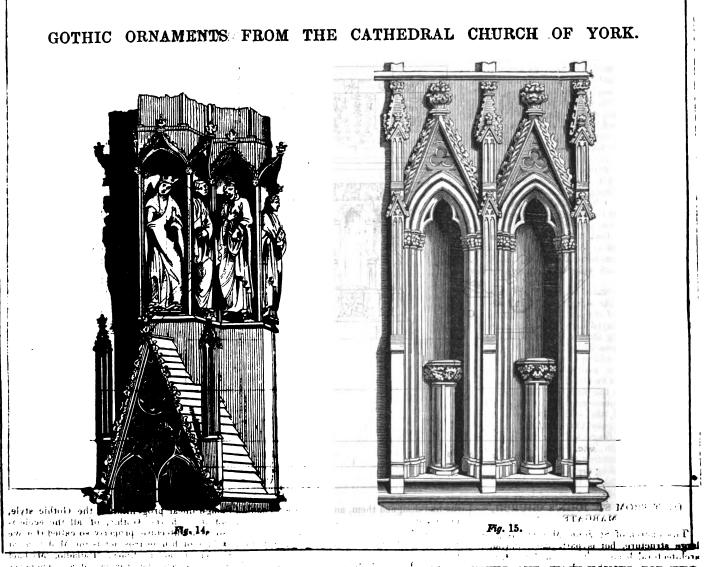
THE daily papers speak of a fearful accident which happened last week at a house opposite Bow Church, where five men were employed upon a scaffold in front of the building. Whilst thus engaged, one of the putlogs, intended to sustain the planks upon which the workmen stood, gave way from the wall, and the cross pieces, being thus left unsupported, broke down, and precipitated all five men, four of whom fell with great violence to the ground, while one clung to a scaffold pole. One of the poor fellows had his leg dreadfully smashed, so that it is feared amputation will be necessary. The other workmen, happily, have not sustained any very serious injury.

any very serious injury. Hardly a week passes without the occurrence of an accident through want of care in the preparation of scaffolding, or the use of improper materials: it is really incumbent on masters to see that their workmen are provided with sound and proper boards and poles for the purpose, and are enjoined to avoid unnecessary danger. All who are in the habit of ascending many scaffolds must occasionally shudder at the imminent peril to which workmen are sometimes exposed in this respect.

IMPROVEMENTS AT GAINSBRO'.—It is proposed to benefit the town of Gainsbro' by converting certain premises situate in the market-place, and recently in the occupation of Mr. F. Otter, into public rooms, corn market, covered butter market, &c., for which they are said to be in every respect peculiarly eligible.

ABSUBDITY. — A country correspondent tells us that a gentleman in the neighbourhood of Dudley has recently offered to give the sum of 5,000%. for the purpose of erecting a new church, provided that penny postage stamps to the amount of 2,000%, which have been obliterated by passing through the post-office, are sent to him within a limited period. We said "how great!" on commencing the paragraph, but ended it with "how small!"

THE BUILDER.



GOTHIC OBNAMENTS, PROM. THE CATHEDRAL CHURCH OF YORK.

As we are informed that the details slready given have been found useful by a certain number of our subscribers, it has been deemed advisable to extend the series.

The annexed examples are both from the outside of the church, at the west end. Fig. 14 represents a group of seven states

Fig. 14 represents a group of seven stateses on a buttress. The figures are 6 feet high, and 76 feet 6 inches from the ground. There is one of these groups on each side of the west window.

Figure 15 represents two niches. The height, from the ground to the moulding at the top, is 17 feet, and the width from the centres of the pilasters 3 feet 6 inches, they are 48 in number.

THE (LAUREL-CROWNED) ARTISANS OF THE PAINTED WINDOW OF THE CA-THEDRAL OF CHARTRES.

BY J. L-T.

It is with considerable pleasure that the readers of "THE BEILDER." will have perused those well-selected extracts and illustrations, by our talenated friend Mr. T. Wright, which appeared in the last number of this periodical. Certainly, architecture (building) is the very exponent and criterion of human civilization. But it is to be excused, as it lays, at the same time, beyond the *limits* which Mr. W. has assigned to his rescateve, or such as are connected with the royal craft of masonry, or modern nocial actence. The, ballding, of the megnificent cathedral

The ballding of the megnificent cathedral of Chartres is coeval with those of Strasburg, Cologue, Vienne ; and we know full well that at the latter cities (at.]east); existed those mediaval, secret: associations.pf.:masonry which may well be traced back, and are certainly analogoue, to those which existed at the time of the building of the temple of Solomon. Under such circumstances, nothing extraneous to, and incompatible with, the customs and

habits of our present artisans can astonish us, or he difficult of explanation. If the *whole* of those painted windows of Chartres were to lay before us, we should certainly recognize some of the well known symbols of that ancient association, to which the problematic laurelcrowns might be referred. Besides, those good and democratic olden times were equally famous for the many national festivals (and sports) in which the artisan had his adequate share. The laurel crowns, therefore, may also be marks of bonourable distinction, which their bearer might have obtained on such occasions — nay, perhaps, the very mark of their proficiency or *mastership* in their own art.

What Mr. Wright has also not taken notice of is, the tidy, regulated, cleanly appearance which the garments of these artisans exhibit a atriking antithesis of that shreddy, disorderly, and slovenly attire our present working men exhibit in their hour of work. But "the work a man performs ought to be holy to him"—and such it was with our happy and blessed forefathers. Goethe (the shrewd— *German* Goethe) expatiates in one of his works on mediavel physiconomics—those also of the humbler classes. "Look at them"—says he— "as they stand before us in their works of statuary and painting !—they are serene, elevated, tranquil, composed." Would this were also the characteristic of our present age of civilization !

The data which Mr. Wright has brought forth, about the wearing of gloves by the workers of those times, are rather novel—still, at the same time, a libel on us moderns. The workers of the middle ages wore gloves to protect their hands from the inroads and injuries of work; their hands, therefore, were probably like their faces—those of human beings. The workers of the present age wear no gloves during work—reality is nothing with them; they thrust their hands in kid gloves on a Sunday—to hide that abnormity, or ugliness, which our forefathers chose rather to prevent. "The times are worse than we usually are inclined to think"—says a friend of the working classes, Lamarkine.

A PUBLIC meeting to promote this object was held at Willie's rooms on the 22ad inst., when the Duke of Cambridge took the chair, and made an urgent appeal for further subscriptions. The selected plans are now being adapted to the site purchased, near Whitechapel, and will provide more than 100 baths, and nearly 200 wash-tubs.

It is proposed that there shall be two classes of baths—the cheaper at ld. for a cold bath, and 2d. for a warm bath; the dearer at 3d. for a cold bath, and 6d. for a warm bath. The charge for the use of the wash-tubs, and drying and ironing rooms, is proposed to be 1d. for the first four hours, with an increase for a longer time. The committee have reason to believe that with these charges the establishment will become self-supporting in the course of the second year after its opening, and for subsequent years will afford a surplus, applicable to the support of smaller establishments. For the parchase of the land and the crea-

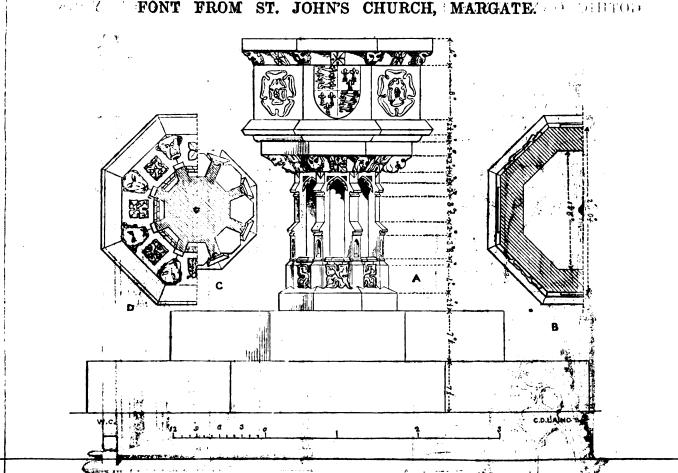
For the purchase of the land and the erection and fitting up of the premises about 16,000J. will be required.

The subscriptions already announced an orare to 7,358/. Ss. Sd., and the committee call on the public to aid them in raising the remainder. Lord John Manners remarked at the mean

Lord John Manners remarked at the meaning alluded to, that he folt the greatest interview in the success of their undertaking, and he did trust that it would be carried out to comppletion, unless, indeed, it was intended that we, with all our bousted eivilization, should still remain in the commonest matters of life, far behind ancient Rome and Greece, where ample provision was made for the necessities of the people in this respect, and whose imagmifacent baths remained, even yet, proofs of the interest which they took in the social comdition of the people, and monuments of the height to which the building art had at that period arrived. The model of part of the proposed establishment, of which we spoke some time ago, was submitted to Prince Albert that week, and may probably be seen by subscribers on application at the office, in Grosby-square.

BATHS AND WASH-HOUSES FOR THE LABOURING CLASSES.

THE BUILDER.



FONT FROM ST. JOHN'S CHURCH, MARGATE.

THE church of St. John, Margate, is a very The church of St. John, Margate, is a very large structure, but is particularly devoid of architectural beauty: it contains little worthy of potien, except the subject of the present illustration, the font; which is a good speci-men of late Perpendicular. It is an octagon of plab, with shields and roses on alternate sides: the only shield which remains intelli-gible, is that shewn in the engraving, having the arms of England quartered with those of France. Hasted, in his "History of Kent," states that other shields bore the arms of the Cinque Ports. The top of the font appears unfinished, or as if it had been deprived of some modifies. A, shews the elevation. B, half-plan across

A, shews the elevation. B, half-plan across the bowl. C, half-plan of pedestal. D, the same, looking upwards. W. CAVELER.

SIR JOHN RENNIE'S CONVERSAZIONE.

10000 THE new president of the Institution of THE DEVICE THE LEAST STREET OF THE LEAST STREET OF THE LEAST STREET OF THE LEAST STREET OF THE STREE

hadion with painting, by Mr. Sang, *—oncore* Mr. Sang, *—who* we have no doubt feals as much surprised himself at being put over the heads of English artists as we know his comtymen abroad are at the favour with which he has, been visited. Why, in the world, we about go to Germany for decorations such as these, pretty as they may be, it puzzles one to disgover. There are decorators in Bavaria who gan do fine things, and might advance us if they, ware to work here for a time; but as to the painter in question-lud! what foolish

People, wa Englishers are! This, however, is not to disparage Sir John Bennie's elegant room and profuse hospitality. Auwings, bronzes, models of bridges, steam-engines, and stmospheric roads filled every table and the busic was convided with the man angines, and atmospheric roads filled every table, and the house was crowded with the men

Lighthouse, by Messrs. Walker and Burgess; Captain Boswall's plan for harbours built with arched piers; the original design, by Mr. Stephenson, for an iron bridge of two arches, each of 360 feet span, to carry the Chester and Holyhead Railway across the Menai Straits, but which is now to be superseded by the sus-pended tunnel-bridge, formed of wrought-iron; the Folkstone Viaduct, by Mr. W. Cubitt; a cast-iron trussed girder bridge, by Mr. Borthwick: and a model of a stone bridge, Cubitt; a cast-iron trussed girder bridge, by Mr. Borthwick; and a model of a stone bridge, with flat elliptical arches, designed some years since by Mr. Rennie, to replace Westminster-bridge. There was a fine model of the "Great Britain," and several of vessels to be propelled Britain," and several of vessels to be propelled by the screw, designed by Mr. Guppy; a steam-frigate, with direct-acting engines and screw-propeller, by Mr. Rennie; a beautiful pair of marine engines, by the late Mr. Henry Maudslay; Mr. Bodmer's proposed horizontal engines and screw-propeller; Mr. Hick's im-proved locomotive engine; and Messre. proved locomotive engine; and Messre. Grissell and James's combinations of a weighing machine and crane, to ascertain the weight of an object while raising it an object while raising it.

ECCLESIASTICAL ARCHITECTURE.*

"In the preceding portion of this article, we have described six existing types of the Augustan Busilica: a seventh remains, destined to exercise, even more than the Roman fabrics, a permanent influence upon Christian archi-tecture. In the Augustan Basilica, the horizontal principle (to adopt the term sanctioned by Whewell and Willis) predominated. Such a Basilica is a building consisting of single columns or bearing shafts, supporting either a continuous entablature, or a continuous range of arches, covered by an open roof connected by transverse beams. The Basilica of the Lower Empire consists of compound piers, to which columns are annexed, but more for ornaarches by which the edifice is roofed. This type completed what the others began. The Basilica of the Lower Empire is the remote

* See page \$33, anic.

who had designed them, and others who could appreciate. Amongst the models we may mention, Mittchell's screw-pile battery; the Air Point Lighthouse, by Messrs. Walker and Burgess; Captain Boswall's plan for harbours built with arched piers; the original design, by Mr. Stephenson, for an iron bridge of two arches, each of 360 feet span, to carry the Chester and Holyhead Railway across the Menai Straits, but which is now to be superseded by the sus-pended tunnel-bridge, formed of wrought-iron; the Folkstone Vialuct, by Mr. W. Cubitt; a cast-iron trussed girder bridge, by Mr. Borthwick; and a model of a stone bridge, with flat elliptical arches, designed some years since by Mr. Rennie, to replace Westminster-bridge. There was a fine model of the "Great of beauty, and the talent for sethetic decoration waned away, the science of architecture ac-quired a new dignity and a new power. The art of vaulting, now fully developed, was employed in the vast and complicated strucemployed in the vast and complicated struc-tures of the baths, the villas, the piscinas, the amphitheatres, whose ruins linger in Rome, or decorate the magic landscapes of the Bay of Naples, where some of the most remarkable specimens are found. Many difficulties were offered in these structures, when the architect was required to connect and combine the vali-ing with the supporting walk : but the hining with the supporting walls; but the hin-drance became a stimulant.

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The endeavours made by the architects to master these difficulties, brought the architects to vaulting to great perfection. Omitting less important examples, or buildings of which we do not possess sufficient details, we are fully enabled to understand the general scheme. Three of the great ruins of Rome will afford up the manifest hermitation of the cohome of Three of the great ruins of Rome will afford us the requisite knowledge of the scheme of construction. The great hells of the baths of Caracalla and Diocletian supply what is wanting to restore the ruins long considered by antiquaries as the Temple of Peace, --ruins now clearly ascertained by Bunsen to be the remains of the Basiliea erected by Maxentius, either in the vicinity or upon the site of the magnificent temple raised by Vespasian. If the vaultings of the Therms be added to the ruins of the Forum, we shall obtain an accurate idea of the Maxentian Basilies. The vast frag-ment of the bailding now standing is known to every one; other portions have been made out by excavations, and by uniting these remains with the analogous halls of the Thermse, fitting into the one the details furnished by the other. we shall completely understand the form which the Maxentian Basilica assumed. The nave, for so we will term it, consisted of three huge compartments of Roman vaulting, really resting upon piers, but apparently owing their support to eight magnificent columns, of which several remained till they were removed under the pontificate of Paul V. for the adornment of the church of Santa Maria Maggiore. On either side, the lofty arches opened into as many vaulted apartments, which, resting on one side on the piers of the nave, and on the other on the piers inserted in the wall, formed the side aisles. Windows (in the nature of clerestory windows) were pierced in these lateral walls of the aisles, whilst the inferior height of these collateral portions allowed, or rather required, the insertion of other windows in the walls supporting the arched roof of the nave. The nave terminates in the usual semicircular apse, but we also find in this Maxen-tian Basilica another apse, proceeding from the middle division of the side aisle. Bunsen supposes this lateral hemicycle to have been a subsequent addition: and in his plan he meets it, as it were, on the opposite side, by an entrance. Speaking, however, with entire respect for the opinions of so competent a judge, we see no reason for supposing that this second apse was other than an original portion of the building; and if we are to conjecture, we would rather suppose that, as required by symmetry, and as in some degree evidenced by what we shall term derivative buildings, there was an opposite apse, giving to the whole struc-ture somewhat the form of a cross.

This Maxentian Basilica is the only specimen now subsisting at Rome of the vaulted basilica of the lower empire. But the principle of construction which it elucidates, had become incorporated with architectural science.

Whatever may have been the original use of the structure so well known as the Palais des Thermes, the halls and chambers presented to the inhabitants of Lutetia the model afferded by the capital. Quitting the Seine we advance towards the Rhine. The same style prevailed in other portions of Belgic Gaul. One venerable city yet subsists (we shall soon arrive at it), in which we may behold the walls and arches of the baths, imitating, though humbly, the mansions of luxury provided by Caracalla; and here we trace, united with more recent constructions, the outline of a basilica, combining with the double apse of the Ulpian basilica the piers and vaulting of Maxentius. Whether the result of the imagination of another people, or the exertion of an inventive faculty, other buildings in the same locality, though erected under the Roman domination, display forms equally unknown to Rome;---double gateways--portals, rising in successive stages of decoration -- projecting towers, whose semicircle offers ranges of arches which may have been suggested by those of the coliseum, but which, in this example, aesume a totally different character, from the smallness of their scale.

In describing the basilica of Maxentius, we have, as it were, involuntarily described a Romanesque cathedral. The familiar terms of mediæval architecture convey the most intelligible notions of a construction which the technical nomenclature of the classical age cannot define. Alipius, who enjoyed the patronage of Julian, might have enabled us to describe in architectural phrase the interior arrangement of the Maxentian basilica: Vitruvius gives us no help at all. Whilst the origin of the Romanesque is un-

Whilst the origin of the Romanesque is unquestionably to be sought in the imitation the degradation, if you choose—of classical arehitecture, the character this style assumed beyond the Alps, shows a great independence of the Christian basilica of Rome. The Christian architecture of Rome and the Teutonic Romanesque are in the nature of cognate languages derived from the same mother tongue; whose characteristics testify their common origin, but establish their distinctive differences. The roots may be the same, but in each there is a diversity in the inflections, a variety in the construction, a nationality in the phrase."

The writer then proceeds to examine where the mode of building, which afterwards spread over the largest portion of western Christendom, arose.

"In the recollection of the traveller, the

scenery of the Rhine and Moselle will always be connected with the venerable ecclesiastical buildings decorating the banks of these rivers, and spreading on either side in the regions once possessed by the prince-prelates of the empire. Abounding with manifest imitations of Roman architecture, and therefore very analogous to those which he may have seen in England or in France, many peculiarities nevertheless shew that they belong to a distinct genus. Tall square bell-towers, consisting of many stories, divided from each other by corbel tables, falling down into semi-circular festoons, and these festoons running down at the angles into flat or slightly projecting pilasters, which panel the walls, afford the first lines which are inserted in the sketch book. The draftsman will then have to add the round arched windows, usually in couplets, supported by a short central pillar, nearly like what is found in some of the towers now considered to be Anglo-Saxon. Notwithstanding this one similarity, the slenderness of the German Glocken-Thürm, and its many stages, ending in a pyramidical roof, give it a character entirely different from our own structures. The sanctuary, presbytery, or choir, always ends in a portion of a circle or polygon. The exterior of the apse is ornamented by an open gallery; a range of arches, standing upon small columns or shafts, sometimes formed into groups, or shafts, sometimes tormed and grand-occurring at symmetrical intervals, or by panellings imitating the gallery. The larg churches exhibit a remarkable peculiarity. double choir, found in no other part of Christendom; an apse at the east end, an apse at the west end; and not unfrequently the transepts take the same form. Nor are those features confined to the immediate vicinity of the rivers; they extend through the whole of the ancient imperial dioceses-Cologne, Treves, Worms, Mayence, Spire, Constance ; and if we pass into the imperial territory now annexed to France, we shall find a specimen, and a very remarkable one, as far as Besançon.

As the traveller then pursues his journey towards Italy, crossing the Alps by the ancient passes of the Mont Cenis or St. Gothard, the same form still appears, excepting that the double choir is no longer apparent. Trent has double choir is no longer appearance her cathedral in this style. It extends over the whole of Lombardy, which includes the modern Piedmont, Parma, Piacenza, and In Tuscany this Moselle-Rhenane Basilica. double choir is no longer apparent. Modena. In Tuscany this Moselle-Rhennne style contends with the Roman Basilica. With some slight though distinctive alterations, which will first have become apparent in the St. Gothard's pass, the Glocken-Thurm annexce itself, though as an extraneous adjunct, to the Papal Basilicas. Tuscany displays the style in question, though more rarely. Lastly, it meets with and abandons us at Rome. U'n willing as the ancient capital was to adopt ultramontane taste, the usage of the bell compelled her priesthood to employ the Teutonic structure; and in one example at least, San' Giovanni e Paolo (of which Mr. Knight has given a plate and description, No. xxii.), the sacred structure originally raised by the Roman patrician Pammachius, husband of Paulina, St. Jerome's sister, was replaced by a building of which the design was brought from the colonies of Germany or Belgic Gaul.

Now this general similarity of style was not the result of accident, taste, or fancy. The buildings are, in the strictest sense, historical illustrations of the countries to which they belong. They are portions, so to speak, of its historical costume. Architecture is the dress of man in the aggregate, of human society. If the region in which this Teutonic Romanesque style prevailed be traced out upon the map, it will be seen to agree very nearly with that portion of the empire of Charlemagne which was assigned to Lothar, his grandson." At Treves the writer finds the one example

At Treves the writer finds the one example of a Basilica consecrated as a Christian church, in which you see the Corinthian capitals just displaying their foliage. This he considers the model for the structures which, far more than those of Rome, assisted in the development of Christian architecture.

For want of space we abandon the Romanesque for that to which it led :--

"Bunsen adopts a theory similar to that suggested by a reviewer of Mr. Knight's 'Sicilian Antiquities' in a contemporary journal (*Ed. Rev.*, vol lxix. p. 95). Gothic architecture was not the result of an accidental development of art, of obscure masons and labourers of the trowel and mallet advancing and halting in their attempts, until the work started into perfection; but the creation of the genius of some one great master, employing the forms and availing himself of the ideas existing in or suggested by the edifices of his age, but who combined them with that power which constitutes originality. He cast the Gothic style at one jet, with all its peculiarities. In what school was he trained? Evidence,

In what school was he trained? Evidence, we believe, exists, enabling us to conjecture the individuals under whose influence the talent of the *Protogoth* was fostered; but if we can guess at the teachers, we are denied the name of the disciple. Like so many other benefactors of mankind—for he was a benefactor who provided for future generations the hallowed glory of the sanctuary—he will probably always remain concealed.

In the continental Gothic, the main idea of the Basilica was consistently maintained. Compound shafts became clustered columns; ascending with increasing boldness, the vaulting rose amidst the pointed arches -but the main type continued unchanged. Each region, however, had some peculiarities. Berne and Lausanne may be compared with Aracceli and St. John Lateran for their plans. Both have the apse, but Lausanne the transept, copied from the Augustan Basilica. Although Rome did not adopt the Teutonic or Gothic style, still she constantly influenced her daughters But the changes in Liturgical usages naturally affected the buildings in which the rites were affected the buildings in which the rives were to be celebrated. The multiplication of altars necessitated a multiplication of chapels; hence the magnificent plan of Cologne, which ex-hibits a crown of chapels surrounding the apse of the Roman Basilica. The plan is very re-nearbable for Disa was evidently in the arrhimarkable, for Pisa was evidently in the archi-tect's mind. In England, our Gothic architects rejected the apse almost unanimously; at least we cannot recollect more than one un equivocal example to the contrary-Westmin-ster Abbey. In other cases, allowing for interpolations, and for the prolongation by the building affectedly (and often erroneously) called the Ladye Chapel, the east end of our Gothic churches terminates in a straight line, so that the national form of our choir and presbytery was rectangular. In Italy, the sp-sidal form prevails in all the Gothic churches; we doubt if more than one example can be found of a rectangular termination, and we shall soon see the importance of marking this contrast.

Mr. Knight has made the very important discovery, that Gothic architecture was introduced into Italy from England. The English traveller who enters the church of Sant' Andrea at Vercelli, will at once be surprised at beholding an edifice repeating the most familiar features of the style, to which the name of early English has been applied. The plan of Sant' Andrea is entirely English; pronounced and decided cruciform transepts; a straight-lined rectangular choir; lancet windows, supported by tall detached pillars; simple-foliaged capitals; the plain groined roof. There is somewhat of a foreign accent, if we may use the expression, apparent, if you closely examine the details; yet, in spite of this foreign accent, you might almost suppose yourself at Salisbury. If the traveller inquires who was the

If the traveller inquires who was the founder of this magnificent structure, he will hear a name which often occurs in the pages of Matthew Paris. It is that of the Legate, Cardinal Wala, or Guala, who appears as an influential statesman in English affairs during the eventful period of the last years of John and the accession of Henry III., when it seemed as if the crown of England might be transferred to a foreign dynasty."

Guala's architect was a French ecclesiastic named Thomas, but there is every reason to believe the working drawings were brought from England. The Duomo at Milan is a transplantation from Germany, with the same prototype as Cologne or Strasburg. Concurrent with the erection of this splendid specimen of the "Gotico Tedesco" in Italy, was the revival of the classic style as commenced by Bruneleschi, and here the writer ends the article from which we have so largely quoted.

SOMERSET LUNATIC ASYLUM.—In reply to various correspondents we are informed that the selected design for this building is by Messrs. Scott and Moffatt.

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ROYAL INSTITUTE OF ARCHITECTS.

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Ar an ordinary meeting of the institute, held on Monday evening last, Mr. J. B. Pap-worth, V.P., in the chair, Mr. Walker, late president of the Institution of Civil Engineers,

who was elected an honorary member a short time since, was admitted. Mr. Joseph Wilks, to whom the portfolio of the institute is much indebted, presented coloured representations of one of the stained glass windows from the church of Notre Dame des Secours, in the faubourg of Au, at Munich.

nich. Mr. Donaldson, in giving various points of information from France, drew the attention of the meeting to a premium of 501. left by the will of an individual, which is to be adjudged annually to a young architect who unites to ability and knowledge of his profession, the domestic virtues. Mr. Donaldson afterwards read a paper on the architectural and icono-graphical application of the form of the cross during the middle ages, from the French of Mons. Didron, prefacing it with a statement of his desire to let the members know what was going on abroad. The essay read forms part of a series published by the Comité His-torique des Arts et Monumens of France, under the startling title of "L'histoire du Dieu," and would satisfy the stanchest ad-mirers of Durandus and symbolism. The use of the form of the cross for the plan of eccle-siastical buildings was traced, and the numer-ous varieties of it adopted for decoration were explained.

An announcement in the bulletin of one of the French societies, that an English anti-quary had applied to them for advice respect-ing the investigation of Richborough Castle, ing the investigation of Richborough Castle, Kent, led to some comments. Mr. Britton being called up, wrged architectural students to lose no opportunity of investigating the an-tiquities of their country; and to make the study of them the recreation of their leisure hours. He mentioned Burgh Castle, near Yarmouth, as analogous in many points to Richborough Castle; and suggested it as an interesting subject for inquiry. Mr. Scoles remarked that they must make haste if they wished to investigate it; he had just now re-turned from that part of the country, and had learnt that those remains were in the schedule of a railway bill, and would probably soon be of a railway bill, and would probably soon be destroyed.

NEW MATERIAL FOR FLOORING, PAVING, AND ROOFING.

THE new material or compound, which forms the subject of a patent taken out by Mr. Cassell, of Millwall, consists of many varieties, Cassell, of Millwall, consists of many varieties, but possessing all these common properties— that they are perfectly impervious, very elastic, and (there is reason to believe) exceedingly durable. When intended to be employed for paving

or *flooring*, or other like purposes, it is com-posed of four varieties, which, for the sake of distinction, are designated as compounds No. 1, No. 2, No. 3, and No. 4, and are thus described :-

I prepare No. 1 compound in manner following :- I saturate a quantity of chalk, or marl, or lime, or loamy clay, or sandy earth, previously reduced to the state of a fine powder, with oil of tar, or mineral tar, or vegetable naphtha, or any other resinous, oily, or fatty matter. I take one cwt. of rosin, and melt it in a caldron exposed to a gentle fire, until all the water in it has evaporated. I then melt it in a caldron exposed to a gentle fire, until all the water in it has evaporated. I then throw into the caldron two cwt. of the satu-rated chalk or other earth, and mix it well with the melted rosin. I next add from 3 to 6 lbs. of liquid caoutchouc, or from 1 to 3 lbs. of essential oil of tar, or turpentine, or some other oily, or fatty, or cementitious substance (varying the quantity according to the degree of elasticity desired to be given to the ultimate compound), and after that, from 3 to 5 lbs. of sulphur; and finally, two cwt. of fine dry grit, keeping all the while the contents of the cal-dron well stirred, till the whole are thoroughly amalgamated. When cool, this compound is of a slatish grey colour, and of a close granular texture. No. 2 compound is prepared in the same way as No. 1, and composed of the same materials, and in like proportions, excepting only that lsubstitute for therosin, vegetable pitch, and use a larger proportion of sulphur, say

from 6 to 8 lbs. No. 3 is also prepared in the same way as Nos. 1 and 2, and composed of the same materials in the like proportions, excepting that instead of the rosin or vegetable pitch, I use equal parts of rosin and Stockton tar, and reduce the quantity of sulphur to about 4 lbs. No. 4 compound differs from No. 3 in the substitution of equal parts of rosin and mineral, or coal tar, for the equal

parts of rosin and vegetable pitch. These compounds may be used by them-selves—"being laid down in a hot and fluent state, and of sufficient thickness;" or they may be employed in any of the following states of combination :---

Firstly, they may be combined with any of

the natural asphaltes or bitumens, or any arti-ficial compound of a bituminous quality. Secondly, they may be formed, in combina-tion with small pieces of wood, into large blocks for use,

blocks for use, Thirdly. Any of the compounds before described may be used in combination with wood, in manner following, to form a flooring for the ground floors of buildings, which will be quite impermeable to under damp, and exceedingly durable. The ground is to be first covered over, to the depth of about an inch, with a layer of any of the four compounds be-fore mentioned (being previously well beaten down and levelled), and then small square blocks of wood of equal sizes are to be set in this composition while yet warm, with the grain uppermost, and placed in regular order, side by side. Any interstices which may be grain uppermost, and placed in regular order, side by side. Any interstices which may be left between the blocks are to be carefully filled up with the compound. Or, instead of using small blocks of solid wood, com-position blocks of a large size, prepared as follows, may be employed:—I take a num-ber of pieces of deal, from 3 to 5 inches wide, and from 10 to 18 inches long, such as may be picked out of the woods imported from abroad under the denomination of fire-wood, and which, paying a small duty, may be had and which, paying a small duty, may be had cheap, and lay them in sn iron frame or mould, in the direction of the grain, jointing them roughly together lengthwise, but so that they shall break joint transversely. I then cover them to the depth of one or more inches with any of the four compounds before de-scribed, in a hot fluent state, and leave this firmly united to the wood beneath. On re-moving this mass or block from the frame or mould, and fitting it into a piece of flooring, it mould, and fitting it into a piece of flooring, it is placed with the wood uppermost, which re-mains ever after beyond the reach of damp from beneath. For such a description of ground flooring no joists are requisite. The blocks may be made of any length or breadth most convenient; but I prefer making them of about 4 feet in length, by 2 feet 6 inches in breadth. When a very strong flooring of this kind is wanted, I cross the layer of wooden pieces before described with a second of ex-actly the same description, but laid the reverse way, and upon an interposed bed of one or way, and upon an interposed bed of one or other of the four compounds before mentioned. other of the four compounds before mentioned. The two layers are then pressed together; and when the compound which unites them has cooled and set, I pour over the whole another coating of the same compound, so as to cover completely the second layer of wood. In-stead of the blocks being all of one sort of wood, or of one colour, they may be of dif-ferent woods and different colours, so as to give the flooring a tesselated appearance. Of the suitableness of the material for road

Of the suitableness of the material for road paving there have been as yet but slender op-portunities of judging. In Kensington Palace Gardens there is a small specimen to be seen; and another in Camphine-road, Millwall, Poplar. It is laid down in blocks of about the dimensions of York paving stones, and

is pleasant to walk on. For *roofing*, and other purposes where lightness is desirable, Mr. Cassell makes use of a compound different from any of the others, which is called "No. 5 compound," and thus described :---

It consists of a mixture of 1 cwt. of rosin or getable pitch, or 1 cwt. of rosin and vegetable vegetable pitch, or 1 cwt. of rosin and vegetable pitch in equal proportions, or 1 cwt. of rosin and Stockton tar in equal proportions, or of 1 cwt. of rosin and mineral tar in equal pro-portions, 1 cwt. of fine grit, 8 lbs. of sulphur, and from 4 to 5 lbs. of cork cuttings or rasp-ings, the whole being compounded in the manner before directed, to be followed in the

preparation of the other cements, and thoroughly incorporated together. While yet hot, this compound is removed from the caldron and compound is removed from the caldron and formed into sheets, by subjecting it to strong hydraulic pressure between plates of iron per-forated with numerous holes, and having also channels or grooves in them, in order that any liquid matter squeezed out by the pressure may run over at the sides and ends. The sheets, when intended for roofing, should be reduced by the pressure applied to about one-fourth of their original bulk, say from 4 inches to 1, and should be coated with some anti-igniting sub-stance or composition. Where greater strength is required, each sheet may be covered with canvas or paper cemented to it, by any of the compounds, 1, 2, 3, or 4. The specification of the patentee explaine also how the material, in one or other of its

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also how the material, in one or other of its several varieties, may be applied to the forms-tion of pipes, casks, tanks, cisterns, garners, railway sleepers, &c.

ARCHITECTURAL MEMS. FROM THE COUNTRY.

THE Manchester Exchange-room is about to undergo very considerable alterations. The present room contains about 699 square yards, and, when completed as proposed, will possess an area of 1,414 square yards. A portico front-ing Bank-street is to be erected, to consist of a lofty colonnade of eight pillars, supporting a massive pediment. The design is by Mr. A. W. Mills, -----The Trinity House heard hears de present room contains about 699 square yards, massive pediment. The design is by Mr. A. W. Mills.— The Trinity House board have de-termined upon erecting a lighthouse at Trevose head, in the parish of Padstow, Cornwall. A road is already being prepared for the com-veyance of materials to the spot.— A sub-scription for erecting a church for the Tewkes-bury-road district, in Cheltenham, has reached the sum of 1,500. An additional 5004, is re-quired to carry out the work.— The small old chapel at Birch, in the township of Rus-holme, near Manchester, having been found inadequate to the accommodation of the grow-ing community in that district, the proprietor inadequate to the accommodation of the grew-ing community in that district, the proprietor of the estate, J. W. H. Anson, Esq., in com-junction with his brother, the Rev. George Anson, has determined on building a good church in its stead, towards which Mr. Anson has given 2002, and the land, and also land for a churchyard, and the Rev. G. Anson has con-tributed the munificent sum of 2.0002. In aid tributed the munificent sum of 2,000/. In side of these sums a grant of 500/. has been made of these sums a grant of 500% has been made by the Manchester and Eccles Church Build-ing Society. The site selected for the church is about twenty yards to the east of the present chapel. The church will be in the early Eng-lish style of architecture, —that which pre-vailed about the middle of the 13th century; —At Bury St. Edmund's, the spirit of im-provement has suggested to the inhabitants the restoration of their fine old Norman tower. A committee has been formed for the nurges of restoration of their line of a Norman tower. An committee has been formed for the purposes of obtaining from Mr. Cottingham plans and spe-cifications for the necessary works, and of ins viting builders to make tenders for carrying the same into effect.——Three new churches are about to be erected at Birkenhead; one at the sale erected of William Potters From the sole expense of William Potter, Esq., to be dedicated to St. John the Baptist; the second at the sole expense of William Jackson, Esq., at the sole expense of William Jackson, Eeq., to be dedicated to St. Andrew, and the third at the joint expense of Messrs. W. Potter; W. Jackson, John Laird, Macgregor Laird; and W. Laird. The site selected for the last-mentioned church is on the corporation road, in the vicinity of Wallasey-pool. Considerable improvements have recently been effected by the removal of an accumula-tion of earth from the basement of the north and south sides of Peterborough cathedral. and south sides of Peterborough cathedral. and south sides of Peterborough cathedral. This had been for some time a growing eyeo-sore to the admirers of the architectural beauties of this venerable pile. The fine Norman door is now seen, as no doubt it was originally intended, but which has for some time been in a great measure hid by this earth.—On Wednesday, the 21st inst., the opening took place of the Victoria schools erected at Chesterfield in commemoration of the Queen's passing through that town on her the Queen's passing through that town on her way to the seat of the Duke of Devonshire, at Chatsworth. The building is in the Eliza-bethen style of another of another of the Star-

room, Sc. ; 2007. have been already subscribed, and there is no doubt but the sum will be considerably sugmented. — At Melpash and there is no could but the sam will be considerably sugmented. —— At Melpash Green (midway between Beaminster and Brid-port) the foundation stone of a new church was laid last Thursday week by the Hon. and Rev. Somerville Hay. It is to be 109 feet long, 60 feet wide, and to have a steeple 60 feet high, with five bells therein. It is actioned to hold 400 persons. Mr. B. Ferrer. estimated to hold 400 persons. Mr. B. Ferrey, of London, is the architect.——It is in contemplation to make the village of Hun-stanton, in Norfolk, a very attractive and convenient place for seaside visitors, by approconvenient place for seaside visitors, by appro-priating some portion of its celebrated cliff and the fields adjoining to the formation of a village, with an hotel, bath-house, library, shops, and other buildings necessary for the establishment of a sea-bathing place. In the arrangements of the plan a site for a chaped is to be reserved, and a pleasant walk formed to the chalybeate spring, which is within a to the charge spring, which is within a mile of the village. The committee for the formation of public parks and play-grounds in Manchester have purchased Endham Hall estate, at Harpurkey, the re-sidence of Mr. Jonathan Andrews, for a sum of 7,9501 A fair works are the market of 7,250/. A few weeks sgo they purchased the Lario Hall estate, in Balford, from Mr. Wm. Garnett, far 7,000/.; and we believe these two properties will be taid out us parks, these two properties will be taid out us parks, and ready for corruption in the course of a few months. — His Grace the Dake of Cleveland has given 100%. to the schools about to be attached to the collegiste church, Wolverhampton, and become a subscriber of 20% per annum. — A meeting of the committee for promoting the establishment of public baths and places of recreation at Birmingham, was held on Tues-day weak, when it was resolved that steps day week, when it was resolved that steps should be immediately taken for the erection should be immediately taken, for the erection of two sets of baths. The restoration of St. Mary ds. Grypt Church, Gloucester, is to com-mence forthwith, the sum of 1,450%, having shready been subscribed. J. The Bishop. of Durham these contributed 500%, and the Rev. George Fichting, the inemabers, 100% towards the emisrgement/of St. George's Chupel, Bi-shop Auckland. The Collegists School at Mariborough increases we repidly in favour with the public, that it is found necessary to make very extensive additions to the buildings. make very extensive additions to the buildinge, without delay. The suite of rooms appropriated to the accommodation of the head has been made ready for the reception of addi-tional pupils; and amongst the additions now contemplated, a suitable residence for that functionary will be erested. The number of pupils at present in the establishment is upwards pupils at pr pupils at present in the establishment is upwards of 200, and the applications for admission are very numerous. — Dr. Warneford, who has already expended 7,000%. In the erection of charitable institutions in Birmingham, is now making arrangements for laying the founda-fion for a House of Recovery for persons afflicted with contagions diseases. Earl Howe has also subscribed 50%, for the same object.— The Rev. Dr. Warneford has just paid over to the Rev. Chancellor Law, the Rev. Vaughan Thomas, and William Sands Cox, Esq., his munificent donation of 500% toyards the addi-tional building at the Queen's Hospital. At a preliminary meeting held at Dee's hotel, Birmingham, last week, it was resolved to establish a public cemetery, for the town and neighbourhood, in connection with the Esta-blished Gaurds. The proposal has received the sanction of the Bishop of the diocese, and the principal church authorities of the town. The old houses at the west end of St. Peter's Church, Sudbary, are now levelled to the ground, this labour of many years having been completed last week, when that fine ecclesiastical edifice, so long encumbered by the encroachments of a tasteless age, was once more displayed in all its fair proportions. The munificent donation of 500% towards the addimore displayed in all its fair proportions. The church now stands entirely clear of all obstruc-The tions in the middle of the area; but the removal of these obstructions has disclosed the barbarous manner in which parts of the windows have been blocked up, and the orna-mental work has been defaced; and a large and will be necessary for its complete restosum will be necessary for his complete resto-ration......A. company has, been formed for the purpose of creating. a landing-pier and slip, at Weston-super-mare, in the Bristol Chanael. The pier is to be of solid masonry, commensing from the junction of the Knightstone-road, continuing in a north-west direc-

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tion to the Isle of Bearnbeck, passing over the island and extending into the channel to dead low water, the whole length being little short of a mile, and of the width of 30 feet throughout. The approach from the channel will be at all times at a depth of water sufficient to insure the safe landing of passengers, being at lowest point not less than 18 feet, and will give a safe, speedy, and cheap mode of communication to parties visiting or trading to the western, Welch, and Irish coasts. It will be so constructed as to afford a delightful promeenade to visitors and inhabitants. The engineer is Mr. Daniel Horwood, of Bristol.

THE IRON TRADE.

THE reduction of 2*l*. per ton in merchantiron, announced in our impression of this day fortnight, has been general throughout the South Staffordshire district. The present price is probably not higher than can be steadily maintained until some of the heavy orders for rails are cleared off. The speculation in pig-iron in Liverpool received a very serious check during the past week. Many of the needy holders have pressed sales, and large parcels of Scotch pigs have been offered at 75s. per ton. Early in March, purchases were made at 110s., and none of the makers would take orders under 120s.

The feverish state of the present year's market is expected to occasion the iron trade a permanent injury, from the fact that the Americans are now strenuously endeavouring to produce more iron. The produce of iron last year in the States amounted to 500,000 tons; the estimate for the present year is much larger; and in ten years it is calculated that the make will reach a million of tons, unless the fall in prices in Great Britain should be such as to render it cheaper for the Americans to purchase our produce than to manufacture for themselves.

A correspondent of the Glasgow Herald, who we are given to understand has good means of obtaining accurate information as to the present and future prospects of the iron trade of Scotland, says that the quantity of pig-iron made at present in Scotland will amount annually to from 400,000 to 420,000 tons. Of this quantity about 100,000 tons are used for the manufacture of malleable iron in Scotland; of the remaining 320,000 tons, 50,000 tons, or thereabouts, turn out to be what is called white or forge pig, which is not used for making castings, so that the present annual production of pig-iron in Scotland, suitable for foundry purposes, is 270,000 tons. There are ten new furnaces in the course of erection, some of which may be in blast this year. These furnaces belong to the present manufacturers of iron, and, when all in operation, will add about one-eighth to the present production; but, as the manufacture of maleable iron is on the increase in Scotland, a large additional supply of pig-iron will be required for this purpose. It is obvious, therefore, that the statements which have recently appeared, as to the increase in the make of pig-iron in Scotland, are incorrect; and it must be kept in view that, while the present makers are erecting new works, the preduce of the older ones must decrease, in consequence of the exhaustion of the supply of materials.

TO CURE THE DISEASES WHICH ARISE FROM THE USE OF LEAD IN CERTAIN TRADMS. — Take two baths of soap and water every week, occasionally adding a little sulphur, and carefully wash the uncovered parts of the body with soap and water at every interval between your working hours. You must drink one or two glasses of lemonade, made with sulphuric acid, every day, according to the greater or lesser quantity of dust or poisonous vapour with which the surrounding atmosphere may be charged. At the same time you should be more careful than the followers of any other trade, to abstain from the use of spirituous liquors. The efficacy of this preventive treatment is easily explained by the fact, that the mineral poison absorbed is thus converted into a soluble, and therefore innoxious salt (sulphate of lead), and the saturnine particles deposited on the surface of the bedy are taken away.

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BRITISH ASSOCIATION FOR ADVANCE-MENT OF SCIENCE.

THERE seems every reason for believing that the approaching meeting, to be held in Cambridge next month, will be brilliant and successful. A local subscription has been commenced with good spirit to defray the expense of the requisite preparations for receiving the association, and all the necessary arrangements are in progress. The attendance of distinguished foreigners is expected to be great. A programme has been issued to members, from which we learn that the general committee will meet on Wednesday, the 18th of June, at one o'clock, for the election of sectional officers, &c. From Thursday, the 19th, to Wednesday, the 25th of June, inclusive, the committees of sections will meet daily at ten precisely; and the sections will meet from Thursday to Tuesday at eleven precisely. General evening meetings will be held on Thursday, the 19th, and Wednesday, the 25th, at eight o'clock. A room will be provided for the reception of philosophical apparatus, and specimens of natural and artificial products, which may be brought for the purpose of illustrating particular communications, or for exhibition to the members generally. We would remind the public of what the Dean of Ely stated in the Town-hall, namely, that persons may be admitted to the sectional meetings only, on being nominated in writing by a member, and paying 1*l.*, and that ladies' tickets may be had, through the application of a member, on payment of the same sum. Strangers need be under no sort of appreheasion on the subject of lodgings: accommodation will be secured for them by the committee at a perfectly reasonable rate.

at a perfectly reasonable rate. One of the local papers says, "Extraordinary as the statement may appear, we claim credit for entire accuracy when we state that the Town-hall of Cambridge is undergoing a process of cleaning and smartening-up. The presenting of such a miserably shabby old place to the members of the British Association would have been a disgrace which Cambridge, we are glad to say, is now likely to escape. The plasterers, carpenters, and psinters are hard at work, aniting their efforts to make the place presentable, and in a week or two its most intimate friends will scarcely recognise it."

Correspondence.

BRICK AMATEURSHIP.

"Quot Homines, tot sententise."

S18, — Your correspondent, "Mr. John Phillips," is a thorough English amateur of brickwork, with all its "reticulated or decussated pieces of work, with interstices between the intersections," as Dr. Johnson has said on another occasion: but lest all the world in such case should be thought to let judgment go by default, because they do not offer any opposing opinion, I beg to say, as one of the architectural and fine-arts-loving public, that to my eyes nothing more outrages good taste and deforms English towns and English landscapes than these structures of brick-building amateurs, whose deformities in blazing rcd, dirty yellow, or plastery while, destroy the picturesque in eity, town, or country; and though I do not rejoice in unsound ucalls, yet I think it quite compatible with sound work to employ stucco, where marble or stone is precluded from necessary views of economy; and I hope and trust the day is fast arriving when people will only let brick walls be seen where they can afford to have nothing better.

Hoping to find more "sympathisers" on my side of the question than that of your worthy correspondent "Mr. John Phillips,"

I am, Sir, &c., W. MASON.

CEMENT ON IRON.

S1R,—I shall feel greatly obliged to any of your correspondents who will inform me of the best cement I can use for running mouldings on iron girders; I am afraid to use plaster of Paris for fear of corrosion.

I am, Sir, &c., U sm, Sir, &c., Worcester. SUBSCRIBER.

THE BUILDER - ----

Afiscellanea.

MOVEMENT IN SOCIETY OF ANTIQUABLES. At a meeting held on the 22nd inst., Dr. Bromel, in order to induce stricter attention to the business of the society than has latterly been given, handed in a draft for a new statute, enacting that the council shall meet at a cer-tain hour of one fixed day of every month (the first Tuesday for example), and that it shall not separate except by a vote of two-thirds of the members present. We are glad to find that the remarks which appeared in our last and a former number, have been received with the same kind feeling with which they were written. All agree that something must be done to meet the times and prevent disrup-One of the first steps should be to make tion. the library useful to the members, and facilitate access to it. At present it is very nearly useless.

CHURCH DECORATIONS .- The Bishop of Norwich, in his charge delivered lately at Woodbridge, says, with regard to this subject, that—"He admired the motive of those who sought to repair the ruined and dilapidated condition of those venerable places of worship, many of which were utterly unfit for the sacred purposes to which they were devoted. the advocates of a less-enlightened re-In this. ligion had displayed a zeal which those who boasted of a purer faith might have done well to avoid. He could not exactly comprehend the arguments of those who could oppose the development of their acquirements to their fullest extent in the service of Him from whom they derived their talents. On that ground he would encourage the taste for decorations, whether external or internal. Who could behold without gratification the finest specimens of art, whether architectural or pictorial, or regard without pleasure the productions of the painter or the sculptor, and not feel that religion had patronised these sister arts ? There was, he admitted, an antiquated objection to such decorations, because they had formerly been the objects of superstitious worship. In a previous age, when men's minds were under the control of superstition, when they were enslaved by the priesthood, such an argument might have had some weight; but in the pre-sent more enlightened era there was little foundation for such apprehensions. The friends of the Protestant church might now look without danger upon what had been once dangerous, and they should have no sympathy with the spirit which went forth as the de-stroyer of all that was beautiful.

WELSH LEAD MINES.—English manufac-turers derive great benefit from the Welsh mines; it is from the purity of the galena of lead ore, purer in Wales than any other, that the Staffordshire pottery has maintained its superiority in foreign markets, as it produces a finer glazing, and makes a more beautiful por-celain than any other. Wales is rich in fossiliferous marble,- the carbonate shell marble of South Wales, and the encrinitic of North Wales: the serpentine of the Rhos Kolin is equal to the verd antique of Genoa. It is not generally known that schools of metallurgic chemistry existed in Wales before the wars of Edward the Third: the college of Pherillt, in Dinaraon, on Mount Snowden, was celebrated for a school of this order that gave the British name of Celvydda Pherill to these arts; they were in possession of eminent books on these sciences, now lost. Another school of this order was founded in South Wales-a branch from Dinas Emrys .- Chester Chronicle.

BAZAAR AT COVENT GARDEN .--- The free trade bazaar having closed, the directors in-vited a large body of their friends to a musical promenade on Wednesday evening last, and provided them profusely with amusement and refreshments. We should not consider it our province to speak of the occurrence (admirably managed as it was), but that it gives us the opportunity of directing attention to the beau-tiful specimens of cast-iron from Colebrook Dale, which were exhibited and which equalled many French bronzes sold at three times the price. The Art-Union of London, who have materially assisted to advance the production of bronzes in this country, and are now about to aid the porcelain manufacture, would do well to turn their attention to these castings in iron, and to give those who have produced them, a commission for the purposes of the society.

NEW PAVEMENT .- The surveyors of Manchester have recently laid down, in Hanging Ditch, a novel kind of pavement, or rather a combination of macadamised stone, profusely intermixed with asphaltum. A local paper states, that from the time it occupied in its formation-twelve days and nights- it ought to be a really durable job: whether it will prove so, time alone can tell; but the expense has, no doubt, been much greater than the ordinary pavement would have been. The street has already attained great firmness and coliding solidity.

Tenders.

TENDERS for finishing 12 third-rate Houses at Sherbourne-street, Hoxton, under Mesars. Waller and Son. Architects.

| Trego Jay Lawrence. Haines. | |
|--------------------------------------|-------|
| Jay Lawrence | |
| | 8.197 |
| | 3.118 |
| | 8.079 |
| Ashby | |
| Wilson | |

Gravel-pit chapel, at Hackney, Mr. R. W. Wright, surveyor.

| Weston | 256 | 10 | |
|------------------|-----|----|-----|
| Shewin | | | |
| Norris | 197 | Ō | |
| Burford | 185 | Ō | ••• |
| Lloyd and Parker | 170 | Ō | |
| Heath | 153 | 5 | |

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers however, they are entered in a book, and may be seen on application at the office of "The Builder," 2. Nork-street, Covent-garden.]

For the erection of the Borough Gaol, Birmingham.

For the performance of the necessary works in the construction of a New Dock in the Borough of Kingston-upon-Hull.

For a quantity of proof chain 2; 1, 1, 1, 4, and inch, wanted by the Universal Salvage Company.

For Building the Carcasses of certain first-rate Houses, with Shop Fronts, in the new line of

Houses, with Shop Fronts, in the new line of Oxford-street, leading into Holborn. For executing Works on the Leeds, Dewsbury, and Manchester Railway, being a distance of about 44 miles. The principal work on this division is the summit Tunnel, near Morley, which is upwards of 3,000 yards in length.

For supplying the trustees for repairing Gros-venor-place, and the squares and streets adjacent, with the best Pit Flints, Kentish Rag-stone, Pit Gravel, Chalk, Aberdeen Granite Kerb, York Pav-

ing and Guernsey Granite, &c. For building Two National School Rooms, at Saffron Walden, Essex. For the erection of Schools, and a Master's

House, and also a new Farm-house and Offices, on the Estate of the Rev. E. K. Benyon, near Bury St. Edmunds, Suffolk.

For constructing about 450 feet of new Wharf, along the River-side, in the Town of Wisbeach, and for erecting a new Crans and Wardhouse for the Corporation of Wisbeach. So and Wardhouse for For the erection of Farming Premises, at Brad-field Combust, near Bury St. Edmands.

For supplying, laying down, and bedding, in proper Mortar, any quantity that may be required, not being less than 1,000 feet run of Aberdeen Kerb, 12 inches by 8, and not less than 7,000 feet (super.) of York Paving, two and a balf inches thick, the Commissioners of the Kentish Town District.

For supplying the Commissioners of Kentish Town District with Materials for Road-making. For the Repairs to the South Aisle, Roof, &c., of

St. Jame's Church, Bury St. Edmunds. For Building a Sewer in the King's Road, St. Pancras, of the dimensions of 4 feet 6 inches by 2 feet 9 inches, for a length of 250 feet.

For the supplying of certain Mines in Cornwall, for twelve months from Midsummer next, with Nor-way Timber, half Dram and half Longsund, of good quality and average length. The probable quantity required is 710 loads.

For Line-washing and Plastering (when re-quired) twice in the year, the interior of the Union Workhouse, Long Ashton.

COMPETITIONS.

Plans, sections, and elevations for a Termin and other requisite accompanying offices, for the Great Southern and Western Railway, Ireland.

A premium of 80 guiness will be presented to 68 party offering the best plan of Docks, capable of admitting ships of 1,000 tons burden, to be special at Burnham, in the Bristel Channel.

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Designs for houses to be erected at Dow . . ground is nearly seven scree in extent, and lies one ground is nearly seven scree in extent, and lies one gentle slope between the south-west boundary of Dover Castle and the town. A premium of fifty guiness is offered for the set that may be most approved of.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

The timber and other trees now standing upon the estate at Woodseaves, Salop. By order of the Lord Chancellor made in the cause "Dickin s. Barker.

Barker," At Eversden Wood, Cambridge : 80 Oak Timber Trees, clean, sound, and of useful dimensions. At Bourn, Cambridge : a capital Fall of prime Oak Timber, comprising about 100 Trees of good

dimensions.

At Monik Sherborne Brick Kiln, Basingstoke, At Branden, near Coventry: several Thousand prime Oak Trees, and a quantity of Phanke and

Quarterings.

At Winston, near Debenham, Essex : 400 feet 14-inch Elm Plank, 400 feet 14-inch Ash ditto, 600 feet 2 insh, 24-inch, 35-inch, and 4-inch ditto, 21 4-inch Beech Planks, 120 feet Sycamorn Quarters, &c.

At Eversden Wood, Cambridge ; 110 espital clean Oak Timber Trees; all lying close to good roads, and are acry long, straight, and clear, At Bourne, Cambridge : 63 Oak Timber Trees;

many of them are of very excellent quality, of great length, and particularly clean and straight. At Waybridge Wood, near Ellington ; a consi-derable fall of Oak Timber in Honey Hill and

Lower Woods : the whole being of large dimensions

and excellent quality. At Halstead, Essey: a quantity of clottal Ook Timber, &c.; in Great Spanacy's Wood, Wear Halstead, and to make sid attwitted order Halated, and to make all astronomy inter-

16 Aq. Michardson's Winst, "Lishchoused al-large qualities to separate the paint of sound sock of Danie story and Rear Parate Asts, Sweidshiand Med and Med and Michard Mic

At Steeple Bumpstead, Essex : 100 Oak Timber Trees of large dimensions, clear and straight, now lying upon several farms in the neighbourhood. BY TENDER.

A Visgin Forest of Valuable Timber in Wa chia. The principal part of the Trees is Oak. The said Forest may produce about 500,000 cubic feet of Timber.

At Little Bentley Hall, Essex : several Acres of Plantations, consisting of superior Firs, Larch, Spruce, &c., to be taken down by the Purchaser.

TO CORRESPONDENTS.

"F. T. D."—Accepted with thanks. Will our correspondent prefer that his name, or initial should appear.

"Ashstick and hide 'em."-Funny, but useless.

"H. Johnstone." "John Kelly."-The skeich sent has hardly sufficient character to induce us to engrave it; but we shall be very happy to receive the promised article. The round lowers of Ireland have much interest.

"A. B." may obtain the information he weeks at the roome of the institution, 25, Great Georges

to was but a suggestion; if it should become a pro-bability, he shall hear from wa. "Society of Antiquaries."—Correspondents on this subject will find, on consideration, that violent attacks are at present uncalled for, and would be

unwise. "X. Y. Z."—The object of "J. F.'s" letter was not to question "Mr. Thompson's" accuracy, but to learn if any hadioscopes of the Norman period were known.

"Roof covering in America." In reply to an inquiry for a good and light material for this pur-pose, "J. R." recommends Morewood's water gaivanized tin.

"G. Coller." -- One air-tight tin box, of the size and weight stated, would foat about 49015e.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

Louring the ensuing week. MONDAY, June 2. — Entomological, 17, Old Bond-street, 8 P.M.; United Service Institution, Whitehall Yard, 9 P.M. TUESDAY, 3.—Linnæan, Soho-square, 8 P.M.; Horticultural, 21, Regent-street, 3 P.M.; Civil Engineers, 25, Great George-street, 8 P.M. WEDNEEDAY, 4.—Society of Arts, Adelphi, 8 P.M.

8 р.м.

THURSDAY, 5. - Royal, Somerset-house, 81 P.M. ; Anliquaries, Somerset-house, 8 P.M. ; Zoological, Hanover-Square, 3 P.M.

FRIDAY, 6. — Royal Institution, Albemarle-street, 81 P.M.; Botanical, 20, Bedford-street, Covent Garden, 8 P.M. SATUBDAY, 7. — Asiatic, 14, Grafton-street,

2 P.M.

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N.B.—This Cement being of a light colour, requires no arti-ficial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

To ENGINEERS, ARCHITECTS, AND BUILDERS. TO ENGINEERS, ARCHITECTS, AND CEMENT. -The Metallic Sand, from its chemical qualities, forms, when mixed with blue lias lime, a metallic cement of great strength and density; the iron, which is one of its deposited, and communicating to it a greater degree of hardness than can be obtained by admixture with any other known material. Concrete and mortar in which the metallic sand has been used are more durable than any other, continuing to indurate with time, and not being affected by damp, otherwise than by increasing in hard-ness from the oxydation which is thereby occasioned. Employed as a cement to turn water from birkwork in tun-nels, sewers, and other underground works, the Metallic Sand is found cheaper, and from its eminent albesive gualities to form a nore solid and hydraulic body, in com-bination with the brickwork, than any other cement at present substitute for pozzolano that has ever been presented to the public. As an external stucco, the Metallic Cement assumes a rich stone-colour without the aid of paint or tint of any kind, does not vegetate, and is entirely free from cracks and durability by exposure to the weather. The Proprietors refer with confidence to works in which the Metallic Sand has been extensively employed as concrete and mortar, specified in the prospectus, where also will be found refe-rences to very extensive erections which have been stuccoded with the Metallic Cement. Further information will be given, and specimens shewra, on application to Mr. C. K. Dyer, 4, New Broad-street; and

Further information will be given, and specimens shewn, on application to Mr. C. K. Dyer, 4, New Broad-street; and at the Metallic Cement Wharf, King's-road, opposite Pratt-street, Camden New Town.

Keer, canner new rown. **KEENE'S PATENT MARBLE** to refer to the British Museum, the Royal Exchange, the new works at Bethlem Hospital, Greenwich Hospital, and the Co-liseum in the Regent's-park, as buildings finished or in pro-gress, in which Keene's Cement has been used as an internal stucco. Its superiority to common plastering consists in its extreme hardness, and the rapidity with which it dries, which qualities fit it to receive paint or other finishing sooner than other water Cement. When employed for skirtings, architrave, and other mouldings, in place of wood, it checks dry-rot, is impervious to vermin, prevents the spread of fire, and is more eco-nomical in its application than the material for which it thus becomes the substitute. Confirmation of these statements is to be found in the slmost universal adoption of Keene's Cement for Skirting and Hall flooring in the new houses on the fiftee Park Estate, where its application is to be seen to the fullest advan-tage. In Liverpool and Manchester, Keene's Cement has in

Where its application 2 are tage. In Liverpool and Manchester, Keene's Cement has in several cases been used for the covering of the fire-proof warehouse floors, where its lightness and hardness give it the preference over tiles and flazging, which are much heavier, and necessarily leave the floor intersected with numerous joints, whilst Keene's Cement is laid down in one unbroken surface.

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economy. Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally performed. preferred.

declared that it requires only to be known, to be universally preferred. Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application to MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had, JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over ex-terior Walls of Houses that have been covered with Roman or other Cements, and which have beene dirty and disco-loured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, MESSIES. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the auction, thereby rendering a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

PUBLICATIONS.

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By the late A. BARTHOLOMEW, Eaq. F.S.A., Architect, Surreyor of the Hornsey Dustrict. Published at the Office of "The Builder," **3**, York-street, Covent-garden; and to be had of all Booksellers.

Just Published, a New Edition, Price 4a. AXTON'S BUILDERS' PRICES, con-taining the alteration of the prices in the GLAZIER in consequence of the remission of the duty. ATariff of Plate Glass is given, shewing the prices of plates from 12 by 12 to 84 by 140 inches. This work contains nearly 11,000 PRICES and MEMORANDA, and the whole of the new Metropolitan Buildings Act.—To be had at the office of "The Civil Enzi-neer and Architect's Journal," 145, Strand; Weale, High Holborn; and Simpkin and Marshall, Paternoster-row. * The new prices of the Glazier, price 6d. can be had separately.

separately.

THE ART-UNION, Monthly Journal, for June, contains a Critical Notice of the Exhibition of the Royal Academy, with Remarks on between four and five hundred of the Works of Art therein contained, and serving as a Guide to the Visitor. The Art-Union also contains a Series of Twelve Large Woodcuts, illustrative of a Visit to the Louvre, being copies of the best pictures contained in the Salon, 1845. Also, an Example, beautifully executed in Lithography, of the School of France. Also, four pages of Engravings, from the Shakspeare Illus-trated, by Kenny Meadows. Also, an illustrated Essay on Head-dresses in England, from the earliest times.

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SATURDAY, JUNE 7, 1845.



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HEN fatally destructive fires occur, such as those which during the last ten days have violently excited London, much is said about precautions and preventives; fire-

engines are put into working order, and fireescapes are shewn to answer perfectly well when applied experimentally, coolly, and quietly to a house not in flames. In another week the greatest apathy prevails, and continues till the destruction of more lives and property again causes some excitement on the subject, as temporary, however, as that which preceded it.

And all this time, even when fire-escapes are most talked about, and men, till that time improvident, are rushing to insurance-offices to prevent loss of - money, we continue to build houses as if to burn,-houses without a single means of egress besides the door,-houses of such a construction that, if once on fire, the chances are a hundred to one that all the interior must be destroyed.

The application of advice and moral precepts seems little regarded : "Thou art the man," must be whispered in our ears many times before we see the personal value of the lesson. That a similar event to that of which we have deplored the consequences in the family of another may happen to us, seldom enters our mind or leads us to adopt preventive measures.

The outlay for the latter is certain, though small; the danger, though great, is supposed to be doubtful, and the majority are willing to depend on the doubt.

Old Sir Henry Wotton says, "Every man's proper mansion house and home, being the theater of his hospitality, the seate of selfefruition, the comfortablest part of his owne life, the noblest of his sonnes inheritance, a kinde of private princedome; nay, to the possessors thereof, an epitome of the whole world; may well deserve by these attributes, according to the degree of the master, to be decently and delightfully adorned." Even much more so, however, ought it to be rendered SAFE, to the extent of his power, so that he may retire to rest without fear of being buried in its ruins or barnt in his bed.

For many years writers have urged the importance of rendering buildings fire-proof, but up to this time nothing has been effected. Count d'Espie's essay, " Manière de rendre toutes sortes d'Edifices incombustibles; ou, Traité sur la Construction des Voutes, faites avec des briques and du plâtre, dites voutes plates; and d'un Toit de brique, sans char-pente, appellé Comble Briquetè,"* has given a isist to modern architects in another respect, thas not led either to the adoption of the he proposed or of any better. A writer 1775, in a pamphlet called "Various Me-ods to prevent Fires in Houses and Shipiog," says,-

"As the city of London is so famous for merce, and merchants of experience and mibility, they ought to shew an example to her places to keep up their fame, honour, d credit in every thing that is convenient d elegant relating to trade and navigation.

Published at Paris in 1754, and immediately afterwards acdon, as translated by L. Dutens.

THE **BUILDER.**

Amongst such a number of gentlemen, learned and experienced architects, ingenious builders and craftsmen (who have both increased and improved the buildings of this metropolis beyond the common thoughts of men and the romantic ideas of imagination, where no expense is spared by our nobility and gentry to improve the plan), decorate the building and furnish the apartments, so noble, beautiful, and magnificent, far surpassing the very fancy and fairy-tale romances of our venerable forefathers.

But so strange and unaccountable are the little frailties of human nature, after all these expenses, decorations, and magnificence expended on the costly edifice, among a society of men, so sensible, learned, and ingenious in their several professions, there never was a single idea, or the plan of an hour's thought adopted, to secure the building or the family, who were continually surrounded and living in the middle of combustible wood, from falling a sacrifice to the most trifling accidents of fire; which building and family lieth every night in the year at the mercy of a drunken fellow, with the snuff of a candle, a handful of shavings lying in a bye corner, a little thoughtless boy and girl, or a sleepy servant-maid drying linen at the kitchen fire, besides many malicious accidents, to be entirely burned down and consumed before the morning. Many people wonder that a strong-built house should be so easily consumed ; but this wonder ceases when they consider that every thing about us is liable to catch fire; our houses are floored, our rooms partitioned, and the roof covered with fir, a wood full of turpentine, and enriched with two or three coats of painting in oil; besides all our furniture naturally made of wood, without the least material or contrivance to check its fury or prevent its rapid progress in the apartments, or to give us half an hour's warning to consult our reason or friends how to act with safety, in these pressing moments, against such a furious, merciless enemy. These are plain convincing proofs, that the master of every house and family, great or small, in town or country, should endeavour to make use of every precaution that art and nature can furnish to secure himself, his family, and substance from falling a prey to fire, or the sad misfortunes attending fires, to guard against these terrible accidents with all the care and thought of human prudence, to make us and our families live and sleep with safety in our houses, without the fear and dread of falling a sacrifice to these momentary accidents.'

The same writer proposed that iron plates should be nailed on the ceiling, doors, and sides of the room, especially on the partitions where lath and plaster are usually fixed. He further suggested that tiles might be used for the partitions and floors, instead of iron plates.

Various solutions have been proposed to render woodwork fireproof, and more recently iron joists, plates, and roofs have been invented and are-not used. Even the most simple preparation for escape by the roof is, in many cases, not made; and where it is practicable. so little thought is given to it, that in the event of accident, the means of getting to it would be found wanting in the majority of instances.

The Examiner, in an article on this subject, suggests that a sure and easy escape from every floor in rows of houses, may be obtained by means of balconies to bed-rooms fronting the street, as well as to drawing-rooms. "In the event of fire the weak and the aged would only have to step out on their balconies, and to pass over to that of the next house, with as little difficulty as getting over a stile. But then | side of the straits.

the objection is started, that such a mode of communication might be used for improper purposes. The drawing-room balconies, running contiguous, as they do in many streets, might be so used now; but it is not found that they are so used. The communications over the house-tops allow of abuse, but no inconvenience is experienced. A Pyramus and Thisbe might certainly make balconies dispense with a hole in the wall; but the question is, whether the danger of easier access by gallants here and there, or the danger of death by fire is the greater evil ? 'Where there's the will there's the way.' If people have resolved to come together, it will not be the want of a communication by a balcony, or the existence of it, that will determine the result; and we repeat that, to the extent to which such communications now exist-the space of a foot or two between not making a separation except to the eye-they are not found to be attended with any inconvenience to privacy or detriment to morals. On the other hand, there is to be considered their service to humanity, as the easiest and surest fire-escape. With balconies to the second-floor rooms of the generality of London-houses, the means of escape would be sufficient; the third floor, or the garrets, having the escape by the roof. Considering the common danger of fire, the great dread of it, and the deficiency of contrivances for escape, the expedient we suggest is entirely deserving of consideration."

What we are anxious to urge, however, at this moment is, the prevention of fire rather than the means of escape from it,-the avoidance of the immense annual loss to the community caused by its ravages, and the amount of suffering and degradation which follows. The subject calls for the most serious consideration of all who dwell in this " huge city of tinderbox habitations," and involves a number of points which we shall hereafter discuss.

As regards public buildings and edifices wherein large numbers of persons are brought together, no words are too strong to be used in condemning the want of provision in this respect. Hospitals, union workhouses, and other similar structures should invariably be made incombustible to the greatest practical extent. The new Buildings Act wisely provides with regard to these, and other public buildings within its jurisdiction, that the floors of the halls, corridors, passages, stairs, and landings, and all other ways of ingress and egress within the building, to and from all rooms or apartments used for public congregation, and all galleries connected with such room or apartment, must be wholly supported. made, and finished fire-proof. This will increase the chance of escape for the inmates; but we hope before long to see such a system of construction adopted, at all events in public buildings, as will render a general conflagration impossible.

We refer our readers to a communication on the same subject in the following page.

AERIAL TUNNEL OVER THE MENAL.-The project noticed at page 237 ante, to throw a hugh tube composed of sheet-iron across the Menai Straits for the transit of a railway train, has, we understand, been abandoned, owing doubtless to the probable disastrous effects of a gale of wind pressing upon such an extent of surface as so large a tube would necessarily present. It is in contemplation, we believe, to erect in its stead two bridges of solid construction, both of them uniting on the Britannia Rock, and to throw out piers from each

THE LATE CONFLAGRATIONS IN EUROPE AND AMERICA. BY J. L-**-**v.

"Thoughts must be-thought."

HOWEVER absorbed-nay dissolved men of the present age may be in matters of immediate the present age may be in matters of *mandealable* and momentary import; still, the Royal Ex-change, the Houses of Parliament and the Tower—Hamburg in fine, and Pittsburg, must startle the most placid and languid mind; events, to which the latest awful loss of life in Darm stread (and one was previous in Or. events, to which the latest awful loss of life in Dover-street (and one year previous in Ox-ford-street), form not less pitiful appendages. If such (material) losses of property, were to be considered merely in their material bearings — which, however, is always wrong — we might say, fifty millions sterling have, in these instances, been burnt, and if, say, a gold mine, or gold mines might have been discovered contemporaneously with these events—well, then the losses would have been repaid, restituted. But such is not the case. repaid, restituted. But such is not the case. Such conflagrations entail not merely material, but moral and social evils of the greatest import—and it is the duty of the "science of public architecture" (Staat's - Architektur), as well as other branches of public good, to consider these events attentively, and to devise, if possible, means against their recurrence. Amongst the moral and social evils, concomitant of such awful catastrophes, are to be reckoned—the loss of careful and loving parents and guardians, the interruption of education and domestic habits of a number of children—in fine, *all* the numberless evils following a more or less protracted existence of poverty, discomfort, disorder. Alluding here-by chiefly to the case of Hamburg and Pittsburg (at which latter place alone forty millions of dollars of property were consumed) — we may be told, that these cases are so distant, either in time or space, that they hardly deserve attention. How much, however, would that thus have deserved, who would have written thus at Pittsburg, before it was burnt ! God forbid, that we should wish to portend any such catastrophe to any place in these realms, or elsewhere. "As long, however, as the same causes exist, equal effects may be anticipated, or at least apprehended."

To speak boldly and unflinchingly-the main cause of all these (material) catastrophes, is the material tendency and belief of the age. We grasp at nothing but immediate, momentary enjoyment; and, therefore, it is so as we wish it to be-immediate but momentary; without any sure and safe basis, save its insecurity. As archi-tecture, however, is an important radius of this, or any other social and civilized condition—it is in its restoration, regeneration, that a more stable, sounder, securer state of society is also to be sought for. Let those who study (!) architecture, look at the work of Antonio Bosio — Roma sotterranea. Why, Why, they will see that the great sewer called Cloaca they will see that the great score called Cloaca maxima has been built by those sinewy ancient Romans with a greater degree of strength and solidity, than we moderns give (aye, and ever can give) to our royal palaces. Such really are (to approach near Pittsburg and Hamburg) the Doganas and Alfandegas of Genoa, Venice, Lisbon, &c. But we mo-derns the a slate and calculate thereon our derns take a slate, and calculate thereon our seven per cent., or nine and a half per cent., as the thing most essential. And then we call for some cobbler or botcher—because the architect builds for ages, and not days—and on he goes, to glue and patch together some struche goes, to give and patch together some struc-ture of gingerbread and pasteboard, as it were. Such are these warehouses, which have been, of late, subject to *periodical* conflagrations at Liverpool, etc. In fact, after the lady of a member of the legis-lature has been burnt in one of the best hotels of the metropolis-we are sorry to confess, that hardly any one is secure from similar accidents; and we call again upon those who have seen Italy, nay even Germany, to say, whether such could happen in any of the *locandas* or hotels of Rome, Naples, or even Frankfort. After such confagrations here, the houses present, almost generally, a gutted appearance, and even the staircase (made by contract of the most futile deal boards) has completely disappeared. Out of such structures, some one may get out his 71 per cent.; but those be-widowed and be-orphaned persons who have remained behind, have no bank to draw upon for any reasonable sort of palliation or consolation.

It is, consequently, the sacred duty of any architectural journal, which understands its high vocation, to strongly (albeit charitably and conciliatorily) protest against such a state of affairs, and to devise means how we moderns, without losing any of the advantages of modern civilization, can revert (retrograde?) to that solidity, and beauty, and sterlingness, which bursts on our eyes whenever we behold the structures of antiquity, be they even of the most common or subordinate use.

THE PRACTICAL STUDY OF GOTHIC ARCHITECTURE.

THE popular author of Coningsby, in a novel* lately published, has said, "The monks were great architects :--not the faintest idea is generally prevalent of the appearance of England before and since the dissolution ;—in England and Wales alone there were of these institutions, of different sizes—I mean monasteries, and chantries, and chapels, and great hospitals — considerably upwards of three thousand, all of them fair buildings, many of them of exquisite beauty." Our own opinion is, that the number of churches and buildings, judging even by the remains alone, is here considerably underrated. Standing on an emi-nence in any part of England, or with the map of any county before us, we can mark out a of any county before us, we can mark out a very great number of churches, all of them containing matter to interest and instruct, whilst the larger portion exemplify the best characteristics of Gothic architecture. The almost exclusive attention which, from their elaborate decoration and extent, the cathedrals and larger churches have absorbed, has prevented our paying to the humbler structure of the village, that due consideration so essentially requisite to a correct estimate of the value of the style. We hesitate not to say, that our wonder is more excited, and our admiration of the zeal of the old architects more commanded by the village churches of England than by the cathedrals-until within the last few years the only objects of investiga-tion. That cathedrals and colleges, monasteries and hospitals should rise in all the richness which wealth, and the resources of the art could command, was rather a thing to be expected, from the influence which each body of clergy possessed over a large circle of surrounding country. Thus no design was deemed too vast to be carried into execution : stone and timber acquired without expense, contributions from the dying, command of vast revenues, and the exertion at all times of every engine, which a powerful priesthood could so well call into play, added to the constructive skill of the freemasons, led to the completion of projects, the mere mention of which now would be heard with astonishment or ridicule Confident that others would finish what had been so sumptuously commenced, the medieval architects on the continent conceived projects of such immensity, that the reformation and the change of taste occurred ere the work had arrived at a conclusion. But that every village should possess a church, in whose features we recognize the same ardour in matters relating to religious worship, with corresponding scientific skill and elegance of design, only modified, and that most admirably, by the smaller resources and wants of the community -that in every obscure hamlet was the same spirit which animated the builders of cathedrals such as York and Salisbury,-is matter for admiration and amazement!

In a former number of this journal, t we endeavoured to urge the importance of a more careful examination of ancient models than architects are generally in the habit of devoting. Such an extended examination as we advocate would occupy more than a few months, but would probably afford an exact comprehension of the principles which guided the master architects of the middle ages, finally resulting in the practice of a style, at enmity with the true principles of pointed architecture, yet, at the same time, unmarked by that tame, fac-simile imitation, which is the staple of modern professors, which is acqui-esced in by them, and is too much fostered at our universities. To copy a window from this cathedral, and a buttress from that church is not the straight road to architectural excellence, nor the best means of supporting the

dignity of the professor, and advancing the progress of the art:--the proper value of ancient models is not shewn in imitating them after the Chinese manner, but is rather-in combinations and suggestions from many examples,-to produce works truly original, in conveying no suggestion of their origin, or of the course by which they were arrived at. And here we cannot quote from the "Discourses" of Sir Joshua Reynolds without expressing a wish, that architects would apply the princi-ples, which he endeavoured to inculcate, and which are as much applicable to their art as to the kindred one of painting. After speak-ing of the advantages to be derived from works of art, he says, "From the remains of the works of the ancients the modern arts were revived, and it is by their means that they must be restored a second time. The fire of the artist's own genius, operating upon those ma-terials which have been thus diligently collected, will enable him to make new combinations, perhaps superior to what had ever before been in the possession of the art; as, in the mixture of the variety of metals, which are said to have been melted and run together at the burning of Corinth, a new, and till then unknown metal was produced, equal in value to any of those that had contributed to its composition.†

The stay-at-home architects, who study from "the Glossary," and design with Britton's and Pugin's works upon the table, have entirely mistaken the character of Gothic architecture. They have fostered an opinion, not yet done away with, that the style is necessarily an expensive one, while they have begotten a an expensive one, while they have begotten a manner, unlike any preceding, and inconsistent with all correct notions of propriety. The same pinnacles from Beverley minster or Salis-bury cathedral—the same door from King's College chapel—all which they had never seen except in engravings—they have repeated again and again in church and meeting house, even in encode where for the cases where funds would barely suffice for the most ordinary objects. Had these "gentlemen of England" studied the true character of of England " studied the true character of pointed architecture, where it only can be learnt, from the building itself, they would have discovered that every variety of eccle-siastical structure had a peculiar purpose, and was erected in a peculiar manner. They could not have foiled to learn that it was proper to not have failed to learn, that it was proper to impress a character upon each in accordance with its purpose, its situation, the component materials, the general amount of decoration, and the total cost. The parapets and pinnacles, which may be excellent in the cathedial, might be quite out of place in the village church, and the very mouldings may be re-quired of different design. In the latter structure, except in the case of a small oratory or chape the building always scems to have been de-signed for the locality, and not, like many of our modern Gothic churches, as though transported from some other place. It is a key to the history of the neighbourhood, and of the people who there dwelt; and whilst the oratory was who there dweit; and whilst the oratory was enriched in a degree becoming the wealth and lineage of the lord of the manor, the nave was unadorned, and accordant with the condi-tion of the tillers of the soil. To erect a town church in the country, and a village church in a crowded thoroughfare, is often destructive of the *genius loci*, and convictive of an artist the genius loci, and convictive of an entire ignorance of the unerring rules of art. Plan and elevation, perspective outline, and the pro-portion of parts, details of battlement, basemould or string course, all should receive the greatest degree of attention from the architect. The education required involves a larger outlay of time than most architects are prepared to devote thereto; and thus, " content to dwell in decencies for ever," many exhaust their single idea in every church they have to execute, whatever be its situation and other circumstances of the case. A painter does

^{*} Sybil, or the Two Nations. † Vide page 217 ante, art. "Ancient Models."

[†] In another place we find the following :--^w I cannot help imagining that I see a promising young painter equally ni-gilant, whether at home or abroad, in the streets or in the fields. Every object that presents itself is to him a lesson. He regards all nature with a view to his profession, and com-bines her beauties, or corrects here defects. He examines the countenance of men under the influence of passion, and often catches the most pleasing hints from subjects of tur-bulence or deformity. Even bad pictures themselves supply him with useful documents; and, as Lionardo da Vinci has observed, he improves upon the fanciful images that ar sometimes seen in the fire, or are accidentally sketched upon a discoloured wall. The artist who has his mind thus filled with ideas, and his hand made expert by practice, works with came and readines."-Reynolde's Discourses on Painting.

not learn the practice of his art from engravings, nor a sculptor from models in minia-ture, nay, in architecture, the actual examination, in Italy and Greece, of the beautiful structures in those countries, is deemed all but essential to the acquirement of a correct taste. But in the Gothic style, which has taken the place of every other for ecclesiastical pur-poses, we are content to learn at second-hand poses, we are content to learn at second-hand from mere graphic illustrations, or from a day's visit to a cathedral; though at our very doors are the best teachers — models with which the land abounds, and capable of adaptation to every object in ecclesiastical architecture. The importance of a complete examination of ancient models is more especially to be urged in Gothic architecture, in which the variations are so numerous, and comparatively so little understood, and in which the true value of precedent is so much a matter of speculation. Whilst our knowledge of actual examples is w nuss our knowledge of actual examples is so meagre, we are restricted to the constant repetition of some few details, for which we know there is authority; but a familiarity with all existing details might produce a style in which originality would of mone characteristic, or which would at least present a greater variety of forms than are at present met with.

Every lover of Gothic architecture should be a good pedestrian : thus his attention will not be confined to the towns which lie on the line of railway, but, knapsack on back and sketch book in hand, every mine will be open to his researches, and every store for him to glean An enthusiast-and what student is therest. therest. An enchusing and what student is not-will discover a new pleasure, such as Xerxes never dreamt of, in every object he sproaches. We have, ourselves, had such experience of the salvantages, in mental and bodily vigour, to be derived from pedestrian init the source of the so visits to some of the counties of England, that we are led to urge every student, who hopes to stand in advance of his time, to engage in the study of his art in the like manner; and, as the pleasure and advantage of a pedestrian trip is in some degree dependent upon previous arrangements, it may perhaps not be thought foreign to our object if we give a few hints on such points: we may perhaps occupy space that could have been otherwise filled, but an old traveller will know that our suggestions are not entirely valueless.

Some slight review of the history of Gothic architectures, and the practical method of de-termining dates, will be desirable, even in the termining dates, will be desirable, even in the student of some years' standing; and the pub-lications of the Cambridge Camden Society have so much the merit of conveying a great deal in few words, that they should not be neglected: — one called "A Few Hints on the Particular Status of Feederical Architectures and the Status of Statu the Practical Study of Ecclesiastical Archi-tecture," will be a desirable companion for reference. It contains a list of the embleme of saints, and a similar list is to be found along with other information in the Archæological Journal. These lists may be referred to in many objects of interest in stained glass and monumental brasses. From the same sources may be learnt the method of "Tubbing' brasses, which does not involve so much time as materially to retard the more immediate objects of the journey, and often affords hints in ornamemt frequently available. A solid sketch book of convenient size, with the et cateras of the delineating art, is not likely to be forgotten. A walking-stick may contain the five-foot rod, which, if dimensions are taken, can hardly be dispensed with. Other essentials are, good maps, a compass, a note book, a tape, a pocket case of instruments, and tracing paper for copying stained glass. If, too, we descend into the matter-of-fact de-tails of coat and inexpressibles, we may there, too, add to the comfort of our voyageur. first-mentioned garment should be made of waterproofed cloth, with seven or eight pockets, the principal ones being large enough to con-tain the "one shirt off" and the sketch book in case of rain, double-breasted, to button to the throat if required. The "porticipans" the throat if required. The "pantaloons should also be of waterproofed material, and not exactly of the best kerseymere. These habiliments will defend from Jupiter Pluvius; but he is not an experienced traveller who would venture abroad without other protection ; and this we carry in the shape of a great coat, strapped to the back, in the place of a knapsack. The straps do not pass knapsackwise, but through strong loops sewn to the

back of the smaller coat: and, with good walking-boots and a change of stockings, our pedestrian is equipped, and, when he has got a mile from London, does not fail to thank us for these hints. The load on his back is no great burthen, and the plan of carrying his *impedimenta* will be found preferable to the knapsack, which is often very harassing to the shoulders. He will also find many essen-tials necessary which we have not space to enumerate, but which will readily suggest themselves, as, an apparatus for sewing on buttons and mending stockings; and some little pupilage in these difficult arts, under some of his fair acquaintances, would be highly de-

ot nis tair acquaintances, would be highly de-sirable. The question of cap versus hat is one which should also be present to his mind. And now, our traveller, being fully equipped, dons his cap, and, stick in hand and sketch book under arm, with a light heart and little other luggage, leaves London behind him; ouitting the study of study of a behind a behind the study of the study of study of study of the study of th quitting the study of stucco and chimney-pots with the prospect of health invigorated and knowledge greatly enlarged. The argumentum ad hominem, which doters many from undertaking frequent visits to objects of interest in England, is that of expence. The coffers of architectural students are always shallow ones, and, under the idea that this is universally a land of expensive inns and dissatisfied waiters, the practical study of the art is postponed to some expected distant visit to the continent, where sous go as far as pence, and breakfasts are thought to be had for asking. But we know that, with a little tact, by avoiding large hotels, and spending the greater number of nights in village inne rather than those of the towns, the thing may be contrived at as low a rate as we can live for in London. At most rate as we can live for in London. At most villages an excellent bed may be got for a shilling, and sometimes — our readers may smile—for sixpence; and if our pedestrian requires his tea from Twining's, he had better

stay at home, unless he can carry a full purse. The "Church Schemes" of the Camden Society will be found very useful; the method of using them may be learned from the pamphlet before mentioned, and, if our traveller is a writer of short hand, he may note down every particular of each church in as little time it will take him to walk over it: and he will be led to the discovery of points which might otherwise have escaped him. How far photography, and other aids to art may be called into his service, we must postpone the consideration of to some future period. We repeat—in conclusion—Gothic archi-

tecture is not to be learnt from books and illustrations, but from examples themselves; and from the rising generation of architects is expected a style of art consistent with the true principles of the architecture of the middle ages, and at the same time with the requirements and characteristics of the English people and the present age. Е. Н.

MUSEUM OF ECONOMIC GROLOGY. --- II having been found that the present premises of this institution are far too small for the rapidly increasing collection of specimens illustrative of the application of geology to the arts and manufactures, the Government have determined on appropriating a large space between Piccadilly and Jermyn-street, near St. James's Church, for a commodious building sufficient for the accommodation necessary for the Museum, the Mining-Record Office, and the purposes of the geological survey of Great Britain. The Athenaum states that the architect to the office of Woods and Works, Mr. Pennethore, has furnished plans, by which a frontage in both the above-named streets, of seventy feet, is ensured, and a depth of one hundred and fifty feet; which will be occupied by galleries for the exhibition of geological and mineralogical specimens, models of machinery, and illustrative produc-tions of the arts and manufactures.

CITY APPOINTMENT OF ASSISTANT SUR-BYOR -The Commissioners of Sewers of the City of London having resolved to appoint an assistant surveyor, will meet, for that purpose, at the Guildhall, on Tuesday, the 17th instant. Gentlemen desirous of becoming candidates for the appointment must be possessed of adequate knowledge as surveyor and engineer, must give up the whole of their time to the duties of the office, and will not be allowed to carry on any private business.

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VENTILATION.

WE hear many complaints against Dr. Reid's system of ventilation as carried out in the temporary Houses of Parliament, but nothing better is promulged, nor do we hear of any endeavours being made to improve it. The proper ventilation of buildings does not receive that share of attention which its importance demands. Impure air still con-tinues to kill its thousands quietly and in secret, and because it is in secret we look on passively and make no endeavour to stop the progress of the insidious destroyer. In well-built modern houses, where there are few crevices by which air can get access, systematic ventilation is absolutely necessary. Evidence of the strongest kind proves not merely the fatal effects of breathing air grossly vitiated, but that the absence of a full supply of pure air induces comsumption, or renders the constitution less able to resist any disease by which it may be attacked.

The desideratum is, to introduce fresh air in sufficient quantities in such a manner as not to produce perceptible currents. The Health of Towns' Commissioners say,

in their second report :--

"Notwithstanding the apparent difficulties with which the ventilation of private dwellings is surrounded, a minute examination of the circumstances of the case has assured us that no field of improvement holds out a more promising result than that which may be anticipated in future from the more successful ventilation even of the humblest dwellings. The progress of science has explained its nature and importance. Sanatory measures for draining and cleansing will effect at least one-half the remedy by removing those impu-rities that have hitherto so largely polluted the atmosphere in towns, more especially in the habitations of the poor. Less air is requisite for ventilation in proportion to its purity, and consequently, the risk of offence from currents must be diminished where adequate ventilation is provided.

These considerations give us great co fidence, in the expectation that ventilation will be much improved in proportion as its nature and importance is better known; more especially when plans for warming and ventilation shall be minutely studied, and incorporated in original designs, instead of being merely applied, as is too often the case at present, to applied, as is too often the case at present, to buildings already constructed or designed without reference to this important object. This is the great and paramount object that should be pressed upon the attention of archi-tects and builders. If structural arrange-ments are provided in public buildings and private dwellings, ventilation will then attain that facility and accompany of execution with that facility and economy of execution, with-out which its general introduction cannot be anticipated to the extent that its importance requires. But exclusively of such systematic improvements as may justly be anticipated in new buildings, where this subject is fully considered, we have reason to look forward to additional improvement in this department. The very simple fact, that vitiated air always rises, under ordinary circumstances, shews that if two apertures be provided in every apartment, one below, and another above, and valves be arranged so that they may be adand justed with facility and accuracy to the cir-cumstances of the moment, the natural laws that regulate the movement of vitiated air will induce a perpetual change, and prevent that extreme contamination which is so often observed. Extended systematic ventilation, with all its peculiarities and powers of adaptation, can only be obtained and is only required in public buildings or other large establishments; but it cannot be too strongly pointed out that many just objections to ventilation, as it is at present effected, arise from the fact that the feet principally are subjected to a cold current, in ordinary apartments, while the head may be in a hot stagnant atmosphere loaded may be in a hot stagnant atmosphere loaded with vitiated air, and saturated with moisture, pro-duced by the breath, by combustion from lamps and candles, and from other sources. A supe-rior aperture, and the most moderate attention to the noint selected for its introduction will to the point selected for its introduction, will secure the admission of fresh air without the secure the admission of fresh air without the current being perceptible to the human frame, and prevent it from attaining that condition where, by long continuance in a beated atmo-sphere, slight movements of air become offen-sive."

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We have nearly as much confidence as the commissioners "in the expectation that ven-tilation will be much improved" as its im-portance becomes better known; but we portance becomes better known; but we greatly fear that a long time will elapse before the public are fully roused to its importance. This can only be effected by constantly bring-ing the matter before them, and pointing out the results of inattention to it. We extract the following useful information on the subjeot from Bernan's valuable "History and Art of Warming and Ventilating Buildings,"* to which we have referred in previous numbers of our journal :---

"Not the least remarkable example of the power of habit, is its reconciling us to practices which, hut for its influence, would be consi-dered naxious and disgusting. We instinctively shun approach to the dirty, the squalid, and the diseased, nor use a garment that may have been worn by another; we open sewers for matters that offend the sight and smell, and contaminate the air; we carefully remove impurities from what we eat and drink, filter tur-bid water, and fastidiously avoid drinking from a cost that may have been pressed to the lips of a friend. On the other hand, we resort to places of assembly, and draw into our mouths air loaded with effluvia from the lungs and this each other hand, we resort to skin, and clothing of every individual in the promisouous crowd: exhatations are offensive to s certain extent from the most healthy individuals, but when rising from a living mass of skin and lung in all stages of evaporation, disease, and putridity, and prevented by the walls and ceiling from escaping, they are, when thus concentrated, in the highest degree dele-tarious and heatherme terious and loathsome.

This poisonous exhibition is one of the effects of the consumption of fourteen ounces of charcoal that Dr. Liebig says is burned daily within the body. The share of impurity conwithin the body. The share of impurity con-tributed by each hving furnace has been variously estimated. From experiments with men of different stature, Dr. Menzies found that from fourteen to eighteen respirations were made in a minute ; and others have found them vary from thirteen to twenty-two ; the average vary from thirteen to twenty-two; the average generally assumed is twenty respirations in a minute. The quantity of air drawn into the lungs at each inspiration varied from 40.7 to 46.7 cubic inches; and under all the circum-stances, Menzies considered 720 cubic inches about the average quantity of air inhaled by a healthy man in a minute. A woman may in-spire, on an average, about 500 cubic inches; a mean inspiration from a healthy pair of the species will not, probably, exceed 612 cubic inches in a minute. inches in a minute

The quantity, however, varies not only in the sexes, but in the same individuals placed in different circumstances with regard to rest and motion, to health and illness. During great exertion it will exceed the average; dur-ing rest, and in delicate and siling persons it will fall under it; so that if 600 cubic inches be reckoned as expired in a minute by each individual in a mixed company, it will be a fair

The fresh air, before it is taken into the lungs, is composed of 23.2 per cent. of oxygen, 75.5 of nitrogen, and about 14 per cent. of carbonic acid, and a variable quantity of vapour of water. After it is has been expired from the lungs, in which it remains from ten to twelve seconds, it contains a larger quantity of twelve seconds, it contains a larger quantity of vapour, the same quantity of nitrogen, from 11 to 12 per cent. only of oxygen, and between 8 and 9 per cent. of carbonic acid; so that nearly a half of the oxygen or vital element of the air has been changed into carbonic acid. If atmospheric air contains 3.5 per cent. only of this gas, it is unfit to support animal life. Air, therefore, which has been expired from the lungs contains 2.4 times this quantity: so that a person who inhales 600 cubic inches a minute, renders 1,440 cubic inches unfit to be breathed again.

The amount of exhalation from the skin also varies in different individuals, and from the same person at different times—a hand emitted same person at different times—a hand emitted ‡ grain in a minute, at another trial ½ grain, and in a third experiment it exhaled ‡ of a grain of vapour in a minute; which is 12, 30, or 45 grains a minute for the whole body. If one of each sex be taken, the mean will be about 23 grains each in a minute. The skin emface of a men being shout force source for surface of a man being about fifteen square feet,

* George Bell, Floet-street, 1845.

1.5 grains of vapour will be exhaled in a minute from each superficial foot of his body, or 3 grains from each cubic foot of his mass. Besides water, carbonic acid, acetic acid, phosphoric acid, muriate of soda, and a peculiar odorous matter are contained in the vapour emitted from the surface.

This copious cuticular discharge is seldom porceptible to the eye, although it is to the the nose. Boerbaave made it apparent in the warm weather by immersing his hand in air cooled by ice, which then seemed to smoke like a boiling kettle; and he amused himself with the notion, that if winter's cold was produced in the midst of a crowded summer assembly, each individual seething in his own steam would appear like a heathen deity wrapped in his peculiar and appropriate cloud. The emanation from lungs and skin is carried

from the body by diluting it with atmospheric air, which at a certain temperature can hold in suspension a certain quantity of vapour, the amount of which is shown in the following table; the first column gives the temperature of the air, and the second column the number of grains of water a cubic foot of it will contain, in the form of vapour, at that temperature :

| Tempera- ture. | Grs. of water in a cubic foot of air. | Tempera- ture. | Grs. of water in a cubic foot of air. |
|-------------------|---|-------------------|---|
| 3°3 | 2.43 | 40 | 8-23 |
| 33 | 2.63 | 41 | 3.37 |
| 34 | 2.71 | 42 | 3.20 |
| 35 | 2.80 | 43 | 3-65 |
| 36 | 2.80 | 44 | 3.20 |
| 37 | 2.97 | 45 | 3.80 |
| 38 | 3.00 | 40 | 4.02 |
| 39 | 3.12 | 47 | 4.12 |
| 48 | 4'97 | 70 | 8.30 |
| 49 | 4.40 | 71 | 8.02 |
| 50 | 4.23 | 79 | 8-93 |
| 51 | 4.08 | 73 | 9.19 |
| 52 | 4.83 | 74 | 9.48 |
| 53 | 5*03 | 75 | 9.78 |
| 84 | 5.12 | 76 | 30-10 |
| 55 | 5.34 | 77 | 10.38 |
| 56 | 5.21 | 78 | 10.69 |
| 57 | 5.67 | 79 | 11.03 |
| 58 | 5.86 | 80 | 11.33 |
| 59 | 6.04 | 81 | 11.66 |
| 60 | 6.33 | 82 | 12.02 |
| 61 | 6.30 | 83 | 19-95 |
| 62 | 6.57 | 84 | 12.71 |
| 63 | 6.29 | 85 | 13.08 |
| 64 | 7.01 | 86 | 13.42 |
| 65 | 7*23 | 87 | 13.82 |
| 66 | 7.44 | 89 | 14.53 |
| 67 | 7.66 | 89 | 14.01 |
| 68 60 | 7-89 8-13 | 84 | 30.00 |

According to the table, a cubic foot of air at the freezing point can retain 2.53 grains of water only; if, therefore, it contain one grain only, then each cubic foot will absorb or carry off 1.53 grains of vapour from a moist surface, which may be the insensible perspiration from the surface of the body. If this air be heated to 60° , a cubic foot of it will carry off 5.22 grains of moisture from the skin; for it is seen from the table, that air at 60° can suspend 6.22 grains of water. To carry off 23 grains of in-sensible perspiration per minute, will therefore require about 15 cubic feet of the colder air and about 4.4 cubic feet of the warmer air. If less than this be supplied, the moisture will accumulate on the skin, and the air of the room become saturated with vapour. If the average temperature of the room be

taken at 64°, with the dew point about 50° , or with 4.53 grains of water in each cubic foot, then about 9.25 cubic feet of air will be required per minute for the imsensible perspiration, and, in addition, one cubic foot nearly for the excess of moisture from the lungs not the excess of moisture from the lungs not carried off by 1,440 cubic inches allowed for the dilution of the carbonic acid gas; so that about 10.25 cubic feet of pure air a minute must be allowed to ventilate each person. But if a greater proportion of moisture is added artificially to the air, this quantity must be increased. In every case, vanilation should

be increased. In every case, ventilation should be regulated with reference to the hygrometric condition of the warmed air.

Dr. Reid states, that he never gave less than 30 cubic feet of air a minute to each member of the House of Commons when the room was crowded, and on one occasion he introduced for weeks successively 60 cubic feet a minute to each member, and that, to give the neces-sary moisture, 5,000 square feet of moist evaporating surface was exposed to the air; and subsequently, as stated in a previous essay, the air was made to flow through jets of water; and this saturation probably it was that rendered

this quantity of ventilation necessary and pleasant.

In whatever way the air of a room is heated. it is cooled by coming in contact with the glas of the windows, by the walls, ceiling, and floer absorbing the heat, and by cold air entering at doors and windows, and the crevices round them, and sometimes by the chimney when it is left open.

Each square foot of glass in a window will cool about one cubic foot of air as many degrees per minute as the temperature of the r per minute as the temperature of the external air. If a window has five square feet of gias, and the temperature out of doors be 32° and the room 60° , then five cubic feet of air will be cooled 28° in a minute. Of the quantity of cold air admitted at the crevices round the window-sashes and round the door, no definite estimate can be given; it depends on the pesi-tion of the window above the floor, on its fitting, on the difference of temperature between the room and the air outside, on the force of the wind, and other causes. If three times the width of the sash added to twice its height be multiplied by 3, it will give about the number of cubic feet of air cooled from this cause. The crevices round the sashes of a window four feet wide and eight feet high, will coel about 8.5 cubic feet in a minute. Twice the width added to the height of a

door multiplied by '26, will give the cubic feet of air cooled per minute for that opening when well made: a door three feet wide and seven feet high will cool about 5.2 feet in a minute.

The absorption and radiation of heat from every 200 square feet of wall, ceiling, and floor, may be taken on an average as equal to cooling one cubic foot of air per minete as many degrees as the internal is warmer than the external air.

When wax or tallow lights are burned, about •25 cubic feet a minute must be allowed for each.

With the air at 64° and dew point at 50°, every inhabited apartment must therefore hav the following allowance of heated air per minute :--

Cubic Fee •83

| | | | | | | CUMC | |
|-----|-------|-----------|----|-------|------------|------|----|
| For | the | supply | to | the | lungs | • | •8 |
| To | ~~ ~~ | - off ine | - | rible | mamminutio | - 10 | |

To carry off insensible perspiration For each common sized candle.... •25

- Square foot of glass in window ... Each window, for chink winds.... Each door about Jun. 1.0
- 8.2 5.2
- Each 200 square feet of wall, ceil-
- ing, floor, exclusive of windows 1.

Suppose a room 30 feet long, 20 feet wide, and 16 feet high, with three windows 8 feet by 4 feet, and two doors 3 feet by 7 feet, and con taining twenty persons :---Cuble Beed

| 20 nersons | will | require | for | lunes |
|------------|------|---------|-----|-------|

| 20 persons will require for lungs | |
|------------------------------------|------|
| and skin | 16 |
| 3 windows, 96 square feet of glass | 96 |
| for crevice winds | 25.5 |
| 2 doors for ditte | 10.4 |
| | |

2,800 square feet, wall, ceiling, floor 14

161-9,

or heat equivalent to raising 161.9 cubic feet of air per minute. To this must be added one quarter cubic foot per minute for each light: should the air contain more than 4.53 grains of vapour, the quantity for ventilation must be increased. If, for example, the air at 64° held six grains of water in suspension, then 232 cubic feet must be allowed to carry off the personal exhalations, instead of 16 feet."

DECORATIVE ART SOCIETY.

On Wednesday (28th of May), a general consideration of geometrical figures, as the foundation of graceful outline, was commenced; foundation of graceful outline, was commenced, and although this may not be strictly true as a theorem, it afforded an opportunity for the recognition and development of some of the leading principles by which the best works of ornament are regulated. The varying eleornament are regulated. The varying ele-ments of form peculiar to different epochs were noticed and explained. It was considered that the importance of the subject rendered it deserv ing of continued attention ; and it was, there-fore, determined that it should be brought before the society monthly, until further notice

On Wednesday (June 11th), a paper will be read "On Stained Glass." And at a meeting to be held on the 25th, the consideration of geometrical figures will be resumed, by discus-sing the properties of the over.

THE PROPOSED CARLTON CLUB-HOUSE COMPETITION.

Sin,-The recent proceedings of the Carlton Club appear to call for some comment on the part of the profession, and I have drawn up a statement from documents in as calm a manner as possible, feeling that a bare announcement of facts is often more eloquent than a long treatise. I think the insertion of it in THE BUILDER may do good, and call attention to the necessity of some protective measures being taken by architects, if they do not wish to be kicked about like footballs at the caprice of every committee, whether composed of tradespeople or of the high and mighty of the land, in whom, alike, when a favourite is to be served, all proper feeling seems to be lost; and therefore architects should set their faces against the present mode of proceeding adopted by committees, whereby competitions are mere farces-flimsy blinds to screen some intended favouritism.

I have stated nothing which cannot be sub-stantiated; and my own observations are, 1 hope, only such as one jealous of the reputation of his profession would be expected to make.

It has been just decided, by a ballot of the whole club, that Messrs. Basevi and Sydney Smirke are to be the architects to carry out the proposed alterations. A slight sketch of the proceedings of the club in the years 1844 and 1845, relative to the competition, may not be uninteresting to the profession, and would appear to call for some decided steps to be taken, with a view to a thorough understanding in future of the real position which architects should occupy when required to enter into competition.

In consequence of the Carlton Club having resolved to purchase the two adjoining houses in Pall-Mail, with a view to enlarge the (14) of seniest architects should be invited to send in plans for the elevation and internal to send in plans for the elevation and internal arrangements of the necessary alterations and additions; the plan which should be most approved to receive a premium of 2001, "in case it should not be adopted by the club;" and that which should be considered the second best a premium of 1001. "in case the first should be adopted." Eight only of the architects who were invited to compete sent in place various in

Eight only of the architects who were invited to compete sent in plans, varying in estimated expense from 22,000% to 40,000%. The first premium was adjudged, by ballot, to Mr. Salvin, for a plan in the Elizabethan style, of which the estimated cost was 31,800%; and the second premium was adjudged, in the same way, to Mr. Hopper, who, for his elevation, had copied that of Inigo Jones's Banqueting House at Whitehall, and whose estimate was 22,000%. In their report months various plane that had

In their report upon the various plans that had been sent in, the special committee (consisting of the Marquis of Salisbury, Mr. Henry Hope, and Mr. Gally Knight) had observed, with regard to Mr. Salvin's, that "while of its beauty there excludes the sent science of the beauty there could be but one opinion, they doubted whether such a design was well adapted for a London atmosphere, or for the position it was to occupy;" and further, that they considered it inadmissible, from the circonstance that the entrance at the north-west corner was reasonably objected to by the nextdoor neighbour.'

Respecting Mr. Hopper's plan, they had re-ported that "the north front had considerable merit; that it offered a succession of good morning and writing rooms to the north, east, and south; with a large coffee-room extend-ing from Pall-Mall to Carlton-gardens, and having a cupola and central skylight which would render the room very light, capable of a Variety of useful arrangements and give it a variety of useful arrangements, and give it a handsome appearance," &c.

The instructions were issued to architects on the 19th of March, 1844, and the plans were sent in by the 1st of May; and certainly up to that time no such intimation had been given as that which follows, which appears on the 18th of June, when it was for the first time declared to the architects to whom had been awarded the two premiums, "that the club was not to be considered bound to adopt either should be considered bound to adopt eriter ske., to which the prensitions might be awarded should become unconditionally the property of the club." And in the report, dated

10th May, 1845, it is stated that "the com-mittee desire to observe that the club, having acquired the property of these two plans, are entitled, if they should think fit, to make any use of them, without employing either Mr. Salvin or Mr. Hopper as their architect, which is perfectly understood by these gentlemen." The words in italics constitute an extraordinary assertion, and one not borne out in the instructions or correspondence up to the time that the plans were sent in; and surely the interpretation, according to the rules of common sense and common justice, of the conditions annexed to the two premiums could only admit of one meaning, viz., that Mr. Salvin was to receive 2001. for his plan (the first), if not receive 2004. for his plan (the first), if not adopted; but that if the first was adopted, Mr. Hopper was to receive 1004. for his plan (the second); but here, whatever they may have intended further to stipulate, the committee stop short; but the argument goes on, and therefore it is impossible, if words are to have any meaning at all, to escape from the conclu-sion that, as Mr. Salvin's plan was not adopted, Mr. Homer cought (instead of being paid Mr. Hopper ought (instead of being paid the 100/.) to have been employed. Instead of so doing the club have now decided the choice of the architect by a ballot, each member being at liberty to place in the ballot, ing-box the name of the architect he would

prefer. prefer. The following is the result of the ballot:----Messers. Roberts, Nelson, Beazeley, and Blore had one vote each; Mr. P. Hardwick, two votes; Mr. Railton, four votes; Mr. Burns, five votes; Mr. Cockerell, six votes; Mr. Taylor, nine votes; Mr. Hopper, fifty-seven votes; Mr. Salvin, eighty-nine votes; Mr. Barry, 210 votes; Messers. Basevi and Sydney Smirke, 220 votes; Messers. Basevi and Sydney Smirke, 220 votes ;- about half only of the members of the club voting on the occasion. It must be observed that Mr. Barry had de-clined to enter in the competition for plans in 1814, and that Messrs. Basevi and S. Smirke were among the unsuccessful candidates on that occasion.

The point to which the attention of the profession should be called is, to ascertain whether certain rules of conduct should be laid down by which competitions (if such things must be) should be guided, --a code of honour formed which should be binding on professional men as gentlemen, so that fair and honourable contests should take the place of gladiatorial com-bats; that those who have toiled to win the prize should not have the wreath snatched from them in the moment of victory, and find, after all their exertions, nothing left for their consolation but the poet's line,-

"The reward is in the race we run, not in the prize."

The history of the Carlton Club competition is only one more addition to the list of cases of the kind which have already been noticed in THE BUILDER, in which interest is made to ride in the ascendant, since it is notorious that a most active canvass was set on foot for the architect of the Reform Club and those of the Conservative Club, between whom in fact it was understood the race was to be run, and which will account for some of our most eminent men having so few votes.

Something must be done to put the competition for a high and honourable prize upon a different footing to a contest for the post of beadle or sexton, with the adherents of the parties calling out, "Vote for Wiggs," "Vote for Snooks." If, however, architects are con-If, however, architects are content to be placed on this footing they must not feel surprised at any conduct which may be pursued, and they must be prepared to expect that committees will advertise for plans, and will receive the collected talent of competitors, not one of whom is to have a chance of ultimate success against some favoured party. The remedy is in the power of the profession, if proper steps are taken to secure that treat ment which is due to it from the high ground which it ought to hold in public estimation. SPERO MELIORA.

JEFFREY'S MARINE GLUE .- A report of a French commission, charged to make experiments on the marine-glue, at the port of Tou-lon, has just been published, and asserts the superiority of this material for caulking vessels, its power of preserving wood from the punctures of marine insects, and their opinions that trials on a large scale ought to be made forthwith.

PRICE OF BUILDING MATERIALS IN BRECON.

-I beg leave to forward you the prices SIR. of building materials, &c., in this neighbourbood :-

| 1000 : | | | |
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| TIMBER : | £. s | . d. | |
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| Red ditte | | | ditto |
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| African Oak | | 30 | |
| English, ditto, 3s. to | | 36 | large scant. |
| Ditto, 2s. to | 0 3 | 30 | small ditto. |
| Larch Poles | | ι Ο | per cube foot. |
| Laths, 3s. to | 0 3 | 36 | per hundred. |
| SLATES : | | | |
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MASONRY.— Walling is executed with mortar at ls. 3d. to ls. 8d. per perch (a perch is 7 yds. by 2 ft. thick and l ft. bigh). Dry-walling, 9d. to 10d. per perch. If scaffolding is required, from 2s. to 2s. 6d. per perch.

The above are the prices usually paid in is town. I am, Sir, &c. Brecon, May 23, 1845. B. BAYLIS. this town.

.* We are much obliged to Mr. Baylis, and hope we may be farnished with similar in-formation from other parts of the country.

GUNPOWDER AS AN AGENT.—The Whiting Shoal, in Limehouse Reach, which extends nearly half a mile in the centre of the river, and has long impeded the asvigation, was lessened last week by means of gumpowder. A hole was bored some distance in the shoal, in which was deposited a tin case containing 45 lbs. which was deposited a tin case containing 45 lbs. of gunpowder, and it was fired by a galvanic battery from one of the Government lighters, ander the command of the harbour-master. The effect is described as being very singular. A large body of water was thrown up in a dome-like form, and the shoek was plainly felt on both sides of the river. After the opera-tion it was found that some forty feet of the shoal was displaced. The usual dredging machines had previously failed. In the same week the Ewart Rock, so long a dangerous impediment to vessels navigating the Solway Frith, was blown to pieces with gunpowder by Frith, was blown to pieces with gunpowder by direction of the trustees of Maryport Harbour. The accomplishment of this object forms one of the many suggestions by Captain Denham, for facilitating the approach to and otherwise improving the harbour of Maryport, and which are being carried out under the super-intendence of Mr. Abraham Middleton, civilengineer.

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MAUSOLEUM OF THE ORLEANS FAMILY.

THE accompanying engraving represents the sepulchral monument, now nearly completed, at Dreux, in Normandy, for the Orleans family. It was constructed from the designs of Messrs. Fontaine and Lefranc, architects, and presents a curious, though not ineffective mixture of styles. We should be glad to obtain some accurate particulars of its construction and dimensions, and to learn the character of the details.

Our engraving was made from a Daguerrotype plate, obligingly placed at our disposal by Professor Donaldson, at the moment he received it from France.

The presence amongst us of a member of the illustrious family for whom the monument was erected (the Duke de Nemours), gives the engraving additional interest at this moment.

THE GOVERNMENT SCHOOL OF DESIGN.

Some short time ago we referred to the course of study pursued in this institution, and alluded to the opinion which exists that greater opportunity for the study of the figure should be given than is now permitted, and urged that to deny to artisans the full means of study for fear of their becoming artists was unwise and nonsensical.

Relative to this point there is, unfortunately, considerable dissension in the school; Mr. Wilson, the director of the institution, being arrayed against Mr. Herbert, the master; the figure school has been shut up and some of the students suspended. It is quite time that the question was settled one way or the other.

The following report of the progress and state of the school has been recently submitted to parliament:— "The School of Design at Somerset-house

was established at the commencement of the year 1837, by and under the superintendence of the Board of Trade, for the improvement of ornamental art, with regard especially to the staple manufactures of this country. The number of applicants for admission every month exceeds, by about fifty, that which the limited space in Somerset-house will accom-modate. In connection with the head school at Somerset-house, schools have been formed in many of the principal manufacturing districts, namely, in Spitalfields, Coventry, Bir-mingham, Manchester, Sheffield, Nottingham, York, Newcastle, and Glasgow; and applica-tions are at present under consideration for the establishment of others in the boroughs of Southwark and Lambeth, in Norwich, in the Staffordshire Potteries, and in Dublin. The students commence with exercises in elementary outline, pencil drawing from lithographic prints of geometrical and ornamental forms, and proceed to shading with chalks, first, from shaded prints, then from casts of ornament. The human figure, in connection with ornament, is studied anatomically, by successive exercises in drawings from prints, models, and casts, of the most appropriate an tique statues and reliefs; and the principles of drapery are taught by means of a draped lay figure. A numerous class of the students are occupied in painting from various ex-amples of art, from casts, and from natural objects, which form materials of ornament in water colours, in tempera, and in oil; and

modelling in clay and wax forms an important part of the business of the school. As a gene-ral principle, each student is taught, as far as rai principle, each student is tudent, as har as possible, with reference to the promotion of the particular object for which he joined the school; and the practical application of the instruction which is given is shewn by refe-ence to numerous and valuable examples of orrommetal and decorting art arbibited on ornamental and decorative art exhibited on the walls of the rooms. The more advanced students are exercised in original designs and composition; that is, in forming new combi-nations of the materials of ornament, and are taught to apply to various practical purposes the knowledge and skill they acquire. It is the duty of the director and masters to see that only the best examples are used, and to enable students to form correct ideas of the printhe ciples, different styles, and importance of ornamental art, and of its practical application to particular departments of manufacture and decoration. Besides the use of an extensive collection of casts to illustrate the history of art, and examples of every variety of ornamental manufacture and decorative work, the students have the advantage of reference to numerous costly books of plates, and the privilege of borrowing books from a lending library, containing such works as are especially fitted to promote artistical improvement and utten to promote artistical improvement and refinement of taste. The head school at Somerset-house includes, in a separate part of the building the building, a morning school for females, in which upwards of fifty young women receive instruction in the practice of drawing and designing for lace patterns, embroidery, porcelain, wood engraving, flower painting, and various kinds of ornamental work, in the execution of which females may be advan-tageously employed. The school for females is open daily from eleven to two, excepting

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Saturday; and the applicants for admission constantly exceed, by twenty or thirty, the number to which the means of accommodation is limited. The school for males is open to the inspection of the public every Monday, between the hours of one and three. For the present year the sums offered for prizes exceed 1804. Male school, Somerset-house: morning, 4s.; evening school, 2s.; female school, 2s. The following abstract exhibits the numbers of students in attendance during the month of February last :-

| Head school | Somerset-house | 396 |
|-----------------|----------------|-------|
| Branch schools. | Spitalfields | 190 |
| " | Coventry | 106 |
| 17 | Birmingham | 257 |
| " | Manchester | 150 |
| ,, | Sheffield | 47 |
| ,, | Nottingham | 36 |
| ,, | York | 76 |
| " | Newcastle | 140 |
| ** | Glasgow | 360." |

Unfortunately this report does not touch the real question at issue-the efficiency, or otherwise, of the present system. Some further information must be elicited on this head, and if it be found that the system has failed to pro-duce a good result an alteration should of course be made.

FONT IN ST. MICHAEL'S CHURCH, SOUTHAMPTON.

THE font in St. Michael's Church, Southampton, represented by the accompanying en-gravings, strongly resembles that ancient and curious specimen of workmanship in Winchescurious specimen of workmanship in Winches-ter Cathedral, known as the *crux antiquari-*orum, or "the puzzle of the antiquaries." It is of black marble, and alluded to by Sir H. C. Englefield in his "Walk through Southamp-ton," who offers the following comment upon it: "It is curious to observe the effect of time on the black marble of which the fact. on the black marble of which this font is com-posed; a vein less hard than the rest runs through one front, and it is quite honey-combed by age, although it probably has always stood under cover."

The font is a square block, having in the centre an hemispherical bason, around the edge of which is a groove (probably sunk to receive a cover or lid); the top is ornamented by a ranning foliage, rudely carved, the angles being further adorned in the manner shewn by the drawing.

Every side is divided into three sunk circular Every side is divided into three sunk circular compartments, charged with figures in low relief, mostly bearing a resemblance to the one in the centre compartment of the side repre-sented; the figure to the left of the drawing appears to be a dove; that in the centre is supposed to portray a dragon; and in the third compartment the form of an angel is re-

third compartment the form of an angel is re-presented, clothed in a long robe, having around the head the *nimbus*, or glory, and with wings extended, that nearly fill the re-maining portion of the circle, reaching from the shoulders to the feet, which are naked. These figures, it is inferred, are emblema-tical of the saint or archangel, Michael, who is spoken of by St. John as fighting against the dragon and his host, and who is represented as the guardian of the Jewish and Christian churches, and by some imagine to be the Son churches, and by some imagined to be the Son of God himself. The font was originally supported by five

columns, the four at the corners being less in diameter than the centre one, which now only remains. Three broad leaves, one at the angle and one on either side, formed the capital of each of the smaller columns; that part of the base on which the smaller columns stood is sunk to receive them. Two iron eyes are fixed into the top of the font, for the purpose of fastening the cover or lid.

Although great doubts are entertained re-specting the age of the font in Winchester Cathedral, Mr. Britton ascribes it to the time of Walkelyn, bishop of Winchester, who died 1097; and, from the similarity between that and the font now described, they may be considered to be coeval.

Southampton. JOHN ELKINGTON GILL.

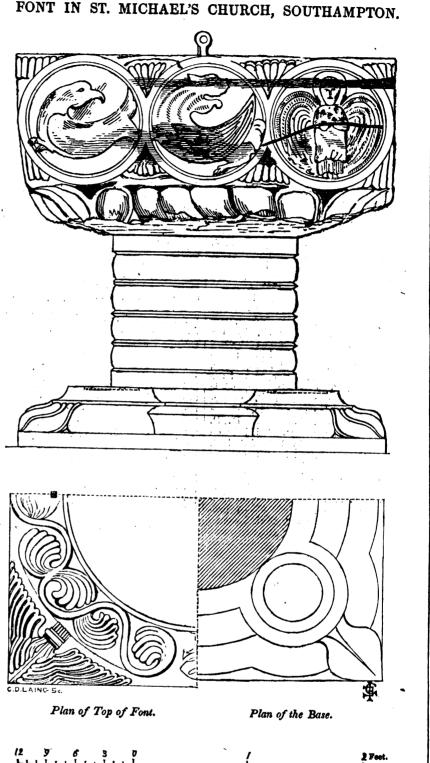
•.• The font in East Meon Church, Hampshire, is another example of the same class of fonts; it resembles that at Winchester so closely, that it is supposed to have been made by the same hand.

Plan of Top of Font. Plan of the Base. <u>у</u> с 3

ARCHITECTURAL MEMS. FROM THE COUNTRY.

THE Cotton-Mill Company at Kingston, THE Cotton-Mill Company at Augeon, Hull, have advertised for a site, preparatory to the erection of their proposed extensive factories, &c. The company starts with a capital of 200,000/.——A few days since the capital of 200,000.——A few days since the electric fluid struck the new church at Wal-ton, about three miles from Stafford. The steeple was much injured, a part of the church was unroofed, and two bricks were carried by the lightning through a cottage window, a short distance from the church.—Part of Dublin-street, Edinburgh, under which they are at present excavating the tunnel from Scotland-street to Princes-street, fell in on Thursday morning from the want of sufficient Scottand-street to rinces-street, left in on Thursday morning from the want of sufficient under-props to support the superincumbent earth. — A committee has been appointed at St. John's, Isle of Man, to carry into effect the building of a new church in that district, and the restoration of the ancient chapel. A plan has not yet been adopted; various archi-tects have been invited to supply designs, the committee being desirous of erecting a good

architectural edifice. -On Monday week (St. Augustine's day) the consecration of Hedon church, in the diocese of Ripon, took place. The restorations in the chancel conplace. The restorations in the chancel con-sist of new and elaborate oaken stalls; a floor of encaustic tiles, of beautiful pattern; an **early** English reredos, with illuminated tablets; and a figure of the Saviour, in stained glass.—The new line of railway communication between the Ogwen river and the Menai bridge is in active processes the Menai bridge is in active progress. Workshops are being erected, and operatives are pouring in preparatory to carrying out the contract taken by Messre. Jackson, at 246,000*l*.—An attempt is being made to raise sufficient funds for the purpose of erecting a new church in Sculcoates, Hull, to be dedicated to St. Paul. A sermon was preached last Sunday by the Bishop of Ripon, in aid of the fund, when 60% was collected. A further sum of 1,500% is required. new reredos to the altar of St. George's A new rereases to the anal of Su George s Church, Stamford, is about to be erected. The design is by Mr. Edward Browing, and the stone will be taken from the new quarry Dicitized by



THE BUILDER.

-The

of Mr. C. Bland, of Little Casterton.-Manchester committee has purchased from Lady Hoghton thirty-one acres of land, in the township of Bradford, for a third public park. The price was 6,200% or about 10d. per square yard.—On Saturday last the first stone of the new railway dock, at Hull, was laid by Mr. Huffan, the secretary of the company, in the presence of Mr. Lane, the resident engineer, Mr. Murray, of the firm of Bowers and Murray, the contractors for the work, and several hun dreds of spectators. Mr. Huffam, in lieu of putting some money under the stone, placed a check for the benefit of the workmen upon it. It is thought that the dock will be com-pleted in about twelve months. We understand that the laying the first stone of the Victoria dock, in the same town, will take place in about three months from the present time, and that it is intended to be a public cere-mony.——The churchwardens of Worksop have determined to make very considerable alterations and improvements in their venerable parish church.——A public meeting of the in-habitants of Wakefield has recently been held, to consider the propriety of applying to Parliament next session, for an act to improve the Borough. A committee was appointed to draw up clauses for the proposed new act, which are to be submitted to a general meeting of the rate-payers for their approval.——The new church at Leven, in Yorkshire, was consecrated, on Wednesday-week, by the consecrated, on weanesauy-week, by the Bishop of Ripon. The church is in the early English style, and contains 450 sittings; it is of stone brought from the Headingly quarries, near Leeds. The seats are all open, and are stained dark oak. The roof is open, and is also stained in the same manner. The structure presents a massive appearance, and was executed under the direction of Mr. H. D. Chantrell, of Leeds, architect. It is built on an entirely new site, given by Richard Bethell, Esq., lord of the manor, and is in the centre of the village, a full mile from the site of the old church. The cost of its erection is about old church. The cost of its erection is about 2,400*l*, which has been defrayed principally by the rector. Mr. J. Wilson, builder, of Hol-beck, Leeds, was the contractor.—A pro-posal to erect and endow a "York Yeoman School," has been lately put forth under the sanction of the Archbishop of York. The sanction of the Archbishop of York. The sum required for the purchase of ground, and for a building capable of accommodating about for building capable of accommodating about fifty boarders, is estimated at 3,000%. The pro-posed school is intended for the sons of persons in the middle classes, and more especially for the sons of farmers. As soon as a suffi-cient sum has been collected, a meeting of the subscribers will be called together to appoint trustces for the ground and building, and to adjust other preliminaries. The donations already amount to 1,700/.

ARTESIAN WELLS.

On Friday, the 30th ult., Professor Farraday lectured at the Royal Institution on this subject, stating that the term artesian was applied to overflowing wells, in consequence of the first well of this character being subk at Ar-tois, in France, but that now the term was applied to very deep wells whether they overflowed or not.

Object.—His object was to shew the practi-cability of supplying London with water in greater abundance, of a better quality, and at a less cost than it is at present supplied with. This being the case, his remarks had reference to the geological peculiarities of the London basin.

Safety .- He stated that, provided such wells be properly sunk, no danger need be apprehended. The anticipated evil of leaving the superincumbent strata unsupported, by pumping up the sand, and thereby endangering the sta-bility of the surface ground, was worthy of very little consideration in our present state of knowledge on the subject. No such evil could accrue if the boring were carried through the sand, and some depth into the chalk. The difficulties hitherto met with in the construction of deep wells in London were all to be traced to the error of discontinuing the process of boring on arriving at the sand. Economy. — Mr. Farraday stated that the

expense of the works in connection with the wells recently sunk in the front and rear of the National Gallery, that is, the cost of the

deducting every thirg connected with the foun-tains, amounted to 9,000*l*. The yearly cost of supplying 100 gallons per minute by the engine and through the pipes was now contracted for at the sum of 500%. For the same water Govern-ment had been paying 1,000%, yearly. Then, by some short calculation, it was proved that the new system was one of economy, effecting a saving of some hundreds annually, and worthy saving of some hundreds annually, and working of general adoption. The contractors and en-gineers are Messrs. Easton and Amos. He further stated, that in any neighbourhood, if 700 or 800 householders would unite, they might have a well of their own, and thereby a larger supply of better water than thereby a larger supply of better water than they now have for little more than half of what they now pay. The distance from the surface of the ground to the water is 150 feet. *Consequences.* — Mr. Farraday anticipated the probable consequences of sinking many

such wells in London; and combated the idea that by the daily extracting a large quantity of water the supply would in time be exhausted. Before such an evil could present itself a number of the smaller rivers in the neighbourhood of London must be exhausted, such as the Wandle and the Colne, which are nothing but the overflowings of the water in the sand strata, and consequently placed above the source of the proposed artesian wells.

A correspondent remarks, "With all due deference to the judgment of Dr. Farraday (and perhaps I maybe under some misapprehension) some statements on the economy of wells were made, that I can hardly agree with. I understood Dr. F. to say, that the expense of the works, as before stated, amounted to 9,0001.; now to take this at an interest of 3½ per cent. as he did, is manifestly much too low. I should perhaps hesi-tate in determining what would be a fair per centage for money laid out in this kind of work, but I should say it certainly should not be less than 7 per cent., taking repairs, and wear and tear into consideration, and that in the course of years substantial repairs will be required. Seven per cent. will amount to something like 6391. per annum, which, added to the 500%, will make rather more than the 1,000% before mentioned

I may be in error, or the superior quality of the water may, perhaps, be some compensa-

sation for the extra expense. The subject of artesian wells is now becom ing so important, that every information is valuable, and may therefore excuse these valuable, remarks.

The new machine, brought forward by Pro fessor F., for raising water, is certainly beauti-ful in principle, but, unfortunately for those who lay claim to the invention, is of old date. None the worse for that, however; and the principle may be applied with very great benefit on some of the low lands of England. The description of this machine may be found in a tract by Venturi, containing his experiments on the motion of fluids, translated from the French by W. Nicholson, the second edition of which was published in 1799, headed thus :---" It is possible, by means of a fall of water, to drain a piece of ground without the help of machines, even though the ground should lie on a lower level than the established current below the fall." The principle, I believe, was carried out by Venturi, in one of the Italian states. M. G."

ANOTHER ARTESIAN WELL. — A plan is being entertained by the benchers of Lincoln's Inn to re-erect the fountain which formerly stood in the centre of the square which now forms the new plantation. It is proposed to sink an Artesian well, and to supply the whole of the chambers in the inn with water, which can be done at a much more reasonable rate than the present supply.

WINDOW CLEANING .- The following me thod of cleaning windows has been forwarded to us, and, if correct, possesses many advan-tages over the old system of using whiting, .:-The window is first dusted with a bunch of feathers or a dusting brush, and when all the dust is thoroughly removed, a bowl of boiling-hot water is placed at the base of the window, the steam immediately covers the glass, which is removed by a wash-leather, and finished off with another quite clean and dry. This method saves time, prevents that cloudy appearance the National Gallery, that is, the cost of the engine and of laying pipes to the different sites, and durable polish than any other.

THE PREVENTION OF SMOKE.

THERE are few nuisances more generally offensive, or producing a greater amount of discomfort, than the dense smoke allowed to issue from steam-engine and other furnaces. To those who live near such, it is, moreover, the cause of much expense; in fact, all the inhabitants of a town, where there are many furnaces, suffer very materially in their pocket, if not in their health. Every endeavour to remedy it deserves serious attention.

We have recently seen in operation one of the patent boiler-furnaces, put up by Chanter and Co. In order to prevent smoke all that is required is, to produce perfect combustion, by which, of course, a saving is effected; and it seemed to us that this was effected in a conside-rable degree by the furnace in question. The arrangement has two objects ; first, to prevent the formation of clinkers, by the action of moveable bars, and secondly, to supply heated fresh air to the unconsumed gases about to pass up the chimney, and, by throwing them back on to the flame to ignite them. The means used are simple. The bars of the grate in contact, dentated on their upper surface, are moved, by hand or by other power, for-wards and backwards in their horizontal position; the alternate bars in the same direction and oppositely to their immediate neighbours. This breaks up the caking coal, and keeps the fire brisk and clear. The bars thin down to the lower edge, which is circular in form, and through their mass are round holes to diminish the weight of the bars, and to render them more durable by constant cooling. Each indent of the toothed surface is bevelled down to where the bars separate by decreasing thickness: and thus the access of air through the ness: and thus the access of air through the whole fire is very diffused. As to the second object—where combustion is not perfect, the unconsumed gases rise above the flame, and pass on with the draught. These, in Messra. Chanter's arrangement, are met above the bridge of the furnace by air heated from a chamber below, and let down upon them from a hollow arch. Thus they are forced down upon the flame, mingled with air necessary for their combustion, at a suitable temperature. their combustion, at a suitable temperature, and so consumed.

THE ERECTION OF STEAM ENGINES.

SIR,-Having seen an account in the news papers of an explosion of a steam-boiler at a flour-mill adjoining the Surrey Canal, near the bridge in the Old Kent Road, this after noon, my curiosity led me to the spot. The building which contained the steam-engine, I should think, from its form, was origi-nally a wind-mill, built of brick of cir-cular plan. From the information I ob-tained of one man who lived near the spot. he said, from the noise it made by the explosion, he thought it was an earthquake, but he was soon informed by a neighbour that the mill-engine had exploded. The destruction of the round building which contained the engine is complete, and an adjoining building very much shaken, but little damage is done to the buildings that are adjacent; the only person injured was the proprietor of the milt, and he is going on favourably. The boiler was sent into the air a great height, and descended on the other side of the canal, at distance of nearly 200 feet, sinking in the ground a considerable depth. On going to the other side of the canal to view the boiler, which was one of the tubular make, I there saw the machine, which had apparently pitched head first into the ground with the whole of ome side, under the tube being rent along the rivets and likewise away from the end plates, and the whole pressed up into the air upwards of 6 feet from the bottom plates.

My first impression was, that too much stress plates, which I dare say when new were 4-inch. had been upon the boiler; but, on examining the came to the conclusion that the engine had been improperly managed, as the builer gave sufficient evidence of having been worked with little or no water at various times; the plates under the tubes varying from Tothe to ths of an inch: the bottom plates appeared burnt and much thinner than the other plates : the valve of the safety-pipe worked with ease. The cause of the accident, I have no doubt, was, that at the time of the explosion the boiler being without water, the plates being $\mathbf{U}\mathbf{U}$ U 8

red-bot had generated gas, combustion then took place, and the result ended in the destruction of the mill,-a severe injury to the pro-prietor who worked the mill (probably quite ignorant of working a steam-engine, judging from the nature of the accident); and, further, a severe loss, by the destruction of his pro-perty and loss of business.

There were three respectable individuals on the ground at the same time as myself, and one, in particular, appeared to know somewhat about ateam-engines; a highly respectable gentleman came to the spot about the same time, and all appeared to be of one opinion as to the cause of the accident, and that was, as I have before stated; but one of the three, whom I will describe as Mr. A., said to the gentleman, Who is to pay for the damage done the different buildings? Oh! said the gentleman, the miller must. Mr. A. said, He is a poor man; he was a poor man before this accident, and I am sure this will make him in a much worse condition : the bodily injury he has received, and the working of his mind, are, I think, sufficient punishment for him. Now, Sir, from this accident, and this conversation, I turn my attention to the question of protection.

It seems that the fire-insurance establishments in London will not take any insurance ments in London will not take any insurance where a building contains a steam-engine, for less than 4s. 6d. per cent., and persons occu-pying premises adjoining steam-engines have to pay large premiums. Of late my professional occupation has been such as to lead me into localities where different manufacturing businesses are

carried on, and I was surprised at the number of steam-engines employed in London, varying from one-horse to twelve-horse power. Now you will ask me, by whom are these steam-engines worked? Why they are worked by any person, no matter what trade he is, so that they can get one for the least amount of wages, and not by engineers or men of science! Then why should we be surprised at accidents of this description occurring? and who are to pay for the damage done by these explosions? Most of the small engines are put up in the cheapest way possible, and the proprietor is often without capital. From the insurance office they do not obtain any cash, as the accident is by explosion and not by fire ; and then to sue these men is making Then, do not these steam-engines bad worse. and steam-boilers, in general, require Govern-ment authority? We cannot build a house or ment authority? We cannot build a house other building without the inspection of 8 district surveyor, to see the law carefully carried out, for the safety and general welfare of the community at large ;—a railroad cannot be worked until inspected and certified by a Government officer that the same is properly done, and in a fu state for the use of the public safely; --but steam engines, and steam-boilers, that affect the lives of the people in general, and the safety of buildings, are under no control, nor even the men that work them. Why should there not be a district surveying engineer, to inspect the making and erecting of these engines, and also steam-boilers, for whatever purpose they may be used; and a monthly inspection of them to see their working order, and that proper men are working them ? and these men should be licensed and numbered in the same way as public stage drivers; and the erecting of steam engines, and steam-boilers, and all alterations should be in the steme-bouers, and all alterations should be in the same way as houses, by the Buildings Act, under control. Such a course, I think, would put a stop to many accidents; it would im-prove the working order of small engines, bring into employ a proper description of men, and make life and property more accurate than it is at present. secure than it is at present.

The dimensions of the loiler.

13 ft. 7 in. long.

5 , 2 ,, dismeter of the boiler. 2 ,, 0 ,, do. of the tube, at one end. 1 ,, 6 ,, do. do. at the other. Man-hele, 16 inches by 11 inches. The hole in which the valve-pipe was fixed, 11 in.

diameter.

Hoxton, May 23rd. ABCHI.

CHEAP GAS .- The two existing gas companies in Liverpool have pledged themselves te reduce the price of gas, on the 1st of January next, to 4s. 6d, per 1,000 cubic feet.

ON THE MARBLES OF IRELAND.

MR. WILKINSON has laid before the Dublin Geological Society some valuable information on the marbles of Ireland, with the view of inducing architects to employ them in their designs rather than resorting at all times to those of Italy. We are glad to assist in circulating it.

Although the use of marble or ornamental stone in internal decoration is as yet very limited, there can be but little doubt that with the advancing improvement of the country, marble will hereafter be more extensivel brought into use, and made to contribute both to the ornsment and solidity of our edifices much beyond the present practice; and there is no doubt that with greater use much im-provement would be made in the mode of working the material. To those who may be of opinion that the labour of converting the material to use may be an impediment to its more general adoption, it may be proper to make a comparison between the labour encountered in completing the almost innumerable sculptures which remain to us of ancient Egypt, worked out of the hardest basalts, granites, porphyritic rocks, and the difficulties encountered by ar-tists in the use of marble rocks, the difficulties bearing about the same relative proportion as the use of marble would to that of plaster. The use of marble at the present day, and for the purposes to which it is most commonly applied, is very different from the practice of a former age. Every one must be familiar with the ordinary mode in which marble is applied in the construction of common chimney-pieces consisting of nothing more than the division of the block into a number of slabs, which, by the aid of plaster of Paris and iron holdfasts, are secured together in imitation of a solid mass. However sufficient this may be for ordinary purposes, it is certainly very inferior to the construction from the solid enduring stone. In all the ancient domestic buildings of the country we find the solid chimney pieces constructed of limestone or dark man rbles of the locality, and where undisturbed these are ge-nerally still in a sound and perfect state. Old street-buildings in the west of Ireland, and at Kilmallock in particular, present examples of this construction, and possess a very pleasing outline. Instances will very often occur in country mansions or public buildings in the vicinity of which local marbles are attainable, in which such constructions might be imitated with great economy and effect, and where for many architectural purposes it might with much advantage be very extensively applied.

The physical or external character of the marbles constitutes the chief consideration with reference to their use for decoration or ornamental architecture, their colour and in-ternal structure being the most important. Their chemical character has reference more to the facility with which they may be converted into use, and their capability of receiving and retaining a certain polish. In their simplest and purest state, marbles chiefly consist of carbonate of lime, which is of a white co our; the whitest kind, however, is fre-quently associated with quartz or silex, which more or less deteriorates it. This is more or less united both chemically and mechanically in various ways with nearly all the marbles. The variations in colour arise chiefly from accidental causes, in the greater or less ad-mixture of carbon, or the stains of various metallic oxides, or the sectional outlines of embedded fossils. Magnesia enters largely into the serpentine variety of marble. The more chrystalline and least earthy marbles are the least durable. The compact or finely granular crystalline marbles being superior to those which are largely crystalline or of a slaty texture. Almost all the varieties burn into quick lime; several of them, however, exfoliate in the conversion before they become caustic, and fall into sand when exposed to the ordinary mode of separating the carbonic acid; such qualities are, therefore, very inferior for ordinary cement, as they make a costly and meagre mortar; it is, however, to their use as materials for decoration that the present observations are chiefly intended to relate.

The colours of the marbles of Ireland are almost as numerous as those obtained from Italy. The dark colours vary from jet black to dark dove colour, purple, blue, and grey. The light colours vary from the pure snow- beds of black marble are frequent.

white to the celined, cream-coloured, pink, and light grey. The variegated, consist of the serpentine, black and white-veined, mottled, and those marked with fossil organic remains. The serpentine is here included from its common use for the purposes to which marble is applied, and from its being so commonly called the "green marble," although it is not, strictly speaking, a marble. The black marbles, which are those of most value The in Ireland, are extensively met with, and belong to the formation familiarly known as the lower limestone. The merchantable beds of the best quality are met with in the counties of Galway, Limerick, Carlow, and Kilkenny; in the counties of Mayo and Waterford black marble is also met with. At the former places they have been extensively worked.

The best quarries are considered to be those close to the town of Galway, near the bank of Lough Corrib. It occurs there in three beds, varying from about 9 to 12 inches in thickness. One of these is called the London bed, most of the black marble raised from it being exported to London; blocks are raised from it of an average size of about 5 to 10 feet in length, and 4 to 5 feet in width; blocks of the size of 20 feet long may be raised. Some in length of 16 feet have been exported, and converted at the Esher-street marble-works in London into a magnificent staircase for the Duke of Hamilton, in Scotland; the wide steps, large formed of this marble worked balustrades being formed of this marble worked to a beautiful jet-black polish; and, doubtless, when bril-liantly lighted, and surrounded by various other brilliant accessories appertaining to a palatial residence, will produce an effect of princely grandeur, which to a contemplative mind would originate reflections on its present use, and the countless centuries it has laid dormant in its native beds, where it has been protected by the overlaying limestone from the violent disturbance which its broken and rugged surface exhibits; nor in a less degree would it originate reflection on the rude labours of those who, ignorant of its destiny, have raised it from its native bed, and the numerous hands and skilful artists it has given employment to in its passage to its present destination. The marble beds are covered in the new quarries by about twenty feet of limestone, the raising of which adds much to the expense of obtaining it, although a considerable sale occurs of the limestone for common building purposes. Except near the marble beds the quarrying of it is effected by gunpowder. A considerable quantity of this marble is sawn by water power into slabs, and exported from Galway in that state to Eng-land and America. These marble beds most likely embrace a considerable area, and also continue under the water of Lough Corrib, with which they are now nearly on a level. At Oughterard, the western extremity of the limestone formation, and in several other parts of it, similar marble beds are met with and worked; those at Oughterard, in the opinion of the marble-workers in London, contain more or less silica, which renders them less valuable. At Limerick considerable quantities of black marble are raised, and both used in the lo-cality and exported. At Carlow and Kilkenny very fine black marble is raised; at Kilkenny the best beds, which were very thin, have, I am informed, been nearly exhausted. Most of the marble obtained from Kilkenny abounds with shells, and which become more marked and conspicuous as the marble becomes dry and exposed. Chimney-pieces made from the Kilkenny marble are to be met with in most parts of Ireland, and are familiarly known, an extensive use of this marble having at one time prevailed : that which is a jet black, and free from shells, is now more generally esteemed. The polish of black marble is considerably affected by dampness, and is much preserved and improved by being kept

dry. Wherever the black marble beds are met with they are assorted with the limestone beds, and the difference in quality appears almost accidental; some of the over or underlying beds often present a strong contrast in the quality of the stone. In other places there is a gradation in character from the adjoining ordinary limestone to the fine marble. In the impure limestone formation of the calp series, They are

generally more or less marked with fossils, and inferior to those beds belonging to the lower or light-coloured limestone formations, and seldom receive a good polish. Wherever the limestone formation prevails in which the marble beds occur, the economy of raising it is dependent on the depth of overlaying rock or soil which requires to be removed, and of the demand which exists in the neighbouroood for the common rock, either for masonry or burning into lime. In some localities limestone rock itself more than repays In some localities the the cost of removing it; and in those localities where this formation prevails these considerawhere this formation prevaits these considera-tions and the quality of the marble beds deter-mine the economy of raising it. Except at Galway and Limerick, where much of it is expected it is almost solally used in the surexported, it is almost solely used in the surrounding localities for ordinary purposes, and most extensively for large grave stones, for which purpose it is sawn into slabs of three or four inches thick, and for this the demand is very considerable. The best qualities, howvery considerable. The ever, are seldom so used.

Dark yray and dark mottled gray marbles Dark gray and dark motiles gray marvies are met with chiefly in the King's County and several parts of the county of Cork. Near Tullamore, marble is obtained in large blocks capable of receiving a fine polish, and con-siderable use is made of it for chimney-pieces and work of that kind. The limestone around Cork produces easy working marble of a light gray or dove colour, and more or less light gray or dove colour, and more or less mottled, and receives a good polish. In the primary districts of the county Donegal, a light gray and bluish-gray coloured marble, of close grain, is met with to a great extent; most of it, however, hard to work from the quantity of silex it contains. The same kind, and of a bluish tint, is also met with very frequently in Connemara. Marble of this description is common to most primary disdescription is common to most primary dis-tricts; it is compact in texture, but does not tricts; it is compact in texture, but does not often produce a satisfactory polish. Most of the primary limestones are met with in ex-posed ridges of surface rock, alternating with or embedded between rocks of the slate formation, and the strata generally possess a vertical or strongly inclined direction. In the northern portion of the county of Donegal it is, however, very frequently met with in suc-cessive horizontal beds and easily quarried. In the counties of Donegal and Galway primary limestone of a coarsely crystalline texture is abundant, polishes very well, and varies in colour considerably. Most of the limestones of the country which are of a fine grain are highly crystalline, are susceptible of a polish, and produce a light gray and bluish-gray colour. Of the light coloured limestones the pure white is most esteemed; it is met with in Connemara, and in several localities is exceed-ingly compact and hard: it is found in narrow limestone of a coarsely crystalline texture is Connemara, and in several localities is exceed ingly compact and hard; it is found in narrow, vertical or highly inclined seams between the slate rocks, and contains veins parallel with the vertical face of the seams, which prevent any cubical masses beyond a small size from being obtained-its great hardness in conversion, and the difficulty of quarrying it renders its use very limited.

White marble occurs in the western portion of the county Donegal, and differs much from that of Connemara; it is coarsely granular, of comparatively easy conversion, can be obtained comparatively easy conversion, can be obtained in cubical blocks and in great quantities; its very coarsely granular texture, however, is pre-judicial to it for many purposes. Some of this marble has been employed in sculpture, and has appeared in the exhibition of the Hibernian Academy. In comparison with the value Academy. In comparison with the v hite marbles of Italy, and that from Carrara, which is the kind chiefly imported into Ireland, the white marbles of Ireland are certainly inferior for sculpture and the ordinary uses to which white marble is applied; where, however, it can be boldly used in these localities where the expense of carriage would be much avoided, there is no doubt that it may be frequently employed with much advantage for many purposes.

At Chevy, near Dungannon, very delicate At Chevy, hear Dingannon, very dentate cream-coloured marble is obtained; very com-pact in texture, receives a high degree of polish, and blocks of great length can be pro-cured. The coarsely crystalline and fossili-ferous limestone at Ardbraccon produces light coloured marble of easy conversion. Of the variegated marbles of Ireland, the sienna of the best quality is, perhaps, the most beautiful; it is met with in the King's County in several places.

The best I am familiar with is veined or mottled sienna, obtained near the Seven Churches. Some of it has been wrought into chimney-pieces and other ornamental purposes at the works at Killaloe; it is susceptible of a high polish, and exhibits many bright and distinct colours. Marble of the same character also prevails, differing in colour, having a dove-coloured ground veined or mottled with the sienna colour. In the county Armagh a sienna, or rather brownish-red marble, is met with, containing great numbers of fossil shells, with which it is strongly marked; several varieties of colour from a very light reddish brown to a rather dark red are also met with, and more or less marked with shells. At Pallaskenry, in the county Limerick, a dark red and mottled marble is abundant, and has been much used. A red-coloured marble, of a compact but slaty texture, occurs in the county of Cork, extendfrom the city in a narrow seam, as far as ing from the city in a narrow seam, as an all ballincollig barracks, a distance of several miles; it is hard to work, and dull in colour, time extensively used. The but was at one time extensively used. The serpentine or green marble of Connemara is, some of it, very beautiful; generally, however, it is of a dull green colour—the injudicious mode of raising it by blasting with gunpowder, has much injured most of what has been has much injured most of what has been raised, and considerably prejudiced the sale of it. Blocks of considerable size, from which large slabs can be obtained, can be raised, and many are found lying on the surface of the ground near where the rock is met. The difficulty of conveying it over bad roads, and the too high price asked for it by the proprie tors, in comparison with what green conti-nental marble can be obtained for, are impe-Black diments against its more extended use. and white marble, and that of a mottled character, occurs in several localities; it is quarried near Cork, in the counties of Waterford, Longford, and Kerry, and some of the varieties are beautiful. That obtained near Mitchelstown is well marked, and receives a high polish. The limestone obtained near the Seven Churches in the King's County, when polished, produces a good marble of an even gray colour. It is strongly mottled with very nu-merous fossil organic remains, which, in the opinion of many persons, gives it a very pleasing appearance. It is easily worked and raised from the quarries in their beds. It may be remarked that this marble in a polished state, has been used in the construction of one of the principal ruins at the Seven Churches. Some of the stones retain their polish to this time; others exhibit decay, and thereby the variable quality of the different beds.

THE BROAD AND NARROW GAUGES.

A CONTEST between the advocates of these two methods adopted in the construction of railways, is exciting considerable interest at the present time in several Parliamentary committees. The broad gauge is almost ex-clusively confined to the western districts, and the question is, whether it shall be extended the northern railways now under coninto sideration. It appears that there are 333 miles of railroad on the broad gauge in regular miles of railroad on the broad gauge in regular working, and 600 more proposed to be con-structed; while of the 4-feet 81-inch there are 1,530 miles in existence, and 1,264 more in contemplation. At the time of constructing the Great Western line it is probable that the general connection of railways with each other was hardly contemplated, and the uni-versal adoption of a uniform gauge not con-sidered of that importance it has since proved to be. To remove this difficulty Mr. Brunel has invented a machine for shifting luggage from one gauge to the other, and on Saturday last its practicability was tested at the Paddington terminus of the Great Western Rail-way. The place of exhibition was a brick building, carrying a set of levers which lift a pair of rails on which a traversing frame works. From each corner of this frame there descends a hook. These hooks are attached below to the waggon body, which has to be lifted from one gauge to the other. The waggon bodies on the narrow gauge are carried upon the usual waggon frames employed by narrow-gauge companies, and when shifted to the broad gauge are placed in iron waggons constructed for the Great Western Company at their works at Swindon.

The mode of working this traversing frame from one gauge to the other may be thus de-scribed.-A head of water 55 feet from the scribed.—A nead of water of feet from the line of rails acts in a cylinder, and a set of valves throw a pressure of water either above or below the piston. When the pressure is above the piston it elevates the traversing frame, and when below it causes it to descend. A counter-balance is also employed, and acts in connection with the water power. The cylinder is $19\frac{1}{2}$ inches, and the water pipe $5\frac{1}{2}$ inches in diameter. When the traversing frame is at rest it is perfectly horizontal, but, during the action of lifting, it assumes a slight inclination, under the controul of the man who works the levers. By this means the load which has to be moved traverses from one

line to the other by its own gravity. Thirty-two tons of coke were shifted from one gauge to the other in seven minutes, and on another trial 10 tons were shifted in a minute and a half. General Pasley has, we understand, inspected the machine and highly approves of it. The cause of contention may, therefore, be considered as removed, and the question now before the public is simply that of expense in the construction and working of the respective gauges. The difference in the cost of the broad over the narrow gauge is 61 per cent in earth work, and 7 per cent in the purchase of land, with a larger expenditure in the construction of carriages, &c., and with increased weight; to counter-balance which Mr. Brunel contends that it provides a more rapid, safe, regular, and luxu-rious mode of transit, and is in every respect superior.

INSTITUTION OF CIVIL ENGINEERS.

JUNE 3. - Sir John Rennie, President, in

the chair. The first paper read was "On the Corrosion of Metals," by Mr. R. Adie, Liverpool. The object of the communication was to give an experimental proof of the fact of water, when saturated with common salt, preserving to a great extent the surfaces of oxidizable metals from corrosion, by the joint action of air and from corrosion, by the joint action of air and water; and also to shew that water, or water containing a saline solution, does not act as a corroding agent without the aid of the oxygen of the atmosphere. These positions were de-monstrated by the details of several series of very interesting experiments, which were purely of a chemical tendency, leaving to the engineers the application to practice of the results obtained. The details were also given of some experiments made to ascertain the quantity of oxygen dissolved by water under different circumstances : whence it was shewn that brine, and some other saline solutions, contain much less dissolved oxygon than sea or ordinary water; the discovery of this fact suggested the experiments on the application of brine as a preserver of iron. The object of the last set of experiments was to determine, by trial, the rates of corrosion of metals in fresh-water, sea-water, and saturated brine. The results demonstrated that sea-water corrodes the quickest, fresh-water less rapidly, and brine very much slower than either. The circumstance was incidentally mentioned of the use of common salt for preserving ships' timbers, for which purposes the spaces between the ribs of some of the North American ships are frequently packed with rock salt, and the effect has proved very advantageous to the duration of the timber without affection of the

adration of the timber without sheetion of the metal fastenings, as would have been supposed. A paper by Mr. W. Gale (Glasgow), pointed out the advantages of the moveable jib crane, for the purposes of building. It was stated to have been originally invented by James Watt, for the Bell Rock Lighthouse, but in a communication from Mr. R. Stevenson (Edinburgh) which was also read, with ex-tracts from the history of that lighthouse, the invention was claimed by Mr. Stevenson. It appeared that the crane was used very ex-tensively, but that some defects existed in its construction, for which the author suggested remedies which he had applied successfully, and for which he gave the necessary details of calculation and drawings, without which they would be with difficulty comprehended.

The monthly ballot took place when Messrs. Frank Forster, T. L. Gooch, and W. Lewin were elected as members; and Messrs. W. P. Marshall, W. Lawford, G. Lawford, and W. B. Buddicom, as associates.

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Correspondence.

LANDING STAGES, LIVERPOOL.

SIR,-Some time in March last I forwarded a design for the approval of the chairman and committee of the Liverpool Docks, in answer to the advertisements for the best plan for a landing stage at George's Pier head. This is now upwards of two months since, and as yet no one seems to have heard a single word more about the matter. Whether any deci-sion is arrived at or not, I think that, where the time is so protracted as it is in this instance, the secretary of the committee should have forwarded some reason for the delay, either to THE BUILDER or other periodical current smonget us.

Perhaps the premiums are not to be given at all, and we shall yet see some favourite carry-ing out piecemeal the gathered ideas from the 200 designs, which number it was rumoured were sent in ! I sincerely hope, for the credit of such a respectable body as the committee of the Liverpool Docks, nothing of the kind will take place.

Through your numerous correspondents you may be able to furnish us with some infor-mation of the actual state of the case.

1 am, Sir, &c., A. I. C. E.

the 6th of February last, awarded premiums to the 6th of February last, awarded premiums to two of the designs for landing stages, which, though they cannot either of them be acted upon, appear to possess the fewest objections in principle, and to approach the nearest in general idea to what will have to be adopted, do hereby give notice to the several unsuc-cessful competitors that their respective designs will be returned upon application being made for them; or the committee are willing to al-low the use of the spare rooms in this building, without charge, for a limited period, for the purpose of exhibiting the designs to the pub-lic. Competitors desirous of having their designs exhibited, are therefore requested to appoint from among themselves some party or parties to take charge of and to be responsible for them, and signify their wish to the undersigned, within fourteen days from this date, in order that the necessary steps may be taken. All expenses connected with the exhibition to be borne by the competitors."

CEMENTS .- CEMENT ON IRON.

Siz, - A correspondent in Number 115 wishes me to explain the difference in the pro-Portland stone Cement, and Austin's Stone-colour Cement, they all being described as a close resemblance to Portland stone. I do not undertake to explain the properties more than I have done in my former article; but I may say, in answer, that two out of the three a close resemblance to Portland stone, are not and, indeed, I was not aware that there was a cement in use called Austin's Stone-colour Cement. I herewith send you a piece of Pulham's Portland-stone Cement, not made for a specimen, but cut off, after being in weather six years, where an alteration was made, and that you may decide which is an imitation of Portland stone, as you will pro-bably have an opportunity of seeing some of Maude's Portland Cement, as in Threadneedle-street, and Austin's vases, &c., in the New-road.

I should be glad to see the question an-repaired with Roman cement, the bottoms being laid with Maude's Portland Cement; for,

as he says, it would be well to know. A subscriber, who wants to know the best cement for running mouldings on iron girders, should be told cement or plaster is not run on iron girders; they must have battens or ledges dinary way, and then plastered. Hoddesdon. JAMES PULHAM.

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•** We may not venture to institute comparisons without a longer acquaintance with the cement referred to. Its appearance is good

As relates to running mouldings on iron-girders, another correspondent says this can be safely done if care is used, with Johns' Stucco Cement.

Miscellanea.

ETON COLLEGE CHAPEL .- Plans are being prepared by a limited number of architects, in competition, for the perfect restoration of this chapel. The competitors are said to be Messrs. Buckler, Butterfield, Elmslie, Deeson, Derick, and Ferrey. Mr. Shaw and another architect are to decide on their merits. Mr. Shaw being the attached architect of the college, the whole proceedings seem somewhat singular.

VACANCY IN THE ENGINEERING DE-PARTMENT AT HULL.—The appointment of resident engineer to the Dock Company at Kingston-upon-Hull, will shortly become va-cant by the resignation of Mr. M. Lane. Candidates are to forward their testimonials to the secretary of the company on or before the 14th instant. The salary is upwards of 300/. per annum. BRONZE WORKS OF ART.-Some misunder-

standing having lately taken place on the part of the Custom-House authorities, as to the meaning of the resolution of the House of Commons admitting "bronze works of art" duty free, it has been decided that all works of art, whether composed of bronze or other metal, are to be delivered free of duty.

LIGHT FOR ALL NATIONS. - The stupenduous undertaking of erecting a lighthouse on the Godwin Sands is at length completed. Mr. Bush, the engineer, has determined upon throwing it open to public inspection during the present month, in aid of the funds of the Royal Free Hospital in Gray's Inn-road. The terms of admission are 2s. 6d. each person.

RAILWAY SPEED .- The distance between London and Birmingham was lately performed in one hour and forty-five minutes. One hundred and ten miles in one hundred and five minutes!

THE NATIONAL GALLERY .- Mr. Eastlake R.A. has addressed a letter to Sir Robert Peel, pointing out the unfitness of the present build-ing for its purpose. We shall revert to it next week.

Tenders.

TENDERS for the erection of a New Rectory at Pyrford, near Ripley, in the county of Surrey, under the superintendence of Mr. H. Baker, architect, of Upper Gower-street.

| Pearse and Guerrier | .£1,087 |
|---------------------|---------|
| Boxall | . 1,018 |
| Lothere | . 1,010 |
| Іге | . 999 |
| Winsland | . 987 |
| Allen | . 935 |
| Mason | . 883 |

Tenders delivered May 30th, 1845, for building seven Private Houses, also Dwelling House, with Shops, &c., for E. Lacey, Esq., Mr. T. Coe, surveyor.

| Jay | £4,418 |
|----------|--------|
| Gerry | |
| Ashby | |
| Elston | 4,195 |
| Lawrence | |
| Lefevre | 4,085 |
| Willson | 3,994 |

NOTICES OF CONTRACTS.

We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our resders however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the performance of the necessary works in the construction of a New Dock in the Borough of

the construction of a New Dock in the Borough of Kingston-upon-Hull. For Building the Carcasses of certain first-rate Houses, with Shop Fronts, in the new line of Oxford-street, leading into Holborn. For executing Works on the Leeds, Dewsbury, and Manchester Railway, being a distance of about 44 miles. The principal work on this division is the summit Tunnel, near Morley, which is upwards of 3.000 wards in length. of 3,000 yards in length.

For the erection of Schools, and a Master's House, and also a new Farm-house and Offices, on the Estate of the Rev. E. K. Benyon, near Bury St. Edmunds, Suffolk.

For constructing about 450 feet of new Wharf, along the River-side, in the Town of Wisbeach, and for erecting a new Crane and Warehouse for the Corporation of Wisbeach. For the execution of a New Harbour at

Greenock,

For the supplying of certain Mines in Cornwall. For the supplying of certain Mines in Cornwall, for twelve months from Midsummer next, with Nor-way Timber, half Dram and half Longsund, of good quality and average length. The probable quantity required is 710 loads. For Building a Sewer in the King's Road, St. Pancras, of the dimensions of 4 feet 6 inches by 2 feet 9 inches, for a length of 250 feet.

For building the intended Somerset County

For building two interactions Lunatic Asylum. For the Works necessary in extending the Tower Hamlet Sewers, in one District to the length of 2,570 feet, in a second District to the length of 1,915 feet, and in a third District to the length of

For erecting the New Church of St. Andrew, at Wakefield, Yorkshire.

For painting, and keeping in repair the Lanterns and Fittings of the several Gas Lamps in the Parish of St. Mary, Islington, from Midsummer 1845 to Midsummer 1846. For the construction of Two Divisions of the

Chester and Holyhead Railway, being Nos. 8 and 12. No. 8 contains a length of 7 miles and 54 chains. No. 12 contains a length of 5 miles and 26 chains.

For erecting a New Parsonage House at Iken, near Oxford, Suffolk.

For painting the exterior Wood and Metal Work of the British Infirmary. For supplying the Lords, Bailiff, and Jurats of Romney Marsh with 2,000 six-feet Deal Ends, 3 by 12, either white or yellow American, at per 100, (of 120 Ends).

by 12, either white or yellow American, at per 100, (of 120 Ends). For the erection of a Building in London for a highly patronised purpose, at the estimated cost of about 30,000/.

COMPETITIONS.

Plans, sections, and elevations for a Terminus, Plans, sections, and elevations for a Terminus, and other requisite accompanying offices, for the Great Southern and Western Railway, Ireland. Designs for houses to be erected at Dover. The ground is nearly seven acres in extent, and lies on a

gentle slope between the south-west boundary of Dover Castle and the town. A premium of fifty guineas is offered for the set that may be most approved of.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

The timber and other trees now standing upon the estate at Woodseaves, Salop. By order of the Lord Chancellor made in the cause "Dickin v. Barker." Barker.

At Eversden Wood, Cambridge : 80 Oak Timber

Trees, clean, sound, and of useful dimensions. At Bourn, Cambridge : a capital Fall of prime Oak Timber, comprising about 100 Trees of good dimensions.

At Brandon, near Coventry: several Thousand prime Oak Trees, and a quantity of Planks and Quarterings.

At Bourne, Cambridge : 63 Oak Timber Trees ; many of them are of very excellent quality, of great length, and particularly clean and straight.

and excellent quality. At Halstead, Essex: a quantity of capital Oak Timber, &c., in Great Spansey's Wood, near Halstead.

Haistead. At Richardson's Wharf, Limehouse: a large quantity of superior dry and sound stock of Dant-sic Yellow and Red Pine, Ash, Swedish and Me-mel Timber; about 10,000 White Spruce and Yellow Battens, &c. At Coneygre Wood, Rickling, Essex: 105 Oak Timber Trees of excellent quality

At Conveyere wood, Ricking, Essex: 105 Oak Timber Trees of excellent quality. At 17, Millbank-street, Westminster: a remark-ably fine parcel of Marble, consisting of Statuary, Vein, Dove, Bardilla, Griotte, Black, and Black and Gold; also four 16-feet Column Blocks of

And Wimbish Hall, near Saffron Waldon : 400 Oak, Ash, and Elm Timber Trees, many of large dimensions, and the whole useful for building or

other purposes. At the Angel Inn, Warminster: a quantity of very capital Oak, Ash, Elm, Beech, Larch, and other Timber Trees, comprising about 400 Trees At Ryston Hall, near Downham Market: a

superior fall of Oak, Ash, Elm, and Fir Timber Trees, comprising 50 Large Oaks, from 30 to 40 feet in length; 20 smaller ones; 46 Ash and Elm Trees; 86 Old Spruce Firs; 5 Hornbeam, &c.

BY TENDER.

A Virgin Forest of Valuable Timber in Wala-chia. The principal part of the Trees is Oak. The said Forest may produce about 500,000 cubic feet of Timber.

At Little Bentley Hall, Essex : several Acres of Plantations, consisting of superior Firs, Larch, Spruce, &c., to be taken down by the Purchaser.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, June 9.—Geographical, 3, Waterloo-place, 84 P.M.; British Architecte, 16, Grosvenorstreet, 8 P.M.

-Medical and Chirurgical, 53, B. P.M.: Civil Engineers, 25, TUESDAY, 10.—Medical and Chirurgical, 53, Berners-street, 84 P.M.; Civil Engineere, 25, Great George-street, 8 P.M.; Zoological, Hanover-Square, 81 P.M.

WEDNESDAY, 11.—Society of Arts, Adelphi, 8 P.M.; Geological, Somerset-house, 81 P.M.; Pharmaceutical, 17, Bloomsbury-square, 9 P.M.

THURSDAY, 12. - Royal, Somerset-house, 81 P.M.; Antiquaries, Somerset-house, 8 P.M.; Royal Society of Literature, 4, St. Martin's-place, 4 P.M.; Medico - Botanical, 32, Sackville-street, 8 p.m.

FRIDAY, 13.—Astronomical, Somerset-house, 8 P.M.; Philological, 49, Pall-Mall, 8, P.M.

SATURDAY, 14. - Royal Botanical, Regent'swark. 4 P.M.

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| One Column | 2 | 2 | ŏ | |
| One entire Page | 5 | 8 | 0 | |
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Advertisements forwarded from the country for insertion must be accompanied with a post-office order, according to the above scale.

Volume I., containing upwards of THREE HUNDRED ILLUSTRATIONS, elegantly bound in cloth, price 15s., and Volume II. containing up-wards of FOUR HUNDRED ILLUSTRATIONS, price 17s. 6d. can still be had of all booksellers.

TO CORRESPONDENTS.

"S. C."-Engravings in outline would not satisfy all our subscribers, though they might be preferred by the section represented by our obliging correspondent. We endeavour to meet the requirements of several distinct classes.

" Discontent."- Our correspondent, and many besides, should read the charming little story, called "Old Jolliffe" (published by Wright, Pall-Mall.) "There is much grief in the world, much trouble, but it should be our endeavour to teach all who are suffering that it is good to be so afflicted ; for such a thought will create a contented spirit which will carry them through all their trials and pain !

"F. E. G."-The stone laid with ceremony as the foundation stone is not always the first. shall be glad to hear from him on other matters.

"James Jones."-The description shall appear. "W. Ray."-The statement shall receive atten-

tion. "Works in France." - A correspondent anxious to have some information as to the works by London builders now going on in France.

"History of a Competition."—The statement f "A Looker On" being entirely personal, we must decline inserting it.

"A Journeyman Plasterer" is also declined,

with thanks. "W. B." says :- As many toll-houses are about to be erected in various parts of South Wales, I shall feel obliged if some of your numerous falented architectural correspondents will favour us with the most approved design for those constructions; one which will combine usefulness and economy with picturesque effect. The material generally used is masonry.

"A Subscriber."—If an opening be made in a wall dividing properties, the owner of the land on the other side may block it up.

"I. T."-Johns' patent stone-colour stucco cement is probably the material inquired for. It may be obtained at Mr. Man's, 5, Maiden-lane, Cheapside.

Young Builder."-If the buildings were bonâ fide commenced before last January, sanc-tioned by the district surveyor, and are to be finished as first proposed, an additional thickness of walls cannot be insisted on.

"A Builder" (as to power of official referees) and "P. W." next week.

Received : Kelland's excellent edition Kecceved: Reliand's excellent edition of "Young's Lectures," part 5 (Taylor and Walton), -"The Westminster Review," for June,-Coghlan's "Hand Book for European Tourists" (Hughes, St. Martin's le Grand),-"Pietorial Gallery of Art," part 5 (C. Knight),-"Old England," part 18,

ADVERTISENCENTS.

WHITE KNIGHTS' PARK. THE BOTANIC GARDENS and WIL-THE BOTANIC GARDENS and WIL-DERNESS of this celebrated Domain will be OPEN for the admission of the Public, during the Summer senson, on MONDAYS and THURSDAYS. Tickets of Admission, ONE SHILLING each person, and Family Tickets, to admit eight, FIVE SHILLINGS, may be obtained of Messre. Scott and Mofintt, Architecta, 20, Spring Gardens; of Mr. Frederick Chinnock, Estate Agency Office, 28, Begont-street; at the Offices of "The Builder," No. 2, York-street, Covent-garden, and "The Gardener's Gazette;" of Messre. Rich-ards and Rogers, Solicitors, 10, Friar-street, Reading; and at Mr. Welch's, "Berks Chronicle" Office, 12, Market-place, Reading.-Day Tickets to Reading are issued by the Great Western Railway. Reading.-Day Ti Western Railway.

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he given as to the lowest depth at which the same can be drained. And the Commissioners do also give notice that, when-ever the lower floors or pavements of buildings aball have been laid so low as not to admit of their being drained with a proper current, they will not allow any severa, or drains into severs, to be made for the service of such buildings. It is recommended to all persons about to purchase or sake houses, or other premises, to ascertain whether such premises have separate and distinct drains into common severs. All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners ; and all such petitions will be called on in the order of their appli-cation, and the name of any party not present when called on to support the application will be struck out, and the pro-ceedings must in consequence be commenced de novo. All communications made with any sever without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine. By order of the Court, LEWIS C, HERTSLET, Clerk.

THE BUILDER.



SATURDAY, JUNE 14, 1845.



UR readers will remember that in October last a cotton mill at Oldham, in Lancashire, fell, destroyed twenty persons, and injured many others.⁺ Sir Henry De la

Beche and Mr. Thomas Cubitt were appointed commissioners, by her Majesty's command, to collect evidence respecting its fall, and "to investigate into the causes connected with the structure of that building, or of certain parts thereof, which led" to the loss of life on that occasion. An inquiry into the circumstances which occasioned the failure of a part of the prison at Northleach, in Gloucester, was also referred to them. After examining the premisses, and hearing such witnesses as were likely to afford the required information, they, at the end of February last, reported their proosedings and the results of their investigations.

This report is now before us: it contains some very valuable information, especially as to the strength of cast-iron beams, and some suggestions by Mr. Cubitt which should be acted an forthwith. In addition to parties ownested with the buildings in question, they examined Mr. Fairbairn, Mr. Eston Hodgkinson, and others, who have given attention to the forms of beams and the nature of iron, and have printed the minutes of evidence: the commissioners have further appended the results of a number of experiments made at Thames Bank, to shew the comparative strength of iron beams of different forms, already referred to in our pages.⁺

"It would appear that the Messrs. Radeliffe, who carry on an extensive business, had considered it expedient to add to their mill or factory, and for this purpose had undertaken the erection of two new buildings upon the principle termed fire-proof; that is, so combining iron, commonly cast-iron, with bricks or stone, as to exclude, or nearly exclude, wood in their erection, thereby rendering the building, as such, incapable of being consumed by fire. One of these buildings was erected over the space or area occupied by the boilers of the steam-engine, adjoining the old portion of the mill; the other, of larger dimensions, was, and is, to a certain extent separated from it.

and is, to a certain extent separated from it. At the latter and of October last the building over the boilers was completed, one 274 feet high, including the roof, 77 feet long, and 41 feet wide. The other building, of larger dimensions, being unfinished, as it now is, though in a more advanced state than at that time. Prior to the former addition to the mill, the boilers, six in number, were covered by a fire-proof floor, formed of brick arches resting on cost-iron beams, the whole supported by the walls and east-iron columns; and above this fire-proof floor there was a clear story, roofed with wood. This portion of the building had been erected eight years since by Mr. John Milnes, iron-founder, of Oldham.

When it was thought desirable to form an addition to the factory in this direction, enlarging that part of the old mill, the roof above noticed was removed, and the new work was carried up based upon the old (15 feet high). The same plan with respect to the arrangement of beams and arches was followed in the new floors, five in number, as in the old floors, the beams being, however, of less weight in the new work than in the old. Thus the building was a compound of work executed eight years since with that commenced in May last, the foundations and 15 feet of the height above the ground being of the former date."

* See BUILDER, Vol. II. p. 563. † See p. 49 ante. "It was stated that the beams were all proved, that is, subjected to pressure to ascertain their strength, the pressure being usually beyond the weight which it is calculated that they would have to support, in accordance with the stipulation made with the founders, Messrs. Sevelles and Woolstanbolme, by the Messrs. Radcliffe. The proof required was a load upon the centre of each beam, 14 feet long, equal to eight tons. The proof actually given is stated to have been equal to 94 tons. John Swailes, joiner, in the employ of the Messrs. Radcliffe, and who made the patterns for the beams, deposes to have seen about twenty beams proved, a weight of 94 tons being, he was informed at the time, applied to the centre of each. The same witness also states that he saw many of the beams cast, and that several were removed red-hot from the sand.

When not resting on the walls, where they were laid upon large stones, the beams were supported by east-iron columns, cylindrical and hollow, 6 inches in diameter externally, and varying in weight from about 6 cwt. each in the lower floor, to about 5 cwt. each in the upper floors, those in the former having a core or hollow 4 inches in diameter, thus giving a thickness of l inch of metal; those in the latter, a core of 44 inches, making three-quarters of an inch in metal. The upper columns, fitted by a projecting portion of their lower ends, into a corresponding socket in the highest part of those beneath them, and the beams were fastened to the columns by clips of wrought iron, secured red-hot over ears or projections at the lowest floor rested upon iron plates, and these upon brickwork. The ties or rads connecting the beams together were about 44 feet apart on the average, of wrought Staffordshire iron, seven-eighths of an inch square, and passed through the upper part of the beams, within about 14 inch from the top.

The walls of the building were of the same thickness from the bottom to the top, 21 feet thick for the side walls, and 2 feet thick at the end walls, and were constructed with bricks, sound and good. Two tiers of bond timber, 41 inches by 3 inches, passed through the centre of the windows on each floor, and they were laid upon the same course, 41 inches from both the outside and inside of the walls.

The arches of the different floors were of bricks, built with mortar made with Derbyshire; lime; they rose in a span from $10\frac{1}{2}$ feet to $11\frac{1}{2}$ feet, and formed a regular segment of a circle. The upper course of bricks was wedged in tight with pieces of Welsh slate, and the whole was paved with flagging, about $1\frac{1}{2}$ inch thick."

Such was the general construction and arrangement of the building, when one of the arches in the upper floor was observed to have settled about 4 inches, and workmen were employed to take it out, and replace it. While this was in operation one of the beams broke close to a column (from the lateral thrust of the adjoining arch as it is considered), and the whole building was almost instantaneously destroyed.

Witnesses were of opinion that this breakage of the beam, though sufficient to cause much damage, did not properly account for the total destruction of the building which ensued: they considered there was not sufficient strength in the beams generally.

"They also advert to the injudicious position of the tie rods which, though sufficient in number and strength, were situated too high up for resisting the strain of the arch. To resist that strain, they point out that the maximum effect would be produced by their attachment to the bottom flange of the beam, but that being inconvenient, they recommend that the ties should not be placed higher than the soffet of the arch, where they would perforate the neutral axis of the beam, that is, where, from vertical pressure, the tendency of the lower part of the beam to be disrupted and opened out is balanced by the opposite tendency on the upper part of the beam to be crushed inwards, thus affording sufficient security to the arch without injury to the strength of the beam.

Though they observed imperfections in the cast-iron columns, arising from the variable

thickness of the metal, they were satisfied with them in other respects, at the same time stating their opinion that one inch more in diameter, with the same weight of metal, would have afforded greater strangth and security."

The iron, on examination of fragments of the beams, was found to be of fair average quality, but the central parts were more highly crystallized than the internal parts, which led to the inference that the former had cooled more quickly than the latter; cracks were also observed, due to the same cause.

"In the evidence of John Swailes it is stated, that several of the beams employed in the portion of the factory which fell were taken out red hot from the sand in which they were cast, a sufficient reason for the appearances we have noticed, more especially, when it is considered that the parts of the beams were of variable thickness, not only the upper and lower flanges differing in this respect, but also the vertical portion connecting them. Under an equal temperature such parts would tend to become solid at variable times, the thinnest parts first, and even under the favourable circumstances of protracted cooling there would still be a disposition in the particles to adjust themselves unequally, producing unequal strains, and an absence of uniform structure in the mass. A fact well known to iropfounders, who from it, endeavour to arrange their castings, so as to obtain as much as possible a uniformity of thickness in the different parts.

parts. The practice of removing beams of castiron, to be employed in sustaining weights, red hot from the sand, is very properly reprobated in the evidence of Messrs. Fairbairn and Whitworth. The former observes,— 'From my own experience, I am satisfied that fire-proof beams should never remain less then too hours in the send after they are cast.

'From my own experience, I am satisfied that fire-proof beams should never remain less than ten hours in the sand after they are past; and for heavy castings thirty or forty hours, or more, are somtimes necessary to assist nature in a perfect, and, consequently, a strong and compact process of crystallization.'

and compact process of crystallization.' We consider that even good cast-iron may be rendered comparatively brittle by sudden cooling, judging from what is known on the subject of the cooling of many substances, the more sudden application of cold to a substance in igneous fusion, producing the brittle quality, exemplified in the various glasses, more moderate cooling furnishing compactness, while more protracted refrigeration causes, in many bodies, crystallization, which may become of such an order from the occurrence of large crystalline planes, as to render fracture more easy in the line of such planes, being those of least resistance than in the intermediate state productive of compactness.

diate state productive of compactness. Unfortunately, it is considered a saving, particularly in small founderies, to remove castings red hot from the sand. Mr. Whitworth points out that not only is room acquired where it is so needed, in such founderies by this practice, but that a saving also is effected in the sand employed, which becomes burnt and destroyed near the castings while the latter are annealed in the cooling.

From at least several of the beams employed in the building which fell being, as stated by John Swailes, taken out red hot from the sand when cast, from the cracks and other corroborative proofs of rapid cooling observed by ourselves, and from having seen a beam cracked through the vertical portion connecting the upper and lower flanges, in the lower part of the larger fire-proof building now finishing, and in connection with the works of the Messrs. Radcliffe, this crack, or fissure, precisely of the kind that would be formed from an unequal tension of the thicker and thinner parts of the beam, more especially, if taken from the sand red hot and thus suddenly cooled; we are disposed to believe that such rents or cracks may have occurred in many other beams."

Considering the evidence correct, the commissioners believe that the lateral pressure of each of the arches successively fractured the adjacent beams.

"This happening on the upper floor, there is little difficulty in conceiving that the mass of bricks and iron thus suddenly thrown upon the floor beneath would crush it, and this again falling on the third, and so on, the accumulation of falling matter would be such from floor to floor, that after the failure of the upper floor, that in which the arch was under repair, the whole would appear to fall almost instantaneously, or in one great crash."

They therefore regard the failure of the arch in the upper floor, for which no apparent reason is assigned, as the primary cause of the accident.

The commissioners made inquiries into "the state of chemical knowledge connected with cast-iron generally," and are disposed to consider it imperfect.

"While referring to these and other researches on a subject becoming daily of more importance to the public, we abstain from all remark as to the forms which may at present appear best adapted for cast-iron beams, further than to observe that when calculations as to the strength of such beams are founded on the supposition that the cast-iron employed is of uniform texture, it would appear difficult to obtain this homogeneity except in castings of nearly uniform thickness in the various parts; that when cast-iron beams are suddenly removed red-hot from the sand in which they are cast, we should expect them to be comparatively brittle, however good the iron may otherwise be; and that some efficient proof of cast-iron beams is most desirable before they are employed in buildings, since, assuming effective forms and the use of good iron, every care having been taken to cool them properly, flaws may exist, not visible externally, rendering them unfit to support the weights they are intended to sustain."

"While on the subject of cast-iron for beams, we would state our strong conviction, founded on a general view of the subject, of the importance of substituting wrought-iron for cast-iron, whenever it can be accomplished, and we anticipate that wrought-iron will be rolled into a sufficient size for all the uses to which large cast-iron beams are now applied, judging from the present size of rolled pieces of iron. When this shall have been accomplished, a great advance will have been made in the use of iron, seeing that beams, or other large pieces of that metal may, with confidence, be relied upon. We consider that when wrought-iron can be thus rolled and employed, its use will become most extensive, and that the consumption of iron for building purposes would be greatly increased, to the benefit of an important branch of our national industry."

They urge with great propriety that experiments respecting the best and strongest forms of wrought and cast-iron beams and columns should be conducted by officers of the Royal Engineers, at Woolwich, or elsewhere, anticipating that such experiments would be of great public importance, by leading to highly beneficial and practical results, the more beneficial in proportion as a knowledge of them could be disseminated by publications of a moderate price.

At the close of the joint report Mr. Cubitt has introduced some remarks and suggestions which are so important, that we are induced to transfer them entire to our pages.

"And I would further humbly represent to your Majesty, that since the first introduction of iron into buildings, its use has progressively increased; and considering that it is desirable to encourage the erection of buildings that are composed of incombustible materials, affected as little as possible by the changes of weather from dryness to humidity, and free from the effects of dry rot, or the ravages of vermin, and cast-iron at present being one of the principal materials by which these advantages are conveniently secured, there is, it must not be disguised, great danger to be apprehended in its use in consequence of our limited and imperfect knowledge of its qualities and properties. Buildings constructed with floors of wood,

Buildings constructed with floors of wood, though at the mercy of an incendiary, and subject to many inconveniences, have at least this one advantage, namely, that an injudicious application of it in their construction is to be less dreaded than when cast-iron is the substance employed.

Wood being much more elastic receives, without injury, shocks which would be fatal to cast-iron; while its great flexibility adapts it to give warning of its own insufficiency, or of an undue pressure acting upon it, perhaps in time to avert danger; whereas cast-iron, from its nature, is incapable of affording the like demonstration of its weakness; and the fall of a building so constructed, from the weight and solidity of the material, is likely to be attended with far more disastrous consequences.

Yet, notwithstanding the many casualties to which cast-iron is liable, its introduction into buildings has been a great gain; and I believe that fewer accidents have happened, with all its[disadvantages, than might have been reasonably expected. And buildings very essential to the safety of the inhabitants of thickly-peopled towns, affording security against the devastations of fire, either by diminishing the risk of its first outbreak, or cutting off the communication with the adjacent burning houses, in order to stop the progress of the flames, could not be constructed conveniently, adapted to the purposes of trade or for public rooms, without the use of iron.

The erection, then, of such buildings being of the utmost importance to all classes of the community, and our knowledge of the best forms and arrangements of cast-iron beams not being based upon principles the correctness of which cannot be questioned, I do feel that any attempt by legislative enactment to control the erection of this kind of buildings might prove vexatious in its operation, from the difficulty there would be (in the absence of acknowledged correct data on which to found comprehensive rules for the regulation of such buildings, and amidst the conflicting opinions of persons who have thought much on the sub-ject), in selecting proper persons to whom authority might be given, who would have sufficient practical knowledge to ensure their decisions being always satisfactory, or who would consider the subject sufficiently alike to secure a uniform practice in the different dis-tricts, without which uniformity persons might be called upon to vary their manner of build-ing, if it happened to be in another district, according to the notions of the surveyor of each. If they were too severe, it would retard the erection of buildings intended to be fire-proof while on the other hand a false confidence might be given, that would prevent the careful consideration of the parties principally engaged, owing to their being relieved from responsibility.

It therefore becomes desirable that every possible facility and encouragement should be given to persons to improve and make buildings more safe and durable; and I should regret if any thing were done that might interfere with the use of iron so as to retard its more general introduction, as it appears to me to be a material the use of which it is of the utmost importance in every way to encourage.

Much, however, if not all the risk involved in using iron for beams would be avoided, by the substitution of wrought for cast-iron; but up to the present time, the anxiety for this change is not widely enough diffused to lead to any immediate practical result in the manufacturing of wrought-iron beams of such dimensions as are applicable to buildings of the largest size. And it may be remarked that the larger the building is, there is generally greater danger of failure, with more deplorable results; consequently the more urgent need there is for increased precaution in providing a corresponding amount of strength, the greater are the difficulties at present experienced, at least as regards wrought-iron.

The expenses necessary to the production of large masses of iron, rolled in the form of beams, being more than a private individual might feel himself justified in incurring for his own use, and the demand from an inadequate conception of their value not being sufficiently pressing or extensive to secure the manufacturer from loss, it is to be feared that it will take some time yet before we shall be in possession of the many advantages which it may be expected will result from their manufacture, unless some stimulus be given in order to hasten the attainment of this very desirable object.

object. I therefore humbly suggest for the consideration of your Majesty the expediency of deg

voting 1,000%. or 1,500% to this purpose, and would propose that premiums of such sums as it may appear advisable, be offered for the best and strongest rolled iron beams, calculated for the use of floors, to sustain a load not under 25 tons, with bearings not less than 24 feet apart. And in order to ensure a steady progress in

And in order to ensure a steady progress in the improvement of the manufacture of iron generally, perhaps an exhibition once a year of the best samples with new forms, will forward the attainment of this end. Such samples might be tested in a proving house, which it may be thought expedient to establish for the accommodation of the public generally, where parties may be allowed to have beams or chains proved at a moderate expense, by which the value of the commodity and its fitness for the proposed work may be ascertained.

The cost of apparatus for proving beams only, being heavy, and requiring much practice in order to make such fully available and to arrive at correct results, it follows that those persons only who are extensively engaged in building, provide themselves with means for testing the strength of iron beams, whilst those whose use of them is occasional have no convenient opportunity of proving them; and it would seem that such persons have greater need of this sort of assistance; than those who, from their extensive practice, become more conversant with the general strength of iron.

rom their extensive protect, extended a conversant with the general strength of iron. I would therefore beg leave to recommend for the consideration of your Majesty's Government, the expediency of providing a proving house, if not in every large town, at least in London, where any persons might send their beams, and rely upon their being correctly tested.

I believe that if facilities were furnished for getting wrought-iron of large dimensions, very few large timbers would be used in building; and as iron can be produced in unlimited quantities, and the whole of the cost of its production spent in employing the labour of this country, the benefit it would produce could hardly be calculated; for, in addition to that required for our own use, an immense demand would grow up for exportation, as it would provide the means of making safe and durable fire-proof buildings — what every person desires, but which at present is very difficult to attain.

Thus the community at large would be benefited by an extended manufacture of wroughtiron, and particularly all the public works under the immediate control of your Majesty's Government. All buildings, whether used as storehouses, barracks, or hospitals, might be rendered more safe and more permanent. Large beams of wrought-iron might be very advantageously employed in ship-building generally, and more especially for supporting the decks over the boilers of steam-vessels. And, to conclude, another step would be taken in order to secure to this nation that pre-eminence it has hitherto maintained in the manufacture of iron.

All which I humbly certify to your Majesty. THOS. CUBITT. London, 28th February, 1845."

We have confined ourselves in the present notice to those parts of the report which refer more particularly to the mill at Oldham, and shall return to the subject with reference to the House of Correction at Northleach, and the information to be obtained from the evidence generally.

THE WILTSHIRE TOPOGRAPHICAL SOCIETY.

THE anniversary meeting was held on Saturday last, to receive the report, audit the accounts, and elect a new council.

The second volume of this society's publications will be ready in the course of June; being "A Memoir of John Aubrey, F.R.S., embracing his auto-biographical sketches, a brief review of his personal and literary merits, and an account of his life and works; with extracts from his correspondence, anecdotes of some of his contemporaries, and of the times in which he lived."

For this work, which promises to be out of very great interest, the society are indebted to Mr. Britton, who has devoted to it muci time and labour.

GREENHOUSES, VINERIES, AND AVIARIES. AWARD UNDER THE BUILDINGS ACT.

THE official referees have recently made an award which will affect very materially the construction of greenhouses and such like buildings; believing it to be a matter of some importance, and that the decision should be known, generally, we print it entire.

"Whereas the official referees of metropolitan buildings, duly appointed in pursuance of the said Act, have received and duly considered the requisition dated the 3rd day of April, 1845, from Thomas Leverton Donaldson, the surveyor of the (South Kensington) district, whereby it appears that J. Weeks and Day were erecting the (described) greenhouse, and further that the said J. Weeks and Day declined to give notice thereof to the said Thomas Leverton Donaldson, as district surveyor, on the ground that the exception of the Act freed the same from all control, and whereby the said Thomas Leverton Donaldson requests the opinion of the official referees.

First, "as to whether such a greenhouse or conservatory as the greenhouse in question

be exempt; and, Secondly, to what extent the exception of the Act in schedule C, part 7, reaches; and, Thirdly, whether the district surveyor have

any and what control over greenhouses, vineries, aviaries, or such like buildings; and,

Fourthly, whether it be under section 8 or any other part of the Act; and, Fifthly, whether such buildings may be of

wood; and,

Sixthly, whether any difference as to the materials of which they are constructed will arise in the cases of their being attached to another building or completely detached from any other erection."

And whereas the said official referees have also received and duly considered the letter from the said J. Weeks and Day, dated the

from the said J. Weeks and Day, dated the 25th day of April, 1845; stating, That "they are advised that greenhouses and particularly one of the description of the one in question fall within the exception to schedule C, part 7, of the Buildings Act, and that the 8th section of mode to buildings of that the 8th section refers only to buildings of the same kind as those included in some one of the defined classes, and cannot be construed to apply to buildings expressly, and by name excluded from such classes." And whereas on the 7th day of May, 1845,

the said official referees did duly hear the said Thomas Leverton Donaldson and J. Weeks touching the matters of the said requisition, and thereupon the said J. Weeks did demur to the jurisdiction of the said official referees such like buildings were exempted from the operation of the provisions of the Metropolitan Baildings Act.

Now we, the said official referees, do here-by find, determine, and award as to the first question

That inasmuch as all buildings (except buildings comprised in schedule B), are by section 5, of the said Act, brought within its operation; the greenhouse or building in question must be deemed to be within the provisions of the said Act.

And further as to the second question-

That the exception in schedule C, part 7 must be deemed to apply only to the mode of determining the rate of such greenhouse or building, and the thickness of the walls, and any other matters dependent upon the rate of building.

And further as to the third question-That greenhouses, vineries, aviaries, or such like buildings, are within the jurisdiction of the district surveyor.

And further as to the fourth question-That such buildings are under the direction

of the district surveyor, under section 8 of the said Act.

And further as to the fifth question— That unless they be "insulated buildings," within the meaning of the said "Act, such buildings must not be built wholly of wood.

And further as to the sixth question— That such buildings, whether attached or detached from other buildings, must in either case be conformable to the provisions of the said Act.

And with regard to the costs and expenses attending this reference, we do hereby further award that inasmuch as the case was one of award that inasmuch as the case was one of reasonable doubt, the same be paid by the said J. Weeks and Day, and Thomas Leverton Donaldson, or by either of them, that is to say the sum of 41. 2s., as and for the fees and expenses of the office of metropolitan build expenses of the onice of metropolitan build-ings, to the registrar of metropolitan build-ings, at the said office, No. 3, Trafalgar-square, London, on or before the 2d day of June, 1845; and that the party by whom the said fees and expenses shall be paid be entitled to be reimbursed one moiety thereof by the other party.

In witness whereof we, the said official referees, have to this our award, on five pages of foolscap paper, set our hands this 24th day of May, 1845. (Signed), JAS. W. HIGGINS, WILLIAM HOSKING. Official Referees.

POWER OF THE OFFICIAL REFEREES.

Sir.-Have the kindness to inform me, and under the Metropolitan Buildings Act, to compel obedience to their dictum, in cases where building owners contend for their right to proceed with buildings commenced before the 1st January last, in opposition to their award made sgainst such opposition to their award made sgainst such buildings, upon the assumption that such buildings were not sufficiently commenced to take them out of the operation of the said Act?—If their course be by application to magistrates, do you not conceive that, as the Act defines no extent of commencement, the Act defines no extent of commencement, the builders may confidently rely on the general honour and integrity of that body (the magis-trates), to protect the building community from the limited views desired to be set up by the official referees in their letter to Mr. Allen of the 4th of Lenvers host? I note your the 4th of January last? I refer you to your ne 4th or January last 'I refer you to your page 154, containing the following observation of Mr. Jeremy, in a case reported to have been heard before him at Greenwich: "I must take the clauses in their literal interpre-tation;" by which straightforward reading, may it not be informed the meinteric will may it not be inferred, the magistrates will may it not be inferred, the magistrates will not lend themselves to any party (however influential), to the contravention of the express language of the Act, and the consequent injury to builders so circumstanced? Your consideration of, and reply to, this inquiry, will, through the medium of your journal, oblige a constant reader and subscriber. A BUILDER.

* The award of the official referees is as binding and conclusive against . every . person as if made under an order of reference of the Court of Queen's Bench, and may be enforced by that Court in all respects as if it were so made.

HEALTH OF TOWNS.

THE Fabian policy of Government with respect to the sanatory condition of towns and the consequent moral improvement of the industrious classes, challenges a remark at this advanced period of the session, the more so as nothing yet has been even proposed. Should this lethargy on the part of our rulers con-tinue a few weeks longer, filth and disease will have acquired an extension of their term of duration beyond what was expected. Her Majesty in her speech from the throne last February, *emphatically* said that it would be highly gratifying to her if Parliament could devise the means of promoting the health and comfort of the poorer classes of her subjects.

comfort of the poorer classes of her subjects. This gratification the Government appear disposed to withhold, at least for the present. They have already issued their fiat that light and air are still to be paid for, and have con-tented themselves with simply announcing that ageneral measure is in embryo, but when to be brought forth, or if at all, there is no pledge. We are much disposed to fear that autumn will find the health of towns in precisely the same condition as the spring did. Bills affecting the rich have been known to pass through their various stages with an almost electric speed; is there any enactment to prevent the same potent spell being applied to bills affect-ing the poor ? If not, then, there may yet be hope during the present session?

THE BRITISH ARCHÆOLOGICAL SOCIETY.

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IF the amount of ill-feeling which has been generated by the unfortunate dissension in this association could have been calculated by those (be they on which side they may) who first fer-mented it, we are disposed to think they would have used their best endeavours to prevent disunion rather than to fan a trumpery spark into the violent flame now burning. More into the violent flame now burning. More annoyance has been caused to individuals than by any similar disagreement that has occurred for many years; and the whole course of the proceedings speaks very ill for the temper of the times.

the times. The virulence with which that portion of the original committee who appealed to a general meeting of the subscribers, has been assailed by the friends of the other portion, is quite unexampled, and the mode of attack adopted is fraught with dangerous conse-quences to society at large, and should be re-undicted by energy unright man. pudiated by every upright man. *Character* is the mark they have aimed at, and whispered calumnies, anonymous letters to connections caumines, anonymous letters to connections and superiors, published charges of almost swindling, which are found on examination to belong simply to the general question "are we right or wrong?" and do not attach to character in the slightest degree,—are the arrows which have been made use of. We do not hesitate to repeat, that it behoves every man who wishes to exercise an independent opinion in the world, to set himself resolutely against such a mode of proceeding.

Mr. Pettigrew, on whom much of the violence of the attack has fallen, has just now violence of the attack has failen, has just now published a letter to the very Rev. the Dean of Hereford "in reply to the publication of his correspondence relative to the affairs of the British Archæological Association." In this he refers in strong language to the attempts which have been made to fix on him individually as the person refusing to refund money subscribed, and not as the treasurer of an insubscribed, and not as the treasurer of an m-stitution accountable to the members for the proper employment of the funds. He says he "would gladly have avoided every harsh word; but the possessor of an honourable mind will not fail to acquit me for the strong expressions of indignation with which I repel such mean, dastardly, and villanous insinua-tions and assertions." Personally we have not the pleasure of much acquaintance with Mr. Pettigrew, certainly much less than we have with many of the opposing party, and have been impelled to make the foregoing remarks, without any reference to the general question, solely by a sense of public daty, and a desire to assist in preserving the right of dif-fering in opinion from others without being exposed to calumnious attacks on character.

MOVEMENT IN THE SOCIETY OF

MOVEMENT IN THE SOCIETY OF ANTIQUARIES. At a meeting of the Society on Thursday, the 4th instant, W. R. Hamilton, Esq., Vice-President, in the chair, it was announced from the council, before taking the ballot on Dr Bromet's motion, " that they had passed a reco-Bromet's motion, that they had passed a reco-lution to the effect that the council should meet once in every month during the sitting of the society, and oftener if necessary. Some of the members were anxious to adopt this as an amendment on the motion before the meeting, feeling that merely an order of council could of course be rescinded by the council at any time, but it was urged by Lord Mahon and others, that the meeting had no power to pass an amendment that night, but simply to say aye or no to the motion, of which notice had been given; and it was ultimately so ruled by the chairman.

On taking the ballot, twenty-six voted for the motion, and thirty-one against it, preferring in courtesy to take what was offered by the council rather than to exact more. The new resolution, if properly carried out, cannot fail to prove advantageous to the society, and will be speedily followed, we have little doubt, by some important changes. Mr. Disney, Mr. Pettigrew, Mr. Hawkins, Mr. Wyndham, and Mr. Wansey, took part in the debate.

^{• &}quot;The council shall meet for the dispatch of business in the usual place at three o'clock on the first Tuesday of every month (except during the months of September and Oc-tober), and such meetings shall not be adjourned unless by the votes of a majority of two-thirds of the council pre-sent."

THE LATE CONFLAGRATIONS IN EUROPE AND AMERICA. BY J. L--¥.

" Considerations must be-considered."

HARDLY has the ink dried off our essay in the last number of this periodical — than another catastrophe (in Fenchurch-street) startles our mind, and awakens painful sym-pathies in every breast. Besides the individual sentiments which may agitate us on such occa-sions—it is the honour of the country, it is the honour of our royal art, which are nigh being at stake, and a future Tacitus of our times may at stake, and a luture *Lactuus* or our times may strongly animadvert on a social condition, where such things could happen; on the state of architecture, in fine, which constructed buildings, where every conflagration might subject its dwellers to involuntary martyrdom ? These are stern words—but we know such thoughts exist in the highest quarters, and it is the sacred duty (!) of an honest journalist to give them unfinching utterance.

It is the besetting sin of the age to consider every radius of our social condition dis-jointedly, solitarily, isolatedly. Such, how-ever, is not the case. Our pasteboard and gingerbread and cobweb buildings are not momenta standing alone; such all is intimately and innermostly connected with every thing else around us—every thing the result of sheer else around us—every thing the result of sheer (atheistic) egotism and purblind grasping-ness. And then things become all a chance, a raffle, a lottery. Messrs. A. B. C. have made 71 per cent. by the building of the Yar-mouth Suspension Bridge—but the daughter, or niece, or son of Mr. A. B. or C. have perished on this very same structure, and no bank-check in the world will draw them alive bank-check in the world will draw them alive from out of their melancholy, watery grave. If men would think thus—extend the sympathies of consanguinity to every human being (Chris-tianity bids it), then we would at times cut off a one-half per cent. or so from our gains; and then, we sincerely believe, many things, all things would be better. all things, would be better.

But we may as well interpolate our own thoughts with those, which have been of late uttered at public meetings and elsewhere with regard to the late fires. "Fire-escapes"— have been again suggested, a multitude of have been again suggested, a multitude of fire-escapes, and a number of proper persons (this means, of course, conscientious, religious) to superintend and use them. Without wish-ing to detract from the adequate utility of this expedient—we must say that it is only a palliation and not a radical, curative remedy. This is the way in which we moderns proceed constantly. Our artisans possess no adequate constantly. Our artisans possess no adequate walks and play-grounds and public festivals and baths to make them healthy, hale, cheer-ful; but we throng hospital on hospital, inful; but we throng hospital on hospital, in-firmaries of all shades and colours, truss so-cieties, et hoc genus omne. The thing is heart-rending in the extreme, but an honest journal for the progress of any (mechanical) art, must broach such subjects, bearing on the welfare of the workers. Conceeding, there-fore, an adequate value to the introduction of a forest of fire sceness. We have cona forest of fire-escapes—we say, we have con-jointedly to look to "the regeneration of ar-chitecture," the royal art of old. But if we were to say no further, we would merely repeat one of those numberless (un-practical) commonplaces, with which papers are stained and blotched now-a days. It is the punctum saliens-it is the fulcrum of Archimedes (on which he challenged to move the world), which is to be found, in architectural or any other regeneration of our social condition. And thus we say, that many, many people could not *exist* at present without their seven and a half per cent. and so on. Of these, we may say with Dante: "guarda e passa." But there are others, many others, who are not in such (artificially) needy circumstances-besides, persons, wide-hearted, benevolent, bold, ambitious, even amongst those who speculate in and live on architectural pursuits; and it is to those to whom we exclaim and it is to those to whom we exclaim humbly, yet energetically: "speculate not on the chance and jeopardy of human life—be ashamed owning those mud and swallow-nest structures, unfit (aye, in many other respects) for the dwelling and living (!) in of human beings; set an example; restore architecture to its pristine, worthy state—not only to that of the (nagen ') Romans, but of only to that of the (pagan!) Romans, but of our Christian forefathers of former cen-turies!" But as any (legitimate) means are legitimate for good purposes—we go still approach to the Great Pyramids of Geza.

further, and will increase our philanthropic arguments by even speculative ones. Thus, builders of theatres, halls, hotels, inns, manu-factories, in fact any building, where numbers congregate, might considerably increase their congregate, might considerably increases in notoriety, popularity (and consequently gain), if they were to state that their property is freewood the staircases of stone, etc. To allude especially to hotels, the providing of stone staircases instead of those of (well-resinous) deal, could be done in London during the summer recess, etc.

We have introduced in our former paper the name of State's Architecture (Staat's Architektur), and we shall find that England is far behind countries in this branch of other public welfare. Not speaking of the Secretary of State for Public Works in France-even Austria, one-sided Austria, possesses very deep Austria, one-sided Austria, possesses very deep official contrivances in this respect. There is the supreme Aulic commission of public build-ings (Kais. Hof-Bau-Rath) at Vienna, with directors of building in each provincial capital: another department is superintending even the construction of capate dilece etc. even the construction of canals, dikes, etc., viz. the direction of aquatic works (*Was-serbau Direktion*). In Prussia, the late ideal Schinkel was at the head of the department of public buildings.

But as England possesses, after all, al-ready a Department (!) of Public Instruction, (every thing but the name of a distinct secre-taryship of state), another department of taryship of state), another department of public works is a thing not so impossible as many may imagine. But we are apprehensive, lest the extended (or rather mistaken) ideas of personal liberty might mar its exertions and scope. We call the hitberto current ideas of personal liberty mistaken ones, and if we come to know, that our humbler classes possess even the liberty of dying by starvation, we think we the liberty of dying by starvation, we think we have proved our assertion by a very few words. Thus we say, in the present instance —if any person or family chose to live in a house made of *fulminate of silver*, they are welcome to do so; well understood, on some sequestered spot of Salisbury plains, or Marston Moor! Butthey must *not* take any lodgers or servants with them, who being either injured or distressed by fire, may become chargeable or distressed by fire, may become chargeable to the parish — viz. the *nation*. Personal liberty does not go so far as to get 71 per cent., with the liberty of drawing on the public exchequer for those very accidents, which are included as it were in the obtaining of this *dividend*. Every house tenanted is worth individend. Every house tenanted is worth in-suring now, and can get insured. But this relates only to the *landlord*. No one seems to care, however, whether the artisan and working man, yielding the 7½ per cent., by the renting of some wretched hovel run up of wicker-work and deal, is insured or not. But if the head of the family has been burnt, or if they by the loss of furniture, tools, burnt, or it they by the loss of furniture, tools, and other utensils, get distressed, and eventu-ally sent to the poor-house, hospital, or pri-son (!)—who is, after all, the cause of all these calamities (still more so in their national aggregate) but him, who orders such struc-tures to be erected, the artist (?) who is so unfortunate as to be compelled to execute which (!) orders

such (!) orders. We believe, therefore, we have broached reasons, religious, humanitarian, artistic, and politic, for dissuading people to run on in the present way of futile, low, unsafe and ugly architecture—to make them feel, in fine, that it is unworthy of a *free people* to dwell in such structures; and that a bettering, an "improve-ment of our social condition," inculcated even from the height of the throne, must begin somewhere—be it even in architecture.

NEW WORK ON EGYPT .--- Dickinson and Son, of New Bond-street, are about to publish a collection of views of the most celebrated temples, &c. in Egypt, from drawings made on the spot in 1844, by H. Pilleau, Esq., 16th Lancers. It will comprise the following subjects:-The Island of Philæ, with a general view of its ruins; temple and propylea on the Island of Philæ; temple of Koum Ombou; temple of Edfou; interior of the great hall of Carnac-(Thebes); ditto from a different point (Thebes); ruins at Luxor; the two Colossi at Thebes; temple at Medinet Abour-(The-bes); interior of the temple of Denderah; and

EXHIBITION OF WORKS OF BRITISH INDUSTRY

THE importance of a periodical exhibition of our manufactures has been often urged and always admitted; and we are glad to learn that the Society of Arts and Manufactures are applying themselves to effect it. The following resolutions, passed at a recent meeting of the managing committee, will briefly explain the objects sought to be attained :-- " 1. That the experience of foreign countries has proved that great national advantages have been derived from the stimulus given to industrial skill by bringing the manufactures of different establishments into competition with each other, and by presenting honorary rewards to those who have excelled in each department; cheapness of production, and excellence of material, both in execution and durability, being assumed as the criteria of superiority." That by carrying out a similar principle in this country, founded on the experience of the past, but with more entensive views; still greater benefits may be anticipated .--- 2: That having regard to the objects promoted by the Society of Arts, Manufactures, and Commerce, it would appear to be their peculiar province to attempt to carry out such an object in Great Baitain on a scale commensurate with the magnitude of the interests involved .-3. That immediate preparations be commenced for such a periodical exhibition of works of for such a periodical exhibition of works be in-industry, at which the producers shall be in-vited to display their various productions." The details of carrying out this plan, on a comprehensive scale, were left to be considered at future meetings of the committee.

In the report read before his Royal Highness Prince Albert on the 2nd instant, when the society's rewards were distributed, this propo-sition was brought prominently forward. The sition was brought prominently forward. following animated picture (extracted from one of the daily journals) representative of an exhibition of the products of national industry, will bring home to the minds of those who have never witnessed such a display, a scene of extraordinary interest — "A display of the perfection to which we have brought the mechanical arts would include every manufacture of the empire. Each producer would have his stand crowded with the choicest specimens of his skill; china from Worcester and Darby: the first large would be the first and Derby; the finest lace from Nottingham; the most splendid brocades and silks from Spitalfields, the newest patterns from Manspitaineids, the newest patterns from Man-chester, from the raw cotton to the finest manufactured produce; glass, varying in shapes, from the spun fibres, for robes and vestments, to the most superbly cut chande-liers; the produce of Birmingham, from the common cut nail to the maniform the common cut nail, to the magnificent ormolu decorations for palaces; carpeting of brilliant patterns; a display of chronometers, watches; and clockwork; jewellery, of the rarest and most delicate devices; paper of the bighest quality the mill can produce; printing in illu-mination and gold; cloths, of all quality and all colours; the straws of Dunstable, the ribbons of Coventry, and the erockery of Matlock; the latest locomotive-that triumph of mehanical speed; the Cornwall condensing engine-that masterpiece of economic power models of iron steam ships for the Atlantic; of men-of-war, for the dominion of the ocean; of merchantmen, from the ports of London, Hull, and Liverpool; the finest qualities of arms, in guns, pistols, and watered sword blades; and the choicest specimens of carving and cabinet work. Such an exhibition would include all the varieties of articles produced by the skill of the vast body of English artisans —the most ingenious, the most patient, and the most persevering in the world—in a word, everything that could render the exhibition worthy of the industrial manufacture of a mighty empire."

A considerable sum has been already sub-A considerable sum has been already sub-scribed by the committee towards this impor-tant object. We cannot omit this opportunity of alluding in terms of praise to the present active and excellent secretary, Mr. Francis Whishaw, who, by his energy and skill, has been mainly instrumental in restoring the vigour of youth to the ancient society of arts.

TAKING UP PUBLIC PAVEMENT.

A FEW days ago Mr. J. Newson, builder, Grosvenor-mews, was summoned before Mr. Hardwick, Marlborough-street, by Mr. Richman, surveyor of St. George, Hanover-square, for having broken up the pavement in Curzonstreet, without license from the paving board, whereby he had incurred penalties to an enormous amount.

Mr. Richman said the defendant had obtained a license to make eight holes, for the purpose of erecting a hoard before the house of Colonel Merrick, in Curzon-street, where some alterations were being made. In addition to this, the defendant had constructed some cellarage, and had taken up the pavement to the extent of about 500 feet, without having first obtained a permission from the paving board. By this proceeding the defendant had subjected himself, under the 53rd clause of Michael Angelo Taylor's Act, to a penalty of 5*l*., or not exceeding 10*l*, per foot. The board of commissioners had, however, determined not to press for a heavy penalty, and, though the sum of 60*l*. was named, they would think the justice of the case met by a fine of 5*l*. or 10*l*.

The defendant said he had violated the Act quite unintentionally. He had been urged to use expedition in constructing the cellarage, and he had quite forgotten to obtain the requisite licence. He had since obtained it, and paid all that was required. The architect, who was present, said he was accountable for the breaking up of the pave-

The architect, who was present, said he was accountable for the breaking up of the pavement, as it was owing to the pressing directions be gave to the defendant to hasten the alterations that the pavement had been broken up. He thought, however, that the surveyor had mistaken the penalty imposed by law for this offence. He believed the clause empowering a fine of 5*l*. or not exceeding 10*l*. per foot, only applied to cases of wilful damage. To other cases the law affixed a penalty of 5*l*. or not exceeding 10*l*. If the defendant's case came under the 53rd clause, he would have incurred fines to the amount of between 5,000*l*. and 10,000*l*.

10,000*l*. The surveyor said the law evidently intended to apply the 63rd clause to such cases as the present one. Builders would cheerfully pay a 5*l*. or 10*l*. penalty for breaking up the pavement when they could by that means construct an area or a cellar.

a st. or 10t. penalty for oreaking up the pavement when they could by that means construct an area or a cellar.
Mr. Hardwick was of opinion that the case had been fully sustained, but as the paving board had suggested a penalty of 5t. he would make that the amount of the fine.

The money was immediately paid.

RIGHT TO ERECT LADDERS AND HOARDS.

An action was tried in the Court of Exchequer, on the 29th ult., brought by Mr. Davey, a bricklayer, against the surveyor of pavements for St. Anne's, Westminster, to recover compensation for the alleged illegal removal of a ladder and other articles; to which the defendant pleaded, as a justification, that the ladder, &c., were encumbering the footway of Newport-court, in his jurisdiction; to which the plaintiff replied, that he had the license of the defendant for his acts. At the trial before the Chief Baron a verdict passed for the defendant, his lordship being of opinion that the case required a license; that the license given did not justify the conduct of the plaintiff; and that the notice of action was not good, and need not have been pleaded. Afterwards the present rule was obtained to review that epinion; and now Mr. Jervis shewed cause.—The main ques-

Mr. Jervis shewed cause.—The main question was, whether a license is necessary, under the local Act 57 Geo. 3, c. 27, to authorize the plaintiff in erecting a ladder against a house, and whether the license here given—namely, "to erect a ladder on the footway of No. 14, Porter-street," is complied with by the erection of a ladder in the adjoining street, in which No. 14, Porter-street, had another front.

Mr. Humfrey and Mr. Corrie, on the other hand, contended that a license was only required under the Act in question for the erection of an enclosure, for the purpose of depositing materials therein with the view to the reparation of a house. As to the objection to the notice, whether it be good or not, it could not arise, for the want of it cught to

have been pleaded, and it had not been so done

here. The Court, after much discussion, made the rule absolute for judgment non obstante veredicto; it being the better opinion that no license was required for the acts of the plaintiff, and, further, that the want of a sufficient notice was the subject of a plea. At the same time it must be known that had the matter required a license, the terms of the license ought to be strictly followed. A license, for instance, under this Act, to "creet a hoard opposite No. 14, Porter-street," could not be construed into a liberty to put up a hoard in another street which that house might happen to front as well as Porter-street. Under the circumstances of the case, however, it was clear that no license at all was required, and the facts in the plea not affording any justification to the defendant, the verdict given for him thereon must be set aside, and judgment entered for the plaintiff notwithstanding it.

Judgment for the plaintiff accordingly.

ALLWORTH CHURCH, NEAR READING.

This interesting and almost unique specimen of our early decorated style, which has long been an object of interest to the antiquary and lover of church architecture, is now undergoing some necessary repairs; and an appeal has been made in the hope that all who delight in the reparation of our ancient edifices will be the reparation of our ancient colluces will be induced to lend a helping hand to restore it to somewhat of its original beauty. The struc-ture is of flint, and a very superior piece of architecture. The south aisle, on the east and west ends, and on the south side, contains users element windows of threa lists advanded very elegant windows of three lights, adorned with geometrical tracery. The sepulchral with geometrical tracery. The sepulchral effigies, nine in number, which occupy eight tombs in the interior are placed beneath large ornamented ogee arches, richly decorated with trefoils, crockets, roses, and quatrefoils, and form a very rare specimen of the orna-mental architecture of the early part of the fourteenth century. The whole has suffered very much from the violence of the troublous times of the Revolution, and has fallen into great decay. The parish (consisting entirely of an agricultural population) have not had the means of repairing the damage inflicted on it, but they are now expending a rate upon the edifice which will render the structure safe from any further dilapidation, and have raised a considerable sum by subscrip-tion among the landowners and others inter-ested in the parish, which will enable them to begin the work of restoration. The walls, begin the work of restoration. The wails, the windows, the arches, the canopies of the tombs, all require cleaning and consider-able repairs. The timbers of the roof must be relieved of their coat of plaster and re-stored, the whole of the interior re-paved, and the pews re-arranged, so as to shew the archi-tecture to advantage, and to afford increased accommodation to the poorer portion of the inhabitants; and an East window to corre-spond with the others should be inserted in the chancel in the place of the present modern light light.

BIRMINGHAM SOCIETY OF ARTS AND SCHOOL OF DESIGN.—The annual meeting of this society was held on Friday last, and was very numerously and respectably attended. Lord Calthorpe presided. The report stated, that the committee "are able, with great satisfaction, to advert to the circumstances of the past year, as affording a proof that the expectations of advantage to a large portion of the persons engaged in trade and manufactures, by the adoption of the present system under which the society is working, have been fully realised. Your committee can refer to the number of students attending the school, and the result of that attendance exhibited in the works of art selected by your committee as deserving premiums, as showing that in art alone, as connected with manufactures, considerable progress has been made, while the invariable attention, industry, and good conduct of the students are fully bearing out the anticipations of those who augured moral results might be reasonably looked for, from the enlargement of the plans and operations of the society."

FREEMASONS OF THE CHURCH.

JUNE 10.—The Rev. G. Pocock, L.L.B., in the chair.—The minutes of the last meeting were read and confirmed. The Rev. J. H. Brooks, M.A., Senior Fellow and Bursar of Brazennose College, Oxford, was elected an honorary fellow and one of the chaplains.

Mr. W. Papineau, directed the attention of the meeting to what he considered the bad taste exhibited by the directors of the railways in using the pointed style of architecture for engine-houses. Mr. Rogers exhibited an oak stall seat, carved by himself, for the Rev. Henry Boucher, of Thornhill House, Stalbridge, Dorset. Mr. T. Leeson exhibited an encaustic tile from Tintern Abbey. Mr. George Isaacs exhibited a circular reliquary of silver, gold, enamel, and precious stones, bearing the date 1247; also an enamelled jewel of the early part of the sixteenth century, enriched with rubies, pearls, and diamonds, and bearing in the centre a conventional "pelican in her piety;" and Mr. W. H. Rogers a silver-gilt chasuble button of the fifteenth century, perforated with a group of the crucifixion: also, an ornamental monogram of Jesus, by David Hopper, 1530.

A lecture was then delivered by Mr. George Russell French, "On the Sacred Architecture Recorded in the Bible," much of the substance of which has appeared in the BUILDER, under his initials. The lecturer noticed the erection of altars by Noah, Abraham, Isaac, and Jacob, the setting up of the single stones of memorial, most of which had names, as the Bethel of Jacob (whence the affinity was traced to the Bethal stones of Druidical times), the Ebenezer of Samuel, the great stone of Abel, the stone Ezel, Absalom's hand, and many of these stones remained for centuries after their dedication. Some of the stones were set up as witnesses of covenants, as Jacob's Galeed, and that of Joshua at Shechem. "The twelve pillars erected by Moses, Joshua, and Elijah, were probably in the form of circles, like the temples of Stonehenge and Abury, and, like them, surrounded by the vallum or trench, as was the case with Elijah's structure on Mount Carmel. The lecturer pointed out that Solomon's Temple agreed in its plan and details with those of Egyptian temples, rather than with the architecture of Greece, and the close connection of Solomon with the Egyptians, by marriage and commerce, sufficiently accounted for the style of his temple agreeing with their mode of building. The temple which excited so much admiration in our Saviour's days was neither that built by Solomon, nor that restored as described by Ezra, but it was that recently and entirely rebuilt by Herod the Great, and the account of the vast size of " the goodly stones" of which it was composed is borne out by the magnitude of some still to be seen at Baalbec. It was, therefore, Herod's Temple whose foundations were ploughed up by Terentius Rufus, fulfiling the prophecies of Micah uttered seven centuries beforehand.

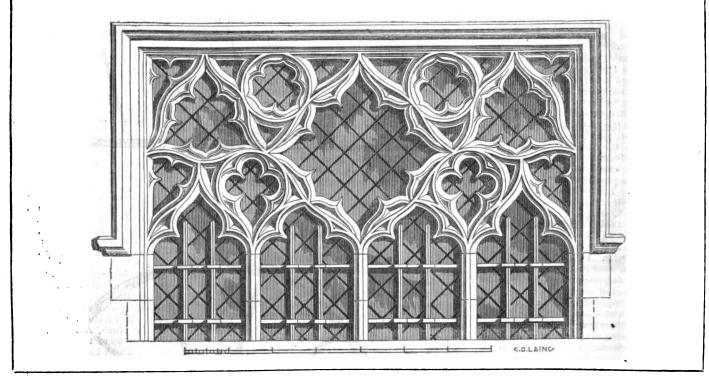
NEW ROAD TO HIGHGATE AND HAMPSTEAD.

A PLAN has been recently submitted to the office of "woods," for improving the means of access to Highgate and Hampstead. It is proposed to form a new road from the top of Swains-lane above the cemetery at Highgate, to the new street now forming from Farringdonstreet, taking the direction of Maiden-lane, without its windings, and raising or lowering the road as occasion may require to make a regular inclined plane, in a straight line, by which the hill may be ascended by horse or foot, without the rise being perceptible. The memorial sets forth that this line would have the peculiar advantage of rising gradually from Battle-bridge nearly the whole way on a natural embankment. "To make it complete two artificial embankments will be required; one across the fields from the top of Swains-lane, nearly in direction of the present foot path to the highest part of Maiden-lane, the other from thence to the new lodge, lately built at the Maiden-lane end of the Tutnell Park-road; and to cross the Junction-road that leads fro n the Holloway-road to Kentisk-town by an arch over it."

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WINDOW FROM CHARING CHURCH, KENT.



CHARING CHURCH, KENT.

The picturesque village of Charing, in Kent, is situated about five miles from Ashford. Besides some interesting portions of ancient domestic architecture, there are considerable remains of a monastery or some such building adjoining the church. The latter structure is a large handsome building, but affords very little worthy the architect's remark besides the window represented above; this is in the south aisle, and appears with its square head, rather out of place. It is very large, being 6 feet 2 inches from the sill to the springing. Notwithstanding the decorated character of some of the tracery, I consider the date of the window must be placed in the late period of Gothic architecture. The window is very roughly worked, the design is ingenious, and the effect of it is very good. The church contains some of its old carved benches, with ornamented ends, but these, as well as the font, are not rich enough in character to be worth engraving.

worth engraving. The most singular portion of the interior is the roof, which is Elizabethan; the collar beams are richly carved, and a corbel ornament, like double consoles, is placed at the angle formed by the beams and the rafters. The whole is painted black and white, looking very odd and quaint. C. J. RICHARDSON.

THE NATIONAL GALLERY.

ARBANGEMENT OF PICTURE GALLERIES GENERALLY.

FRW buildings have received a greater share of abuse, just and unjust, than this last luckless effort of poor Wilkins, by which his life was embittered and his death accelerated. Mr. Eastlake, as we stated last week, has now taken the field against it, and, in a letter to Sir Robert Peel, points out its defects as a repository of pictures, and urges that a more suitable building ought to be obtained. The evils he points out are comprised under the following heads :--

"The inconvenient arrangement, or disposition, of some of the rooms.

Insufficient space for the due exhibition of even the present collection of paintings.

Insufficient room for the accommodation of those desirous of studying in the Gallery.

Want of offices.

The imperfect system of ventilating and warming the rooms." With regard to the disposition of the rooms,

With regard to the disposition of the rooms, it will be seen, by a reference to the plan (Fig. 1), which, through Mr. Eastlake's kindness we are able to introduce, that the two small rooms

A and B are ill-calculated for a public exhibition, chiefly from having each but one door, serving for ingress and egress. "The visiters thus passing and repassing are met by the additional streams ascending the staircase, or returning from the principal apartments: the threshold of the gallery is, consequently, often obstructed.

In summer, the effects cannot but be injurious to the pictures, which are exposed in a confined space, at once to a moist atmosphere, and to clouds of dust. Under such circumstances they appear to require cleaning daily (as often as the rooms are swept): this, it is almost needless to say, would be unsafe; and even the frames could not be so frequently dusted without injury to their appearance. The more effectual remedy required is proper ventilation."

As to remedy: —"Shortly after the present gallery was opened, it was proposed to throw the two rooms, A and B with the intervening passage, into one; the stairs would then have partly divided the space, as in the centre room at the British Institution, Pall Mall; but this arrangement, though it would be more convenient in some respects, would much reduce the space for pictures, since two walls would be thus taken away. If, therefore, this alteration was ever ad-

If, therefore, this alteration was ever advisable, it cannot be considered so now; want of space being an actual and increasing difficulty. For the same reason, doors could not be opened at C, D, without reducing the surface now hung with pictures by four times the extent of one of the spaces.

The communication between the larger rooms appears to be unobjectionable, as the doors, though single on each side, are of ample width. Nothing seems to be gained in a public gallery by two doors in the same side of a room, unless one of them is made to serve for ingress and the other for egress, and this would be an injudicious restraint in a picture gallery, where the visiter should be allowed to wander freely and retrace his steps as he pleases. It is also to be remembered that, in general, every door is twice the amount of its dimensions, deducted from the surface of wall available for the arrangement of pictures." The gallery is much too confined for its

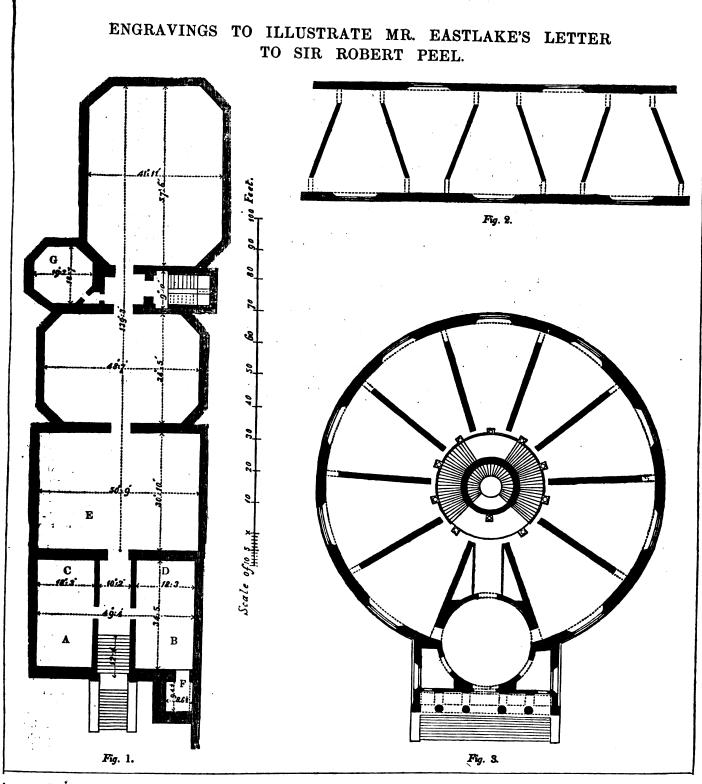
I need hardly observe that it is not desirable to cover every blank space, at any height, merely for the sake of clothing the walls, and without reference to the size and quality of the picture. Every specimen of art in a national collection should, perhaps, be assumed to be fit to challenge inspection, and to be worthy of being well displayed. It is hoped that there is little danger of pictures being purchased for the nation which will not bear this test; although the case may be sometimes different with regard to donations.

although the case may be sometimes different with regard to donations. The arrangement of pictures, with a view to their analogies of style, comparative merit, and dimensions (though unfettered by the considerations which must sometimes interfere with the placing of works of art in modern exhibitions), is an undertaking of no small difficulty. Some opinions on this subject, and on the modes of lighting picture galleries, are here submitted.

leries, are here submitted. Lofty rooms should, I conceive, be appropriated chiefly to large pictures, or to pictures with large figures. The upper part of the walls can be thus only properly filled. The space which may remain underneath, in such rooms, is not the fittest for cabinet pictures; although there may be sometimes examples, especially by Italian masters, which might be advantageously so placed. But small, elaborate, Dutch and Flemish pictures should, perhaps, in no case be far removed from the light of which the windows, wherever they may be, are always to be considered the source.

The fittest place for the windows, whether in the roof or in the wall, is a question on which much difference of opinion exists. Some are inclined to think that a skylight (always supposed to be furnished with ground glass, or with moveable blinds) is desirable for all pictures. This seems to have been Rubens's opinion; for Algarotti states that the museum which the great painter built for himself at Antwerp was circular, with a single light in the centre of the roof. But if a skylight be the fittest, it should still, for the reasons before given, not be too far removed from cabinet pictures, which require a strong light to exhibit their delicate gradations of chiaroscuro, and the beauties of their execution. Indeed, in a climate like this, and with the effects, moreover, of smoke to contend with, there should always be a superabundance of light; and whatever has been deemed necessary in this respect in the best lighted continental gallerics should be rather exaggerated in London. The form of the arched ceiling, next the skylight, is important with reference to this object. The flatter the curve (as tend-

THE BUILDER.



ing to efface the upper angles of the room), the greater will be the quantity of light reflected from it. In the new gallery at Munich this advantage, it appears, is more than counterbalanced, in the large rooms, by the great height of the curve itself, which has

the great height of the curve itself, which has the effect of removing the source of the light too far from the pictures. The inference which the foregoing state-ment seems to warrant is, that rooms of equal height are not advisable for large and small pictures; that, supposing a skylight to be the fittest on all occasions, elaborate cabinet pictures, in order to be near the eye, and, at the same time, near the light (for both condi-tions are essential), must be placed in less lofty rooms. This, it is admitted, might involve architectural difficulties. The problem of proarchitectural difficulties. The problem of pro-viding high and low skylights on the same floor (if desirable to have them on the same foor) would not be solved by adopting the form of the ancient basilica, or that of a church, in which the nave is much higher than the aisles; for the greater elevation of the central room would intercept a considerable portion of light from one wall at least of the side galleries. The diminution of light from the interruption of over-topping walls and chimneys may be

seen in the National Gallery, on comparing the different sides of the principal room; that where the celebrated painting by Sebastian del Piombo hangs is always the darkest, owing to the masses of brickwork above the opposite side. It would appear needless to say that a skylight for pictures should be free and uninterrupted, but the frequent violations of this condition prove that it may be forgotten. Supposing the rooms to be on the same floor,

Supposing the rooms to be on the same floor, but of unequal height, the best mode of ensur-ing the uninterrupted light in the smaller gal-leries would be to place the latter not parallel, but at right angles, or abutting endwise against the higher building, at the same time contriv-ing that connecting corridors (in which draw-ings might be placed), should have the effect of removing such smaller galleries still further from the higher neighbouring walls. If, again, the rooms should not be required to be on the same floor, there would be no difficulty whatsame floor, there would be no difficulty whatever in ensuring a perfectly uninterrupted sky-

light in every case. The well-known advantage of a skylight is, that the spectator, when near enough to in-spect a picture, is not dazzled by the source of the light; the picture is illumined, but the light itself is unseen. There is a mode in which

this end can be attained in a great degree, even with a lateral light. It was proposed some years since by Professor Magnus, of Berlin, but I am not aware that it has been anywhere adopted. A paper which he pub-lished on the subject at Vienna (in November 1839), contains the plan which is here copied,

Figure 2. He supposes a room so constructed to be at least five-eighths of its breadth in height; its least five-eighths of its breadth in height; its length to depend on the number of paintings to be placed in it; windows, reaching nearly to the ceiling and about five feet from the floor, are opened on both sides. The width of the windows, he proposes, should be a fourth of the breadth of the room, and also of the piers between them; screens are then intro-duced, placed at an angle of 62° with the wall, as shewn in the plan. The pictures to be placed on the screens require to be removed five or six feet from the wall; the useless space serving for doors of communication. In such an arrangement it will be seen that the spectator must almost turn his back to the window in viewing the pictures on the screens.

window in viewing the pictures on the screens. This principle is, unquestionably, best adapted for a circular building, since the oblique screens would then present no archi-

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tectural irregularity, but would be in their symmetrical direction as radiating from a centre. The circular design of Professor Magnus is contrived according to the annexed plan, Figure 3.

Here again he supposes the windows to reach nearly to the ceiling. The extent of the screens from the external wall towards the centre would be regulated by the light, leaving a circular space in the centre for staircases. Opposite each window a statue is supposed to be placed; other details are sufficiently explained by the plan. The same contrivance would be available for more than one story, and might be combined with the employment of a skylight in the uppermost room."

This plan Mr. Eastlake considers to be the least objectionable mode in which a side light can be employed, although fitter for modern exhibitions than for a national gallery. "Nevertheless, it is fair to state that the side light, even with the picture-walls or screens at right angles to the main walls, and without reference to a circular plan, has its advocates. The directors of the Galleries of Dresden and Berlin (Baron de Friesen and Dr. Waagen) both recommend it. It has even been adopted at Berlin and (for modern pictures) at Dresden. The arguments in favour of this opinion seem to be inconclusive. Dr. Waagen, in a letter addressed to me in November, 1840, observes, "that kind of light which the painter considered the best for the execution of his work must also be the best to see it in." To this it may be replied "that, if a picture be painted with a side light from the left (and this is nearly always the case), we have only to show it with a side light from the right, to reverse all the advantages arising from this consideration. It may be added, that in the practice of historical, portrait, or still-life painters, the necessity of lighting the model or object to be copied, advantageously, is still more important than that of light ing the picture. A somewhat elevated light is by no means favourable."

"On the whole I see no reason to alter the opinion which I expressed on a former occasion," viz., that the window or source of light by which a picture is seen, and the picture itself, ought not both to come within the range of vision at the same time. This general condition may comprehend the side light under the restrictions before alluded to; but it may be safely asserted, that a light from above, if sufficiently abundant, is always the fittest for large pictures. With respect to the colour of the walls on

With respect to the colour of the walls on which pictures are to be hung, it may be observed that a picture will be seen to advantage on a ground brighter than its darks and darker than its lights, and of so subdued a tint as may contrast well with its brighter colours. The choice of that tint should, I conceive, be regulated by the condition of its harmonizing with the colour of gold, with which it is more immediately in contact; but this is not all; supposing the most advantageous hue to be employed for the wall, it is not to be concluded that boards painted of that hue will have a satisfactory effect. The refined and harmonious tones of pictures, and the soft splendness, or at least by a certain finish, in the appearance of what surrounds them. The whole question is of less consequence where painings are numerous enough nearly to hide the walls; but while the latter make a considerable part of the impression on the eye, that impression is not to be neglected."

We have given this portion of the letter at length, because the best arrangement of picture galleries is one of considerable interest and is still matter of dispute.

The want of room for the accommodation of artists and others copying in the National Gallery is then pointed out, and the conclusion is arrived at that a larger building is already absolutely necessary. "It is not for me to offer any suggestion as to the fittest place for such a building, but there are certain conditions which, with reference to the preservation of pictures and other requisites, should be borne in mind in selecting a locality.

The main question seems to be, whether

* Report on the mode of lighting the Randolph Gallery at Oxford,

it is desirable that a National Gallery of pictures should be in the heart of the metropolis, or in the suburbs. In the first case it is more accessible to the public at large-undoubtedly a strong point in favour of such a view. As suming such a situation to be the fittest, it would, I consider, be expedient to provide against the injurious effect before adverted to, of a sooty atmosphere. This inconvenience, looking to the experiments of Dr. Reid, could certainly be prevented; and it appears that the means employed to prevent it would not at all interfere with the light, as the circulation of air would be independent of the windows. is admitted that the evil in question—the accu-mulation of soot, would not be materially lessened (depending, as it does, on the direction of the wind) by selecting a site on the out-skirts of London; and therefore the precau-tions recommended would still be necessary, wherever the building might be, since it could in no case be very remote. But light and ven-tilation, if not freedom from dust, would untilation, if not freedom from dust, would undoubtedly be more secured by avoiding the thickly-inhabited parts of the metropolis.

In the event of a central situation being preferred, it might be a question whether the present gallery could be enlarged, as there is considerable space on the north side. I need not inquire how far it might be possible in that case for the skill of the architect to adapt the building to a larger plan; but to combine such an object with a sufficiently symmetrical design would perhaps be scarcely compatible with the existence of the present exterior. Abundant space is, at all events, necessary; for it is most desirable that the plan, however apparently comprehensive, should be capable of extension. This is one of the fortunate circumstances attending the site of the British Museum.

This last requisite would doubtless be more easily attained by removing to the suburbs. Hyde Park has been mentioned in Parliament as a fit situation. Supposing this site to be adopted, its advantages might be combined, as far as possible, with the condition of vicinity to public thoroughfares, by selecting the immediate neighbourhood of either of the roads that bound the Park."

Mr. Eastlake terminates his excellent letter with the expression of a hope that the National Gallery, while rich in the works of the great masters, may, by degrees, merit its designation in another sense, and that a portion of the new edifice may be dedicated to the reception of the best works of the British School. Mr. Eastlake has already done much to advance British art; unless we are greatly mistaken, he will soon be in a position to do more, and we have no doubt will avail himself of it to the follest extent.

ELY CATHEDRAL.

A CORRESPONDENT of the Athenæum said last week :--- "As you sometimes take notice of the repairs and improvements which our national architecture is undergoing, I thought some account of the present state of Ely Cathedral might not be unacceptable to you. When I visited Ely a year or two since, I could not help lamenting the serious dilapi-dations which the cathedral was daily undergoing, and the worse than useless repairs which in several places evinced a feeble attempt to arrest them. Every part of this edifice, which in splendour and extent hardly yields to any in the kingdom, has from time to time, failen under the degraded taste of ignorant economy, and instead of repairs accomplished in the spirit of architecture, we had brickwork in the place of stonework, pointed tracery under Roman arches, and Italian doorways inserted side by side with windows filled with zig-zag mouldings, and in the vicinity of the triumphs of Alan de Wal-singham. The work of restoration has at length I hope fallen into competent hands, and the present dean, whom your scientific readers will at once recognize under the more familiar name of Professor Peacock, has commenced the labour of restoring this noble edifice with a zeal to which its various interests entitle it.

When I entered the cathedral last week, I was surprised by the sound of masons, carpenters, cranes, and pulleys. In the choir a chaffern-fire was burning, tall scaffold-frames were standing near, and three or four workmen were rubbing and polishing pillars of Purbeck marble, while others were stopping the holes and gaps which had been perhaps wantonly hacked upon them. Outside the windows which light four sides of the celebrated lantern, several masons were busily engaged, and the south-western transept, where all the grandeur and solidity and variety of the Anglo-Norman architecture seems concentrated, was literally crammed with masons at their labours.

These are signs of better things. The endowments of Ely have been on a princely scale; but the conservators of its church seem to have been more than usually negligent. The puritan ordonnance commanding the destruction of images did much to despoil Ely, especially the admirable tabernacle work of its tombs and chapels, but on the whole it has perhaps suffered more from the neglect, or even the activity of its friends, than the bar-barous policy of its enemies. From the western porch to the east windows it is covered with one universal coat of stonecoloured with one universal coat of stone-coloured wash, if we except the six pillars of the ante-choir. These are of light-coloured Madrapore marble, and support some of the richest arch-work conceivable, all blunted and discoloured with ochrey wash. The whole of the choir has submitted to the same degradation, so that it was hardly suspected till lately that the pillars supporting the lower arches, and the slender shafts of the triforium with the foliated brackets and columns which sup-port the groining of the roof and the string-courses dividing each story, were all of beautiful Purbeck marble. Several of the shafts have been cleaned and polished, and those dividing the lancet lights of the east window are to follow. As in most of the other works of this period the Purbeck marble has only been partially used, the rest of the work conbeen partially used, the rest of the work con-sisting of quatre and trefoil ornaments, the moulding of arches, and the principal part of the clerestory being of Ketton stone and clunch. We cannot suppose that economy dictated this partial use of marble, when we see such unsparing richness in other parts of this cathedral, but are forced to appeal to some other motive, which may perhaps be suggested in the extreme darkness of the Purbeck marble, which, while it pointed out its partial use in connection with a lighter material, seems to have prevented its adoption for entire buildings oy giving them too dark and mournful an appearance. Associated with white, or nearly white stone, it gives distinct-ness to that fine gothic work which is some-times apt to be overlooked in its minuter parts; and when the degrading lime-wush, under which the sharpness and character of the choir at Ely is lost shall be removed, it may be readily conceived how admirable the colour as well as the clearness and design of this part of the cathedral will appear. The mouldings, foilage, and ribs have been so drenched by the brush and lime-pail that they appear as if they had emanated from a worn-up mould, whereas originally they must have presented the sharpest lines and finest contrasts.

Formerly the eight lancet lights that occupy the east end of the choir were filled with painted glass, which the parliamentary commands of the Commonwealth caused to be destroyed. Bishop Sparke, who died in 1833, left in his will a sum of money to be expended on their restoration, and they are to be forthwith commenced, as well as the four windows which occupy the alternate sides of the octagon. The effect of these, if properly executed, may be conceived by those who are acquainted with the purity and beauty of the architecture by which they will be accompanied. T. C.

ZINC THREAD.—The Moniteur Industried announces that an important discovery in the manufacture of zinc thread has been effected by M. Boucher, who, after many essays, has at length been able to produce zinc threads of any diameter, of great suppleness, and presenting all the qualities of an excellent metal thread. In all cases where a great tension is not required, this thread can be substituted with advantage for that of iron, brass, or copper. The price of zinc has doubled during the last few years, but, notwithstanding, M. Boucher vends his thread at a lower price than the galvanic iron thread, and considerably less than brass thread.

CONTEMPLATED IMPROVEMENTS IN WHITECHAPEL AND SPITALFIELDS.

THE fourth Report of the Metropolitan Improvement Commissioners has been published during the past week. It bears date the 23rd of April, 1845, and refers exclusively to the present defective communications in the locality of Whitechapel and Spitalfields. The report states that "all the houses

The report states that "all the houses required for the proposed improvement in Spitalfields have been purchased and pulled down; that advantage has been taken of the present state of the ground to build, throughout the whole extent from Spitalfields Church to the Thames, a sewer of large and ample dimensions, for the drainage of that district; and that it only remains for the commissioners in whom the execution of the improvement is In whom the execution of the improvement is vested to take the customary measures for the letting of the ground, in order to make it available for all the purposes at present con-templated by the legislature.

It is alleged, however, by the local com-mittee, that the objects for which this improvement was originally devised and recommended to Parliament are at present but imperfectly fulfilled. They advert to the existing communications between the immediate vicinity of Spitalfields Church and Shoreditch; they allege that if the line of street already formed is to be the main channel of communication between the Docks and the north and north-western portions of London, such outlets as these would be wholly inadequate to the exigencies of its increasing traffic; and they urge that, for purposes so important to the trading and other interests of the dis-trict, its northern terminus should be at once extended to the nearest leading metropolitan thoroughfare, and thence to the great leading commercial communications of Old-street and the City-road.

From the evidence appended to the report of the Select Committee of 1840, the ultimate expediency of this extension would appear to have then suggested itself; and a plan for lines of street from Spitalfields Church to the terminus of the Eastern Counties Railway in Shoreditch, and thence to the junction of the City-road and Old-street, to have been prepared for, and discussed by that committee. The estimated net cost of the first-mentioned of these improvements was 40,2091., and of the second 112,000%, upon the lines of which a plan is annexed to this report. Your Majesty's Commissioners have had

before them and examined Mr. Pennethorne, by whom these estimates were prepared and submitted for the consideration of that committee. Mr. Pennethorne, as the surveyor of the Commissioners of your Majesty's Woods, is intrusted with the superintendence of the various metropolitan improvements under their direction; and having since acquired extensive experience in the valuation of property in this district, he adheres to the opinion then expressed, that the ultimate cost to the public would not exceed the sums respectively mentioned.

Upon an attentive consideration of the reports and the proceedings of the several select committees on metropolitan improvements hereinbefore referred to, and after very careful inquiries instituted on the part of this commis-sion, your Majesty's Commissioners are of opinion that the communications in the eastern portions of the town are still exceedingly defective; that, in continuation of the improvement now in progress, the lines at present before them suggested the best and the least expensive that can be adopted; and that, ulti-mately, for the completion of that improve-ment, it may be found expedient to carry both of them into execution.

From the statements submitted to this commission by the parties whose memorials are appended to this report, your Majesty's Com-missioners are also fully disposed to believe that the same lines would effect a great amelioration in the general condition of the district

lioration in the general condition of the district through which they would be carried. But looking to the pressing circumstances more immediately suggested for their con-sideration, in connection with the line of street leading from Whitechapel to the front of Spitalfields Church,—to the very narrow

* A committee of the district of the Tower Hamlets, for watching the progress of Metropolitan Improvements in that neighbourhood,

and defective thoroughfares which at present form its northern terminus; to the near ap-proach of the period at which it will be opened for the reception of traffic; and to the ob-vious disadvantages under which, both on that account and until its final character and destination be decided, the letting and appropria-tion of the ground throughout the whole line of this improvement must be conducted,your Majesty's Commissioners are of opinion that the first portion of the plan suggested to the Select Committee of 1840, is that which calls for the more immediate attention of Parliament.

They recommend, therefore, that out of any moneys to be hereafter raised as a fund for metropolitan improvements, provision should be made for the completion of a line of street from Spitalfields Church to the station of the Eastern Counties Railway in Shoreditch, according to the plan and estimate referred to in this report."

OUR KNOWLEDGE OF CURVES.

SIR,-It appears that " elementary outline," and "geometrical forms" are a part of the instruction, or should be so, of the "School of Design." This, coupled with the "general consideration of geometrical figures," and the "discussing the properties of the *oval*" by the "Decorative Art Society," noticed in "THE BUILDER" of last week, induce me to direct attention to "the September of and "geometrical forms" direct attention to "the Septenary system of generating lines by simple continuous motion." The very word "oval" shews clearly the

want of information, and your beautiful engraving of the "Mausoleum of the Orleans Family," although made from a Daguerreotype plate, which no doubt was correct, shews us clearly that either your draughtsman, or engraver, or both, have the general incorrect idea of the representation of circles in different positions.

Much may be said, and ought to be said, on lines, as elementary instruction, both for design and construction. On the right line-the circle—the ellipse—the parabola and the hyperbola—the archoids—the cypoids and the cycloids. On the different characters the cycloids. On the unerent characters of varying lines, without contrary flexure, as well as on those variously and beautifully inflected and waved lines, which together, are the very A B C of design, and the mine for true lines of beauty; and on the simple means by which so many of these can be so easily traced.

The necessity for knowing practically something more of curves is becoming more obvious, and it will be found strictly true, that geometry is the true foundation of all that is graceful in outline, and the origin of true curves and correct taste in ancient art.

The elementary principles of the septenary system for producing curved lines upon a plan are few; viz., a point, a right line, and a circular line, the simple elements of geometry.

When any object in nature is seen most perfectly developed, what is more common than to say, in admiration, how mathematically correct !

It must not be supposed that it is considered every artist ought to be a mathematician, as word is more particularly understood. that The equation of a curve will not give an ar-tistical feeling to the consideration of a line; but, on the contrary, greatly increase the labour of investigation in that respect, when compared to the simple mode of knowing a curve (as you know your friend) by appear-ance, and by the method by which it can be traced.

The Geological Society, it appears, sprang from a small beginning,—a meeting at Dr. Babington's : and from a meeting to discuss the proportions of a few curves may arise a society for collecting information on the various characters of lines, the simple modes by which they may be traced, and their ap-plications to designs in every department of art. I am, Sir, &c.

JOSEPH JOPLING. 29, Wimpole-street.

THE PRESIDENT OF THE ROYAL ACADEMY. -Sir Martin A. Shee, in consequence of the state of his health, has resigned the office of president of the Royal Academy.

LIST OF NEW PATENTS RELATING TO ARCHITECTURE, ENGINEERING, &c... GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-Inn Fields.

[SIX MONTHS FOR ENROLMENT.]

Richard Prosser, of Birmingham, civil engineer, for improvements in the manufacture of metal tubes, and in the machinery and apparatus for producing the same. May 1.

Charles Attwood, of Bishop Oak, near Walsingham, Durham, esquire, for certain improve-ments in the manufacturing of iron. May 3.

William Radley, Laburnam-terrace, Kingsland-road, engineering chemist, for certain improvements in the production of gases, and for their application to purposes of general illumination, and in the apparatus and machinery to be employed in manufacturing, measuring, and distributing the same. May 3.

James Foreman, of Ranelagh-road, for certain improvements in the construction and manufacture of pipes and tubes applicable to

locomotive purposes, and to the conveyance of water, gas, and other fluids. May 6. Charles Wheatstone, of Conduit-street, is-quire, William Fothergill Cooke, of Kidbrooke, Blackheath, esquire, for improvements in electric telegraphs, and in apparatus relating thereto, part of which improvements are appli-cable to other purposes. May 6. Joseph Hill, of Ipswich, wire-worker, for improvements in the manufacturing wire fabrics for blinds and other uses. May 6.

for blinds and other uses. May 6.

George Duckett Barber Beaumont, of Sandy Combe Lodge, Twickenham, Middlesex, for improvements in propelling carriages. May 8,

Improvements in propelling carriages. May 8. William Prosser, jun., of Pimlico, Esq., and Jacob Brett, of Hanover-square, gent., for improvements in railways, and in propelling railway carriages. May 10. John Mellar Chapman, of Newcastle-upon-Tyne, banker, for improvements in the manu-facture of rails, and other parts of railways. May 10.

May 10. Frederick Ransome, of Ipswich, engineer, for improvements in combining small coal and other matters, and in preserving wood. May 10.

Thomas Wells, of Ware, whitesmith, for improvements in the construction of timber

and other jacks and floor cramps. May 17. Alexander Mc Dougall, of Daisey Bank, Manchester, gentleman, for certain improvements in the method of working atmospheric railways. May 17. Louis Antoine Ritterbrandt, of Gerrard-

street, doctor of medicine, for certain improvements in the application of heat to boilers for generating steam, which improvements may be

and applied to other purposes where heat is required. May 17. Henry Deacon, of Eccleston, for improve-ments in apparatus for grinding and smoothing plate glass, crown glass, and sheet glass. May 22.

eremiah Simpson, of Burslem, oven-builder. and Joshua Seddon, of the same place, earthenware manufacturer, for an improved method of constructing the flues and interior arrangeof constructing the nuce and interior manufac-ments of ovens and kilns used by manufac-turers of china and earthenware. May 24.

turers of china and earthenware. May 24. Richard Fell, of Crown-street, Finsbury, plumber, for certain improvements in the generation and application of steam, and in ob-

taining and applying motive power. May 24. Julius Adolphus Detmold, of the city of Joinus Adoiphus Detmoid, of the city of London, merchant, for improvements in the construction of metallic boats and other vessels having curved surfaces. May 24. John Constable, of the city of London, merchant, for certain improvements in the manufacture of gas for lighting and heating. May 24.

May 24.

William Prosser, jun., of Pimlico, esquire, and Jean Baptiste Carcano, of Milan, gentleman, for improvements in working atmospheric railways. May 24. Henry Pinkus, of Great Marlborough-street,

Middlesex, esquire, for improvements in ob-taining and applying motive power to impelling machinery. May 24. John Masters, of Welford, Leicester, gen-tleman, for certain improvements in trouser

fastenings, and in attaching the same, and also in the application of an elastic material or fabric to trousers and other articles of dress. May 31.

APATHY OF GOVERNMENT AS TO LOCAL IMPROVEMENTS.

THE Westminster Review, in an article to which we have already referred, remarks justly:—" It is yet but imperfectly understood that the test of all good government is local improvement. The spirit of British legislation is not comprehended by judging of it exclu-sively from the debates of the House of Commons. An intelligent foreigner visiting this country would find the data he requires less in the newspapers than in the streets. What is the true end of all social institutions but the social interest? What other meaning should have state policy, that that the people consti-tuting the state should be well fed, well clothed, well lodged, well educated, and well protected from every calamity that human prudence can avert? A walk from Whitechapel to Westminster, and a few inquiries by the way, will explain to a stranger how far this object has been effected better than whole volumes of Hansard; and yet so little are the practical results of legislation thought of, that when two noblemen, a year or two back, accompanied Dr. Southwood Smith to Spitalfields, to see with their own eyes the state of the poor, the fact was noted at the time as a marvel, and rather as a work of supererogation on the part of lawgivers than as a branch of duty. The reports of numerous commissions of

inquiry have awakened a general expectation of extensive measures of usefulness connected with home administration; but the little that has yet been done shews to a lamentable extent how far more engrossing are questions of party conflict, and the old worn out theories of diplomacy, than any consideration of prac-ticable benefits to the people, which might be realized by government almost without an effort.

Here are we, two millions of human beings, Here are we, two millions of human beings, crowded upon a little spot five miles square, whence, as from a mighty heart, an impulse is communicated to every corner of the globe;— inhabitants of a city which, from its influence in human affairs, will be remembered when even Rome shall be forgotten; and what does this government of ours, or the statesmen com-posing it,—busy with the cares of an empire upon which the sun never sets,—do for us ? Occupied with the regulations of Hong Kong, and the defence of British interests on the banks of the Columbia,—what share of the watchful vigilance of a British cabinet is enjoyed by us, here, on the banks of the Thames in the streets comprising two hundred and fifty-one thousand houses round St. Paul's ?

To answer the inquiry would be only to afford another illustration of the aptness of a large portion of mankind, while taking the warmest interest in the affairs of their neighbours, to forget the maxim of 'look at home.' But we doubt whether the history of the world would afford an example of the capital of a great nation more neglected in the national councils, less indebted to government aid for its growth and progress, as a place of civilized abode, than London.

In ancient times metropolitan improvement was an object for the ambition of kings. The was an object for the amotion of kings. The glory of their capital was considered as their own. 'Is not this great Babylon that I have builded?' was an exclamation of pride, but of pride not unreasonably directed; and if Baby-lon corresponded with the description given of it by Hordcrus we may pardon the invulse of it by Herodotus, we may pardon the impulse of vain glory which turned the brain of Nebuchadnezzar. Egypt found in its Pharaohs,-Athens in a Pericles,-Bome in a succession of emperors,-architects and sculptors devoted to great structural works of public utility and embellishment of their native cities; Eng-d only a George the Fourth. To no other the land only a George the Fourth. To no other British monarch does it appear to have occurred that great kings might be less worthily em-ployed than in planning streets; or that if palaces and churches were worth building, their environs should be something more than a mere province of brick ; and of late few per-sons of high influence or station appear to have troubled themselves with a thought about the matter. The royal patronage of Nash was the stimulus to which we may trace almost every improvement of importance since projected, or now being carried into effect. Regent-street, and the Regent's-park, created a taste for a better disposition of streets and buildings than had before existed, or than had then been commenced in Somers-town, and esta-

blished the precedent to which we owe the entire renovation of many parts of old London, the palatial magnificence of Eaton and Belgrave-squares, the improvements on the estate of the Bishop of London, and the more varied and picturesque squares and crescents of the

Kensington-park estate at Notting-hill. Since the death of George the Fourth, Government has taken no share in the initiation of corresponding measures; but the impulse given has been sustained by the public, and in some instances reluctant consents have and in some instances reluctant consents have been wrung from chancellors of the exchequer in aid of the general movement. The apathy, however, of Government upon all questions connected with either municipal organization or structural improvement, has been shewn during the present session in the debates upon public cemeteries, the window duties, and various important suggestions of the sanitary commissions; and is exemplified by the history of the private bill now before the House for a new line of street between Westminster Abbey and the Vauxhall Bridge-road. We allude to the bill lately introduced with the sanction of the Metropolitan Improvement Commissioners; and which appears likely to be the first fruit of their three years' deliberation. This bill is only to give effect to a project *twenty years* old, and which obtained the recommendation of a committee of the House of Commons as far back as 1832. Fifty thousand pounds (for which a dozen different projectors have been quarrelling) are to be voted in aid of the line; and this is all that Government has done from that time to the present for the improvement of Westminster, south of Pall-Mall, beyond rebuilding the Houses of Parliament on perhaps the worst site that could have been found in England for a similar edifice; a mistake has led to more money being sunk in which the mud of the river to secure a foundation than would have purchased the fee-simple of the whole mass of ruinous third and fourth-rate tenements between Millbank and Buck-

ingham Palace. It is singular that the immediate neighbourhood of royalty should be the worst built, and the worst drained district of the metropolis, and yet, now that St. Giles's has disappeared. so it is; and streets of infamous reputation, which it is scarcely safe or prudent to traverse even in open day, form the only avenues to Westminster Abbey, from Belgrave-square and Buckingham Palace.

A Government that would tolerate the Almonry at its very doors cannot of course be otherwise than indifferent to the state of Wapping, Rotherhithe, or Spitalfields; and we need not wonder that the promise of a Thames embankment has hitherto proved illusory. Inno other capital in Europe are the approaches of a noble river built up to the water's edge. To throw its banks open to the public between Blackfriars and Westminster bridges less money is required than would suffice for any one of the two hundred reilwoods now hofers one of the two hundred railroads now before Parliament; and Government cannot devise the ways and means. While perplexed with this difficulty, it can yet spend its millions to maintain the balance of power in Syria, to frighten Russia from Affghanistan, and coerce the ameers of Scinde into a respect for treaties.

At the present moment we are told that British interests require protection on the banks of the Columbia, nine month's sail from Greenwich. We complain not that such protection should be afforded, but lament that none can be spared for Greenwich itself, one of the suburbs of the metropolis. And yet what Londoner would sacrifice Greenwich Park for all the prairies in the Oregon territory, or Shooter's Hill for the whole range of the Rocky mountains? It will be happy for Eng-land when the physical and moral wants of her people shall obtain a tenth part of the attention which statesmen have hitherto bestowed upon the conquest and defence of distant and profitless dependencies. London in its most fashionable localities, west of Regent-street, gives but a faint indication of what the whole metropolis might become, and with it every town in England, if the duty of promoting public health, and of checking all abuses of local administra tion were made cabinet questions, in lieu of many others which absorb the time and energies of party leaders.

The imaginary difficulty of providing funds for local improvements is only an evidence of the want of earnestness in the will to provide

them. The local revenue of the metropolis, derived from rates and trust estates, for public objects, is three millions sterling ! Of these funds we believe a sixth are now wastefully or uselessly applied; but whether a sixth or six-teenth, no Government gives itself the trouble to inquire, and the existing municipal organization of the metropolis, with its innumerable vestries, boards of commissioners, perpetual churchwardens, and irresponsible trustees, its parishes of twenty houses, and parishes of twenty thousand houses,—each parish with its separate staff, and its separate Acts of Parliament, establishing different laws in different streets,--remains to this day a scandal to the legislation of the nineteenth century."

Correspondence.

NICHES IN BRICKWORK.

SIR, — I am employed as foreman of bricklayers on a rather extensive building, where four brick niches are required to be executed in gauged work. They are to be semicircular on the plan, each three feet in diameter, and the heads are to be semicircular likewise : consequently they will form, when done, a quarter of a globe. Now, never having been called upon to execute such a work as the above, I am rather at a loss how to proceed properly with it. Perhaps some one of your numerous correspondents will be so good as to undertake to inform me, through the medium of your excellent paper, how I am to get the moulds, and the proper method of execution, so that I may be able to make a good and neat I am, Sir, &c., P. W. iob of them.

SETTING OUT RAILWAY CURVES.

SIR,-Can any of your numerous corre-spondents inform me of the general method adopted in setting out a railway curve, and the rule by which the curve is found upon the ground ?—and oblige, Sir, Your obedient servant.

AMATEUR.

Miscellanea.

DISCOVERY OF A STONE COFFIN AND SKELETONS.—On Thursday week the work-men employed by Sir Wm. S. R. Cockburn, men employed by Sir Wm. S. R. Cockburn, bart., and Sir Henry Rivers, in making the new road between St. Stephen's and St. Saviour's church, found a tumulus; and, beneath a domed arch, of rude but substantial masonry, there was a stone coffin, containing portions of a skeleton, and surrounded by nu-merous bones. This is square in form, hewn out of a solid block of sandstone, resembling that so plentifully abounding on Farleigh Down, and must have been occupied by a person of good stature, the excavation measur-ing five feet eleven inches, and the entire length being about seven feet. The dead was enclosed with a massive stone cover; and further security was afforded by a valited arched chamber, reared above the coffin, the top of which was only 18 inches beneath the surface. The workmanship of the entire sepulchre was rude, but of a massive description; the arch alone contained two waggon-loads of stone, while the weight of the coffin could not have been less than one ton. only facts which can lead to a conjecture as to the date of interment, are the discovery of a coin lying on the top of the coffin, and of a spur which was found close to one of the adjacent skeletons. The coin has been examined by Mr. Harris, of Southgate-street, by whom it is pronounced to be the third brass coin of the Emperor Valens, A.D. 328, and U.C. 1081. It was found beneath a fragment of Roman brick, and had apparently been placed in this position as a clue to any who might in after days light upon the tomb. The coin and brick have been placed in the Museum, Terrace Walk. The entire spot apparently abounds with the decaying traces of human mortality. We are informed that no fewer than thirty skeletons, or fragments of skeletons, have been brought to light. Many of these were perhaps interred in wooden coffins; this we infer from the fact that large iron square-headed nails lay among the bones. The remains have been re-interred not far from the spot in which they were discovered .- Bath Chronicle.

CHURCH DECORATION .- Long before the eign of Charlemagne, the custom of painting the interior of churches was already diffused among the Gauls, and a curious passage of the poet Fortunatus* would seem even to prove that there prevailed a sort of emulation between the ultramontane and the national artists, or those of barbarian origin. The accession of Charlemagne, however, gave a fresh stimulus to the fine arts through the whole extent of his empire; the mission of inspecting the churches and the paintings made part of the attributions of the royal envoys who surveyed the provinces. Every recorded fact conspires to prove that the artists of this school, so far from being the imitators, more or less servile, of those of Byzantium or of Italy, as is sometimes asserted, had the advantage over these two countries in giving free scope to their own powers of cultivation, unencumbered with the load of old traditions which had so long impeded the progress of the ultramontane artists. Hence it is that the Byzantine and Italian productions, from the ninth to the thirteenth centuries will not sustain a comparison with the contemporary works of the Germano-Christian school, which was at once more happy in its processes, more pure in the choice of its forms, and more fruitful in inven-tion. In short, its tendency was rather historical than mystical. For the most part, the stirring scenes of the Old Testament were pre-ferred for representation in the decorations of manuscripts, as well as in those of churches and palaces. The synod of Arras, in 1205, had in some sort consecrated this direction, already so conformed to the national taste, by declar. ing that painting was the book of the ignorant who could read no other; thus the characters of this popular writing, as it may be called, were multiplied to infinity, in all dimensions and under every variety of form, insomuch that the magnificence and multiplicity of this kind of ornaments ere long induced the monks of Citeaux, in their pious simplicity, to believe it their duty to signalize as a perilous abuse the constantly increasing luxury displayed by the bishops, in rivalry of one another in decoration of the temples. About the end of the tenth century, two important discoveries were made, namely, the fabrication of tapestry for the adornment of churches, and the art of painting on glass. The glory of the last dis-covery entirely belongs to France; and assuredly it did not less contribute to the development of modern art, and to the majesty of Catholic worship, than to place the imagi-nation of the Christian in a state of prayer beneath the mysterious charm of that uncertain light which is so favourable to holy contemplation .- Dolman's Magazine.

PROSPECTIVE REDUCTION IN THE PRICE BUILDING MATERIALS. - Mr. Charles OF Lindley, the owner of five stone quarries in the neighbourhood of Newark, stated last week, before the House of Commons' Committee on the London and York Railway, that Mansfield stone in London and rork Railway, that Mansfield stone in London was now 31s. 2d. per ton; and the cost of it, if it were conveyed by the proposed railway, would be 24s. per ton, which would give a saving of 7s. per ton. He had no doubt but that the railway in queetion would be used extensively for the . con· veyance of stone. In his neighbourhood was to be found the best building lime in England; and that lime would, he believed, he conveyed in great quantities to Peterborough, Cam-bridge, Boston, London, and other places by the proposed railway, and at a greatly reduced rate as compared with the existing cost of conveyance. The price of Mansfield lime was now 30s. 7d. per ton in London; the price would be 20s. 10d. per ton if it were conveyed by the proposed London and York Railway; so that there would, in that case, be a reduc-tion in the price of that lime in London to the amount of 9s. 9d. per ton. RCYAL INSTITUTE OF ARCHITECTS. — At an ordinary meeting, held on the 9tb instant, Mr. Kendall, V.P., in the chair, a paper was

read "On Ventilation and the prevention of Smoke," illustrated by Mr. James Kite's appa-Smoke,' ratus. We shall probably print the paper at length next week. By the permission of General Monteith a series of drawings of Indian buildings was exhibited, and will be described at the next meeting.

MAKING CLEAN THE OUTSIDE .--They are cleansing St. Paul's of the soot and dust of many years. Washing won't serve the purmany years. Washing won't serve the pur-pose: walls and pillars are scraped and holy-stoned; the church gets a "dry scrub"—like Nicholas Nickleby when the well was "froze." At this moment the façade resembles nothing so much as one of those portraits, clear carnation on one side of the face, and smirched with asphalt on the other, which dealers in paintings expose to shew how well they can store" pictures. Of course, the dean " restore" pictures. Of course, the dean and chapter know too well the maxims of their own religion to rest satisfied with mere external purification; the cleansing outside is only typical of a more thorough scrubbing to be begun within. And within there is an cumulated dirtiness, of which the outside smoke and weather stains give no idea—the dirt of mammon-rusted souls. The buyers who were scourged out of the temple did not venture to make the privilege of seeing it a matter of purchase and sale. The only person on record who sought to earn something by shewing the view from the pinnacles of the temple was one whom the dean and chapter would scarcely venture to take into their service. And yet what was never done in the temple of the Jews, except by the Devil him-self, is daily practised by the servants of a Christian cathedral. The dean and chapter pay their menials, as tavern-keepers do, by permitting them to levy contributions on visitors. At the threshold of St. Paul's, at every landing-place on its stairs, in every dim gallery, the luckless visitant is attacked by some extortioner in the shape of an old man or older woman. Even during the reading of prayers these semi-ecclesiastical showmen continue to gather pence in the aisles. It will be a most unchristian act in the dean and chapter to spend so much money in making clean the outside of the cathedral, if a few wheelbarrows are not hired at the same time to carry away this moral muck from the interior. - Spectator.

THE NEW ROYAL GARDENS .- We learn from the United Gardeners' Journal that the new royal garden at Frogmore, the formation of which was begun in the spring of 1842, is at length completed. The space within the boundary walls, which are twelve feet high, comprises an area of twenty-two acres; there is also an inner wall of the same height, distant about a hundred feet from the former, and extending round three sides of the enclosure, the north side of which, for the space of nearly a thousand feet in length, forms the site of a magnificent range of metallic forcinghouses, &c. which have been recently erected by Mr. Thomas Clark, of Birmingham. Each wing of this extensive range consists of a spacious vinery in the centre, one hundred and two feet nine inches in length, two peach-houses, each fifty-six feet eight inches long; two pineries, each fifty-three feet; and a green-house, fifty feet: the latter forms the terminus of the wing, the various divisions of which communicate with each other by means of five intervening corridors or lobbies, each of which is seven feet long. It is said that this assemblage of horticultural buildings combines every valuable improvement which has been introduced during the last half century, amongst which are contrivances for ventilation, which are at once simple and original by the turning of a small windlass (which a mere child may do) it is said any quantity of air may be introduced, and increased or diminished at pleasure, over the whole interior surface of the buildings. The total length of the entire line of buildings, when completed, will be 936 feet, or 312 yards; an extent which, for a single range, is believed to be without a parallel in the horticultural world. Relative to the system of ventilation adopted we should be glad to hear more.

A COMPETITION FOR YOUNG ARCHITECTS The committee of the Hull Mechanics' Institute are making extensive preparations for a grand polytechnic exhibition, to be held early in the month of August next. With a view to encourage emulation, they have offered various premiums; among them is one of 21. for the best architectural drawing, plan, elevation of a public building." All the or elevation of a public building." All the productions sent in for competition should be original, and will be on view during the time the exhibition remains open.

ON BUILDING-RUBBISH AS MANURE.-The rubbish of clay, lime, or stones, obtained by the repairing or pulling down of old buildings, may be used to advantage as a manure, espe-cially if derived from buildings which were tenanted by either men or cattle; because in that case it will contain saltpetre and ammoniacal salts, as these are always formed where animal putrefaction and decomposition animal putrelaction and accomposition is going on. Previous to being carried on the field it must be well mixed, broken in small pieces, and freed from large stones; it is also to be protected from much rain, which would soon extract the saltpetre and the ammoniacal salts. The amount of lime, loam, and even gypsum, which it contains constitute its value, well as regulate the quantity which is to be brought on a certain area. At times it may be advantageous to mix the rubbish with humic earth in a compost-heap, in which case it must be well broken to pieces and sifted. A still better manure is the rubbish of burnt-down buildings; because it consists of wood-ashes, soot, much ammonia, saltpetre, lime, gypsum, roasted and burnt clay, &c. It is to be broken into small pieces, freed from wood, stones, &c., and soon used, else it would lose some of its ammonia.

ST. JOHN'S COLLEGE, NEW ZEALAND.— An attempt is being made to raise, by subscrip-tion, funds sufficient to erect of solid and enduring materials the fabric of St. John's Col-lege, Bishop's Auckland, New Zealand. It that, in consequence of the low is estimated price of building materials in the colony, re-quisite buildings of stone can be erected for 5,000*l*., including theological college, collegiate school, native teachers (adult) school, native boys' school, infants' school (including orphan asylum), and hospital. OXFORD ARCHITECTORAL SOCIETY. — At

OXFORD ARCHITECTURAL SOCIETY. — At the annual meeting of the Architectural Society, held last week, the Master of the University in the chair, a paper was read by Mr. Sewell, of Exeter College, on the Early Ecclesiastical Antiquities of Ireland. The report of the society was then read, from which it appears that the society is strictly reaclyed to confine itself to its proper duties resolved to confine itself to its proper duties and not suffer itself to be seduced, like a kindred society, into matters irrelevant and controversial.

NOTICES OF CONTRACTS.

We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our resders however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For executing Works on the Leeds, Dewsbury, and Manchester Railway, being a distance of about 44 miles. The principal work on this division is the summit Tunnel, near Morley, which is upwards of 3,000 yards in length.

For the execution of a New Harbour at Greenock.

For the supplying of certain Mines in Cornwall, for twelve months from Midsummer next, with Norway Timber, half Dram and half Longsund, of good quality and average length. The probable quantity required is 710 loads.

For building the intended Somerset County Lunatic Asylum.

For the construction of Two Divisions of the Chester and Holyhead Railway, being Nos. 8 and 12. No. 8 contains a length of 7 miles and 54 No. 12 contains a length of 5 miles and chains. 26 chains.

For the erection of a Building in London for a highly patronised purpose, at the estimated cost of about 30,000/.

For supplying from 3,000 to 4,000 cubic yards of Broken Gurnsey Granite or other hard stone, for the repair of the Roads of Regent Street, White-hall, &c., and for 1,500 yards of the same material

for the repair of the Albany Road, &c. For the erection of a Governor's House, and alterations of the Chapel, at the Worcester County Gaol.

For supplying the St. Marylebone Vestry, with materials for keeping the Foot-way and Carriageway in order.

For the several works contingent on Warming and Ventilating the Chester Castle County Gaol. building

For excavating and levelling Land, For excavating and leveling Land, building Sewers, making a new Road, &c., on the Wheatley Estate, Erith, Kent. For Bricklayers', Carpenters', Smiths', Plumb-ers', Painters' and Glaizers' Works, required to be done for one year, from the 24th instant at the

done for one year, from the 24th inst., at the Churches, Chapels, Court-house, &c., of the Parish of St. Marylebone Google

 [&]quot;Quod nullus veniens Romană gente fabrivit Hoc vir barbarică prole peregit opus." Lib, ii. Carm 9.

[•] For lowering and making certain Improvements at the Yeuston Hill, Henstridge, Somerset.

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For laying down a short Line of Railway, upon Pilbrow's Atmospheric principle, and for two Cornish Engines.

For Building Sewers in Bartholomew-close and Carthusian Street, within the City of London.

For erecting New Buildings and repairing others, on the farms belonging to the Trustees of the Denston Estate, at Wickhambrook, near Newmarket, Suffolk.

Market, Sumoik. For Plumbers' and Glaziers' Works, at the Hackney Union Workhouse, for one year, from the 24th inst.

For Building a New Parsonage House, at Castle Cary, Somerset.

For Building a Poor Girls School, Mistress's House and Offices, in Wells Street and Short Brackland, Bury St. Edmunds.

COMPETITIONS.

Designs for houses to be erected at Dover. The ground is nearly seven acres in extent, and lies on a gentle slope between the south-west boundary of Dover Castle and the town. A premium of fifty guineas is offered for the set that may be most approved of.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

The timber and other trees now standing upon the estate at Woodscaves, Salop. By order of the Lord Chancellor made in the cause "Dickin v. Barker."

At Letts' Wharf, Commercial Road, Lambeth; 150 Loads of Oak Timber, 20 Loads of Oak Scanting and Plank, 40 Loads of Elm Timber and

Boards, &c. At the Sussex Arms, Brandon, near Coventry; several thousand prime Oak Trees, and a quantity of Planks and Quarterings.

At Brandon, near Coventry: several Thousand prime Oak Trees, and a quantity of Planks and Quarterings.

BY TENDER.

A Virgin Forest of Valuable Timber in Walachia. The principal part of the Trees is Oak. The said Forest may produce about 500,000 cubic feet of Timber.

At Little Bentley Hall, Essex : several Acres of Plantations, consisting of superior Firs, Larc Spruce, &c., to be taken down by the Purchaser. Larch.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, June 16. — Statistical, 11, Regent-street, 8 P.M.; United Service Institution, White-hall-yard, 9 P.M.

TUESDAY, 17.—Linnæan, Soho-square, 8 P.M.; Civil Engineers, 25, Great George-street, 8 P.M. WEDNESDAY, 18.—Microscopical, 21, Regent-street, 8 P.M.; Eihnological, 27A, Sackville-street,

8 р.м. THURSDAY, 19. - Royal, Somerset-house, 81

P.M.; Antiquaries, Somerset-house, 8 P.M.; Numismatic, Somerset-house, 7 P.M. (anniversary), SATUBDAY, 21. — Asiatic, 14, Grafton-street,

TO CORRESPONDENTS.

"W. Ray" is wrong in considering that the Metropalitan Improvement Society in longer ex-ists; the office of the society is in Bedford-street, Covent Garden.

Covent Garden. "J. F."—We shall be glad to see one of the popers of which our correspondent speaks. If shall be affely returned if unsuitable. "Suggester."—The site of the Fleet Prison is

and considered large enough for the proposed new Completer. See report of Committee in Times of 11th inst.

"J. K."-We have received our obliging correspondent's paper, and will give it early attention. "C. M. J.";

"C. M. J."—Shall appear next week. "Abram L." differs from our correspondent Col. Mason, and directs attention to the brickwork and "truly beautiful." "A Church for Postage Stamps."—In reference

A UNUTED FOR THE POSTAGE Stamps."—In reference to a paragruph under the head of "Absurdity," which appeared in "THE BUILDER" a fortnight since, a correspondent offers 51. worth of postage stamps as his contribution, if the statement be really true

stamps as his control of the stamps as his control of the stamps of the the injuations proposal to build out of order of the minster Abbey, and prevent its isolation for many years, has forwarded to us a petition proposed to be presented to the House of Commons. It lies at "THE BUILDER" office for signatures.

"T. J. M."-We shall probably print his let-ter next week, notwithstanding his request.

"Iron Cement."-A correspondent wishes to know how to form the best and most durable iron

cement for joints. "H. J.'s" inquiry has not escaped us; it will be answered in an article next week. "W. H." came too late for consideration this

week.

week. "H. F." query "F. H."—We are obliged to our old friend for his suggestions, and will give them due consideration. "Window Cleaning."—"W. C." thinks the bowl of hot water would be found troublesome, and recommends the use of the wash-leather, and disuse of whiting. After washing the window, the leather must be squeezed nearly dry, and used for nolishing the glass.

the tearker must be squeezed nearly ary, and used for polishing the glass. "Mr. D." (Mornington Place).—We shall be glad to see some of the subjects mentioned, and to know what arrangement is desired. Received: "A Mason."—"A Bricklayer."— "G. Wood."

*** We are unavoidably compelled to postpone "Geometry of Brickwork," "History of Art by its Monuments," "School of Design," (Constant Reader), and several other articles, for which the respective writers must pardon us.

ADVERTISEMENTS,

TMOSPHERIC RAILWAY, Daily at Work, carrying visiters, at the ROYAL POLY. TECHNIC INSTITUTION. This interesting Model is lectured on by Professor Bachhoffner at One o'clock daily i o'clock, and on the evenings of Mednedsys and Fridays at Eight o'clock, and on the evenings of Mondays, Tuesdays, and Thursdays at Nine o'clock. The working of the Model always follows the Lecture. It is also worked at Four o'clock, and at other convenient times. The other interest-ing Works and popular Lectures as usual. Admission, 1s.; Schools, half-price.

BED FEATHERS .- DUTY FREE.-BED FEATHERS.-DUTY FREE.-HEAL and SON have reduced the price of Foreign Feathers the amount of the duty, and they can now offer-Best White Dantzie 2s. 10d. | Best Foreign Greys 2s. 0d. Irish White Goose 2s. 0d. | Irish Grey Goose. 1s. 0d. Best ditto 1s. 0d. Poultry....... 1s. 0d. List of prices of every description of bedding sent free by noat.

by post. HEAL and SON, 196, opposite the Chapel, Tottenham-court-road.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagona, octagona, &c., dif-devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS.STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, blac-clesfield-street, South, City Basin. The TLERHES, TUNSTALL, STAFFORDSHIRE, are mean the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the color nies and elsewhere.

nies and elsewhere.

PAINTING BRUSHES OF SUPERIOR QUALITY. TO PAINTERS, BUILDERS, &c. J. J. K E N T A N D CO., MANUFACTURERS, 11, GREAT MARLHOROUGH-STREET, LONDON, Offer to Painters, Builders, &c. Painting Brushes of a quality far superior to those generally offered for sale, to which they beg to call the attention of all who prefer quality and durability to apparent cheapness. 000000.-7 in. dutto, extra. 00000.-7 in. dutto, extra. 00000.-7 in. ditto, extra. 00000.-7 in. ditto, extra. 00000.-7 in. ditto, extra. 1000.-6 Ground Brushes. Plasterers' Brushes. Distemper ditto. Ground and Unground. Sash Tools, and Common Tools. Tar Brushes and Masons' Brushes, and of all other Brushes used by Painters and Artists. Lists of Prices of Painting Brushes, and of all other kinds of Brushes, forwarded on application. Established 1777.

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Filow Oker Fowder, Os. and Bs. per cvt.
Fine Powdered Oxford Oker, 21s. and 28s. ditto.
Ditto, ditto, in Oil, 36s. and 42s. ditto.
Crome Yellow, 6d., 10d., and 1s. 4d. per lb.
Spanish Brown, 6s. per ewt.
Stockholm Tar, 19s. per bar-rel.

rel. Gas Tar, 9s. ditto. Lamp Black, 20s. per cwt. Glue, 42s. and 48s. ditto. Green Copperas, 6s. per cwt.

Linseed Oil, 2s. 4d. per gal- | Yellow Oker Powder, 6s. and

Ion. Boiled ditto, 2s. 10d. ditto. Turpentine, 3s. 3d. ditto. Turpentine Varnish, 3s. ditto. Paper Varnish, 12s. and 16s.

Turpentine Varnish, 3s. ditto. Paper Varnish, 12s. and 16s. ditto. Gold Size, 8s. ditto. Best ground White Lead, 26s. per ewt. Second ditto, 23s. ditto.

Third ditto, 20s. ditto. Putty, 8s. 6d. ditto. Patent Driers, 42s. per cwt. English Umber, 8s. ditto.

English Umber, 8s. ditto. Green Copperas, 6s. per cwt. And every description of dry and ground Colours, Var-nishes, &c. CROWN GLASS, price as at the Manufactory; BIUSHES, at Makers' prices. The Anti-corrosion Paint for every description of outside work, resisting all kinds of damp, and it never blisters or peels off; it has now stood the test for the last sixty years, and has been used by the Government in most of the Colonies and Dock-yards, having received the approbation of the Hon. Board of Ordnance, and other public bodies, at the LONDON COLOUR, LEAD, GLASS, OIL, and VARNISH WAREHOUSE, 27, Coleman-street, City. ** Country Orders must be accompanied with a re-mittance, or reference for Psyment in London.

TO BUILDERS AND OTHERS requiring Scantling, Quartering Deals, Battens, Sawn athing, will find a large quantity for Sale at OLEMENT'S ARD, Horse-ferry Branch-road, Commercial-read East.— by letter, to Mr. HARTLEY, 13, York-terrace, Commer-al-road. Scantling from 1d. per foot.

BATH STONE. E. WELLER, of STEEL-YABD WHARF (late Dreve's), begs to inform Stone Merchants, Contractors, &c., that he can supply them with best FARLEIGH-DOWN STONE on lower terms than ever before offered. — Depdt for immediate supplies, DRUCE'S WHARF, Chelsea.

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KING'S-ROAD, CHELSEA. HAWORTH and Co. beg to represent to Builders, Engineers, and the public generally, that, having made considerable improvements and additions to their Premises, and conducting their business on economical principles, they are enabled to offer CASTINGS of every de-scription at least 10 percent. below the price of any other boose in town. Brass Castings, Builders' Smith-work, Borgings of every description ; Paliading, Railing-front, Bleony-rail-ing, Verandahs, Bell-hanging, and all other iron-work, exe-cuted with the greatest despatch, and st exceedingly low prices. prices.

TO ARCHITECTS AND BUILDERS,

TO ARCHITECTS AND BUILDERS, DOOR SPRINGS AND HINGES. GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Raing Hisges for the convenience of Doors opening on unsven Floors. Like-wise Swing Centres, which consist of a combination, of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all pe-spectable ironmongers in the United Kingdom.

TO ARCHITECTS, ENGINEERS, BUILDERS, AND OTHERS

OTHERS. AND OTHERS. A HANDSOME DOUCEUR, or a Re-gular Commission, will be allowed by the advectage to any gentleman connected with either private or public works, who would recommend business, contracts, or jobs to an old, extensive, and highly respectable factory in London, capable of executing engineering works to any extent consisting ha brass or iron, and machinery of every description; the ut-most secrecy may be relied on.-Apply to D. G., care of W. THOMAS, British and Foreign Advertising Agent, 31, Ca-therine-street, Strand.

VARNISH.—It has long been a desideratum amongst the consumers of Varnish to obtain a good and genuine article; brilliancy, facility of drying, hardness, and durability are the qualifications necessary, but these are seldom if ever found united. The experience of a life-time devoted exclusively to the manufacture of this article, the great and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled Messars. George and Thomas Wallis to produce Varnishes (both ail recommend them to the trade, as deserving of notice both in price and quality. Builders, Coachmakers. Painters, and others may depend

price and quality. Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unadulterated article. Fine Oil Varnish, from 10s. per gallon; best White Spirit Varnish, 21s. ditto; Rest Spirit French Polish, **39s**. ditto; White Lead, Oil, Turps, and Colours of every description at the very lowest prices.—WALLIS'S Varnish, Japan, and Colour Manufactory, 64, Long-acre, one door from Bow-street. Established 1750.

WALLIS'S PATENT LIQUID WOOD WALLIS'S PATENT LIQUID WOOD KNOTTING. - This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis bare the satisfaction of introducing to the trade, possesses the im-portant qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and dis-figuring the paint above. Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much plea-sure in offering to the public an article so long and anriously called for.

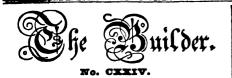
called for.

called for. In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require hest.

Sold wholesale and retail, by Messra. G. and T. Wallis, arnish, Japan, and Colour Manufacturers, No. 64, Long cre. Price 20s. per gallon.

TO ENGINEERS, ARCHITECTS, AND BUILDERS. PATENT METALLIC SAND CEMENT. TO ENGINEERS, ARCHITECTS, AND BOILDESS. DATENT METALLIC SAND CEMBNT. The Metallic Sand, from its chemical qualities, forms, when mixed with blue lias line, a metallic curnant of great strength and density; the iron, which is one of its principal constituents, combining with the bed in which it is deposited, and communicating to it a greater degree of hardness than can be obtained by admixture with any other known material. Concrete and mortar in which the metallic sand has been used are more durable than any other, continuing to indurate with time, and not being affected by damp, otherwise than by increasing in hard-ness from the orydation which is thereby occasioned. Employed as a cement to turn water from brickwork in tun-nels, savers, and other underground works, the Metallic Sand is found cheaper, and from its eminent athesive qualities to form a more solid and hydraulle body, is com-bination with the brickwork, than any other ement at present known; and in all cases the Metallic Sand is found the beast a rich stone-colour without the aid of paint or tim tof any kind, does not vegetate, and is entirely free from cracks and blusters, and continues to improve both in appearance and blusters, and continues to improve both in appearance for with confidence to works in which the Metallic Sand blus the durability dergosure to the weather. The Proprietors refer-with confidence to works in which the Metallic Sand has been extensively employed as concrete and mortar, specified in the prospectus, where also will be found refe-rences to very extensive creations which have been stuccoed with the durability end by the fourd street's and the static event.

Further information will be given, and specimens shewn, on application to Mr. C. K. Dyer, 4, New Broad-street; and at the Metallic Cement Wharf, King's-road, opposite Pratt-street, Camden New Town



SATURDAY, JUNE 21, 1845.



AST week we examined the Majesty by Sir Henry De la Beche and Mr. Thomas Cubitt, chiefly so far as it related to the fail of the

mill at Oldham, appending thereto, some general suggestions of great practical importance with which the report concluded. Relative to the former, however, we omitted one remark which should not be passed over; and that relates to the far too common custom of placing the boilers of steam-engines within the factories themselves, rooms filled with the workers being above them.

The Commissioners say justly, they consider this mode of placing the boilers (adopted chiefly to make the most of the space), very objectionable, remembering the accidents which have happened in such cases through the carelessness of the engine-man, or from imperfections in the boilers or the pipes connegted with them. "Where the boilers so placed are near the street, as was observed to be the case in a factory now erecting in Manchester, the danger of loss of life is increased, since accidents from explosion may not only cause the death of those employed in the factories, but of those passing in the street. This is a point to which we would earnestly request attention when Building Acts may be under the attention of the legislature."

Mr. Hodgkinson, in his evidence, pointed out several instances in point wherein considerable loss of life was caused.

We proceed to extract that part of the report which refers to the failure of the part of the prison at Northleach. It appears that an addition having been considered desirable for the purpose of containing six prisoners, a plan for a small building was prepared by Mr. Fulljames, the county surveyor for Gloucestershire, and a contract to execute the works was entered into by Mr. Thomas Haines, of Cheltenham :-

"The building was to have been 28 feet long, 25 feet wide, and 22 feet high, divided into six cells, 13 feet by 7 feet, having stone walls, with brick arches for ceilings. The arches covering the lower cells were 44 inches thick, rising 10 inches in a width of 7 feet. The uncertainty of the lower cells were 44 inches thick, rising 10 inches in a width of 7 The upper arches were 9 inches thick feet. with the same rise. The height of the cells on the ground floor to the crown of the arch was 9 feet 3 inches, and in the upper floor 9

feet. The building was commenced in the middle of May 1844, and carried on until the accident on the 13th of November, when the whole had so far advanced, that the upper arches were finished, and a covering of concrete laid upon them.

According to the evidence of Mr. Pugh, clerk of the works, the lower arches were finished when the building was up one story, and the upper arches were constructed when the walls were sufficiently high, which was about the 7th of September. The arches were built with mortar.

There were no ties or braces across the arches of the lower story, but two iron ties, each divided into three portions, crossed the upper arches, so as to divide their length into three equal portions. These ties were fastened to the side walls, and those dividing the cells, by means of iron plugs sunk into large stones, and secured into them by lead, the plugs coming through eyes or holes at the end of each portion of the ties. The ties were

placed above the arches. The arches are described as having been put in during good weather, but subsequently much rain prevailed and soaked through the concrete above the arches and through the latter, so that the whole was in a wet state.

THE BUILDER.

A crack was observed on the north-east corner of the building, at the latter end of October, and this was watched. It would appear that at the beginning of November the arrangements for tying the upper arches were considered, under all the circumstances of the case, insufficient; for orders were given to insert other ties which should connect the side walls through the springing of the upper arches. It was while John Aust, a mason, was employed making a scaffold for preparing holes to pass braces or ties across the building on the 13th of November, that he considered the arch above him unsafe, and before he went to his breakfast he marked it, to see if it were settling. On his return, he saw that the arch had sunk a quarter or half an inch, and of this he apprized the clerk of the works, who called off the men from their labour. This was scarcely accomplished before the six arches fell, and fortunately without injury to those employed on the building. We attribute the fall of this small addition

to the House of Correction at Northleach partly to the insufficient arrangement of the iron ties, placed too high for the strain, and partly to the want of protection of the building from the long continuance of wet weather, the rain having softened and partially washed out a portion of the mortar of the arches. From these circumstances, and the wet and uncon-solidated state of the walls, there was no sufficient cohesion of parts to resist the general pressure, the walls were forced so far out as to permit the upper arches, with their load of unconsolidated concrete, to fall on the lower arches, and these readily giving way, the six arches were destroyed, leaving the walls in a But for the effect of the rain damaged state. the arches would probably not have fallen."

It is due to the architect to state, as it appears in evidence, that the contractor was bound to protect the building from the weather, and that the ties were not placed at the spring of the arch because they would then have appeared in the cells, which was highly objectionable.

The erection of fire-proof buildings, by means of iron-girders and brick arches, is becoming general, especially in Manchester and Liverpool, and it is of the utmost consequence that sound information on the subject should be disseminated. "The increase of fire proof buildings at Manchester," says Mr. Fairbairn, "has been steadily progressive in this district for the last thirty years, and I have no doubt, as the security and durability of these structures are better understood, that a much greater increase will take place; and that eventually every description of public building, and probably dwelling-houses may be constructed fire-proof.

At Liverpool, they have commenced building the warehouses fire-proof, and I can see no reason why the principle should not be ex-tended to almost every description of building, particularly public edifices, such as the Houses of Parliament, Royal Exchange, &c., which, in my opinion, should have been constructed cast-iron beams and arches, and made with perfectly secure from fire.

Generally speaking, I am averse to legislative interference with the industrial resources of the country, but in cases such as cotton mills, and large public buildings, wherein numbers of people are congregated, the utmost caution should be observed in the structure, and probably it might add to the public safety as well as the security of property, if some controlling power was at hand, to advise and correct mistakes, in which the most perfect and well meaning are sometimes involved.

The greatest danger, however, arises, not from any desire to save expense, but from funcied security in people trusting either to their own knowledge of subjects they do not understand, or, what is still worse, to the gross ignorance of mere pretenders, whose position and opportunities for information precludes their advancement in either theoretical or practical science.

A knowledge of the strength of materials, and particularly of cast-iron, is but imperfectly understood; it is a subject which requires great labour and deep research, and even with those who have devoted the greater part of their lives and fortunes to these inquiries, it not unfrequently happens, that their labours are not always appreciated by those whom they are intended to serve; when I use the word ap-preciate, it is not in the sense that individuals and the public are indifferent to the value of such discoveries; but the force of prejudice, and attachment to preconceived notions, which in many cases are absolute imperfections, induce many to forego considerations of this kind, and to shut their eyes against demonstrative truths, calculated on the one hand to save considerable outlay in the cost of material, and what is of much greater importance, the security of life and property on the other.

As respected the arrangement of columns, beams, and tie-rods, it was impossible to lay down rules which would provide for every contingency. Mr. Fairbairn observed "that in fire-proof buildings for manufactories, the sectional area of the tie-rods should not be less than three square inches for every 20 feet in the width of the mill, and for warehouses and similar buildings five square inches will be a fair average proportion.

The walls should, in my opinion, never terminate with less than two bricks thick on the top story, and for every two floors downwards the increase should be an additional half brick, including an extra thickness of 41 inches in the walls of the ground floor. For factory purposes the above proportions will be quite sufficient, but for warehouses and other buildings calculated to sustain heavy weights, an additional half brick in thickness to every story, terminating at the top with two bricks as before, will insure perfect safety. With these proportions, care must, however, be taken to flush or grout the walls; using at the same time the proper bond, and spreading the base of the foundations to at least one and a half times the thickness of the walls in the bottom story."

To shew the importance of scientific knowledge, it will be sufficient to mention, that a beam with a single flanch at the bottom thus 1, which will support a weight equal say to 1,000, may be broken if reversed and the flanch put upwards, thus T, with a weight equal to 340.

"It is well known, or it ought to be known, to every person giving instructions for the form and construction of iron beams, that the strength is nearly a proportional of the sec-tion of the bottom rib or flanch; and, according to Mr. Hodgkinson's experiments, a bottom flanch of double the size will give nearly double the strength.

These facts having been proved by direct experiment, it is important to all those concerned in the construction of fire-proof buildings, in which the lives of the public and the property of individuals are at stake, that the form of beams and the section of greatest strength should be perfectly and thoroughly understood ; and, to those unacquainted with the subject, we would beg to refer them to Mr. Hodgkinson's paper on the strength of iron beams, in the fifth volume, second series of the 'Memoirs of the Literary and Philosophical Society of Manchester.'"

In every description of arch supported by iron beams, it is essential to have the tie-rods as low as possible; it is generally inconvenient to have them in the line of the chord of the arch, or at the bottom flanch of the beam, but they should never be higher than the soffit of the arch.

The strength of cast-iron columns is very little understood by builders; they use them of certain dimensions, because they have been used before of that size and have not failed; the difference in their strength which is found

when one end is rounded instead of flat, or when a column is not exactly perpendicular, with many other points of the greatest consequence, are seldom considered.

Mr. Hodgkinson in the report before us gives the following results of a number of experiments made by him on the strength of castiron pillars. The experiments were made by means of a lever compressing the ends of the pillar, which stood upright between two flat surfaces of hardened steel always parallel to each other.

"lst. It was found that a long pillar, with its ends flat and perfectly immoveable, was about three times as strong as another of the same dimensions with the ends rounded, so as to be capable of turning as on a universal joint. When one end of the pillar was rounded and the other flat, according to the definitions above, the strength was an arithmetic mean between that of the other two. In other words, if three long pillars be formed, all of equal diameter and length, and one pillar has both ends made round, another one end round and one flat, and the third both ends flat, the strength of these pillars will be as 1, 2, 3, nearly.

Some of the pillars with flat ends had discs upon the ends, to give them an increased breadth of bearing; but this, however necessary in practice, added very little to the strength.

2nd. A long pillar, with both ends flat, or firmly fixed, has nearly the same strength as one of the same diameter and half the length, with both ends rounded, as above.

with both ends rounded, as above. 3rd. If a solid pillar, be enlarged in the middle to $\frac{3}{2}$, or upwards, of the diameter of the ends, and taper from the middle to the ends like frustums of two cones, whose bases are united in the middle, the strength will be increased more than the weight of the metal by about $\frac{1}{2}$ of the whole. This will be the case whether the ends are rounded or flat. 4th. Similar pillars. If long pillars be cast and turned perfectly similar, the diameter being to the length in a constant ratio, the strength was found, from a mean of several ex-periments, to vary as the 1.865 power of the

periments, to vary as the 1.865 power of the diameter, or any other lineal dimension. It varies, therefore, nearly as the square, but somewhat lower.

5th. If a pillar with flat ends be so placed, that the pressure it sustains acts diagonally from the extremity of the diameter at one end to the opposite extremity of the diameter at

to the opposite extremity of the diameter at the other, the strength is reduced to one-third, as was proved by several experiments. It is easy to infer, that this is a case ana-logous to that of a pillar with rounded ends. 6th. Relative strength of columns of dif-ferent materials. Representing the strength of columns of cast-iron by 1000, I found the strength in wrought-iron 1745, cast-steel 2518, Dantzic oak 108°8, red deal 78°5. 7th. The properties of columns, enumerated above, apply to such only as have the length so

above, apply to such only as have the length so great that fracture may be considered as having been produced wholly by the flexure of the column. They apply, as appears from my ex-periments, to all cast-iron columns with rounded ends. in which the length is more than 15 times ends, in which the length is more than 15 times the diameter; and to all, with flat ends, in which the length is more than 30 times the diameter, or upwards. If the pillars are shorter than this, fracture takes place partly by flexure and partly by crushing; and the properties are more complicated than as here described.

In reply to the inquiry, "Have you not given formulæ for calculating the strength of cast-iron pillars or columns?" Mr. Hodgkinson said,—I found the strength of long cast-iron columns, with rounded ends, to vary as the 3.76 power of the diameter nearly; and those with flat ends as the 3.55 power of it; the length in each case being given. When the length varied, and the diameter was the same, the strength was inversely as the 1.7 power of

the length, nearly. Taking 3.6 as an approximate term between 3.76 and 3.55, and the co-efficients, as ob-jects.

tained from my experiments, we have, for columns fixed at the ends.

W=44.16 $\frac{D^{3-6}}{L^{1-7}}$ =strength of a solid cylinder.

W=44.34 $\frac{D^{55}-d^{3.5}}{L^{1.7}}$ = strength of a hollow cylinder.

where W is the breaking weight in tons; D, d the external and internal diameter in inches;

and L the length in feet. If both ends of the pillars are rounded, the strength will be $\frac{1}{3}$ of that given by the formula.

strength will be $\frac{1}{2}$ of that given by the formula. If one end be rounded, and one flat, the strength will be 3 of that in the formula. The preceding formulæ are applicable to columns whose length is more than 15 times the diameter, when the ends are rounded; and more than 30 times the diameter, when the ends are flat.

If the pillars are shorter than as above, they will be crushed as well as bent; and the value of W will require to be modified by the fol-

$$W' = \frac{W c}{W + \frac{3}{4}c'}$$

where c is the weight which would crush the pillar, in tons, if it were so short as to be broken without flexure. To find c multiply the arca of the section of the pillar in inches by 49; since the iron I used (the Low Moor No. 3) required 49 tons to crush a prism of it where here were back severa " it whose base was 1 inch square."

Mr. Hodgkinson considers the mean crushing strength of cast iron 47 tons per square inch, and that this is on the average, six and a half times the force necessary to tear the body asunder; the tensile strength being 7.2 tons per square inch nearly.

In conclusion, we congratulate the commissioners on the quantity of valuable information which they have brought together in their report, and express a hope that the suggestions made by Mr. Cubitt may be immediately adopted.

CHIMNEY-SHAFTS FOR BOILER FURNACES.

SCHEDULE F of the Buildings Act, after setting forth that no chimney-shaft (except that of a steam-engine, brewery, distillery, or manufactory) must be built higher than eight feet above the slope, flat, or gutter of the roof which it adjoins, unless such chimney-shaft be built of insured this pass and a forth which it adjoins, unless such chimney-shaft be built of increased thickness, and so forth, says, "And as to the chimney-shaft for the furnaces of any steam engine, or for any brewery, distillery, or manufactory, such shaft may be erected of any height, so that it be built in such manner, and of such strength and dimensions as shall be satisfactory to the offi-cial references upon energial application in each cial referees, upon special application in each case."

In consequence of this, the district surveyors will not permit the erection of any chimney-shaft for such purpose, whether of greater height than that allowed for ordinary shafts or not, without a certificate and instructions from the official referees. The mode of proceeding is to forward a drawing of the proposed shaft to the registrar, and a letter requesting permission to execute it. In reply to this requesting permission to execute it. In reply to this a certificate is granted (on payment of the fees), containing certain instructions. These, of course, vary with circumstances: an examination, however, of a dozen or more certificates of the sort, already granted by the referees, above the following requirements:

topmost five feet in cement. It must be bonded every six courses with

It must be bonded every six courses with hoop-iron lapped at the angles. The base of the footings must be one-half longer than the base of the shaft, and be placed as low as the base of the footings of any adjoining wall or building. If the shaft be square, the height of it must not exceed ten times the length of the side at the top of the footings : if circular, twelve times the lower diameter. The abeft must diminish in size unwards.

The shaft must diminish in size upwards, and be at least one-third less at the top than it

is at the bottom. The projection at head of the chimney, if any, must not exceed three-fourths of the thickness of the brickwork from which it pro-

The shaft must be lined with fire-bricks to the extent of 6 feet at the least above the opening from furnace. The fire-bricks must not be tied to nor made to support the brickwork of the structure, but be removable at will.

The shaft must not be tied to any existing building or wall, and no wood-work must be fixed in or to it.

We have given these particulars in full, not merely to enable those who may have occasion to build furnace-shafts within the limits of the Act, to prepare their plans so as to avoid being called on to make alterations, but that others may have the opinion of the referees as to the manner in which furnace-shafts whether

bere or elsewhere, should be constructed. To the former, it may be useful to suggest, that when they obtain the certificate from the office they should examine how far the instructions given by the referees clash with their own particulars. The district surveyors have determined not to exercise the slightest discretion in the matter, but simply to see the referees, certificate rigorously carried out; so that, for example, should any precautionary measure stated in the applicant's particulars be rendered even obviously unnecessary, by some additional requirements on the part of the referees, unless the former be specially excepted, the district surveyors would insist on the execution of both.

RETROSPECTIVE REVIEWS.

THOUGH the desire for knowledge exists in this age in a degree previously unparalleled, it often occurs that the best sids to inquiry are entirely overlooked. The extraordinary extent, to which a taste for magazine literature has spread, has given an influence to ephemeral publications, which ought rather to have been retained by a literature of standard excellence. A month often suffices to consign a really meritorious work to complete oblivion, and a modern compilation, issued in periodical numbers, has a better chance of obtaining readers than the most original conception of an old author. Even the pursuits of the an-tiquary have received something of the prevailing tone, and researches in progress, and volumes on fine art, damp from the press, excite a larger amount of interest, and are more frequently consulted, than the not less important records of a year gone by. In architecture, as in other sciences, many of the most important doctrines, broached as new, were promulgated in time past; but in this art, whose especial sphere it seems, to create new combinations on a foundation of recorded fact and existing precedent, it does appear mat-ter for regret, that many important old works, and some of late date, exist in an oblivion, from which an affirmation of their merits would be sufficient to remove them. It appears to us not less the object of an architectural journal to preserve the sources of knowledge journal to preserve the sources of knowledge already possessed, than to record the progress of science and art; and we shall therefore endea-vour, from time to time, to call to mind the existence of certain valuable authorities, which, in the active practice of an arduous profession, and the exclusive interest absorbed by recent publications, may have escaped the notice of our readers. Our limits will not allow us to enter very deeply into the subject-matter of works often voluminous and elabo-rate. our object being rather to indicate where rate, our object being rather to indicate where information is to be sought, than to criticise where criticism has already played its part.

D'AGINCOURT'S HISTORY OF ART BY ITS MONUMENTS,

FROM ITS DECLINE IN THE FOURTH CENTURY TO ITS BEVIVAL IN THE SIXTEENTE.*

The influence of the beautiful on the mind of man is exerted in other directions than is evident to the superficial observer, or is manifested in the conceptions of poetry and fine art. Not less the gift of nature than the sense of sight, or the faculty of reason, it is often potent, when other endowments are obscured or debased. The sensibility to melancholy emotions, and the sympathy with misfortune, which intercourse with the world does not entirely remove from the most callous, cherish and renovate the perceptions, and produce works which interest and delight the multitude. The study

* 325 plates, 6 vols. Paris, 1823, (" Histoire de l'Art par les Monumens," &c., &c.)

of history, and the examination of antiquities excite an interest, distinct from the unquestionable advantages that accrue, and the less commendable pursuit of the mere collector. Lapse of time, and evidence of decay associate with the crumbling ruin, or the misshapen fragment, an impression of beauty, which physically they might have failed to excite, and connect the scattered dust of cities with recollections of the fall of empires, and decline of states. The early state of a nation, or the period of abasement, may be not less important in their results than the most brilliant epoch in its progress, and are equally deserving of the attention of the historian. On the 15th of October, 1764, a traveller,

sojourning at Rome, whose name has now become familiar to every Englishman as the come familiar to every Englishman as the name of potentate or general, sat musing amidst the ruins of the Capitol. The sound of vespers rose from the church of the Francis-cans, once the temple of Jupiter; his mind reverted from time present to time past, and the design of writing "The Decline and Fall of the Roman Empire" started to his mind. Years elapsed ere the plan was matured; but the work at length completed the history of the work at length completed, the history of the period, from the most uncertain, became clear and distinct. To this period the atten-tion of other investigators had turned, and it is worthy of notice, that whilst the work of Gibbon traces the history of Rome from the Antonines to the extinction of the empire in the east, and to the time of Sixtus V. in Italy, that of D'Agincourt, on the "History of Art," that of D'Agincourt, on the "History of Art," surveys a period commencing not quite two centuries later; and it seems likely, that as D'Agincourt and Gibbon both visited Paris during the same year, and were both on terms of friendship with Buffon, and other savans of the French capital, that the two authors were acquainted, and that the French antiquary may have gained the suggestion of his work from the Englishman, to whose history he has made reference. The period of the decline of art is taken by M. D'Agincourt to commence at the time of Constantine the Great, in the fourth century, and extends to that of Henry VII. in Eng-land, and of Julius II. in Italy, and of Albert Durer, and Leonardo da Vinci, in the sixteenth. Durer, and Leonardo da Vinci, in the sixteenth. It has of late years met with increased notice, and in Hope's "Essay on Architecture" and in the magnificent work of Mr. Gally Knight has been admirably illustrated. As the fore-runner of the Gothic style it is especially inte-resting. The architecture of the empire, supported under Augustus by the skill of Grecian artists, declined under his successors; laborione, avecution and extravagent decoralaborious execution and extravagant decora-ration were substituted for elegance of form ration were substituted for elegance of form and proportion, till beauty was crushed under a load of riches. The lives of the emperors, rendered contemptible by every degrading vice, admitted of no very healthy influence upon architecture : it became either the outlet to articarearch emilipion or the means of to extravagant amibition, or the means of blinding the populace to their enslaved state. **Ornament** grew over every moulding, colossal dimensions, and difficulties of execution were sought, but not for the proper object of the art

The time of the Antonines was one of temporary quiet, and other emperors left structures of vast extent in every portion of their dominions; but the art of architecture was gradually tending to a decline, and all powers of decoration were exhausted under Caracalla and Diocletian. Constantine destroyed the works of his predecessors to form other buildings, the principal of which were the churches of the new religion. The misfortunes which attended the fall of the empire, overwhelmed the arts in the general ruin. Many innovations were introduced, which, subsequently modified, became important features in Gothic architecture. Such were arches springing immediately from the capitals of the columns, thus used in the basilica of St. Paul, without the walls, the most considerable of the buildings of the fourth century,* and in which the old form and appellation of the basilica, or court of justice, were revived for the purposes of a Christian church. Many of the columns were taken from the mausoleum of Hadrian, and from other edifices, and are of a style of art greatly superior to the rest. At this period, columns were frequently lengthened by an additional member, and subse-

* It was erected by Theodosius, A.D. 386.

quently, in some cases, they were supported on the backs of animals; all these schemes originating in the want of ability or inclina-tion to erect new works adapted to the pur-pose. In the church of St. Agnes we find three stories, exactly like the arrangement of the Gothic cathedral. The lower story has arches springing from the columns; above these is the gallery corresponding with the triforium, and used for the same purposes; and above this, the clerestory windows. The above this, the clerestory windows. The early period in the decline of art is rendered of great interest by the catacombs, in which the early Christians placed the bones of the martyrs, and in which they themselves often found refuge from persecution, and which the subsequent toleration they enjoyed contributed to render of the highest interest, and available for decoration. The catacomb had become more and more like the church, being used for the purposes of worship; and the motives of religion, which drew the early Christians to erect their churches over the graves of the martyrs, produced the arrange-ment of the upper and lower church or crypt, which became so usual at a later date. But the church itself was sometimes in imitation of a sepulchral chamber, as in a church at Ravenna. The church of St. Clement, at Rome, is believed to have been erected towards the close the fifth century, or beginning of the sixth, and exhibits the disposition of the primitive churches: the plan being similar to that of basilicas. The building is terminated by an apsis, where is placed the episcopal chair. The close of the fifth century saw the Goths, under Theodoric, masters of Italy, — some change took place in the style of architecture; but Ravenna, their principal seat, contains no remains which we can call Gothic, if the pointed arch is to be considered the leading feature in that style. The mausoleum of Theodoric is a fine work of construction, but otherwise has a low rank as a work of art. The form of the voussoirs to the arches is cu-rious, and there are similar instances in England. The Ponte Salario, three miles from Rome, was constructed by Narses, in the thirty-ninth year of Justinian's reign, A.D. 565. The prin-ciple of solidity, which has preserved this work to the present time, seems never to have been lost by the Roman architects; but its orna-ments are of such a character as would dis-grace any school of art. The causes of this corruption had been multiplied: the difficulty of finding artists, who had studied the prin-ciples of the fine arts had increased from day to day, till a complete ignorance was the re-sult, and the effect was visible upon all styles of architecture. Another course was the necessity of remodelling old forms to make them conformable to ecclesiastical rites. One of the consequences of the insufficiency of the architects was the transformation of pagan temples into Christian churches: thus the ancient temple built of brick, situated near the circus of Caracalla, underwent this change. The seat of the Greek Government at Ravenna brought the influence of the Greek taste into Italy, and the church of St. Sophia became a model frequently adopted. The church of St. Vitale, at Ravenna, was erected under the ex-archate of Narses, and is remarkable for the construction of its vault, which is formed of pots arranged spirally, each one bearing on the one below it. The tribes which Narses had collected to assist him in the conquest of Italy succeeded about the middle of the sixth century in establishing themselves there. They introduced a style often bearing close resem-

introduced a style often bearing close resemblance to our own Norman architecture, and called the Lombard style. "We have examined,"says M. D'Agincourt, "three stages of decline: the stage first removed from the time of perfection, was characterized by a prodigality of ornament, imprinted with the Asiatic luxuriousness, which produced embarrassment and confusion. The second stage was marked by a forgetfulness and absence of the same ornaments. The third stage, of which we are speaking, is marked by the immoderate use of a multitude of accessory parts, which, far from meriting the name of ornaments, are as reprehensible for the place they occupy, as for their superabundant quality and execution. This last disorder was the general system of architecture, till the establishment in the eleventh century of that other system, to which has been given the name Gothic." The career of

Charlemagne in the eighth century was marked by a fostering care for the arts, and architecture for a moment appeared to alter its whole character; but the change was but temporary. The infusion of Greek taste at Pisa and Venice also passed away: in the latter city the cathedral of St. Mark was erected by foreign artists in imitation of that of St. Sophia. According to M. D'Agincourt, the first indication of the style which afterwards swelled into the Gothic architecture of the thirteenth and fourteenth centuries occurred during the ninth century in the church at Subiaco, near Rome. But Mr. Knight, with more reason, shews there is cause to doubt whether this church is of so early a date. During the first half of this century architecture made some progress, but long before the tenth century, and during the whole of that period, its progress was completely arrested.

swelled into the Gothic architecture of the thirteenth and fourteenth centuries occurred during the ninth century in the church at Su-biaco, near Rome. But Mr. Knight, with more reason, shews there is cause to doubt whether this church is of so early a date. During the first half of this century architec-ture made some progress, but long before the tenth century, and during the whole of that period, its progress was completely arrested. In the eleventh century the art was in a state of activity, for which it was indebted to Greek artists, who were employed in every part of Italy. Many of the churches in Lom-bardy are of this date, and they were cha-racterized by large porches, and alternate courses of different colours. In the twelfth century, the cloisters of St. Paul, without the walls of Rome were built, in which were in-troduced twisted columns of every variety. To this date is also assigned by D'Agia-court, the complete adoption of the Gothic style. In the thirteenth century, Gothic ar-chitecture was the prevailing style. Mr. Knight considers there is no doubt, that the pointed arch first entered Italy in this century from the north; a singular fact, as it had previously been employed for two centuries by the Nor-mans in Sicily. The first church which had been employed for two centuries by the Nor-mans in Sicily. The first church which had any influence upon the style of art in Italy was that at Assisi, which is Gothic in all its parts. The fourteenth century was the period of the principal buildings of Europe, but the Italian architects never caught the true spirit of the style, or overcame the tendency to the horizontal, so inconsistent with the cha-racter of pointed architecture. It was an imitation imported by the people rather than by the artists, and there is perhaps but one building, in which it can be said to have found building, in which it can be said to have found place in Rome. Its most striking feature is marked by the prevalence of the sister art of sculpture, in which the Italians had made greater progress. The style remained in Italy till the close of the fourteenth century, and Brunelleschi introduced a different manner in Brunelleschi introduced a different manner in the fifteenth. The earliest works of the re-vival may be said to bear some resemblance to those of the decline, but greatly surpassed them. The art at once gained a new vigour; and as the Gothic of Italy had not the merits of the style in other countries, we cannot regret the change. Alberti, an architect of refined and educated taste, by his example and precents. hastened the progress, and and precepts, hastened the progress, and under Bramante, in the sixteenth century, a school of Italian architects commenced, which

school of Italian architeots commenced, which has existed till the present time. The work of M. D'Agincourt is a monument of human industry. It is not confined to the art of architecture, but devotes a space, even greater, to sculpture and painting. The progress of the arts is traced, in every change of taste, from the time of Constantine to that of Michael Angelo. There are three volumes of plates, and an equal number of letter-press. The monuments of art illustrated are 1,400 in number. Several plates exhibit the gradual progress of the art, and its decline: one gives a chronological series of arches, and others shew the state of architecture in the east. The Gothic architecture of Sweden, and the Arabian architecture from the eighth to the fifteenth century are illustrated. One plate is entitled "Conjectures on the origin of the pointed arch," and illustrates some curious theories. The comparative forms of detached baptisteries, of the fronts of buildings, of vaults, cupolas, and columns, and the various modes of construction, are very clearly shewn, as well as the styles of Brunelleschi, Alberti, Bramante and Michael Angelo. The life of M. D'Agincourt was spent in the preparation of his great work, of which he did not live to see the publication.

Born at Beauvais, April 5th, 1730, he commenced his career, under the especial protection of Louis XV., in the military profession, but left it at the instance of that king, who determined to place the brothers and nephews of M. D'Agincourt under his care. Devoting himself to the welfare of his family, the amiability of his character, and his taste for the arts, made him sought and cherished in the most distinguished circles of the capital. Having completed the duties he had undertaken, he was free to follow the bent of his inclinations. Desirous of remaining in France, he preferred a responsible post under government at home to employment in a foreign country. His reputation and talents soon drew around him some of the most celebrated men of the French capital and he employed a part of his income in the formation of a cabinet of de-signs, pictures, and antiquities. The study of natural history was not less an object of his attention, and he numbered amongst his friends, Berhard de Jussieu, J. J. Rousseau, Buffon, and d'Aubenton. His wit, and power of amus-ing, made him welcome at all the soirées of Paris; and his more solid attainments recommended him to men such as Marmontel, Saurin, Destouches, the younger, La Harpe, Suard, Morellet, and Voltaire. In fact, the life of M. D'Agincourt is the history of an intercourse during half a century with the most distin-guished men of Europe. Passionately fond of the arts, he cultivated them as a man of taste; he designed and engraved with facility, and was on terms of intimacy with the best artists of his day. The friendships he formed only of his day. The friendships he formed only augmented his ardour in matters relating to the arts, and his desire to learn their history. At length, Louis XV. being dead, be no longer felt any obligation to refrain from the project of travelling through Europe, and especially of exploring Italy. In 1777, he visited England, Belgium, Holland, and part of Germany; after-wards returning to Paris, he remained there till the latter part of the next year, when he started for Italy. He was then forty-eight years of age. Having traversed Savoy and Piedmont, he went to Genoa, and thence to Modena, where he secured the friendship of the illustrious Abbé Tiraboschi, author of the "His-tory of Italian Literature." He then made a stay of some months in Bologna, to examine and delineate the curious monuments in that town, having already conceived the vast pro-ject, which became the object of all his re-searches, and the principal occupation of his life.

In passing through Belgium, Holland, and Germany, M. D'Agincourt had directed his attention to the numerous monuments of Gothic architecture, with which these countries abound. He had studied the march, and traces of art during the "dark ages," and in the midst of bizarro), but often original and bold. In Lombardy and the Venetian country, monuments, more ancient still, appeared to him imprinted with traces of the fall of art from the time of the Greeks and Romans, whilst in those which belonged to the age bordering upon the renaissance he believed he saw the "barbarism" of the middle ages dissipating little by little, and the genius of the arts, like a new Titan crushed under an immense weight, seeking to remove the burden which overwhelmed it, darting through the interval brilliant scintillations, and soon taking a new life, shaking off the dust and rust which over-whelmed it, disengaged from its chains, full of vigour and youth, again astonishing and charming Italy, and returning to the polished world noble pleasures, the most perfect enjoyments, sweetness of manners, and enduring glory. Such were the observations, which gave to M. D'Agincourt the grand, but difficult idea of tracing the history of the arts through the aberrations, into which they had been carried by the removal of the seat of empire to Constantinople-the mixture of Asiatic taste, and the fusion of styles brought, from the north by the Goths, and the south by the Arabs. The thread abandoned by Winckelmann, at the fall of art, had never been entirely broken, and the materials for regaining it might be found amongst monuments, the least important, the most shapeless and fragile, as miniatures in manuscripts, registers and archives, in certain structures, in the bases of more modern edi-fices, and even in the bowels of the earth, in catacombs and labyrinths, whose origin, use, and singular ornaments, have occasioned so many conjectures, and will again occasion so many researches and discoveries. Such was, from this moment, the principal object of the labours, the journeys, and the studies of

M. D'Agincourt. Towards the middle of the year 1779, he visited Venice, and remained with the Abbé Morelli, librarian of St. Marc's library. He afterwards returned to Bologna, but shortly left for Florence, and passed some months in visiting, on foot, different works of the ancients, with a view to discover the systems adopted. In November, he arrived at Rome, where he took up his abode in the house formerly inhabited by Salvator Rosa. Eighteen months hardly sufficed for him to gain a general idea of the ancient, and modern works of art. In 1781, he visited Naples, Herculaneum and Pompeii, Pæstum and Salerno, and at the end of the year returned to Rome. The labours he had undertaken were conducted with the greatest assiduity, and to bring his enterprise to perfection, he spared no labour, no expense; he directed most ex-tensive researches in Italy and the rest of Europe, and had illustrations engraved under his own eyes of an immense number of works of art. In 1782, notwithstanding the representations which were made to him, he determined to make a detailed examination of ancient catacombs. Besides those previously examined, he had several, which had never been examined, opened at his own expense, and his researches were not unattended with danger. The labours of M. D'Agincourt, his libe-rality in placing their results at the disposal of others, spread his fame throughout Europe, and the world expected with impatience the work, on which he had been so zealously en-Louis XVI. had interested himself gaged. in it, and the plates had been sent to Paris, when the disorders of the revolution induced the friends of M. D'Agincourt to send them back again. Bubsequently, the political horizon having cleared up, he confided the publication of the work to M. Dufourny, a member of the Institute, who had made researches in conjunetion with his own. But the appearance of such a work was attended with extraordinary expense, and the calamities of the revolution had hardly left the author sufficient for the wants of his old age. M. M. Treuttel and Wurtz hesitated not to acquire the right of publishing so important a work, and remunerated the author in such a manner, as to secure his future comfort. The wars which preceded the restoration of the Bourbons, and the difficulty of communications, retarded the publication, and the *livraisons* appeared at such extended intervals, that M. D'Agincourt could not hope to see their completion. He employed himself at this time in the publication of a work, styled "Recueil de Fragments de Sculpture Antique en Terre Cuite," containing upwards of 300 subjects. This had hardly appeared, when his lust illness commenced, and finally he expired on the 24th September, 1814, at the age of 84. His corpse was followed by the French Ambassador, and by artists and literati of all nations, to the church of Saint Louis des François, where some time afterwards a monument was erected to his memory. His work filled a lacuna in the history of art, and has been the foundation of some, more recently E. H. published, and better appreciated.

BUILDING GROUND, WHITE KNIGHTS, READING.

Our readers are aware that the late Duke of Marlborough's magnificent estate, known as White Knights, was purchased last year by parties who propose to divide it for building purposes, and that plans for laying out the property were obtained by the offer of premiums. The land is now coming into the market, and when we consider its surpassing beauty and its contiguity to the Great Western Railway, by which it is reached from London in less than an hour and a half, there can be little doubt that it will be speedily covered with villas. We had occasion to visit the spot last week, and are induced to think there is nothing like it in England available to the public. The botanic gardens with their magnolias and conservatory; the wilderness, filled with American plants now in full bloom; the lake, bridges, China cottage, valley and fountain, offer a succession of pictures of extraordinary beauty; and these are to be reserved for the enjoy-ment of those who occupy houses on the estate. Mr. Mocatta and Mr. George Godwin are appointed architects.

THE SCHOOL OF DESIGN.

SIR,—From your observations at the bottom of the report of the progress and state of the school of design at Somerset House, it would appear that you suspect "something rotten in the state of Denmark," stating, as you do, that some further information must be elicited to prove the efficiency of the present system.

I can give you a little information, but I am sorry to say that it is to prove its inemciency. The report sets forth that each student is taught as far as possible with reference to the promotion of the particular object for which he joined the school : further, that the more advanced students are exercised in original designs, and composition, &c., and are taught to apply to various practical purposes the skill they acquire. Sir, excuse me if I pause,-I am overpowered when I think of the talent required to carry all this into execution. Here would be a task for Cellini if yet alive ! for the Italian arabesque painters -and Raphael himself-a glorious task for the old French designers Messonier, De la Fosse, and others of that school, or for Percier and Lafontaine, or for such of our English architects as have made decorative design their study; but it would at least be a task for a practical designer of twenty or thirty years' practice in the art of design for manufactures and for decorations ; so at least most people would think, but not so the council of the school of design. A master who had studied the ornamental art would require a studied the orhamental art would require a salary of two or three hundred pounds; but a portrait painter — a Spitalfields' weaver — a mechanic will do the work for 120*l*.; so they have sent down a portrait painter to Birming-ham—a mechanic to some other part of the country-and installed, with great parade, s weaver at the Spitalfields' school of design for 1001. per year, to instruct the people in all those wonderful things which the report would have us believe are taught in the school. It is impossible to say what may follow: men will soon gather grapes on moors, and figs on thistles. What folly in any man to give a guinea to Copley Fielding at every lesson, when any person could teach as well by shewing merely a few good drawings, and at one-tenth the expense; or why give 400d. with a boy to a noted architect, when any brieklayer would instruct him as well for a trifle ?---or why give much with a boy to a respectable, clever tradesman? The fact is, that the council maintain that, with the various examples in the school, any man may play the master, and save the money of an experience teacher. Time will shew, but I am very much afraid that the cry in the Times newspaper, of "what is the school of design about?" will be re-echoed before low be re-echoed before long from one corner of

the country to the other. The director, Mr. Wilson, is a man highly qualified for the post he fills—his talenta, his urbane and courteous manners, render him most valuable,—but he is fettered by a council perfectly ignorant of the qualities which ought to accompany a teacher in a school of design, and of the methods which ought to be adopted to make practical draughtsmen; for I find fault too with the immense time lost in making chalk drawings, which ere perfectly useless to practical draughtsmen. I find fault too with the vague and indefinite manner in which the drawings for competition are specified, there being no common-ground given to run the race upon—the same failing which is so much to be deprecated in architectural competitions.

Having found as much fault as I can, I must now say something in praise, and for that purpose, turn with pleasure to those students who study the frescoes, and whose copics are beautiful, and very much surpass Sang's style of painting for finish; and with designs furnished by competent architects or designers, they might soon drive him out of the field —but neither they, nor Mr. Sang, nor any man living, will ever be able to paint by the yard, and design and draw too. I am, Sir, &c.

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A CONSTANT READER.

GREENHOUSES, VINERIES, AND AVIARIES. AWARD UNDER THE BUILDINGS ACT.

SIR,--In my last to you on the subject of a pigeon-house, situate in the back-yard behind my dwelling, Princes-road, Bermondsey (see BUILDER of 31st of May last),* I promised to forward you the result. I beg leave now to state that I have had notice to take up the award; and protesting against the jurisdiction of the referees over such, I did not take it up at the time appointed. On the following morning, early, the district surveyor called with the award, and desired to know how I intended to act; my answer was, as before, "You have no jurisdiction, and may take what course you please."

The following is an abstract of the award :-"We do hereby certify and award that the "We do hereby certify and award that the said building is contrary to the said Act, and we do further certify, that although green-houses, aviaries, and such like buildings are exempted from the rules and provisions of the said Act, as to the walls and other requisites of attached buildings and offices, and although no express provision is made as to the walls of the buildings with each attraction. such structures, yet such structures, and the walls thereof, must be so placed and so con-structed, as not to be dangerous to the adjoinstructed, as not to be dangerous to the adjoin-ing premises, nor to communicate fire to the interior of the buildings to which they belong. And with regard to the costs and expenses attending this proceeding, we do further award that the same be paid by the said W. S. Hol-lands, the sum of 34. 5s. 8d."

lands, the sum of 3l. 5s. 8d." For the benefit of the public, I beg to give you a description of this bird-cage or enclo-sure. The part alluded to is an enclosure round a few pigeon holes, or what are termed dove-boxes, which rest against a 9-inch wall— no fastening whatever; this enclosure is 7 feet by 6 feet, and 4 feet high, uprights 14 inch thick, and lattice sides, diamond work; it took about one and a half bundles of laths. The top is covered with zinc, it has no connection with the dwelling, and there is a 9-inch brick with the dwelling, and there is a 9-inch brick (sound best stocks) well built wall between. Leaving your readers to judge for themselves if or not I take the proper course, I am, Sir, &c. Bermondsey Square. W. S. H.

Bermondsey Square. . The award on the subject of greenhouses, which we published last week has excited much commotion. The question now is, how greenhouses and conservatories are to be constructed i whether or not the district-surveyor is to be called on to decide in each case, according to his own views, what may or may not be erected. The award in Mr. Holhands' case, which bears on the same point, defines the referees' views a little more closely than the first-mentioned did, and perhaps be-fore long they will consider it necessary to isene some express instructions on the subject.

TO LESSEN THE COMBUSTIBILITY OF HOUSES.

Sin,-Though conscious that you are much Six,—Though conscious that you are much pestered with projectors and projects, I must increase the number of your tormentors by one. I have a project for diminishing the combustibility of houses. A simple one, as you will'see, when I tell you that it is merely the substitution of iron for wooden lathing in all cases where wooden laths are now used for partitions, ceilings, studding, &c., &c. In every house that is burnt the lathing supplies the train. The fire creeps up the walls, ignites the joists and floors, and in short pre-pares the bonfire with perfect pyrotechnic art. pares the bonfire with perfect pyrotechnic art. No fire could possibly pass from a room with-out combustible laths on wall or ceiling (or out combustible laths on wall or ceiling (or wainscotting, which is rare in modern houses) to any other room. I know nothing of the comparative expense of wooden and iron laths, but I see that hoop-iron is very cheap, and laths being much thinner might be made much cheaper: the difference in cost there-fore could not be very considerable, and I know that I would joyfully pay 10/. addi-tional in rent for the house for which I now pay 120/. rent, if I knew that all its lathwork was of *iron*, and that there was a moral im-possibility that I and my family should ever be burned in our beds. This additional 10/. per annum may represent builder's profit for 150/., but I think I am safe in assuming that the

* Page 256 ante.

difference between iron and wooden lathing would not amount to one-third of the money All the projects of fire-proof houses that I have seen propose to substitute metal for walls, joists, and rafters, and some suggest floors; but this is all folly; walls, joists, and rafters, never begin the fire, or conduct it in its early stages of progress, and floors very seldom : it is the light work that begins the mischief, and carries it on. I am, Sir, &c., Gordon-square, June 16. A CITIZEN.

•... We withhold our remarks on the above, we shall probably be led to some general observations on the construction of fire-proof dwellings before long. If our correspondent will refer to our leading article of June 7th (p. 265, antc), he will see that his suggestion is not entirely novel. It is satisfactory to observe that much interest has been excited by what has already appeared on the subject in

what has already appended to the prospectus of a "Fire We have received a prospectus of a "Fire Protective and General Buildings Improve-ment Company," formed for the purpose of introducing improved modes of constructing buildings, secured by letters patent, on prin-ciples combining the preservation of life from fire, property from robbery, and improved ventilation, for the promotion of future inventions and improvements connected with building, and the establishment of rooms for the exhibition of models and for other purposes connected with the building trade: but are at present uninformed as to the plans proposed proposed.

PUBLIC PARKS AND WALKS AT MANCHESTER.

WE stated a few weeks since (page 203, ante) that a deputation from the committee appointed to carry into effect the object of providing public parks and places of recrea-tion in Manchester, had waited upon the premier, with the view of obtaining a grant from Government in aid of their design. Sir Robert Peel then offered the sum of 3,000/., which the deputation felt bound to decline, as partaking rather of the character of an partaking rather of the character of an eleemosynary dole than being a liberal and appropriate grant consistent with the import-ance of the object in view, and the relative position of the parties to it. A reconsidera-tion of the matter has induced the committee, through the medium of the Mayor of Manchestor, to address a letter to Sir Robert Peel, in which they state that they think it their duty to accept of the sum of 3,000%, but in-dulge the hope that it will be considered by her Majesty's ministers and by Parliament as a portion only of that assistance which a community like Manchester may reasonably seek at the hands of the Government; and, after referring to the great personal interest which the premier has manifested in the success of the experiment, they state that the sum paid into the bank to the credit of the committee amounts to 27,409%. 2s. 11d.

The following is a copy of Sir Robert Peel's answer :-

Whitehall, May 29, 1845.

Sir Robert Peel presents his compliments to the Mayor of Manchester, and begs leave to acknow-ledge the receipt of his communication of the 26th instant.

Sir Robert Peel will give directions for the issue of the sum of 3,000*l*, in aid of the voluntary con-tributions raised in Manchester and its neighbourhood for the purpose of providing public parks and places of recreation, but he does not feel himself justified in giving any assurances on the subject of a further additional grant. Sir Robert Peel is much obliged to the Mayor of

Manchester for the information conveyed in his letter respecting the progress made by the com-mittee, and offers his best wishes for the successful progress of their useful labours.

GEM ENGRAVING .- The committee of the Art-Union of London in their last report drew the attention of the public to the neglect into which gem-engraving had fallen in this country. To follow up the subject they have now offered three premiums of 60%, 30%, and 151. for the best cameos in profile of the head of Minerva, having a sphinx on the helmet, in the collection of bronzes at the British Museum. They must be cut in onyx of not less than two strata, and be at least one inch in length.

THE NEW ROAD THROUGH WESTMINSTER.

SIR,-I have read the remarks in [THE BUILDER respecting the improvements from Pimlico to Westminster Abbey with almost painful interest. It is certainly most lament-able that a gentleman holding so responsible an office as the Earl of Lincoln does, in a commission of taste, improvement, and embel-lishment, should have pledged himself so hastily to carry out any one plan without con-sulting the wishes of the community at large. I see by the voluminous Second Report of

Metropolis Improvements of 2nd August, 1838, that Mr. Rigby Wason joined a number of gentlemen in the purchase of all the property from Brewer-street to the Broadway, in the line of the intended new street, with the pa-triotic view of aiding in these improvements; and it would perhaps be unjust to alter the plan so far as their purchases extend, *i. e.* from Broadway to Brewer-street. But surely there one he no impropriate in modifying the plan can be no impropriety in modifying the plan of the new street from Broadway to the Victoria Tower.

As the Bill is now before Parliament, no time should be lost in endeavouring to procure an alteration in the Bill or the plan of the street, or the insertion of a clause to reserve the power to Government of improving the vicinity of Westminster Abbey at some future time. The dean and chapter do not like to be disturbed; but when they are gone, any new appointments might be made with an understanding that their residences would be removed across the road, and subterraneous passages formed to the Abbey cloisters for their convenience.

I think that arcades across a road on the south side of the Abbey, as recommended by the Metropolitan Improvement Society, would in some measure obstruct the view of the two in some measure obstruct the view of the two principal buildings, viz., the Abbey and the Victoria Tower. A subterraneous passage, on the contrary, would leave the road open, be much more private, and being made on the same level as the cellar floors of the present old houses, and of course also of the new, the alteration of the residences would scarcely be foll but the in herbitate. And if the read be felt by their inhabitants. And if the road-way were raised at that spot only two feet (a rise that would be quite imperceptible to pas-sengers) it would admit of a good height for the passage ceilings, at the same time that the floors would not interfere with making the main sewer of a proper height and depth.

I really wonder at the commissioners, that they should so far forget themselves and their they should so far forget themselves and their office, as to wish to build out of view the vene-rable towers of Westminster Abbey and the splendid new Victoria Tower; but it is just like our forefathers (and we must blame them no more) who built out of view the noble ca-the deal of St who when there one sted their thedral of St. Pauls, when they erected their narrow, crooked, Ludgate Hill. Although I am a stranger in London, I

feel so great an interest in having the improvements well done if done at all, that I have written a petition to the House of Commons and signed it, and I take the liberty of send-

ing it to your office for public signature. I do hope and trust you will exert your in-fluence and stir up the friends of improvement, to use dispatch in this matter, for no time should be lost. I remain, Sir, &c. T. I. M.

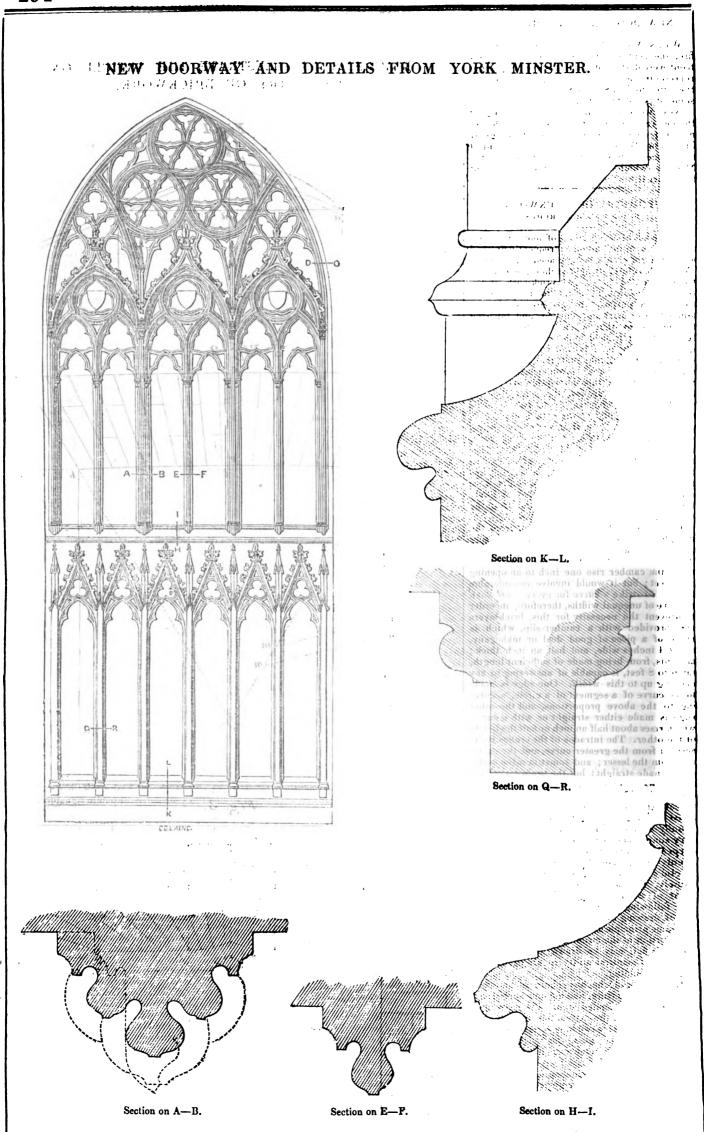
. The petition lies at the office for signatures.

CEMENT ON IRON.

In reply to your correspondent at Worcester, all cements mixed with water are objectionable all cements maded with water are objectionable as applied to iron; the most effectual mode is to run the mouldings with Hamelin's Patent Mastic, manufactured by Messrs. Charles Francis and Sons, Nine Elms, London. This mustic is mixed with linseed-oil to the consistency of damp sand, and, previous to the application, the iron girders should be well saturated with *boiled* linseed-oil. Hamelin's Mastic has been in use for upwards of thirty years, and sticks most tenaciously to all kinds of hard substances : I have even used it upon glass. It requires an expert workman to ma-"mastic hand." However, the manufacturers However, the manufacturers will, if requested, send ample directions for the use of the material.

FRANK TYRRELL. Newcastle-upon-Tyne, June 12th, 1845.

THE BUILDER



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1

NEW DOORS AT YORK MINSTER.

WHEN York Minster was last attacked by fire, the centre and south doors of the west front were destroyed. The anaxed engraving represents the new door designed to replace the latter, by Mr. Sydney Smirke, together with some of the details at large.

Next week we shall give an engraving of the centre door, with the scale and all the remaining details. They are from drawings by Mr. James Wylson, who wrote the account of the recent fires and restorations at the Minster, which appeared in former Nos. of this journal.*

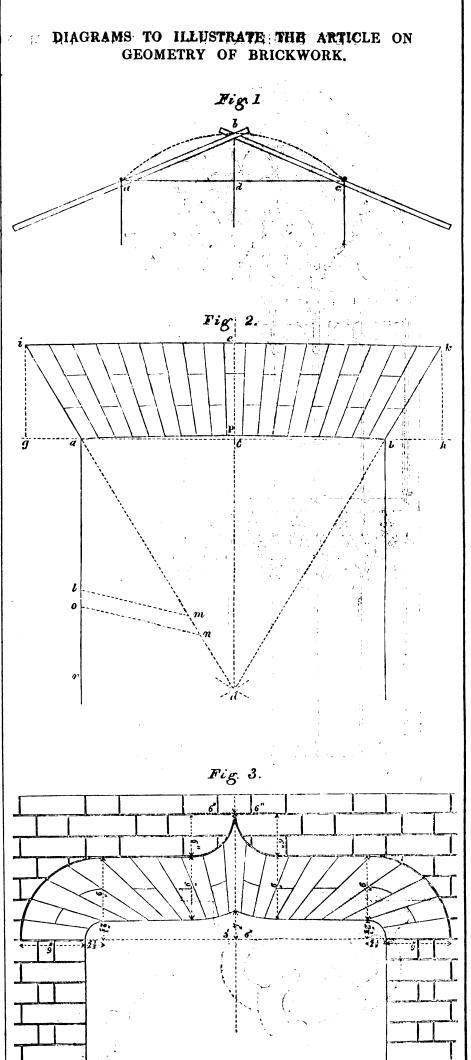
GEOMETRY OF BRICKWORK. BBICK CANBER ARCHES.

THE heads of the apertures of doors, windows, and other openings are most frequently finished with straight arches being placed across them. When, therefore, straight arches are required to be executed in gauged brickwork, it becomes necessary, in order to adapt bricks to such a purpose, to prepare moulds or templets for marking, cutting, and tapering the bricks so that when the bricks have been cut and rubbed and brought to correspond with the moulds, and are arranged and set in their places, they shall then form strong, neat, uniform, and symmetrical arches. Straight arches of this description are usually termed cambered arches, the soffit lines of which are made concave, or to rise upwards from the springing points with a curve. A perfectly straight line, from some optical illasion, always seems to bend or sag downwards, and it is principally for this reason that what are called straight arches are cambered so as to prevent them from having a sagging appearance; and, moreover, if the soffits were not executed with a camber, it is very likely that they then would become round from the shrinkage and settlement of the work.

shrinkage and settlement of the work. The degree of camber, or rise, from the straight line which connects the springing points of the arches varies with the widths of the apertures. It is the usual practice to make the camber rise one inch to an opening of 8 feet; but it would involve considerable trouble to strike a curve for every arch when they are of unequal widths, therefore, in order to prevent the necessity for this, bricklayers are provided with a camber-slip, which is made of a piece of good deal or mahogany, about 4 inches wide, and half an inch thick; and this, from being made of sufficient length, say 6 to 8 feet, is capable of answering to any opening up to this width. One edge is made to the curve of a segment of a circle, according to the above proportions, and the other ledge is made either straight or with a curve, which rises about half an inch or half the height of the other. The intrados of the arches is deacribed from the greater curve, and the extrados from the lesser; and sometimes the extrados is made straight; but the proper way is to make it of the lesser curve. Now in arder to obviate the necessity of striking the curve of a camber-slip with a radius, that otherwise must be of great length, another method is usually adopted for that purpose, which is very simple, and is well known to almost every carpenter. The principle is deduced from the twenty-first proposition of the third book of Euclid's " Elements of Geometry" (which see) namely, that all angles in the same segment of a circle are equal to one another. The following description will shew the manner of drawing the curve in question; and by the same principle and varying the proportions, any portion of the circumference of any circle however flat, may be drawn by it; and it is at times of manifest utility to all persons enmaged.

gaged in building. Let a c (fig. 1) be any chord of an arc or width of an aperture, and d b any versed sine or rise of the intended arch. Place two pins or small nails at the extremities of the given chord a c, and place two long rulers or straightedges against the nails, the rulers crossing each other and intersecting in the point b, forming an angle, a b c. They must then be fastened together at the lap b, and also by a brace across on the straight-edges, so as to retain this angle. Bring the point b of the intersection of the straight edges to the point a,

* See pp. 158 & 175.



and then hold a pencil in the intersection, and slide the edges of this instrument against the nails, and the pencil will describe the arc a b cas required. Each of these straight-edges must be somewhat longer than the chord a c, otherwise the whole of the curve cannot be drawn at one operation.

The bricklayer, then, being provided with a camber-slip, which ought to have a line marked or finely cut-in across it at the centre of its length, we will now shew him the manner of preparing the moulds and getting the bevils, for the purpose of cutting and rubbing the bricks by, so as to form a camber-arch. Draw an indefinite straight line, gh(fig. 2), and upon it take any point, c, and make the length, ca and cb, each equal to one another, a b being the width of the open-ing, which in this example is equal to 3 feet inc, which in this example is equal to 5 rest 2 inches. At right angles to a c draw d c, and produces it indefinitely beyond e. A perpen-dicular from the point c may be drawn with a square, or by taking a and b any two equal distances from c, as centres, and with any rest in the palf a c describing area indistances from c, as centres, and what any radius greater than half a c, describing arcs in-tersecting each other in the point d, then drawing a line through the points d and c, and it will be the perpendicular required. Now set off on each side of the centre line of the camber-slip two equal distances, similar to c d and c b, and apply the soffit edge of the camber-slip, so that these distances shall co-incide with the points a and b, and draw the intrados a p b. Take a point g, outside the point a, the distance from which it is intended for the arch to rake or skew, which in this example is equal to 7 inches, and make bhequal to a g. On the points g and h erect perpendiculars, g i and h k, and make g i and h k each equal to the intended height of the arch ; this should be equal to four courses of bricks less the bottom joint, or 114 inches. When the width of the opening is about 5 feet and opwards, it is the usual practice then to make the height of the arch equal to the height of five courses of the wall, less the bottom joint. Then with the lesser curved edge of the camber-slip, placed on the points i and k, draw the extradomal curve, iek. Join ia and k b, and produce these lines to the point d. Procure two thin and narrow straight-edges of wood, about 20 inches long each, and also another piece of wood about 3 inches wide, and the same length as the others; this is for a mould or templet to mark the bricks, and ought to be of well-seasoned hard oak, for the purpose of better resisting the wear upon it. Now, in order to ascertain the taper of the mould for cutting the bricks by, find the lengths of the lines $i \in k$ and a p b, the former being, according to this example, equal to 52 inches, and the latter equal to 38 inches, and the thickness of the upper part of a course of bricks of an arch being nearly equal to 21 inches, then, by the rule of three direct, as 52:38::2.75:2.01, that is 2 inches nearly,

the thickness of the bottom. Now draw a line square across the intended mould near to one end, and at 111 inches (the height of the arch) from it, draw another similar line; then from the edge of the mould set off 2inches on the upper line, and 2 inches on the lower, and make the inclination of the mould according to this proportion. But the same inclination may be got geometrically by finding a fourth proportional, which is from the twelfth proposition of the sixth book of Bachid's "Elements of Geometry," thus: take two straight lines, as a d, and a r, forming any angle d a r, and upon a d make a m equal to i o, and a l equal to a p, and join l m; make The second seco they are but approximations, but they are pretty they are but approximations, but they are pretty near the truth; and by adopting the one or the other the bricklayer will save himself much trouble, which must otherwise arise in bring-ing the moulds even to this degree of aclog into incluse even to this degree of the constraint how many courses of bricks can be got in the arch, and in order to find this, we must measure the length of the line i k, which is equal to 52 inches, and then try how many times 24 inches the set in the set is the set of the line in the set of the s there are in 52 inches; it will be found that 19 courses are required. And here we would remark that it is desirable in a gauged brick arch to have an odd number of courses, so that the odd courses may stand in the

centre, and form a key to the arch; and the bottom, or sofit brick, of the key-course should always be a stretcher. We have assumed 24 inches as being the size of the top part of a course of bricks in an arch, but any other dimension, either more or less, may be taken instead, as bricks vary in thickness; and therefore a thickness must be taken according to the size the bricks will hold. And although we have been thus particular in shewing the manner of finding the taper of the mould, yet sometimes it is the practice of bricklayers, when the inclination of the skew-back is not given, to assume a taper for it at once, and without any attention as to how much the arches are to rake or skew from the perpendicular; this of course obviates the necessity of some of the previous performance. Now fix on a point on the edge of the mould

or templet, where its width corresponds with the bottom thickness of a course of bricks of the arch, which in this example is equal to 2 inches. Find the centre of the mould at top and bottom, and draw a line along it through these points. Then place the mould in the situation of the key course, so that the centre line on the mould may coincide over the centre line of the arch, and also that the point on the edge of the mould may come over the line forming the soffit of the arch, and on the left side of the centre line. Now place one of the straight edges against the left edge of the mould, and then remove the mould, and place the second straight-edge against the edge of the first, that is in the place of the mould; now remove the first straight-edge, and slide the mould against the second straight-edge, until the point on the edge of the mould coincides again with the soffit line of the arch; and proceed in this manner to the last course, or to the line a i, and if the mould falls short, or runs beyond this line, the process must be repeated, in the former case by taking a point on the edge *above*, and in the latter case *below* the first point, until the last course coincide with the line a i; and if the mould should not be parallel with the line a i, a few shavings must be taken off the edges with a plane, either at top or bottom, so as to make it taper accordingly. When the templet or mould has been brought to the proper taper, it should be once more traversed, and the joints of all the courses marked as it proceeds. It may also be ob-served, that the joints of all the courses will radiate to the point d, where the inclinations of the skew-backs meet. It is necessary to state that particular attention should be observed in firmly holding the straight-edges, so as not to let them slip, while traversing the mould, as otherwise it may be the means of creating great confusion, and probably spoil the work.

Now, having got the mould to the proper size and taper, something less than this thick-ness must be taken for the purpose of getting in the putty joints for bedding the courses. Place the mould in its proper position at the key course, and then place the straight-edges one on each side of it, and close to it. Then push the bottom of the mould upwards, and place, in the vacant space, between the left hand straight-edge and the mould, at top and bottom, two equal substances of a thickness which a putty joint is to be of, and push the mould downwards, closely pressing against them. Remove the straight-edges, and make a mark on the edge of the mould below the former, and directly over the soffit line. All the soffit bricks are to be marked and cut from this point, which should be cut in, what we shall now term, the top edge. It is the practice sometimes to make a mark on the edge of the mould where its width is equal to the top thickness of a course of bricks, and then to traverse the mould along the top line of the arcb.

The next operation is to find the bevil for the soffit of each course of bricks from the skew-back, including the key; and to find the lengths of each course from the soffit to the top. These processes are very simple. Place the two straight-edges perpendicularly on each side of the extremities of the skewback, and upon them firmly fix the camberslip, so that it coincides with the points, and exactly with the soffit line of the arch; now commence with the first course next the skewback, by placing the narrow end of the mould under the camber-slip, and bring its top edge to correspond with the line of the first course, and, with the point cut on the edge over the

point at the soffit line. Hold a knife or pencil against the soffit edge of the camber-slip, and make a mark across the mould, this mark, with the bottom edge of the mould, is the angle, or bevil for the first course. Now make a mark on the top edge of the mould at the extreme upper point of this course, that is, on the extrados of the arch; and the distance from the lower mark to this is the length of the top of the first course. The bevils of all the other courses, and their lengths as well, can be taken off by the same processes. The bevil of the skew-back is taken by laying the mould above the line g a, with the lower edge straight with it, and the larger end projecting somewhat over the line *a i*, then, by laying a ruler across the mould, straight with and over the line *a i*, and drawing a line across the mould by the edge of the ruler, this line, with the edge g a of the mould, will be the bevil or angle of the skewback. In order to form the skew-back bricks, the stock of the bevel is applied against their bottom outer edges; the blade laying agross their faces being a guide to the tin saw in marking them; then, apply a square against their faces to the lower and upper points of the bevils, and mark the bottom and upper beds across; then cut away the superfluous material at the ends to these marks, and afterwards rub them on the stone until they suit the bevil. Sometimes the top bricks of the arch are not cut to their lengths till the last, when the arch is laid down on a bench, and the lesser curved edge of the camber-slip being laid upwards on the arch, the tops of all the bricks are then marked by it and cut. In the excern-tion of camber arches it is desirable that the whole of the courses of bricks should be of uniform thickness. This is requisite, net merely for the purpose of obtaining a regular appearance, but in order to sdapt the bricks to the work, and to prevent them from being cut away and wasted. According to the foregoing method of striking out a camber arch, all the courses of bricks will be of equal thickness; 4; for if lines be drawn from the points of the soffits, and at right angles to the joints, the square ends thus cut off will all be of equal thickness.

.....

The bricks which are to be cut for the arch are first rubbed on a stone, and made square ; the bottom outer arrises being also made as straight and fine as possible. 'Is bommenring de 25 a course of the arch, the bevil of the soffit brick is first marked across the face near to one end; a square line is then made from the lower point of the brick across the bottom; a bevil line is then marked in on the back face from the point of the square line where it cuts the bottom back edge. The super-fluous substance being now cut off, the end is then rubbed, and made as clean and uniform as possible, properly adjusted to the bevil, and . square from the outer face. The brick is then laid on what is termed a bedding stone, which is usually a piece of this marble about 9 in-ches wide and 2 feet long. It is then marked with a small tin saw, or a nail, from the mould, which is placed against the front and back sides of the brick; the fixed point cut in the edge of the mould being always brought so as to coincide with the upper point on each side of the soffit. The marks on the front and back faces at the points next the soffit are joined. with a line which is cut in the end of the soffit, and is thus made parallel with the bed. The brick is then turned on edge with its face up-wards, and the tapering mould is then placed against the soffit with one edge kept about inch above the brick. The edge of either the header or stretcher side of a thin, oblong templet of wood, whose angles are made per fectly square, the width of the header being 33 inches, and the width of the stretcher being 71 inches, is then placed against the mould, the other edge being the guide for the tin saw, in marking either the beader or stretcher with. By this manner of proceeding, it will be seen that both the headers and stretchers are marked off parallel with the soffits. The superfluous brick at the end and top side is now cut away with the brick-axe; but the utmost care should be taken to cut the ends of all the bricks as square as possible from the outer face, as want of care and neglect in attending to this important particular is very often the cause of arches settling and bulging outwards, and the centre bricks dropping out of their places. For when the courses are being set, all deficiencics are usually packed up with mortar;

which, from not being of sufficient solidity to bear the weight of the superincumbent pressure, yields to the impressed force, and, therefore, causes the arches to crack and give way. After the amperfluous material is axed off, the brick is then rubbed on the rubbing-stone, and great nicety is required to be observed in this particular, so as to bring the upper edges of the brick, both at the back and front faces as well as at the end, to the exact gauge, as then the joints will not only be of equal thickness throughout the arch, but the whole of the bricks when set will be better calculated to sustain and distribute equally among them the pressure under which they are liable to be subjected.

The soffit brick, then, being finished, the next step is to prepare the upper brick. The end which is to be placed next the soffit-brick is to be cut and rubbed square from the face, and made to suit the bevil of this course; it is then placed against the end of this soffit-brick, and marked both on the back and front face with the tapering-mould, its length being taken from the mark which corresponds to the length of this course. The bevil is then to be placed against the top edge of the brick to the mark, and its length marked across to the bevil with the tin saw, the ends being marked southe stars, and its length marked across to the bevil with the tin saw, the ends being marked southe stores also. The angles which the end market before the brick is tapered are equal to those of the other end, and although there will arbet some little irregularity in the tops of the upper bricks of the arch, arising from the difference of eurvature between the extrados and intrados, still it will be found to be so very slight; as not worth noticing in actual practice. The superfluous material of the brick in queetion is then to be axed off, and the brick, as cut, must then be rubbed carefully on the stone so as to correspond with the taper of the soffit-brick and the mould. The same operationes are then to be gone through with the tiones are then to be gone through with the soffit-brick and the mould.

""Sra,---Will you be so kind as to inform a briethayer the proper method to strike out an arch, of which the enclosed is a sketch as near as I can make it, so that it can be executed in brietwork, and set in patty. The opening is 3 feet 6 inches, the rise 4 inches, the face 9 inches, and soffit 43 inches, and you will oblige your humble servant, H. J."

We have somewhat altered the original rough sketch, as sent us, in order to make the arch more suitable for execution. All the courses of bricks of an arch of this description are to be struck out upon precisely the same principles as are those of the foregoing camber arch. The courses, as arranged in the apnexed arch (fig. 3), were traced and marked from a small paste-board mould by following the soffit curve. An approximation to the proper taper for the mould was obtained by infining the lengths of the extradosal and intradosal lines; then, as the length of the extrados : the length of the intrados :: the thickness of a brick at the top : the thickness next the soffit. From what has been said in reference to the execution of a camber arch it is supposed that no difficulty will arise in striking out and executing an arch similar to this. The centres and dimensions are sufficiently definite and need no description.

The courses of bricks of both two and four centred arches are usually arranged upon the same principles as the camber arch; a taper is generally assumed for the mould, which is placed in the situation of the key-course, and unversed downwards until it coincides with the springing line. And sometimes the courses of bricks of elliptical arches are formed by the same method; but we intend by-and-by as our time will permit, to give a general description of forming and executing gothic, elliptical, semi-circular, segment, and other arches, as well as niches.

With reference to the manner of setting gauged work generally, we must also leave that until another occasion.

JOHN PHILLIPS.

INSTITUTION OF CIVIL ENGINEERS.

A7 at a meeting held 10th June, 1845, Sir John Rennie, President, in the chair, the paper read was by Mr. James Stirling, and described an ingenious air-engine, invented by his brother and himself. The movements of this machine are founded upon the well-known pneumatic principle, that air has its bulk or pressure increased and diminished in proportion as its temperature is raised or lowered. The application of this principle was exemplified by drawings, and a model, exhibiting a machine composed of two strong or tight air vessels connected with the opposite ends of a vertical cylinder, in which a piston works in the usual pended two air-tight vessels or plungers, filled with non-conducting substances, and attached to the opposite extremities of a beam capable of moving up and down alternately, to the extent of one-fifth of the depth of the airvessels. By this motion of the plungers the air, which is in a heated state below, is moved to the upper part of the vessels, and in its transit traverses a series of vertical capillary passages between thin metallic plates, which absorb the greater part of the caloric; the remainder is taken up by a refrigerator of tubes filled with water; the air at the heated end is at about 700°, and has a proportionate pressure. When it arrives at the cooled end, it is reduced to about 150°, and the pressure diminished to a corresponding extent. Therefore, as the interior vessels move in opposite directions, it necessarily follows that the pres-sure of the condensed air in one vessel is increased while that of the other is diminished. A difference of pressure is thus produced upon the opposite ends of the piston, and a reciprocating motion results, which is communicated through a beam, connecting rod, crank, and through a beam, connecting rou, trains, and fly-wheel to the machinery when driven. Machines upon this principle were stated to have been worked for some years past at Dundee, with considerable saving of fuel, as compared to a steam-engine of similar power, and compared to a steam-engine of similar power, and doing the same work. It is now proposed to adopt it to marine purposes, to which, from its simplicity and slight expenditure of fuel, it appears well fitted. The theory of the expansion of air, and its practical adaptation as a moving power were very fully discussed, as were the mechanical difficulties which appeared to have been very ingeniously overcome by Mr. Stirling, who attended the meeting, and explained his invention. The engine ap-peared to receive the approval of the members who were evidently not prepared to find so perfect a machine, and one so practically useful.

On the 18th instant a paper was read by Mr. G. Edwards. It described the method employed for breaking up the shoals in the river Severn, between Stourport and Gloucester. These shoals consist of marl rock, so compact and tough, as to resist all attempts to break it up with the steam-dredger, or by prize-bars, or with a powerful species of subsoil plough. Recourse was therefore had to blasting with gunpowder, and the process of these operations formed the subject of the paper. It appeared that during the summer months there was in some places only 2 feet depth of water over some of the shoals; and the navigation was therefore greatly impeded. In 1842 an Act was obtained for the im-

In 1842 an Act was obtained for the improvement of the Severn; and under the directions of Mr. W. Cubitt the various works were commenced. The object was, to obtain a channel with a depth of at least 6 feet of water at all times throughout the river. Messrs. Grissell and Peto were the contractors for the work, and for them Mr. Edwards designed and executed the blasting operations. A series of rafts were moored in a line over the shoal parallel with the bank of the river. Along the centre of each raft, there was an opening through which wrought-iron tubes 34 inches diameter, were driven down at intervals of 6 feet apart through the gravel down to the marl; withinside these tubes the workmen used the chisel-pointed jumperbars to make the short holes to a depth of 6 feet below the surface. The loose stuff was extracted by an auger-tool, a cartridge of canvas, well pitched and tallowed, containing 3 lbs of powder, was lowered through the tube into the hole, which

was well rammed with loose marl. The charge was then fired by means of Beckford's fuse. There was generally but little apparent external effect from the shot, except lifting the pipe a few inches, but sometimes a column of water would be driven up through the pipe to the height of 40 or 50 fest. It was found that each shot loosened a mass of marl of conical or parabolic form, of which the borehole was the centre and its bottom the apex, so that four adjoining shots of two parallel lines would leave between them a pyramidal piece of marl, which was removed by the dredging machine with the loose stuff. This operation of blasting was repeated in parallel lines down all the shoals, and the stuff was dredged up at the vate of 200 to 300 tons per day. The cost of the blasting was about 95. 94. per oube yard. It was stated that the six principal shoals had all been successfully operated upon, and great credit had been given not only to the design but also to Mr. Edwards for the systematic and complete manner in which he had arranged and conducted the operations.

An excetlent working-model was exhibited, by Mr. Siyde, of the steam-excavator. Several alterations appeared to have been made in its form and the mechanical parts of its combination, adapting it for dredging under water. It was much improved, and seemed now likely to become a useful instrument in engineering operations.

SUSPENSION BRIDGES.

SIR,-I have but this moment seen THE BUILDER of the 31st, and should have been astonished at the attack upon my plan of bridges if I had not known the source of your information. The first part is from a letter by "An Old File," which appeared in the *Mechanics' Magazine*; this is a direct false-hood, and for proof that it is so L refer you, and such of your readers as may be interested in the subject, to the number of that excellent periodical that was published on the 31st. The second part I think is from the Mining Journal, which is also equally filse, and is re-futed by calculations in the last number of that periodical. But lest this may not be the particulars to which you allude, I will give you a list of the bridges that have been and are the Leven, in Scotland, for Sir James Colquohoan; two for the Earl of Caledon, in Ireland; one across the Bam, at Banbridge, Ireland; one across the Dam, at Damoiner, in Ireland; one for G. S. Harcourt, Eeq., at Wraysbury, near Windsor; one for H. Miller, Eaq., at Frome; one for the river Lea trustees, at Bow, Middlesex; a county bridge in the parish of Hexton, Wilts; and a pri-vate bridge for Col. Wroughten Stowal, vate bridge for Col. Wroughten Stowal, Wilts. Besides these I have upwards of 30 copies of plans, &c., in my office at the present time for bridges in contemplation, or about to be crected, in various parts of the world, with which I am connected. I also refer to all I have written upon the subject, and shall be happy to hear and to consider any objections that may be raised against either of the bridges that I have erected, or any that are in contem-plation, or against any thing I have written upon the subject; but I must beg the favour of argument being used rather the an assertions.

I do not wish to criticise any other part of yoar remarks, for this is all that concerns me, yet still I will hazard a few observations on them. I must object to your position, that calculations are not always to be relied on, it is the abuse and not the use of them that mislead men. The accident at Yarmouth would not have happened if the engineer had calculated the forces of that bridge, for I find from the data given it was capable of resisting a weight on the platform of only 40 lbs. per square foot with safety, whilst at any time it was liable to a load of 70 lbs. There is another point in which I differ from you, though I grant percussion, &c. may alter the internal structure of iron and weaken it, yet in a bridge which is perfectly quiescent, nothing but being strained beyond the limits of elasticity can effect the structure, the determination of which is a matter of calculation,

SNOKE PROHIBITION BILL. — Last week, on Mr. Mackinnon moving that the House of Commons resolve itself into a committee to further this measure, it was observed that only 29 members were present, when an adjournment immediately took place!

and if adhered to, nothing need be appr hended. I could instance several suspension bended. I could instance several succession bridges that have stood many years in this country without injury, whose limits of elas-ticity do not exceed 30 lbs. per square foot, whilst at any time they are liable to be loaded to 70 lbs., which they may bear once or twice, but it would permanently cripple and weaken-the structure, and repeated loading eventually destroy it. I must also differ from you in sup-posing that a suspension is more liable sud-denly to give way than a compression bridge; in proof of the contrary I will instance the fall of the bridge across the Mill Fleam, at Derby, to 70 lbs., which they may bear once or twice, those at Ashton-under-Lyne, and several others that have occurred lately by which lives have been lost. The fact is, the erroneous principles upon which both suspension and compression bridges are constructed of necessity compel their failure directly any part, however grivial, yields. This for several years I have been trying to impress upon the public, and have at trying to impress upon the public, and have at last succeeded. And though there are still many persons who object to my plan, yet I am happy to know that eventually, they must ac-knowledgefit to be correct." For mon what natural principle can it be argued that the failure of a single part, however, trivial in itelf, should destroy the whole.

It is impossible but that some parts must be weaker than others, and the weakest part will always be proportionably most strained, and should at any time the pressure on these parts exceed the limits of elasticity, it yields, and the bridge fails also. What argument then can be brought forward to support a principle that reduces the strength of the whole to that of the weakest part. And I tell the mathema-ticians (for as I know something of that science, without presumption may I tell them so) that the principle is wrong—and not all the reasoning in the world can make it right—and that a bridge should no more be destroyed by the failure of a single part than a limb of a tree should fall down by lopping off a part from it; the fractured and in both instances would fail, but the rest should remain as firm as ever.

I am, Sir, &c., JAMES DEEDGE Bath, June 16th. JAMES DEEDGE. N.B. The Montrose Bridge did not fall at the opening, but a long time afterwards at the time of a boat-race.

notwithstanding that a threat of an action for libel if we did not do se accompanied it, and had nearly lad us to adopt a contrary course.

SIZE OF MAIN DRAINS UNDER BUILDINGS ACT.

SIR,--I am at a loss to know what size to Sin,—I am at a loss to know what size to make the main drain for carrying off soil. In the Act it mentions, that it must be in trans-yerse section at least equal to a circular area of 9 inches diameter. Now, as I am not sufficiently competent to understand such ambiguity, will you, in your next number, make the point clear, for I find many other parsons nuszled consults as much as your persons puzzled equally as much as your humble servant, A BRICKLAYER.

** We wish no part of the Act was more ambiguous than the clause quoted. A. 9-inch barrol drain (or larger) may be used, or a drain: of any other shape provided it afford water-way (area) equal to a: 9 inch barrel drain. The area of the latter is 5 inches and 3 parts, so that, for the sake of example, a rectangular drain not less than 9 inches by 7 inches may be used, or one 12 inches by 54 inches, since the area of either of these is equal to that required.

ARCHEOLOGICAL CONGRESS AT LILLE. Members of the French Archœological Congress held at Lille, visited Tournay on the Sth inst., and examined all the antiquities of that very interesting town. They were re-They were received with extraordinary demonstrations of respect even to the ringing of the great bells of the cathedral. Relative to this, the bishop of Tournay who received the congress in the epis-copal palace said, "The bells you hear gentle-men, sound but for God and our princes : you are the princes of science, and I have thought it right to make them utter your welcome.' Our countryman, Dr. Bromet, is the only representative of England mentioned, and is described as the *president* of the Archæological Society of London. Next week we shall give a few particulars of Tournay and its cathedral.

BUILDER, THE

RAILWAY STRUGGLES:

SIR.

-In No. 122 of your valuable periodi-

cal, you allude to the expansive contest now being carried on between the "broad and narrow gauges" and the interest it excites in the Parliamentary Committees and the railway world. Being a looker-on and unconnected with rallways, and without entering further into the question of the gauges than to state, into the question of the gauges than to state, that it appears the difference in cost of earth-work between the broad and narrow gauge is 64 per cent. 7 per cent. land, with a larger expenditure in bridges, earriages, &c., and an additional expense in the upper works to carry the heavier locomotives, &c., as well as extra lines of rails to auit the traffic of the narrow gauge, it appears to me that the difference gauge, it appears to me that the difference of the cost of construction would amount to at least from 20 to 25 per cent. in favour of the narrow gauge. With reference to speed, the express trains on the London and Bir-mingham Railway exceed one mile per minute, and it has been stated with regard to the news of density that since the work the power of draught, that ninety-five wag-gons in one train, each containing seven tons, have been conveyed on the narrow gauge, and I have yet to learn the superiority of the broad gauge, or that more has been accom-plished by it. It appears to me, Mr. Editor, that the Government and the legislature are exceedingly culpable in looking on with apathy and indifference, while thousands are squan-dered in these fruitless contests, and although a department of the Board of Trade was oba department of the board of frace was or viously appointed to investigate the merits of the various lines of railway before being sub-mitted to Parliament and to report thereon, mitted to Parliament and to report thereon, opposition seems to be carried on to a greater extent and with greater virulence than before. The appointment of the Railway Department of the Board of Trade has not, I conceive, ef-fected the purpose contemplated, for the old channel is still open to railway promotion, with all its expensive paraphernalia; and bills pass through or are rejected by the parliament-ary committees, notwithstanding the reports of the Railway Department of the Board of the Railway Department of the Board of Trade being in favour of or against them. It evidently has been no check either upon reckevidently has been no check either upoo reck-less speculation or inveterate opposition. The reports of the Railway Department of the Board of Trade, although very able docu-ments, were in general unfavourable to those lines that would compete with existing lines of railway so that in meany instances imprire railway, so that in many instances important places would be connected with rather circuitous routes; certainly the great speed attained on railways has in a measure almost annihilated space, but still I very much question the policy recommended in preferring such routes, at an additional expense to the traveller, when direct once can be obtained, merely to uphold monopoly, nor do I believe from the spirit of the age the public would long submit to any such arrangements. Railway companies with such arrangements. Railway companies with little delicacy deprived turnpike roads and canals of the whole, or at least, a great por-tion of their traffic, and now if the pub-lic interest requires it; diffy cannot com-plain of a little fair competition in their own way. The Romans in laying out their roads adopted a straight line between termini without reference to intermediate obstacles, and our own engineers in setting out compleand our own engineers in setting out canals and turnpike roads, secured the most direct route the nature of the country would admit of, and even important alterations and improvements have been made to shorten the distance between places of considerable traffic. So I suppose the improvement of railways will be suppose the improvement of rainways will be left to the next generation, who, enlightened by our errors, will perfect the system we so erroneously and injudiciously began. Again, the most approved system for working railways seems to be very imperfectly understood, some eminent engineers advocating the loco-motive, others the atmospheric system (amongst the former are the Stephensons, Macheill, and others; the latter Brunel, Cubitt, and others), and each party asserting the superiority of its own hobby; but in the present state of the question the public at large are incompetent to form an opinion. As the present time would be a good opportunity of investigating the well as that of the gauge, the construction of railways, their upper works, &c., I would suggest the propriety of a commission being pointed, with adequate powers to collect app evidence or conduct experiments, composed of . 1

eminent men possessed of great scientific attainments and extensive experience, who would be qualified by an intimate knowledge of the subjects at issue, to grapple with them in all their different and difficult bearings.

1 am aware that implicit dependance is not to be placed upon the opinions of our en-gineers, as they are not infallible (besides many of them, like those in other professions, many of them, like those in other professions, do that they are required to do and are paid for doing); and, as a proof of what I state, at the completion of the Liverpool and Man-chester Railway, fifteen miles per hour was considered by engineers to be the maximum speed for a locomotive engine and train, the gradients worked successfully now were considered to be impracticable then, as were other sucrea to be impracticable then, as were other points that are now established, which would extend this communication to too great a length for the columns of your journal. As many millions of money are at stake in these railway projects, and as the best prin-ciples of construction and promision many to

in these railway projects, and as the best prin-ciples of construction and propulsion seem to be but a mere matter of opinion, I conceive, Mr. Editor, the subject is of the utmost im-portance to the community at large, and, I respectfully submit, worthy the consideration of the legislature and the Government of a great commercial country like ours, who should emulate the rulers of the kingdoms of ancient mulate the rulers of the kingdoms of ancient Greece and Rome in the zenith of their glory, and turn their attention on a broad and comprehensive scale, more particularly to the improvement of our means of communication, and the better development of the internal resources of our common country. B. B.

I am, Sir, &c., B Brecon, South Wales, June 16, 1845.

NEW CHURCH, NEAR RAMSGATE.

NE 1010 2

TRINITY Church, Mount Albion, St. Law rence, near Ramsgate, was consecrated on Wed-nesday, June 11, by the Archbishop of Canterneeday, June 11, by the Archbishop of Canter-bury, who arrived at eleven o'clock, and was received by about 20 clergy, the committee, trustees, and churchwardens. After the service a capital cold collation was haid at the vicar's, where 40 clergy and others met the Archbishop, who looked well, and commended the church and its promoters. Flags were flying at St. Law-rence, and triumphal arches erected. The church is in the perpendicular style (the style church is in the perpendicular style (the style of the fifteenth century), and will accommo-date 779 persons. It is 75 feet 6 inches long, and 52 feet 6 inches broad internally, and is divided into naves and airles by octagon pillars, carrying a clerestroy. "The dellings are all boarded and open. The pellings and free-seats, uniform, low, not painted, but varnished. There is a four-light painted, but varnished. There is a four-light painted, but varnished. There is a four-light painted plass window to the chancel, with figures of St. Mathew, Mark, Luke, and John, paid for By subscription; and a two-light window pre-sented by Mr. W. E. Smith, the builder of the church, at the east end of the south airle, both church, at the east end of the south aisle, both

church, at the east end of the south aise, both made by Warrington, of London. The building is faced with flints, with free-stone quoins. The cost of the whole, includ-ing all expenses, was under 3,0004, being less than the architect's estimate; of this about 2000, when here wind for the state the 1,600% only has been raised, for the rest the promoters are responsible. The ground was presented by Mdlle. D'Este. The archiects are Messrs. Stevens and Alexander, of London.

GLASS ROOFING .--- We learn from the newspapers that within the last few days a rather novel importation has been made in the port of London. This is a small quantity of glass tiles, similar in point of form to the common clay tile for roofing buildings, the advantage clay tile for rooms buildings, the avantage held out being their lightness, and being per-vious to the rays of the sun. The latter quality is presumed to render them suitable for the roofs of greenhouses, as they will not in -terrupt the heat and light, whilst they are sufficiently strong to resist the effects of hail-storms, which will much reduce the cost of insurance on greenhouses for the importeinsurance on greenhouses, &c. The importa-tion is made from Antwerp, and they are chargeable with a duty of 14s. per cwt. under the present tariff. They have the appearance of the common green glass, and if the experi-ment is found to succeed, it demands the im-We shall be glad to learn where these glass tiles can be obtained.

DRAKE'S MODEL OF ST. PETER'S AT ROME.

THE St. James's Bazaar, which "in its time plays many parts," moment a fine model of contains at this

" the dome,---the vast and wondrous dome, To which Diana's marvel was a cell;'

It is made in wood by Mr. Drake, of very large size, and is well worthy of examination. It was the work of seven years, and must have required a stock of patience, as well as skill, larger than is usually possessed. In the ante-room is exhibited a very good panorama of Rome, "the city of the soul," — the "lone mother of dead empires," which will serve to prepare a traveller for the disappointment which is usually experienced 'on first entering the eternal city.

"The goth, the Christian, time, war, flood, and fire, Have dealt upon the seven-hilled city's pride ;

- She saw her glories star by star expire,
- And up the steep barbarian monarchs ride, Where the car climb'd the capitol; far and wide Temple and tower went down, nor left a site :
- Chaos of ruins ! who shall trace the void,
- O'er the dim fragments cast a lunar light, And say, 'here was, or is,' where all is doubly night?"

In addition to the model and view, there are some original sketches by Michael Angelo, Sangallo, Bramante, and other architects connected with the building, and which, though slight, are very interesting.

APPLICATION OF DIFFERENT STYLES OF GOTHIC ARCHITECTURE.

SIR,-My attention was attracted last week to a paper in your magazine bearing the sige E. H., and to a remark met there, to natur the intent that the architects of the present day were expected to study the example of the middle ages, and to design their works in accordance with the true spirit of that remark-able period of barbarism and refinement. I do not quote serbation, but I believe that my impression as to sensa is correct. To do this, it is well said that we must visit the objects themselves, and there learn to feel the beauty of the styles we intend to design in.

This seems, indeed to be an ege of adapta-tion, - the solema character of the Egyptian, the grace and beauty of the Greeian, Roman, Goth, and Middle Age are united in one age But I have often thought that there is one circumstance which adds considerably to the striking effect of some of our finest old Eng-lish structures, which is, that all improvements or additions were made in the prevailing fashion of the time. The diversity thus occasioned has often furnished a theme for admiration: Early English, Decorated, or Perpendicular arches were inserted in Norman walls, and it very frequently happens, that the old Norman doorway is the only relic left of the original church.

This circumstance has been of great use to the antiquary, who builds his ers on the fushion the antiquery, who outles his era on the random of carvings, mouldings, and forms of arch and tracery. But returning to the idea of the beauty of non-uniformity, let us take, for in-stance, a large church with transepts, — the chancel and choir Perpendicular or Decorated, the transets - i contract to your approximate. the transepts and centre tower semi-Norman or Early English, and the nave Norman. Other combinations may of course be chosen, but I think that a union of styles would give more of the correct feeling of the middle ages than to carry out our large works as all of one period.

Viewing such a church as suggested from the nave, we have a bold foreground, the vista gradually becoming more adorned till, at the eastern end, the beauty is complete; then stained glass and rich decoration should finish the picture, and satisfy the eye.

The arrangement just contemplated will be found in some of our finest cathedrals, - Dur-ham in a degree, Lincoln better, and others might be named, perhaps, where the feeling is more fully expressed.

It has been said that invention in architecture has ended, that we can but copy now. Whether the elements of design are exhausted or not, there seems to be a general feeling against every thing new in architectural design; and unless we have a precedent for what we do, it is not correct and does not please. In the other branches of the arts we are pro-

grassing; bat perhaps, it may even be impossible to catch the genius of the early world, when man had every thing to design, and revelled in the luxury of an open and untrodden-field. Now we are told of every suggested idea, "Why that is as old as the hills." The rail appears the only road to favour at present. C. M. J.

Correspondence.

SP. MARY'S NOTTINGRAM.

Sin,-Doubtless for some years past you have heard of the contemplated restoration of this magnificent pile, and, unfortunately, it has only been hearsay, for nothing has been done. You will also probably recollect that about four for, and there was every prospect of the build-ing proceeding under the able hands of Mr. Cottingham. Thus far all the world has Cottingham. Thus far all the world has heard, but in this, as in many other cases, more remains to be told. Here is another instance of an nurestricted competition, and I am afraid it will end in another failure. I believe four tenders were delivered; three were very close together, about 5,000/., and very near architect's estimate, the fourth was 2,400. ! By begging and praying, the builder who named that sum obtained leave from the committee to amend his estimate, and went through it with the clerk of works to see what was absolutely left out, and then sent it in at 2,800%. which the committee allowed. Mr. Cotting-ham, as a matter of course, disliked having his designs murdered by such a tender, believing the works could never be done for the money; so of course he objected to it, and therefore the committee discharged him; and this prolege of theirs is to carry out the works, while Messrs. Scott and Moffatt are to step into Mr. Cottingham's shoes.

I have, I fear, already trespassed too much on your patience, and will merely subscribe myself.

AN UNINTERESTED PARTY, BUT A LOVER OF JUSTICE. Nottingham.

PURIFICATION OF WATER. Sin,-I am much annoyed with the water I raise from a well in which is fixed a vast iron pump; the soil or bottom of the well is composed of gravel, and so is that of the whole neighbourhood.

The water is bard, but what I chiefly suffer from, is the water that is pumped at night being of a red or rusty colour, the next morning with a strong metallic smell, and a coat-ing of a metallic substance on the surface of water.

the water. The kindness of a suggestion to remove this evil from any of your subscribers, will be highly esteemed by Yours, &c.

A. X. Y. Exeter, June 17th

Miscellanea.

CANNEL COAL .--- It is not generally known that Cannel coal can be employed in the fine arts, and that for the bases of statues, plinths, and a variety of other purposes, for which black marble and other fossil substances are used, this fossil can be substituted at a less cost and with less difficulty in the cutting or care ing. A very elegant vase of this material, something in the shape of the well-known Warwick vase, but flatter and partaking more of the patera shape, has been lately cut out of a block of Cannel coal, or rather "turned" out of the block by means of the lathe. The artist is a Mr. J. Dallaway. The vase stands on a fluted column of the same material. It we believe, been shown to his Royal Highness Prince Albert, who has expressed his satisfaction, both with the design and the workmanship of the artist. The polish that the material of which it is composed receives with very little labour, is surprising. The with very little labour, is surprising. The block came from the estate of the Duke of Norfolk, near Sheffield.

THE NEW PADDINGTON HOSPITAL.-His Royal Highness Prince Albert will lay the foundation of the new hospital at Paddington on Saturday, the 28th instant, at three o'clock in the afternoon. Mr. Hopper is the archi-tect. We understand the choice wavered for tect. We understand the choice wavered for some time between that gentleman, Mr. French, and Mr. Alfred Lang,

"BRISTOL AND' CLIFTON DRAINAGE .- The local papers 'say the Report of the Government sioners on this most important subject Commis has aroused the inhabitants to form a Drainage Company. Clifton was gradually being ruined by the abominable cesspools made around the houses; and from the strata of the rocks, it is proved that all the wells are, more or less, affected by the overflowing of these cesspools! The calculations shew that for a small sum from each house (one quarter the expense of emptying the cesspools) a per centage exceed-ing 104, per cent. will be realized.

ing 102, per cent, will be realized. NEW CHURCH AT HULL. —A meeting of the subscribers to the Hull Church Building Fand was held last week to decide on the best plan for the proposed new church to be dedi-cated to 'St. Paul, when that of Mr. William Hey Dikes, jun.; was selected from a great iber that had been sent in and exhibited in number that had been sent in and exhibited in the large room of the dispensary three weeks prior to the meeting. The church is designed to seat 1,200 persons, without galleries, and the walls are to be entirely of stone, without plaster. BH. Dikes, we believe, is a native of Hull, but at present located at Wakefield. FARL br AFLOOD IN a MILL. A few days since soon store the inducement of a selo

since, soon after the commencement of a sale by auction in Dean Mill, Yeadon, near Leeds, the second floor on which the company were assembled gave way, and upwards of 50 per-sons were precipitated into the room below along with a great quantity of wood, ma-chinery, and other weighty property. There were upwards of 100 persons in the room when the accident occurred, yet, astonishing to say, not a limb was broken, nor any ้อท่อ seriously injured.

FOUL AIR IN WELLS AND CESSFOOLS Mr. Green, of Sudbury, has been rewarded by the Society of Arts and Sciences for a method of purifying wells, &c., from the foul air which so often accumulates in them when long closed, and has not unfrequently been destructive of life. The plan is simply to throw into the well a quantity of unslacked linie, which, as soon as it comes in contact with the water, throws up a column of vapour, diffing before it all the deleterious gases, and rendering it perfectly safe for the workmen to descend immediately. DESTIMONT OF REPERT TO MR. JOHN

GRAVICITE EXCENSION This gentleman, who has been she resident engineer of the Hull and Selby Ruihway lever since the com-pletion of the line, had het week presented to him by upwards of 150 mechanics and workmen under his superintendence, an elegant silver tea and coffee service, on the occasion of his resigning his appointment for a more lucrative one on the London and Brighton

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addremed. For the convenience of our readers however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-attect, Covent-garden.]

atter, Covent-garden.] For executing Works on the Leeds, Dowsbury, and Manchester Railway, being a distance of about 42 milds. The principal work on this division is the summit Tunnel, near Morley, which is upwards of 3,000 yards in length. For the execution of a New Harbour at

Greenoek.

For the construction of Two Divisions of the Chester and Holyhead Reilway, being Nos. 8 and 12. No. 8 contains a length of 7 miles and 54 chains. No. 12 contains a length of 5 miles and 26 chains.

For the erection of a Governor's House, and alterations of the Chapel, at the Worcester County Gaol.

For supplying the St. Marylebone Vostry, with materials for keeping the Foot-way and Carriageway in order.

For the several works contingent on Warming and Ventilating the Chester Castle County Gaol.

For excavating and levelling Land, building Sewers, making a new Road, &c., on the Wheatley Estate, Erith, Kent. For Bricklayers', Carpenters', Smiths', Plumb-

ers', Painters' and Glaizers' Works, required to be done for one year, from the 24th inst., at the Churches, Chapels, Court-house, &c., of the Pariah

of St. Marylebone. For lowering and making certain Improvements at the Yeuston Hill, Henstridge, Somerset. For laying down a short Line of Railway, upon Pibrow's Atmospheric principle, and for two Cornish Engines.

300

For Building a New Parsonage House, at Castle Cary, Somerset. For the Removal of several Wrecks in the

Thames. For Excavating and Carting away the Soil and Rubbish, and making a Brick Barrel Culvert in

Coventry. For the Erection of a Dwelling House, Offices, and Farm Buildings at Bourton, near the Shrivenoam Station, Berks.

venoam Station, Berks. For Repairing the Roofs of the Union Work-house and Offices at Thornbury, and for the Paint-ing, Colouring, and Whitewashing the Exterior and Interior Walls, Wood-work, Railings, &c., of the

same building. For the Erection of Schools, and Teachers' Resi-dences, for the Trustees of the Worfield Charity, near Wolverhampton.

For the Erection of a New Church in the parish of Whitechapel.

For the Erection of Schools and a Teacher's Residence in connection with the new church of St. Jude, Whitechape).

For the Repairs to the South Aisle, Roof, &c., of St. James's Church, Bury, St. Edmunds. For the Erection of New Schools at Great

Chesterford, Essex. For 200 tons of New Iron Butt and Plate Hoops,

and for 40 mille great tale of Baltic and Quebeo Pipe Staves. For the Erection of a New Church at Homerton

For a Footway Paving to be laid down in the Parish of St. Paul's, Deptford.

For re-building a certain Bridge called Roache's

For re-building a certain Bridge called Roaches Bridge, in the parish of Fordingbridge, in the County of Southampton. For repairing and improving Horrington Bridge, in the parish of Arreton, in the Isle of Wight. For re-building Alverstone Bridge, in the parish of Brading, in the Isle of Wight.

For repairing Langbridge, in Newchurch, in the Isle of Wight. in the parish of

COMPETITIONS.

Designs for houses to be erected at Dover. The ground is nearly seven acres in arteat, and lies on a groute slope between the south-west boundary of Dover Castle and the town. A premium of fifty guineas is offered for the set that may be most approved of.

APPROACHING SALES OF WOOD, &c. ... BY AUCTION.

The timber and other trees now standing upon the estate at Woodseaves, Salop. By order of the Lord Chancellor made in the cause " Dickin v. Barker.

In the parishes of Torling and Fairsted, Essex : 215 Capital Oak, and 11 Ash Timber Treses, many of them of large dimensions.

At the George Inn, Rowde, Wiltshire : 108 Elm Timber Trees, and 58 Oak ditto. They are of good

And some of large dimensions. At Beale's Farm, near Badley Hall, Ardleigh, Esser: 130 Oak Timber Trees of good dimensions, and 3080 Bavins.

At Norton Hall, and Parleigh Round Bush Farms, Essex: an assortment, of Oak, Ash, and Elm Timbers and Whips. At Mrs. Burchell's Farm, Little London, Wood-

ham Walters, Essex : 130 Oak, Ash, and Elm Timber Trees.

BY TENDER.

A Virgin Forest of Valuable Timber in Walachia. The principal part of the Trees is Can. and said Forest may produce about 500,000 cubic feet

At Little Bentley Hall, Essex : several Acres of Plantations, consisting of superior Firs, Larch, Spruce, &c., to be taken down by the Purchaser.

MEETINGS OF SCIENTIFIC BODIES During the ensuing week.

MONDAY, June 23 .- Geographical, 3, Waterlooplace, 8] P.M. ; British Architects, 16, Grosvenor-street, 8 P.M.

TUBDAY, 24.—Medical and Chirurgical, 53, Berners'-street, 81 P.M.; Civil Engineers, 25, Great George-street, 8 P.M.; Zoological, Hanoversquare, 81 P.M.

WEDNESDAY, 25.—Geological, Somerset-house, 81 P.M.; Pharmaceutical, 17, Bloomsbury-square,

9 P.M. THURSDAY, 26. — Royal Society of Litera-ture, 4, St. Martin's-place, 4 P.M.; Medico-Botanical, 72, Sackville-street, 8 P.M Debbiological, 49. Pall Mall, FRIDAY, 37. - Phhiological, 49, Pall Mall,

8 р.м.

SATURDAY, 28 .- Royal Botanic, Regent's-park, 4 р.м.

THE BUILDER:

TO CORRESPONDENTS.

"Prevention of Fire."-C. W. remarks that the balusters of a staircase when of wood greatly assist the progress of fire, and urges that iron should be used instead. The importance of having a staircase wholly incombustible cannot be over rated. Wooden staircases seem specially contrived to spread a fire when it does happen, from the

bottom of the house to the top. "P. A. T. H."—The letter alluded to, refer ring to fire-proof staircases, has not reached us. We never omit to acknowledge communications. Perhaps our correspondent will favour us with a copy of it. "Prudence."—The British Mutual Life As-

surance Office is in Bridge-street, Blackfriars.

"A Constant Reader would be obliged by being informed through the correspondents of THE BUILDER the best and most durable polish for

BUILDER the best and most durable points for elate, and mode of application. "Curves." In Mr. Jopling's communication on this subject, last week, after the word "kyper-bola," for "archoids" and "cypoids," read, "the cardioids, the conchoids, the cyssolds." The Decorative Art Society should solicit our able correspon-dent to explain his system at one of their meetings. "M. C. C."—It would be invidious to mention

"M. C. C.,"—It would be invultous to mention one foundry where castings are not removed red-hot from the sand, as we hope the contrary prac-tice, very properly reprobated in the report from Sir Henry de la Beche and Mr. Cubitt, is the exception rather than the general rule. "J. D. Wyatt."—We shall be glad to receive considerable produced in a other ordinary

occasionally a notice of proceedings at the ordinary

meetings. "F. T."—The latter paper mentioned by our correspondent would be more likely to meet our views at this moment than the former, as we have already had occasion to refer to the Minster in our

pages several times, and must do so again. "B. B., a Reader."-Weale has published a work which gives the information sought, as to

taking out quantities, &c. "A Mason," wishes to know where Dr. Read's ventilator for bed-rooms can be obtained. think our correspondent errs in the name. "W. J. S."—A letter was left for him a We

"W. J. S."-A letter was left for him at the office as requested. It will apply to next Thursday,

office as requested. It will apply to next Thursday, if considered desirable. "D. D." — The question he asks, namely, "which of the numerous cements now in use is the best," is put to us nearly every week. Our experience of all is not equal, and we might do injustice therefore if use replied. "J. K." — We fear our correspondent's theory

is not tenable : we will, however, give it further consideration.

E. J. N. S."--We have thought it necessary to keep back the sketch until we can compare it with the front, and cannot yet promise to engrave it. If our correspondent desires to have it, it shall be left for him. Whether we use it or not, we shall feel obliged to him. "J. L." next week. "J. J. B."-The advertisement was published

"J. J. B."—The advertisement was published in our Number for May 17th; we regret it escaped the attention of our correspondent. A paragraph directing notice to the land appeared in the same number, p. 237. "A London Subscriber" (Nottingham).-

BUILDER is always ready for delivery by eleven or twelve o'clock on Friday : the fault must rest with the news-agent. Hereafter arrangements will be made to ensure even an earlier delivery. Received : "A Subscriber" (Brick Niches).

ADVERTISEMENTS,

PUBLICATIONS.

Just published, price 5s., neatly bound in roan, with tuck, gilt edges, and lettered, a Pocket Edition of CYCLOPÆDIA of the NEW ME-TROPOLITAN BUILDINGS ACT, together with the Act itself, a Folio Table of the Metropolitan Districts (old and new), a List of the Surveyors, with their Residences and Offices, and a Table of Fees to be paid to the Registrar for exercise nerformed.

and Offices, and a Table of Fees to be paid to the Registrar for services performed. In the Cyclopædia all the details of the Statute are arranged Alphabetically, so as to be instantly found, and accompanied by extensive references and counter-references to the sections of the Act itself and its minute provisions. By the late A. BARTHOLOMEW, Esq., F.S.A., Architect, Surveyor of the Hornsey District. Published at the Office of "The Builder," 2, York-treet, Covent-garden; and to be had of all Booksellers.

PRIZES IMPORTANT TO INVENTORS AND PATENTEES.

PRIZES IMPORTANT TO INVENTORS AND PATENTEES. GOLD MEDAL, value 1001. and a SILVER MEDAL, value 501., will be given by Mr. M. JOSCELIN COOKE. The Gold medal for the best Patent, and the Silver medal for the best Design taken out or Registered at the OFFICE for PATENTS and DE-SIGNS, 20, Half-Moon street, between the 1st of Novem-ber, 1844, and the 1st of June, 1846. The Prizes will be awarded by competent judges on the 10th June, 1846. The conditions to be observed, together with instructions, charges, and every information for obtaining Patents in England or Foreign Countries, or Registering Designs, will be forwarded gratis, on application to Mr. M. JOSCELIN COOKE, at the Office for Patents and Registration of Designs, 20, Half-Moon-street, Piccadilly, London.

A TMOSPHERIC RAILWAY, Daily st Work, carrying visitars, at the ROYAL POLY-TECHNIC INSTITUTION. This interesting Model is lectured on by Professor Bachhoffner at One o'clock daily; also on the evenings of Wordneys, Turestays, and Thursdays at Nine o'clock. The working of the Model always follows the Lecture. It is also worked at Four o'clock, and at other convenient times. The other interest-ing Works and popular Lectures as usual. Admission, 1s.; Schools, half-price.

TO CONTRACTORS, BUILDERS, MASONS, AND BRICKLAYERS.

BRICKLAYFES. BRICKLAYFES. JOHN TRICKETT, Agent, 14, FERRY-STREET.—At CLIFF and HUSLER'S Wharf, near the Ferry House, Isle of Dogs, A GOOD STOCK is always on HAND of Yorkshire Landings and Paving of the Best Quality, also Sinks, Steps, Coping, Sawn Robenhood, Parkspring, Greenmoor, and Harchills, and also the same Stone in Block, and a good selection of Portland and Bath Blocks. Cargoes constantly arriving in the River which can deliver alongside any Wharf slove or below Bridges. Mr. Cliff's celebrated Fire Bricks and Clay, warranted equal to Stoarbridge, and at considerably less prices. The beat Lis-colnshire Pau and Plain Tiles, at low prices.— JOHN TRICKETT, AGENT, 14, Ferry-street, Isle of Dogs. N. B.—A Fly now 'runs to the Ferry House, near the Wharf, every half hoar, from the Lienchouse Station, Black-wall Railway.

FOX'S PAPER VARNISH, 6. 8. and **DOX'S PAPER VARNISH, 6s. Ss. and** 18s. per gallon; saita sise, \$1s. per ewc. Carriage Varnish, 10s. per gallon; saita sise, \$1s. per ewc. Carriage revery description of gilders' and deconstars' materials. Burnish gold size, 1s. and 1s. 6d., oil gold size, 5s. and so per lb., warvanted; burnishers, penalts, tips; gold, 5s. per 100. Grinders' Colours kept ground; bafgers, camba, &c.-At the manufactory, 56. Old Compton-street, 6ohs. Prices lower than any other house. Strong and clear dise always ready. N.B. Country orders ettended to with dispatch.

TO ARCHITECTS, ENGINEERS, BUILDERS, AND OTHERS.

HANDSOME DOUCEUR, or a Re-

A MANDSOME DOUCEUR, or a Be-gular Commission, will be allowed by the advantserio any gentleman connected with either private or public works, who would recommend businese, contracts, or jobs to an old, extensive, and highly respectable factory in London, espable of executing engineering works to any extent constitution in brass or iron, and machinary of every description; the u-most secrecy may be relied on.—Apply to D. G., care of W. THOMAS, British and Forsign Advartising Agent, SI, Ca-therine-street, Strand.

IRONMONGERY. BUILDERS will find it greatly to their advantage to purchase IRONMONGERY of CLUSE and BOSE. 35, CITY ROAD, corner of Tuberracie-row, and near Old-street Road. Base Cut Clasp. Sd. 4d. 6d. 8d. 10d. 20d. 5d. 4d. 6d. 8d. 10d. 20d. 5d. 4d. 6d. 8d. 10d. 20d. 6d. 7d. 9d. 10. 10. 6d. 50. 5d. per 1,609. Cast Lath Nail, 120. 6d. per ewt. 5 Sash Weighter, 70. 6d. per cwt.; Best Cut Floor Brade, 180. per des. peise. ELLP-TIC STOVES with Inside Backs, 3d. per inch.; Registers with Inside Backs, 7d. per inch. Exery other description of Ironmongery at prices equally low.

DUTY off WINDOW GLASS. -- 101

DUTY off WINDOW GLASS. --- On April the 6th, Squares stoutes and of better sake than formerly for Glasing purposes at 6d, per foot. NURSEYMEN, MARKET GARDENERS, AND OTHERS requiring Small Glass, will find a greater variey for sizes (a large Stock of which is constantly can basel) then is kept by any other house in London, from 4d, per foot. Flattened Sheet, Stained, Fluted, the BIRMINGHAN Sheet Plate (superior in all respects to coury other smith), and Ornamental Glass of every description. Complete Ling Glass, Lead, colours, &c., at ready-money prices, may be had (gratis) on application to R. Cogan, at the Wester Glass, Lead, colours, Warshouse, 5, Frinces-street, Ciccenter-square, London. SURVEYORS, CONTRACTORS FOR PUBLIC WORKS, and the TRADE generally, sending specifica-tions of quantities required, will receive by return of post an invoice at the very lowest cash prices. A parcel of very Superior Spruce Oker, suitable for PLASTERERS AND PAINTERS, to be sold at 6. per

POLONCEAU'S BITUMEN PAVE-MENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Sait Warehouses. For the erclusion of Damp and Vermin in Basements it is particularly stapted, and for Roofing Dwell-ing Houses, Porticos, Balconies, and Sheds. Price 32. 6d. per square pard. BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 48s. per test, by applying to JOHN PILKINGTON, 18, Wharf-road, City-road.

TO ARCHITECTS.

TO ARCHITECTS. IN consequence of many complaints having been made to the Company, by Architecta, of a spurious material having been used in the camoutoe of Works where the STYPEL APPRALTE had been specified for, the Directory, with a view to ensure the falliment of any much specification, have authorised CERTIFICATES to be granted to Builders where the SEVERFI ARPIALTE

SEVSEL ASPHALTE

SEVSGEL ASPHALTE has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seymel Alphalte, Cla-ridge's Patent," and not merely "Asphalte," or "Bite-men," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. Bridge, Jan., 1845. Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

"The Builder," and of all Booksellers in Yow and County, price 1s. •,* In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. Curtis, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mostioned, that "Claridge's Asphales" was to be used.



SATURDAY, JUNE 28, 1845.



HE recent discussions, or rather conversations, in the House of Lords, respecting the new Houses of Parliament, will, it is to be feared, greatly affect the success-

ful execution of the works, and must be regarded with considerable interest by the profession, if not by the public at large. Their lordships, the Peers, it seems, are not conveniently located; their temporary house is found, when they assemble in any number, to be confined and ill-ventilated, to say nothing of its want of grandeur and effect; and they are therefore most anxious, and have been for a long time past, to force forward this portion of the general design, quite irrespective of the other parts. A committee, appointed by their lordships, have from time to time examined Mr. Barry, and, Mr. Grissell the contractor, to ascertain the progress made, and have led the former, by their urgency, to promise the completion of their portion of the building earlier than, under the various circumstances which control him, was possible.

"Would it not go on faster," said the committee, "if every man and every stone now employed on the building generally were ap-plied to the House of Lords alone ?" And when the architect said "Yes," in reply, they ordered that every man and every stone should be so employed. If Mr. Barry had been an older practitioner, and had felt himself sufficiently firm in his position to brave the displeasure of the committee, he would at once have told their lordships that such a proceeding was quite out of the question; that he had other mesters to regard, - the Commissioners of Woods and Works, the Commissioners of Fine Arts, the various officers of the Houses, all pressing their several claims ; that he had the public to consider, and his own reputation as an artist; moreover, that it was not simply unwise, but impossible. As it was, however, he seems to have allowed the committee to consider that their instruction would be complied with, and was induced, under pressure, to name an earlier date for the completion of the House of Lords than he should have done.

As regards the general progress of the works, the most casual examination of the structure, with due consideration of the elaborate nature of the carved decorations, unexampled in modern days, will serve to shew that no time has been lost or efforts spared. It is now four years since Grissell and Peto laid the first stone (the foundations being already formed),—what are four years for such an undertaking ?—and from that time to this 400 men have been constantly employed on the ground, with many more in preparing elsewhere, and have never been kept waiting by the architect.

Some persons think, if we may use the word where no thought is really given, that when an architect has produced the design for a building his work is over, and that it may, without further thought, be forthwith carried out. Nothing is more erroneous, especially as regards Gothic architecture: it is then that the architect's labour commences, and his skill is proved. In such a work as the Houses of THE BUILDER.

Parliament, every superficial yard demands the closest thought, and requires as many detailed drawings as for the whole of an ordinary dwelling-house. Every ornament, every moulding, every line, must be produced and delineated; and over all these does Mr. Barry's own pencil pass. An architect careless of his reputation may get through any amount of work, by deputy; but if determined to execute it to the best of his power, strive as he may, he can only produce a certain quantity, and we will venture to say that the architect of the new Houses of Parliament finds little time for other occupations or recreation from early on Monday morning till late on Saturday night. The wear and tear must be immense.

The life of an architect even under favourable circumstances is one of toil and anxiety; and he needs to have no extraneous circumstances to harass and perplex him. We have heard a member of the lower House declare his ability to write poetry by the mile; we may probably find one of the upper House profess the power to design gothic details by the acre, and laugh at the idea of limits to a man's power in so simple a matter. They would be equally entitled to credence : we should merely say they were exceptions from the general rule.

In judging of the asserted delay, which, according to Lord Brougham, has given Mr. Barry the name of delay (as Quintilian said of Tully, that he was not only an orator, but the name of eloquence), the public should bear in mind that the river front which they see is only one-third of the whole structure, much of which they cannot see. The buildings altogether cover eleven acres, and their cubical contents have been estimated at half as much more than the contents of St. Paul's Cathedral, which occupied about five and thirty years in building, without any material interruptions. They should also know that the whole building is made fire-proof, and that the difficulty of combining this with Dr. Reid's extraordinary arrangements for ventilating the structure and taking off the smoke, has been immense. Over these latter the architect has up to this time had no control; but so much delay and inconvenience has been caused by them that a rupture has occurred, and it now rests with the ruling powers to establish the supremacy of one party or the other. We do not wish ourselves to throw any blame on Dr. Reid; the whole is an experiment, and its magnitude is so great as necessarily to demand much deliberation, but it is too bad that an architect's operations should be suspended, his designs altered, and his views interfered with; and then that he should be blamed for what has been done against his will. The work in the lobby of the House of Lords was delayed six whole months because the system of ventilation there was not determined on.

The Peers now insist on having their house ready for occupation in February next, and the greatest efforts are consequently being made. All the walls and the ceiling are to be covered with carved wood-work of the most elaborate character, and this is being forced on by 150 additional workmen much more rapidly than is desirable. It will probably be ready for fixing about October, and instead of remaining as it should do in the drying rooms during the winter ready for fixing in the summer, will be taken into the new building in the bad weather, and probably be irreparably injured. Do what they will, moreover, the House of Lords cannot be completed by the time named, nor is it desirable that it should be. Surely, if their lordships would consider

that this building is not simply for some immediate or temporary purpose, but is intended to last for ages, and that the great object should be not to do it quickly but well, they would restrain their impatience and allow the architect to work out efficiently the whole design. If the present accommodation is bad, let it be made better; re-construct the temporary House of Lords during the ensuing vacation, and persuade them to put up with the indignity yet a little longer, so that their order may be worthily lodged ever after. The architects of the middle ages produced the noble works to which we now appeal with pride, slowly, by degrees, and as works of love; at least let us give the ninetsenth century one chance, and not by unnecessary and child-like haste, risk adding another failure to the crowd which already disgrace it.

ILLUSTRATIONS OF ARCHITECTURE FROM THE BRITISH MUSEUM.

THE XANTHIAN MARSLES.

WE have directed attention, in previous numbers of THE BUILDER, to the want of a museum for British antiquities, and those of the middle ages generally. But if we men-tion the continued want in this particular, it is right to recollect, that excellent provision is made, at least, for the antiquities of the ancients. The general arrangements of the British Museum are conducted on a scale of munificence, productive of the greatest benefits to all classes. The collection has become to all classes. The collection has become so extensive, that it is quite impossible to be acquainted with all the treasures it coneven in one particular line of study, tains. whilst the most valuable fragments can neve be examined without suggesting fresh points for inquiry. It will be our object in some future numbers of this journal to direct the attention of the architect, and the decorative artist, to such portions of the collection as bear upon their peculiar pursuits. The art of sculpture occupies a large space, but most of the examples are equally interesting to the architect, and afford even the forms of the furniture, and of many utensils of the ancients. Lately the collection in the Elgin room has been enriched with casts from some remaining portions of the Parthenon. Amongst these is the sacred owl of Minerva. There is also a cast of the capital, from the monument of Lysicrates. No one can examine the figures from the temple, which are at present de-posited in the Museum, without wonder at the careful execution in objects so far removed from the spectator; but the wonder is greatly increased on finding from the work of Revett and Stuart, that the Elgin marbles form a very small part of those formerly existing. This may also be seen on referring to a restoration of the pediment, or to the large models of the temple in its present, and its original state, now constructing in the Elgin room. But the most important acquisition, which the Museum has received, since the Phigalian frieze, is that of the Xanthian marbles. These have pre-viously been described, but their architectural interest leads us again to refer to them.

The country of Asia Minor occupied an important position in the ancient world, and one strongly contrasted with its present state, regarding which there is still great want of information. Few have contributed more to a knowledge of its ancient state than Mr., now Sir Charles Fellows, to whom we are indebted for the transmission of the Xanthian marbles to England, and who has published two journals of his visits, and an account of the proceedings at the ancient city. The tombs of Asia Minor are probably as curious as the receptacles for the dead in any country, not only from their immense number, but their forms and workmanship. Whilst the character of their sculptures proves many of them to have been of the best age of Greek art, their architectural character is often singular and unintelligible. There are among them, not only isolated constructions, but also, and perhaps in arombs of Petra. Many of them shew a closer similarity to timber construction, than is observable in the Doric temple of the European

Greeks, and in fact they resemble the huts of the present inhabitants of the country. This is of servable in a fragment carved in imitation of the cross poles, projecting from the eaves of the hut. A roof having its section in the form of a gothic arch is common. Many form of a gothe arch is common. Many of the monuments are each nothing more than the frustum of an obelisk, with a few large fillets as cornice. The monument called the "Harpy Tomb," of which there is a model in the Museum, was of this form, and it was decorated with the sculptures, supposed to redecorated with the scurptures, supposed to re-present the story of the Harpies flying away with the daughters of King Pandarus. But the most interesting monument is one erected to commemorate the conquest of Xanthus by Harpagus, the general of Cyrus, in B.C. 546, as described in Herodotus, book i.• When dis-covered it was a mass of ruins, but has lately been restored in a model, placed in the Mu-seum. This trophy consists of a lofty base-ment, supporting a peristyle. The former was surrounded at the foot, and beneath the cornice, by the bas-reliefs,—representing the siege of a walled town, and a contest of horse and foot combatants,-which are at present in the collection. The edges of these portions shew the contrivance for procuring a perfect joint; the meeting surfaces are perfectly smooth for the breadth of an inch at the front, but within are left rough for the mortar. The perfect cohesion obtained was equally favourable to the stability of the mass, and the beauty of the work; indeed the joints were sometimes so close that a knife could not be inserted, and it has even been asserted, that many of the Greek temp/es were constructed entirely with-out mortar. The cornice of the basement, in the monument under consideration, is curious from its two ovolos, which are placed one immediately above the other; they are en-riched, and have beneath them an enriched riched, aud have beneath them an enriched bead, the whole being decidedly of Grecian workmanship. The top bed of this cornice shews the position of the column of the peristyle which was fastened into the block, probably by a copper plug. It is, however, certain, that a wooden pin was often employed, and one of these was lately presented to the Institute of Architects by Mr. Hamilton. The peristyle has fourteen fluted columns of the Ionic order, supporting a nedimental roof and inclosing a has fourteen fluted columns of the Ionic crder, supporting a pedimental roof, and inclosing a small "cella," which, however, appears from the *model* to have been built solid. The porticos are tetrastyle, and the intercolumniation areo-style. The bases are peculiar from their ex-treme height. They have the reeded torus, as in the Erectheum, and beneath it two hol-lows separated by beads; but the hollows are not like the scotia of the attic base, and, as in Grecian examples, there is no plinth. as in Grecian examples, there is no plinth. The frieze is ornamented with sculpture, as are the pediments, and also the frieze of the cella. Parts of these friezes represent the guests seated at a banquet, probably the ca-rousal after the victory. The angles and apex of the pediments have figures in motion, and there are also figures of men and animals in the intercontent of the presidue. The in the intercolumns of the peristyle. The antw of the *cella* have very beautiful capitals enriched with pateras, and waterleaves; and are, as in most Greek examples, of less breadth in flank than in front. The order has no ar-chitrave; the only moulding beneath the frieze being similar to the tænia in the Doric frieze being similar to the tania in the Doric order. The pieces of the entablature were bound together by copper cramps (into this form), run with lead, as may still be observed. The crowning member of the pediment (*sima*) has been continued along the flanks and orna-mented with lions' heads, being in this re-spect like the Roman system; the Greeks were in the habit of stopping it at a short distance from the front. The dentils are unusually large, and the slabs of the roof covering in the model are also extremely large; is there the model are also extremely large; is there authority for these peculiarities in a building so essentially Greek? The greatest interest cannot but be felt in

The greatest interest cannot but be felt in the examination of these remains,—their beautiful workmanship, the fine treatment of the sculptured decorations, place them as second only to the finer works from the Parthenon. They were produced in a country, which had greater influence upon other nations than any other, Athens not excepted. Asia Minor was the nurse of Grecian philosophy and art, and it is melancholy to reflect upon its present debasement. E. H.

* Sce BUILDER, page 03, ante.

THE BUILDER.

ON THE SHAPE OF HOUSE DRAINS.

Sin,—Having some time since recommended, through the medium of THE BUILDER (pages 593 and 606, vol. ii.), that in the construction of house drains it would be extremely desirable to employ good, strong, and well-burnt cylindrical pipes, made of clay, and glazed inside, in lieu of the present method of building them, both cylindrically and rectangularly of common bricks, I cannot but regret that you in your judgment of this matter should have thought it desirable to have somewhat suggested in answer to your correspondent, "A Bricklayer," last week, that the construction of house drains might be of a rectangular or square angled shape; and that they might be thus built of certain sizes equal to a circular area of 9 inches diameter, in order to comply with a clause to that effect in the New Buildings Act.*

In this age of improvement it is highly desirable to promote and enlarge the adoption of scientific principles as much as possible, because the more we have recourse and conform to such principles the more certain and correct will all subjects to which they are applied, be in their results; and upon no subjects, and in no case, are the principles of science more applicable, and more required, than to the improvement and correction of the false principles of drainage. It appears to me that a very great error was committed in framing the clause in question, by leaving the forms, sizes, and construction of house drains so undefined; and also in not declaring at once that for the future all drains should be made of a cylindrical shape, or that their bottoms should be made concave or semicircular, and as even and uniform as possible.

The arrangement and construction of housedrains may seem, and no doubt it is to many builders, a very trifling and worthless affair their formation being considered of very little consequence, and indeed the manner in which consequence, and indeed the manner in which they are generally executed proves this state-ment to be a fact. No parts of a building re-quire more attention, and more nicety in pro-ducing perfection in arrangement and con-struction than should be observed in the building of house drains. It is by the means of proper and efficient drains that animal and ware the fully correspond in dwelling buyes vegetable filth engendered in dwelling houses is usually carried off; and the discharge of this becomes the more certain and perfect according to the paius taken in producing accuracy of form, size, arrangement, and con-struction of the drains. The building of drains struction of the drains. The building of drains is a subject of great and serious consequence, in reference to the effect they are calculated to produce on the health of the inhabitants of dwelling-houses, and, therefore, their utility and efficacy are of the utmost importance to the sentery or production the sanatory condition of the population. The valuable evidence which has been elicited by the inquiries of the Health of Towns Commission, with reference to the subject of drainage, and the impetus that has recently been given to the propriety of providing good and perfect drainage in places where none exists at present, and the agitation which has resulted from its publicity, has had, in a great measure, the desirable and salutary effect great measure, the desirable and salutary effect of arousing the attention of the public mind to the evil effects of bad, and the necessity and great importance of good and efficient drainage of dwelling-houses. So far as the metropolis is concerned, the New Buildings Act has provided, and that very considerably, for the extension of drainage, by obliging persons to build sewers in front of, and to lay drains into them from all houses that shall here five the here he any sewer or hereafter be built, if there be any sewer or open watercourse under the jurisdiction of any of the Metropolitan Commissions of Sewers within 100 feet of such intended new buildings. This is certainly one grand and ex-cellent step towards providing for the exten-sion of house-drainage; but this Act does not provide for the formation of sewers in populated districts where none now exist, nor for obliging persons to build sewers for the drain-age of premises or new districts. If the points where sewers have already been carried up, and which are hidden and buried, and the water courses and other places, under the jurisdic-

* The remark to which our correspondent refers was made simply to explain the meaning of a clause in the Buildings Act, and to shew what *might* be used, and had no reference whatever to the best form.

tion of the various commissions of covers, be narrowly and strictly watched by the district surveyors, all or most of these points may fall within the distance stipulated by the Act, namely, 100 feet from the intended buildings; and were these points known and properly defined they could be made subservient to the extension of drainage. I think it would be a good and desirable plan to ascertain and mark all these various places and points on a good-sized map for the use and reference of these gentlemen; as otherwise buildings may be allowed to be carried up without any, or an improper drainage, from the surveyors not being properly acquainted with these particulars.

The employment of common bricks in the construction of drains, and especially drains of rectangular formation, cannot be too highly reprobated. Drains of rectangular construetion are not only calculated not to afford a powerful resistance to the pressure of the ground which is filled in around them, and therefore are liable from this cause to disarrangement and destruction, but such a form rangement and destruction, but such a form is also contrary to hydraulic principles, as the energy, action, and power of the streams in lifting and carrying along substances in sus-pension with it, is materially retarded and de-stroyed by such a form and arrangement, as might very easily be proved. The means of carrying off the animal and vegetable matter from dwellings is entirely dependant upon the quantity and power of the water which passes into the drains; and the mechanical action and power of the water may be rendered altogether inefficacious for this purpose by the sluggish-Inclineacious for this purpose by the sluggish-ness of their falls, their sizes, and their forms. It is really surprising to observe how persons go on from day to day, and from year to year, forming these things, when they are known to be exceedingly bad in principle and inefficient in action, because such formations have become a business of habit; and also, as is too often evinced, from a stubborness grainst introducing improvements. The use against introducing improvements. The use of pipes in the construction of drains is ren-dered the more necessary in consequence of the notorious carelessness of brickiayers in building brick drains; for let it be taken as an axiom that whenever a bricklayer has to exe-cute a piece of work which is to be immediately covered over and hidden, without being watched, the chances are that he is sure to perform it in an unsound, slovenly, and improper manner. I have often observed drains being laid through houses in the following manner two parallel lines of two or three courses of bricks were laid flat, or on edge upon one another, and at about seven inches apart, and sometimes without any mortar; no other bottom or channel being formed or provided for the passage of fluids and substances along them, than what was afforded by merely the *bare* carth. And yet no means are available in preventing such reckless and abominable pro-

preventing such reckless and accumuator preceedings. Of all the routine of construction in buildings, the arrangement of the proper sizes and falls which drains should be of, and their construction as well, are least cared for, and less thought of; so long as there be an aperture and channel formed, whether it be multangular, rectangular, or however various its form may be, it is considered sufficient to answer the purpose; indeed, this too is notorious, and can be proved to the satisfaction of any one if he will only take the trouble to examine their interior constructions. The interiors of drains are usually parts of a building which are unseen; indeed, this is actually the case even during the time of their execution; and the best and only manner of properly observing their state and the way in which they have been built, is by examining their insides from the interior of a sewer; and as this mode of examination does not fall to the lot of hut very few persons, I take leave to say that, whan thus observed, their appearances are traits abominable. From the improper and imporfect manner in which the brickwork is usually performed, and the bad way in which the ground is filled in around them, the drains are invariably squeezed and crushed into almanner of shapes and sizes; and sometimewhile building, their interiors are left half fulof either brick rubbish, clay, or gravel, which lays upon their bottoms so long as the draitsexist, or till they become entirely choked by th deposition and accumulation of matter, and

are cleared out. Besides, the bottom halves of brick drains are usually laid dry on the ground without mortar or cement, and the consequence is that the greater part of the fluid which passes into them percolates through the joints of the bricks and is absorbed by the subsoil, and from this cause a drain cannot be considered otherwise than as a long and narrow line of cesspool. From the uneven manner in which the bricks are usually laid along the bottoms, and from the rubbish and piec mortar that are left within them as well, these protrusions present a succession of internal irregularities and stoppages; so that at every inch or so along the bottom and sides, the water, and animal and vegetable matter which is carried along in suspension with it, becomes arrested in its progress to the sewer; and consequently the soil becomes deposited upon the bottoms of the drains, and these, from this and other circumstances before referred to, ultimately become choked, and are thus rendered of no utility and service whatever in assisting the discharge of the sulliage through them to the sewer. During the time the matter is collecting within the drains, and this may be going on for months together, the inhabitants are very much annoyed, and incessantly complain of foul vapours and stench, which emanate from the decomposition and fermentation of the accumulated matter through the various vents within and about the houses, and effluvia of the most filthy, noisome, and malignant description, are inhaled by them. It has very often been shewn clearly and forcibly that wherever bad drainage exists the surrounding atmosphere becomes vitiated and charged with malaria and poisonous gases, which have a most injurious effect upon the health of all those persons who reside in such places, and, very often, these gases are the cause of the production of virulent fevers. The use and abuse of cess-pools have very often been spoken of, but I really cannot see what difference there can be between a cesspool, and a long line of ill-constructed drain, which runs under a house, and retains all, or nearly all, the filth which is discharged into it, and has to be cleared out periodically, precisely the same as a cesspool.

If drains are to be made at all, the workmanship should be made as clean, smooth, and perfect as possible, otherwise a cesspool is nearly as effectual: and it is only a waste of time and money in building drains of time and money in building drains without particular attention be observed in these points, and also in making them so as to prevent foul air and fluids from escaping through them. I have seen the interiors of tube drains whose calibre is exceedingly small, and have been in use many years, per-fectly free and clear from deposits and ac-numulations while the bottome of large heigh cumulations, while the bottoms of large brick drains contiguous, were half-filled with de-posited matter; their size and roughness causing the matter to lodge within them.

To all persons who are any way engaged in the formation of drains a knowledge of the scientific principles of statics and hydraulics is highly desirable; indeed, no drainage could be properly laid down and conducted without this knowledge and the dependance and manner of applying these principles to it. The proper and efficient drainage of a very great many houses in all parts of the of a very great many houses in all parts of the metropolis are rendered altogether ineffectual from the circumstance of the bad and impro-per construction of their drains; and the facilities afforded by the sewers in carrying off the sulliage are by this means of little or no avail. And the improvements which are yearly taking place in the metropolis by deepening and reconstructing the sewers, and otherwise affording good, efficient, and perma-ment drainage of premises, are in very many nent drainage of premises, are in very many instances of no service, because no control is allowed to be exercised over the manner of forming and constructing private house-drains. It may appear somewhat difficult to legislate for the arrangement and construction of pri-vate drains, but most assuredly considerations and difficulties ought not to have any weight when it is observed that the building of a private drain and a sewer are so mixed up and blended together that the efficiency of both are rendered reciprocal, and are thus mate-rially dependant upon their proper falls and constructions; for whenever the one is badly arranged in these respects the other is ren-dered almost useless in consequence. I have

very often been applied to and asked where the drain pipes in straight lengths and curved drain pipes in straight lengths and curved junctions, and of the description and strength which I have suggested could be procured. But from not knowing where such are to be obtained, if at all, I have not been able to give a direction, and thus recommend, and ensure their actual application to practice.

From the great impetus that is expected to be given to the manufacture of glass, in conse-quence of the repeal of the duty, I see no reason why cylindrical drain pipes of various diameters should not be made of glass, as such a form and the emochance of this meterial a form, and the smoothness of this material would afford facilities in accelerating the dis-charge of the drainage of houses into the sewers, that no other material could so well There is no question but that they could do. be made of sufficient substance and strength to enable them to resist very great pressures; and that they could be made with proper joints, and in lengths both curved and straight, with proper curved collateral junctions, convenient for using. The interiors of drains cannot be too smooth, for smoothness of surface and proper falls and sizes are the principal points to be observed in their construction. Good, thick, well-burnt cylindrical drain-pipes were very much in use in England about a century and a half ago, for I have seen and taken up many that were laid down about that time; and with all the boasted science and skill which has of late been shewn on the subject of drainage and sewerage, we are still considerably behind hand with what was done and generally practised by the Romans, especially in the drainage of their villas. This people used pipes of earth very extensively, both in the conveyance of water from springs and aque-ducts to their houses, as well as in carrying off the drainage therefrom into the main

Whatever may be said in reference to the subject of tubular drains, it can have no other effect than of promulgating their enciency, and of clearing the way for their use. As for the originality of proposing tubes for drains, it would be the height of absurdity and plagia-rism in me to claim it, for what Pliny says in his natural history on the subject of drain-pipes would appear to set this matter at rest. He effect than of promulgating their efficiency, says that " If a man would convey water from says that "It a man would convey water from any head of a spring, the best way is to use *pipes of earth* made by potter's art; and the same ought to be *two fingers thick*, and one jointed within another, so as the end of the upper pipes enter into the nether, as a tenon into a mortaise, or as a box into the lid : the same ought to be united and laid even with quicklime quenched and dissolved in oile." And he says further that "the skill and knowledge of pottery is more antient than founderie or casting brasse;" and again " how beneficial is the earth unto us in yeelding us *conduit* pipes for to convey water into our bains."* Now, whether any one else can lay claim to anticipation, invention, or originality in pro-posing the use of conduit or drainage pipes after this, I leave to competent and impartial judges to say. I hope, Mr. Editor, you will take every opportunity of recommending the employment of proper cylindrical tubes for the construction of drains, instead of the present mode of building them with bricks, so that by mode of building them with bricks, so that by these means better drainage from houses may be produced, which must tend very much to sanatory improvement. Drains should never be constructed of a rectangular form, but should always be made circular, at least their bottoms should where the water runs; for if I take a barrel drain say of 9 inches diameter, its area is equal to G3-617 inches; and the side of a square drain having the same area is equal to 7-976 inches: therefore, now supposing that the quantity of water running through each the quantity of water running through each of these drains to be equal and half full, then of these drains to be equal and half full, then the semi-circumference being equal to $14\cdot137$ inches, the length of the base of the square added to half its height on each side is equal to $15\cdot952$ inches, or nearly 2 inches more. So that we have an actual re-tardation and loss of power in the stream through friction of nearly 2 inches by using the rectangular drain. And this is not the only loss of power in the stream, for the denth of the water in the square drain is the depth of the water in the square drain is less than that in the circular one by more than

* Pliny's "Natural History," translated by Philemon Holland, 1634,

half an inch, for in the former the depth is equal to 3.963 inches, and in the latter it is equal to 3933 inches, and in the latter it is equal to 4.5 inches, the difference being equal to 537 of an inch. The hydraulic mean depth of each can be found by dividing the transverse area of the water expressed in square inches by the border of the secin square induces by the bolder of the sec-tion minus the upper surface of the water. We have a considerable loss of power in several ways by adopting a rectangular shape for a drain, therefore their use should be entirely abandoned; and I think no drains can be better formed, or can afford means of better and more effectually carrying off the animal and vegetable refuse from dwelling-houses than can be done by smooth cylindrical tubes. This letter has run out to a length that I originally did not contemplate, but the magnitude and importance of the subbut the magnitude ject must be its excuse. I am, Sir, &c.

JOHN PHILLIPS.

THE BRITISH ARCHÆOLOGICAL SOCIETIES.

WE continue to receive many letters relative to the dissension, the majority of which urge that members really anxious to effect a junction, should publicly pledge themselves not to attend either meeting at Winchester unless some arrangement be previously made. One gentleman, who signs himself "E. N."

Says:--" SIB,-" SIR, - Your very excellent observations from first to last relative to the Archæological Association are so very suitable to the occasion, and have so much enlisted my sympathies, that I beg to submit to you the question, whether the best mode of bringing the petty squabble to an end would not be for the nominal members to desire their names to be erased from the list; for my own part I thought it so discreditable to remain connected with a society so divided, that I have requested the secre-tary of each party to erase mine. It must be much regretted by every one who values an-tiquity, that from want of a business-like constitution the advantages that might have resulted from the co-operation of so many able antiquarians have been prevented."

Mr. Wansey, F.S.A., has addressed to us the following letter, which has also appeared

which exist amongst us to our discomfort, in-jury, and reproach, I have been hoping some influential members would have come forward publicly to try and heal them. Anxious for the well-being of our association, I respect-fully recommend,—that we stop not to inquire who is right or wrong; two rival societies together cannot be for good, and one is tempted to say 'a plague on both your houses:' while the world will jeer, and cry out, 'Tan-tæne animis cælestibus iræ?'

Suppose both dissolve, and men the most considerable amongst us for character and station undertake to draw up laws to be submitted to a general meeting, for the govern-ment of one new society, embracing all, to be then constituted : officers, &c., to be chosen as usual. 1 see no better way of getting out of our present undesirable position, and take this mode of addressing you, as the most practicable.

Arborfield, near Reading, June 19, 1845."

We have the names of more than a dozen influential members who would willingly aid in restoring unanimity. It is said to be in restoring unanimity. common in one part of India when there is any dissension between church and state, for a man to go to the top of a certain pagoda, and vow that if the quarrel be not terminated in twentyfour hours that he will return and throw him self off; and they further relate, that sooner than have the blood of the man upon their heads, both sides usually yield a little, and so the difference is adjusted. Can we not find some devoted friend to peace and quiet to try this move on Westminster Abbey, and thus literally, precipitate an amicable result? If it succeeded, we should claim a daily allowance of milk and honcy fore the rest of the year.

THE OFFICIAL REFEREES.—Mr. Higgins has resigned the office of referee under the Buildings Act.

ST. MARY'S MARYLEBONE AND PADDINGTON HOSPITAL.

-As one of the three architects men-SIR,tioned in the paragraph respecting "The New Paddington Hospital" in last Saturday's Paddington Hospital" in last Saturday's BUILDER, I beg to say that the passage in question does not convey a correct impres-sion of the state of the case. Mr. Hopper is the "Honorary Architect" of St. Mary's Hospital, the committee having thankfully accepted the offer of that gentleman's valuable gratuitous services in aid of the charity. Mr. Lang and myself, as members of the com-Lang and myself, as members of the com-nittee, having also placed our professional assistance at the disposal of the committee, were requested to take part in a *friendly* con-tribution of plans with Mr. Hopper, in order that the committee might not be restricted in their choice to one set of plans, they having determined (wisely in my opinion) that no competition for the employment of the architect should take place, whereby they would have been deprived of Mr. Hopper's services, and would have exposed themselves to all the heart-burnings, jealousies, suspicions of favouritism, and other unpleasant results usually at-tendant on competitions. Mr. Hopper's plan was unanimously preferred, and even then, with the kind consideration he has always shewn towards his juniors in the profession, that gentleman suggested that Mr. Lang and myself should be allowed to produce elevations which here which was exceedingly done but to his plan, which was accordingly done, but the committee not feeling at liberty to expend their funds upon mere decoration, resolved to adhere to the design submitted by Mr. Hopper which is of a plain character (in ac-cordance with his own stipulation upon acespting the office of honorary architect), but thoroughly suited to the purpose, and which it is expected will be effective from its very simplicity of design and breadth of proportio

Thus it will be seen that there never was any intention to compete (as might be inferred from the paragraph in question), among the three parties named, for the situation of architect to the charity, consequently there could be no "wavering in the choice," when there was no choice to be made; and whilst I will always maintain my own right when assailed, I will equally disclaim any attempt to give to me or to any other party that position which justly belongs to another. Having from the first supported the propriety of the charity availing itself of Mr. Hopper's services, I have felt it to be a pleasure as well as a duty to render him all the assistance in my power, in sharing his labour and anxiety to promote the interests of the charity, in carrying out the contemplated building for the hospital. GEORGE RUSSELL FRENCH.

18, Sussex-gardens, 23rd June, 1845.

LIGHTHOUSE ON THE GODWIN.

Mr. BUSH after having surmounted every obstacle in the erection of the building to con-tain the "light for all nations," is now contending with the greatest difficulty, namely, its useful application. The Trinity Board has the exapplication. The Trinity Board has the ex-clusive privilege of managing the lighthouses on the English coast, and although this pri-vilege was originally granted for the public good, it has now, like many more, become subservient to private interests. The elder brethren are jealous of their rights, they cannot brook the intrusion of a bold, per-severing and clever man succeeding where they have failed, and they appear more diathey have failed, and they appear more dis-posed to visit the offending party with their displeasure than to hail the success of the undertaking, and to reward the skilful engineer for the additional protection he offers to the lives and property of our merchants and seamen. We understand that it is the intention of Mr. Bush to take up his residence, with his wife and family, in the lighthouse, and to have the highest chamber illuminated with a pale blue light for his own use. Of course, how-over, this will at the same time have the effect of warning ships, and a telegraph is crected to signalize vessels at the back of the Godwin. As the lighthouse stands 36 feet above high-water mark, it is Mr. Bush's intention, in order to protect his new residence, to discharge rockets in dark nights, or sound a gong in foggy weather

TOURNAY AND ITS CATHEDRAL.

TOURNAY, lately visited by the French Ar-chæological Congress, as mentioned in the last number of THE BUILDER, is situated close to the French frontier, towards the western extremity of Belgium, and is a singularly interesting old town. It was one of the first places in Belgic Gaul where Christianity developed itself, and has a long and curious history. The architectural student will find there much to engage his attention and stimulate investiga-Within a very short distance of each tion. other he may find specimens of the different styles of building which prevailed during several centuries, and see almost at a glance the progression of the changes which took place : I allude more particularly to dwelling-houses. There is one very ancient specimen near the church of St. Brixe. The whole is of stone, and terminates in a gable. The windows, about five feet high and four feet wide, are each divided into two openings by a small column with plain leafed capital. One of the lower windows has simply a rectangular mullion down the centre, the edges of which are chamfered to within a certain distance from the top and bottom. The string courses, consisting merely of a square member and a hollow, continue through the whole front, and form straight window heads, over which are introduced discharging arches. The adjoining front is precisely similar. In the Rue des Jesuits there are some houses of the same character, but of a somewhat more advanced period. The columns and caps are nearly the same as those before mentioned, and the upper part, perhaps 50 or 60 feet in extent, consists wholly of windows and small piers alternately.

a set the application of pointed architecture to a street front, at the beginning of the 16th century; and near the Eglise de Château is a large building, now the Horse Infirmary for the artillery, which would seem to be an example at a later stage of the decline. It is constructed of red brick and stone, and presents gables, pointed headed windows, other square windows divided by mullions, and large dormers in the roof. The mouldings, however, are Italianized, the discharging arches, partly stone and partly brick, which occur even over the pointed headed openings, are made into adornments, and all the ornaments which appear are of mixed design. Later still, the line of the gable became altered into a scroll, the mullions of the windows disappeared, and the Gothic panel-ling on the face of the building gave place to sters and entablatures elaborately adorned pil with figures, fruit, and foliage, as may be seen in numberless examples remaining in most of the towns.*

Some of the churches are exceedingly in teresting, but the great point of attraction is the cathedral (Notre Dame de Tournai), which is unquestionably one of the most important buildings in the country, whether regarded simply as a specimen of the architectural skill of two different periods of time, or as re-calling by association the events of many centuries,— a sublime souvenir of the middle ages.

Seen from a distance, with its forest of towers high above the surrounding buildings, its effect is very striking; nor are the pleasant anticipations so raised in any degree lessened by a close approach. In form, it is a Latin cross, with five towers; namely, one on the east and one on the west side at each end of the transept, and one at the centre of the cross. The transept is terminated at each end by a semicircular absis, similar to many churches in Cologne and other parts of Germany. The nave has an aisle on each side, separated by piers and small columns bearing semicircular arches, which in various parts approach the horse-shoe form. + Above these, is a second range of piers and arches of similar or greater height than the first, forming the front of a

* Lille, a French town, but close to the Belgic frontier, and where the congress met, displays a great number of houses of this character, of great richness, and, in some cases, much beauty. † The piers occupy a square of 6 feet on the plan, set diagonally. The openings are 13 feet 6 inches wide, and about 11 feet 6 inches high to the springing of the arch. There are nine such compartments on each side of the nave.

large gallery, extending the width of the aisles Over these is a series of arches against the wall, springing from short piers. The clerestory and the valied ceiling were the work of barbarous repairers in 1777, and took the place of the ancient wooden roof: they will shortly be restored to their original appearance.

All the capitals of the lower columns in the nave are sculptured to represent folisge, and are exceedingly sharp and clear. In earlier times, they were all painted and gilt, and further decorated by scripture mottoes around the abacus. Much of the stone-work is rough and has been covered with stucco : the columns and other parts that were exposed, are of Tournay stone polished.

The four great arches at the junction of the cross are pointed, and have also been embel-lished by colour, much of which is still visible.

The interior of the semicircular abeis, terminating the transept at either end, is exceedingly beautiful, and produces a very striking effect. At the bottom a series of six lofty columns 2 feet 8 inches diameter, and about 24 feet high, built up of ten courses of stone, and placed at a short distance from the wall of the absis, support narrow semicircular arches raised on legs. Over these are two triforis and a clerestory, and the whole terminates in a half dome with plain ribs converging to a point. The capitals of the columns coasist of volutes and of leaves. The base of each pillar has four sculptured leaves at the angles of the pedestal.

Originally the choir was about one-third the length of the building, and terminated in an absis similar to those of the transept in form and style. This portion of the building, however, was rebuilt, as is mentioned hereafter, and is now an exceedingly fine specimen of the pointed style, resembling in some respects

the choir of Cologne Cathedral, although exe-cuted much before that wonderful building. The present choir has an aisle and a series of small chapels on both sides, which continue round the east end. Lofty columns, bearing acutely pointed arches, separate the aisles from the choir. In each spandril of these arches is a circular ornament in mosaic-work, and above rise a very elegant triforium and lofty clerestory. Behind the triforium is a series of peculiar quatrefoil lights, blocked up and unknown until lately (as indeed was the whole of the triforium), but now again filled

with stained glass. The choir is elevated above the nave by three steps for about one-third its extent, and then by a fourth for the remainder of the length, and is paved by black and white marble in squares. . The The high altar has four additional step pillars in the choir were originally constructed with that daring which characterizes many of the earlier efforts of pointed architecture, md soon gave symptoms of insufficiency. They were then strengthened by additional masonry at the back, and even now are remarkable for They their lightness and elegance. It may be mentioned that when the choir was rebuilt, the old chancel arch, which was probably semi-circular, was cut away to make room for a pointed arch, as also was the case at the entrance from the transept to the aisle of the choir on each side. Painting and gilding have been used throughout as a means of decoration, and will probably be again resorted to when the whole of the substantial repairs have when the whole of the substantial repairs have been executed.§ A series of flying buttresses surround the choir externally, and it is between these that the chapels are formed, terminating in gables.|| The roof of the choir above the vaulting is of oak, and of great height height.

Round the outside of the clerestory of the

The galleries in ancient churches were used for the pur-torse of separating the sexes, and even different ages of the ame asz. This was perhaps rendered necessary by the ustom of saluting, which then obtained amongst the 'faithful.'

custom of satuting, which then obtained amonges use 'faididi.'' † During the whole of the eighteenth century continued injury was done to the building by injudicious endeavours to support the fabric; many openings, especially in the transcept and the clerestory of the choir, were bricked up; the capitals of the columns and other decorative portions were covered with whitewash, and the freecoes which adorned the walls destroyed. ¹ These values are formed of rubble work, under a wooden roof, and are less than two feet in thickness. ¹ These fixing but side of the choir, the spandrils of an areade are painted to represent angels bearing scrolls. ¹ These fixing buttresses are double. The upper arch was apparently formed first, and this being found insuff-cient, the lower arch was then added.

nave there is a continuous gallery, formed within the thickness of the walls, and faced by small octagon columns and arches of the Tournay stone, originally polished * Else-Tournay stone, originally polished.* Else-where there are various galleries in the walls, so that all parts of the building are practi*é*able.

The same stone is employed in the construction of the building as the rock consists of on which it stands, so that it may be said to be a continuation of the solid substratum. Nevertheless, there are many very serious fissures and settlements, especially in the transept and choir, which need extensive repair. The west front of the building has been disfigured by various alterations; a groined porch in the pointed style extends the whole length of the front and show is a state whole length of the front, and above it a large pointed window has been introduced so as to destroy entirely its original character.† There is a variety of scalpture under the porch, but the greater part of it is modern and very uninteresting. The cathedral is entered by two doors, one on the north side of the nave, and the other on The south, adjoining the transept. The north door is of the transition period. It consists of a semicircular archway beneath a pointed trefoil arch, the whole profusely adorned with f sculptured figures, animals, and On each side of the light which tanges of sculptured foliaze. occurs between the circular and the pointed arch is a small twisted column. The four towers of the transept are each different in detail, and have been executed at different They all display, however, a mixture times. of pointed and semicircular arches. The whole length of the cathedral within

the walls is, as nearly as I can estimate it, 420 feet. The transept, which is nearly in The centre of the building, is 212 feet from horth to south. The with of the nave in-cluding the aisles, is 70 feet; the choir is a few feet wider. The height of the choir is 110 feet. As a datum for comparison, it may be mentioned, that Salisbury Cathedral, according to Mr. Britton, is 450 feet long within the walls, 78 feet wide in the nave, and that the height of the choir is 81 feet; in other words, it is 30 feet longer, 8 feet wider, and 29 feet lower than that of Tournay. Concerning the age of the cathedral there

has been some controversy. Mon. B. C. Dumortier, a member of the Belgic Chamber of Representatives and of the Royal Academy of Brussels (and in company with whom the writer had the good fortune to examine the building), published first in 1837, some re-marks on the cathedral, and then in 1841, a second pamphlet, 9 with a view to prove that the nave of the existing building belonged to the sixth century. These essays display much learning and ingenuity, but more enthusiasm, and this latter has served to blind the writer to all that militated against his desire to obtain unlimited reverence for his favoarite building, and, like an unruly Pegasus, has carried him far away from the goal he sought, namely the truth. Absence of direct statement by early writers that the nave was destroyed, serves to prove to M. Dumortier (as in some similar cases it has been urged by other continental antiquaries) that it has not been rebuilt, and so far from the fact that pointed arches form an essential feature in it being deemed sufficient to weaken his opinion, it is proof strong as holy writ that the system of pointed architecture arose in Belgium, and that in the cathedral of Tournay is to be found its first out-budding. In confirmation of his opinion, M. Dumortier informed me, that a charter had been recently discovered, dated 1257, proving that the architect of Cologne Cathedral was a Belgian. It sets forth that the monks of Cologue, in consideration of the services performed by Master Gerard, of St. Trond (Gerardus de Sancto Trudone), in directing the construction of their cathedral, had assigned to him a certain estate of land.

There is sufficient evidence to induce the belief that the cathedral was founded at the end of the third century, and rebuilt about the middle of the fifth century, with the aid of

Clovis, by St. Eleutherius. Chilpérie in 578. endowed the cathedral largely, and his original deed of gift, "cum sigillis," remained among the archives of the chapter until they were burnt in 1566 Louis le-débonnaire added to the cloisters of the cathedral in 817, and Charles the Simple further endowed it. Soon after this, however, namely in 882, the Normans ravaged Belgium with fire and sword, and inspired such universal dread, that the people, adding to their prayers "from the fury of the North men, Good Lord deliver us," fied in all directions. Tournay, rich and important as it directions. Tournay, rich and important as it then was, did not escape; the walls and the chief buildings were destroyed, and the inhahitants were forced to abandon the town, to which it seems they did not return until the beginning of the tenth century. At the time of this invasion there can be little doubt the cathedral was pillaged, and partly, if not wholly demolished; and it is probable that its re-erection was not attempted until quite the close of the tenth century, in which the inha-bitants returned, or rather the beginning of the eleventh. All analogy shews that earlier than this, the nave and transepts could hardly have been commenced, and that it was probably much later before they were completed.+ analogy, however, were deemed insufficient to remove the ground for controversy respecting the age of the cathedral, it would seem to be destroyed by the recent discovery of a MS. entitled "Ritus Officii divini ecclesiæ Tornac," and dated 1656. This gives a list of the various fêtes formerly celebrated in the cathedral, and points out the 9th of May (which was then annually celebrated) as the anniversarv of the dedication of the church, in the following words : " Dedicatio ecclesia, est festivus dies in populo intrà muros. Triplex est cum octavá et duplex primæ classis ;" and then, Videliscet novæ, anno 1066." Monsieur T. Le Maistre d'Anstaing, who mentions this MS. in his very interesting work on the cathedral, remarks that doubtless there were more consecrations than one, as for example that of the choir, and those after partial restorations; but that this being the first, was properly regarded as the most important, and, being duly ob-served, had been handed down to the date of the MS. alluded to.

In a comparatively short space of time after this date, if the historian Jean Cousin is to be believed § the choir becoming too small and probably being injured by the events of troublous times, was cleared away to make room for a more magnificent structure.

troublous times, was cleared away to make room for a more magnificent structure. • The decds must have been very numerous, if we bellere a contemporary writer, who says that the melted wax from the seals formed a stream down the hill. • It is but fair towards M. Dumortier to give in his own words, his argument aguinst the assumed destruction of the ca hedral by the Normans :---' L'histoire de la translation du corps de Saint Eleuthöre sous l'évêque Hédilion en 876. immédiatement avant l'invasion des Normans, nous fait connaire qu'à cette époque l'on avait démoit la chapelle de Saint Etienne, qui était située à la suite de la cathédrale. Voici comment s'exprime la chronique écrite au XIe siècle : Presulatum tornacessis ecclesiar Herdelone, tiro prudenti ef-justo possidente, busilieu beati Stephani, prothomartyris, que aita est post ecclesium Christi genitricis semperque virginis Maria destructa est. (a) Le soin que prend le chronique an ous apprendre la de-struction de la chapelle de Saint Etienne annexée (?) a la exthedrale, indique clairment la conservation de celli-i. Si ce vaate monument, dont l'existence est démontrée et au VI et au IXe siècle, avait été détruit lors de l'invasion des Normands, le chroniqueur se serait-il borné à nous apprendre la destruction d'une de ses parties? C'est ici que s'applique se vieil adage ; fanctisie unius, scelusie alterius. A nin Il demure démontré que la cathédrale de Tournai ne fut pas detruite à cette époque, et qu'elle resista à l'invasion Nor-mande. En effet, celui qui a vu ce noble édifice, et consi-déré l'épaisseur, des colonnes de sa partie romane, la solidité des maiériaux employés a sa construction, n'hésiters pas à reconnaitre qu'avec de tels matériaux il existait des conditions de duré que l'on ne retrouve pas dans les églises des pro-vinces Khönanes, et qu'ainsi s'explique pourquoi Nôtre Dame de Tournai a pu résister à lune égoque où tan d'autres édifices religieux onts eucombé. Au lieu d'être construite construite es calc

(a) Elevatio corporis beati Eleutherii tornacensis episcopi et confessoris ; MS, in Libro Sancti Martini Tornacensis.

Cousin states, that the first stone of the new choir was laid in 1110; and that it was finished about 80 years afterwards or more. His au. thority for this statement, however, does not appear. According to certain old chroniclers quoted by M. d'Anstaing, it was vaulted in 1242, at the expense of Walter de Marvis; but it would seem that divine service had been performed in it previous to that date, its dedication being ascribed to the year 1200.

At the end of the twelfth century, pointed architecture was but just developing itself, so that we must conclude either that the choir of the cathedral of Tournay is one of the earliest monuments of that style, or that the received statements are erroneous. I am inclined to believe the former.

The restoration of this noble monument has been proceeding for several years past at the expense of the nation, and is approaching to completion. There is a rough sketch of to completion. There is a rough the building by the writer in the sixth volume of the Civil Engineers' Journal.

GEORGE GODWIN.

FATAL ACCIDENT AT THE GREYFRIARS' CHURCH, EDINBURGH.

It will be in the remembrance of our readers, that in January last, the old and new Greyfriars' churches were partially destroyed by fire. The authorities having resolved to restore the former building, its repair was undertaken by Messrs. Turnbull and Thompson, as contractors, in accordance with a plan submitted to, and approved of by the town council, by Mr. James Smith, architect. The works had been in progress for several weeks prior to the 14th instant, when at a few minutes before 9 o'clock A.M., two pillars and three arches of the church, together with a large quantity of mason-work, fell down with a tremendous crash, burying in the ruiss four workmen, one of whom we regret to say lost It is worthy of remark, that notwithhis life. standing the melancholy and sudden occurrence of this catastrophe; it was not altogether unforeseen, for it appears that one of the workmen had noticed the impending position of the walls, and intimated to his employers that he would, in consequence, work no longer, and that the man took away his implements a few minutes before the event happened.

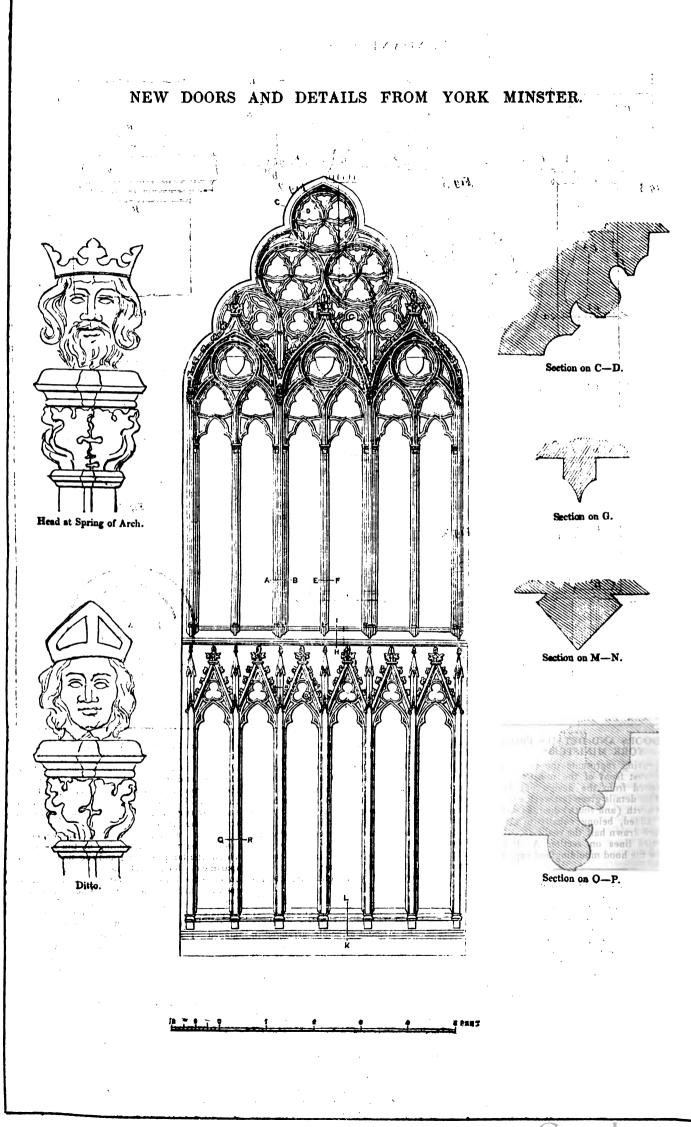
To convey a correct idea of the cause of the accident and the precarious position in which the workmen were placed, we may state, that the inside of the building is divided into three compartments, by two rows of pillars of the pointed style, the space between the two rows forming the main area of the church, while in the spaces between the pillars and the outer walls stood the galleries, north and south re-spectively, before the late fire. Not only had the wooden work been completely consumed by the conflagration, but the masonry was also much calcined and corroded by the flames, while the pillars in particular were so destroyed by the same devastating element, that they were completely pulverised, the stone and lime being dried up and quite friable. It was on one of the pillars of the northern row that the men were employed. The masons who were occupied in tombing or squaring who were occupied in tomoing or squaring down the wreck of the former pillar so as to give it a fair exterior by the aid of outward liming and other patch-work, were thus gra-dually depriving it of the little strength it retained, till the power of support having been destroyed, the frail fabric instantaneously gave way, carrying with it the adjoining pillar, the mason work of three arches, and a great mass of superincumbent material, and involving the unfortunate men in the ruins.

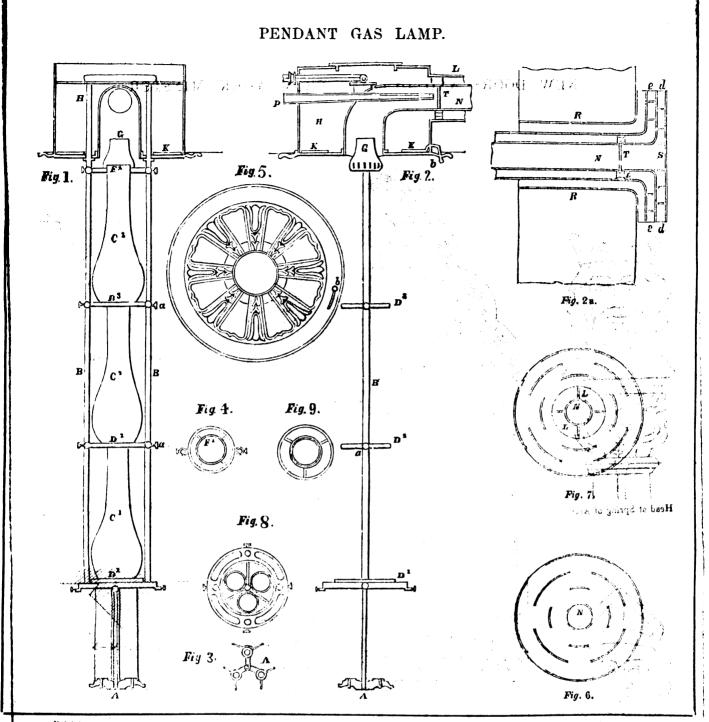
The Edinburgh Advertiser says, that much blame is attributable to the town council in this affair; and the public voice very generally condemns their injudicious and, as it has now turned out, fatal parsimony in adopting a plan on so limited a scale as not to admit of the secure and efficient restoration of the churches.

^{*} There is a curious gallery of this description round the Eglise de Chatcau in Tournay. † The west front had originally two small towers at the angles. These towers at the extremity of the west front are found in many buildings in Belgium, at the Eglise de Chatcau hefore mentioned, St. Bavon. Ghent, &c. ; Revue de Bruxelles," Dec. 1837. § "Dissertation sur l'age de la Cathédrale de Tournai." Bruxelles, 1841.

TESTIMONIAL TO MR. BRITTON. - The dinner is fixed to take place, at the "Castle," Richmond, on Monday, July 7th, the Right Hon. Thomas Wyse, M.P., in the chair, and we shall hope to see a numerous gathering of those who are interested in the architectural antiquities of the country.

THE BUILDER.





NEW DOORS AND DETAILS FROM YORK MINISTER.*

OUR engraving represents the new centre deor in the west front of the minster, as re-cently executed from the design of Mr. S. Spirke. The details given last week with our view of the north (and south) door, as well as those now added, belong equally to all the doors and are drawn half the real size.

The dotted lines on section A-B (last week), shew the hood moulding and capitals.

PBNDANT GAS LAMP.

WE have received the following account

from Mr. Jones, the inventor, and insert it as bearing on the subject of ventilation :--This mode of burning gas, to which the inventor directs attention, is the subject of a registration, and presents a system of discharg-ing the deleterious gases in many respects superior to ventilated gas lights, which have preceded it. It is peculiarly adapted for con-suming gas highly carbonized by Mr. Lowe's materix process of naphthalizing, owing to its suming gas highly carbonized by Mr. Lowe's patent process of naphthalizing, owing to its being raised to a high temperature previously to combustion at the burner. It is intended to use, in conjunction with this light, the earthen-ware pipe and conical glasses patented by Mr. Grant, for the purpose of causing a more rapid discharge of the vitiated air, and also to diminish the quantity of radiated heat atten-

* See p. 294, ante,

dant upon the use of metallic pipes. It will be observed from the accompanying diagrams, that not only are the products of combustion completely discharged, but the apartment in which the light is fixed is thoroughly ventiwhich the light is fixed is thoroughly venti-lated and kept at any degree of temperature at pleasure. Back draught is avoided by the construction of the external wind-guards, thus ensuring an atmosphere at once healthy and under perfect control. It may be as well to state that this mode of lighting is equally applicable to a public building, or a private apartment, any quantity of light being obtain-able from one focal point. Fig. 1 is a front elevation, and fig. 2 a side elevation of this lamp and its appendance.

elevation of this lamp and its appendages. A is a compound burner consisting of three burners on the Argand principle, arranged in ourners on the Argand principle, arranged in one plane, so as to produce one strong column of light, as shewn in the separate plan of this part of the spparatus given in fig. 3. B B are two tubes, which conduct the gas from the supply-pipe downwards to the jets of the burner

C¹ C² C³ are three bulb-shaped glass chimrevs. rising one above the other, and resting, just below their greatest diameters, on rings $D^1 D^2 D^3$, which is connected to the supply-pipe, E E, which are pendent from the roof, and common to all three. A plan of the lowest of the two lower chimneys, C¹ C², rises a little way within the chimney immediately above it; the height to which each is so raised being P is a small conical draught-pipe, which is

adjustable at pleasure by means of the thumb-screws a a. Within each of the rings, D° and

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adjustable at pleasure by means of the thirms-screws a a. Within each of the rings, D° and D° , there is an inner ring, F^{1} (fig. 4), which encircles and serves to keep steady the tops of the chimneys C^{1} and C° . The top of the chimney C° is also encircled and steadied by a similar ring, F° , which is attached by radial arms to the funnel G. H, is a ventilating head, or cap, which is inserted between the seiling of the room in which the lamp is hung and the floor of the apartment above. It has openings on the spartment above. It has openings on the apartment above. It has openings on the spartment above. It has openings on the apartment above. It has openings on the spartment above. It has openings on the fig-plate, by turning which round, by means of the knob b, the different apertures are opened or closed, and either wholly or par-tially, at pleasure. L is a pipe, which is carried from the head H in a lateral direction, through the wall M, to the external atmo-sphere. sphere.

sphere. The metal funnel G opens into a pipe N, which, passing up the centre of the head II, turns off at a right angle, and terminates in the wind-guard (fig. 2a) on the outside of the building. While the more immediate products of com-

While the more immediate products of com-bustion pass away through the chimneys C, Funnel G, and pipe N, the heated and vitiated

carried from the outside of the building, through the ventilating head H, into the funnel-pipe N, terminating just beyond the right angular bend of the latter. The cold air rushing through this pipe serves to impart a great increase of velocity to the column of heated air and vapours escaping through the tube.

R is an opening for the escape into the atmosphere of any heated air which may accumulate between the ceiling and floor.

T is a ring by which both the outer and inner pipes are joined; an edge view of it is given in fig. 9.

S (fig. 2 a) is an external cover or windguard, affixed to the mouth of the pipe L, by which any back draught is prevented. A section of this wind-guard on the line d, is given separately in fig. 5, and a section of it on the line e, in fig. 7.

EXAMINATION IN CONSTRUCTION AT UNIVERSITY COLLEGE, LONDON.

On the 24th instant, the students in architecture under Professor Donaldson were examined and received prizes. The examination took two shapes; first, in architecture as a fine art; secondly, as a science. As the questions put are very suggestive, and may serve to induce a self-examination on the part of some of our younger readers, which cannot fail to prove useful, we insert those which relate to the latter part of the subject, and shall next week give the course of examination in architecture as a fine art.

To those who had attended the first year only : --

VARIETIES AND QUALITIES OF TIMBER.

1. From which quarter of the globe do we ehiefly derive our timber for construction? 2. Name the principal countries and ports in each respectively. 3. Sketch a section of the trunk of a tree, and affix the names to the several parts. 4. State the purposes and qualities of the several parts of the section. 5. How is the wood formed, and what general evidence does it afford of its age? 6. Which timber tree principally shews the medullary rays? In what direction do they radiate? 7. State the purposes to which it is applied. 8. What is the nature of the decay by dry rot in timber? 9. What portion is most probably the seat of the disease? 10. What is the substance that produces the rot, and how does it act? 11. What external causes promote dry rot? 12. What application may reffectually prevent decay? 14. Describe the three most recent processes proposed as applications for that purpose.

APPLICATION OF TIMBER TO CONSTRUCTION. 15. To the action of what forces is timber subject in construction ? 16. Is the resistance of timber to these definite or indefinite ? 17. Which are the proper measures of resistance for practical purposes ? 18. Which are the principal modes of placing a piece of timber to carry or support a weight? 19. What proportion does a weight, placed in the centre of a piece of timber supported at both ends, bear to the same weight if distributed over the whole length ? 20. To what force are the upper fibres of a loaded beam subject, and to what the lower? 21. What is the object in designing the frame of a roof? 22. What is the effect of superabundant material ? 23. Sketch a king and a queen truss complete with the gutters and slating, and put the names to all the parts, and mark the straps and bolts. 24. What are the respective uses of the different parts? Draw the articulations of the junctions of the timbers. 25. What is a principal? 26. How far should principals be apart? 27. Sketch a Gothic collar roof, and put the names to the several timbers. 28. How many clusses of floors are there? Sketch and describe them respectively. 29. How do you find the greatest point of pressure upon the centring for an arch or vauling? 30. How do you determine the position of the straining-piece? 31. At what angle do voussoirs of an arch begin to slide or slip? 32. Sketch the centrings for a semicircular arch, scheme and elliptic arches. 33. Describe the scaffolding used for placing the statue of Napoleon on the Colonne Vendôme

at Paris. 34. As also that for erecting the Luxor Obelisque in the same city.

LIMES, MORTARS, CEMENTS.

35. What is the basis of all mortars? 36. In what division of stones does it prevail? Give the names of the classes of that division of stone. 37. In what proportion does it exist in those stones where most abundant? 38. What chemical test proves the presence of lime in a stone? 39. How is a stone con-verted into lime? 40. What does the pro-cess throw off? 41. What are the phenomena, and what the effect of the addition of water to quick lime? 42. Give the chemical analysis of hydrate of lime. 43. State the different modes of slaking lime. 44. How much weight does a stone lose by calcination? 45. Will lime alone produce a mortar that will set? State the reason. 46. State the names and number of classes of substances which combine with lime to produce mortar. 47. De-scribe Traas and Pozzolana; whence pro-cured; how prepared and applied; and for what purpose used. 48. Under what general head may be classed the varieties of cement stone similar to that of Sheppey? 49. What is the distinctive difference of that class of stone? 50. By whom discovered, and when? Describe the varieties, and where found. 51. Describe the properties of this cement, and the purposes to which it is applicable. 52. Is the strength increased or diminished by addi-tion of sand? wherefore? 53. What are the colours of the Sheppey and Harwich cements? 54. State the component parts and proportions of the cement stone. 55. How may the ce-ment be tested? 56. In what time will it set? 57. Who made experimental brick beams with cement? 58. Was any bond used in these beams? 59. Describe the materials and process by which artificial cement is made. 60. Name the leading writers on the subject of mortars, and the dates when they flourished.

Second Year.

1. Of what does the crust of the globe consist? Give a section. 2. State the two leading formations into which geologists divide the crust. 3. Describe the constituent parts respectively of granite, statuary marble, sandstone, limestone, Portland, Bath. 4. State the parts whence they are derived, and the formations to which they belong. 5. Describe the chemical and mechanical causes which contribute to decay in each of these stones, and the parts most liable to decay and disintegrate. 6. Which are the best tests for limestones and sandstones? 7. What are the characteristics of good and bad Portland? 8. Which are stratified, and which are unstratified? 9. Should there be any relation between the position of a stone in the quarry and in the work? if so, why? and are all stones subject to the same law? 10. Will every stone once placed in construction be strong enough for all practical purposes, if so, what proof is there of that fact? 11. Which stones are generally the strongest and hardest?

MASONRY.

12. If isolated supports have a great weight to hear, what must be the nature of the material?
13. Which are the most ancient edifices? those which are lightest, or those of heaviest construction? 14. What proportion does the crushing weight? In what the precautions to be taken when it is used? 18. Describe the causes of settlement in the French Pantheon, Paris. 19. Should any precautions be taken as to quoin stones? 20. What is the greatest inclination at which a mass may be without falling? 21. In what direction do all bodies tend to fall?
22. How are bodies best upheld? 23. On what practical circumstances does the solidity of masonry mainly depend? 24. State the forms and describe the use of cramps, plugs, and dowels. 27. Which are the best metals for such purposes? State the reasons. 28. Sketch and describe the instrument inserted into a block of stone for the purpose of raising

it. 29. Describe the precautions used as to vertical joints and joggled joints. 30. Into how many classes may be divided the stability of edifices? 31. Is the greatest thrust in those covered by a vault, or by a trussed timber roof, and why? 32. Give a section of the treasury and why? 32. Give a section of the treasury of Atreus, shewing the direction of the joints of the stone. 33. Give a plan and section of the cupola of S^a Maria dei Fiori at Florence, and state by whom and when built. 34. What is the principal substance of which bricks are made, and what are the properties which render it fitted for the purpose? 35. State the earliest applications of brick for constructive purposes. 36. Which nations used the sun-dried and which the burned bricks? 37. Enumerate the different sorts of bricks used in London, and describe the purposes to which they are applied. 38. Describe the various sorts of bonds used in brickwork. 39. Give examples of hollow walls 9, 14, and 18 inches thick. 40. Describe the different sorts of lead used on roofs, the purposes for which each is fitted, and the proper weights under different circum-stances. 41. Specify the best mode of constructing the gutters; and give sections thereof with dimensions of the fall and drips. 42. De-scribe the various qualities of iron. 43. From what is iron extracted, and generally in what proportion? 44. What is Tredgold's remark as to permanent alteration of form? 45. Is resistance to flexure or to permanent alteration of form the safer criterion in construction, and under what circumstances? 46. What is the best section for an iron beam or girder? 47. Which is the best form for economy of material, which the best for stiffness? 48. Give the names and sizes of the slates generally used for roofing in London. 49. Describe the process of zincing galvanized iron, the object to be obtained thereby, and the application to constructive purposes. 50. Specify the component elements of bronze, and name the most celebrated bronze monuments of modern times.

COST OF SEWERS IN THE HOLBORN AND FINSBURY DISTRICT.

THE following tenders for sewers lately contracted for by the Commissioners of Holborn and Finsbury, and the Tower Hamlets, afford some useful data.

For sewer in Warner-place: 4 feet by 2 feet 6 inches; 2967 feet in length :--

| Hill | £2,34 |
|-----------|--------|
| Ward | . 2,34 |
| Munday | |
| Blackburn | 2.220 |
| Stewart | . 2.21 |
| Crook | . 2,19 |
| Curtis | . 2.19 |

Wellington-street to Silver-street: 4 feet by 2 feet 6 inches; length 1915 feet.

| Ward | 21.4 |
|-----------|------|
| Curtis | |
| Stewart | 1.4 |
| Munday | 1.4 |
| Blackburn | |
| Crook | |
| Hill | 1.3 |

Wentworth-street: 4 feet by 2 feet 6 inches; length, 660 feet:---

| Blackburn | £675 |
|-----------|------|
| Hill | 615 |
| Curtis | 584 |
| Stewart | 570 |
| Crook | 539 |
| Livermore | 538 |

Rhodeswell: 4 feet 6 inches, by 3 feet; length. 200 feet: ----

| Livern | ore | •• | • • • | •• | • • | •• | ••• | £167 | 0 |
|--------|-----|-------|-------|----|-----|----|-----|------|---|
| Dicks | ••• | | •• | •• | •• | | | 162 | |
| Crook | | • • • | | •• | | | •• | 152 | 0 |

King's-road, St. Pancras : length, 250 feet.

| Eldred | £249 |
|--------------|------|
| Ward and Son | 241 |
| Cooper | 205 |
| | |

THE NEW HOUSES OF PARLIAMENT.— Messrs. Foley, Marshall, and Bell have been selected by the Commissioners of the Fine Arts to execute the statues of Hampden, Falkland, and Clarendon, for the New Houses of Parliament.

ARCHITECTURAL PROGRESS AT HOME AND ABROAD.

The annual report of the council, about to be distributed to the members of the Royal Institute of Architects, contains the following interesting *resumé* of architectural proceedings during the past year :--

during the past year :--"On the Continent, our honorary and corresponding members have afforded striking evidences of their abilities by the completion of some fine works. The church of S. Vincent de Paul, at Paris, by M. Hittorff, has just been opened for divine worship." He has, with much ingenuity, adopted various means of producing effects, by the introduction of coloured decorations in enamelled plates, and this example is rendered the more valuable by the publication by that gentleman, in a pamphlet, of the principles which have guided him in this conception. Our friend, Herr Zanth, of Stutgard (the colleague of M. Hittorff in the valuable work on the Monuments of Sicily), has just completed an edifice in the Moresque style for the King of Würtemburg, which has been noticed in the foreign journals as highly successful.

The French have also completed some re-The French nave also complete doubt for markable works of architecture, which the energy, taste, and liberality of their ancestors had begun. The Hotel de Ville, at Paris, a had begun. The Hotel de Ville, at Paris, a work of the 16th century, has for many years been in a course of enlargement and completion. The exterior is now entire, and the in-terior is in progress with all the richness of embellishment of which the "Re-naissance" affords such splendid examples, and to the production of which the genius of its architect, M. Serrure, is fully equal. This edifice is now the worthy municipal palace of the French capital, little, if at all, inferior in grandeur of arrangement and decoration to that of the sovereign. The Prefect of the Department of the Seine, in carrying out this fine conception, has felt and acted as the chief of not merely a locality, but of a powerful, an enlightened, and an art-loving community. Our own metropolis has, also, within the last twelve months, been improved by various public works, of which some are completed, and some still in progress. The new Royal Exchange, with its accessories, forms an imposing feature of the city; the completion of Trafalgar square, with its terraces, flight of steps, fountains, basins, and triumphal column, shews that a feeling has arisen in the public mind for rich and effective combinations of objects of a monumental character. The thorough fare near Leicester-square, those from Oxford-street to Holborn, and from Long-acre, northward, and that near Whitechapel, with the lines of lofty houses in progress, already add considerably to the appear-ance of the Metropolis, and cannot but contribute essentially to its greater comfort and healthiness. The street architecture of Paris is on a scale of more grandeur than ours, and the facility of employing a cheap stone affords the French architect greater scope for his fancy and the opportunity of giving the houses a more imposing character than brick is capa ble of producing. It cannot, however, be deined that, notwithstanding the disadvantages imposed upon it, not only by the inferiority of our materials, but likewise by our domestic habits, the street architecture of London has of late years assumed a new and more impor-tant character.

Within a few days the Conservative Club-House, the production of two of our fellows, has been opened. It is another evidence of the increasing importance of architecture, and gains additional interest as a work of art, by the bold application of polychromatic embellishment judiciously and fearlessly introduced throughout its principal apartments, important as tending to improve the taste of many, who may, in their own residences, carry out the art of embellishment to its full devolopment.

The progress made in the arrangement. The progress made in the arrangements for improving, at least partially, the banks of the river Thames, may lead us to hope that the construction of a line of public quays in the heart of the metropolis, will, at no distant period, secure to us the advantages in the ornamental, which this ample stream already possesses in a commercial point of view, to a greater degree than that of any other capital in the world.

The important Act for regulating the build-

* See Buildas, p. S.

ings of the metropolis and its environs, passed during the last session of Parliament, came into operation at the beginning of the present year. The object of its framers has evidently been to guard against unsound construction, to prevent as much as possible danger from fire, and to insure a greater degree of healthiness in a class of dwellings hitherto too much neglected. It is to be hoped that similar benefits, modified to suit local exigencies, may be extended to other parts of the country, where too often the humbler classes become the victims of ill-drained and ill-ventilated habitations.

A great movement has lately been made, in regard to providing for the health and amuse-ment of the humbler classes, whose physical and intellectual condition is now occupying a large share of sympathy and attention. In many of the principal manufacturing and commercial towns and cities, liberal subscriptions have been raised for the purchase of plots of ground, and for the formation of public gar-dens. A society has likewise been formed in London for the erection of public baths and lavatories. We can hardly expect to vie with the ancient Romans in the construction of their thermse; but it is to be hoped that in the erec-tion of the baths of the British metropolis, their frequenters will not be regarded as insensible to the beauties of architecture, and that the art will be employed in aid of utility. Why should not the million have the privilege, in their places of public resort, of refining their taste, and exciting their imagination P why should they be bound down to cold sentiments of mere utility? May they not also unite the agreeable with the useful, and feel that they have minds to be improved, tastes to be cultivated, and sensations to be excited by the contemplation of beauty and harmony, as carried out in the productions of the artist. Let us hope, then, that our public baths may be monuments of art, and an evidence of the taste and intelligence of the present day.

The propositions which have been urged for some time, on the propriety of establishing local museums of art throughout the empire, was made the subject of a paper read at a recent ordinary meeting of the Institute, by Mr. Wilson, director of the Government School of Design. Nothing could contribute more essentially than local museums to local improvement, as exciting attention, habituating the eye to fine form and correct detail, and promoting a comparison between objects good and bad. Thus, the mind, brought to think and to discuss comparative merits, and to investigate the sources of true intellectual enjoyment, must rise to a higher and healthier tone, and be satisfied only with the purer objects of

In connection with this subject, it may be observed, that we possess, scattered throughout the country, numerous monuments and monumental effigies of the dynasties which have reigned in England, of the importance and beauty of which we may form some estimate from those in Westminster Abbey. It is to be regretted that they are allowed to fall into ruin, without any attempt on the part of our rulers to establish some general system for their preservation and maintenance. Never at any period have these styles of art been better understood, nor have our artisans ever been so able to restore these monuments faithfully to their ancient splendour.

It is to be remarked, that the Minister of the Interior, in France, has just applied to the Chambers for a grant of about 85,000%, to be applied in the restoration of several historical monuments of that country.

NEW BUILDINGS AND IMPROVEMENTS IN EDINBURGH.

SINCE the building of the new town of Edinburgh, there has never been a time so rife in new buildings as within the last few years. The Edinburgh Evening Post gives the following particulars :---

The city, highly picturesque and beautiful before, has received several fine improvements in its appearance. Sir Walter Scott's monu-ment, newly finished, is a grand object, and its great elevation overcomes the disadvantage arising from the somewhat low site on which it is erected. The spire of the Assembly Hall, a charming piece of architecture, is now one of the principal landmarks of the city. The only pity is, that the building is in a neighbourhood which does not at all harmonize with it in any thing, if we except some new edifices in the Elizabethan style, on which the old gloomy houses of other centuries seem to frown displeasure. It is nearly opposite, and down a close too-and that close the abode of poverty -that Mary of Lorraine, the mother of our beautiful but unhappy Mary had her palace and oratory. On the Calton Hill there is being erected a debtors' prison: the building is to the east of the gaol and bridewell, and will be included within the sweep of the same wall. Talking of this wall, we ought to observe that it is built exactly in the style of the battlements of an ancient fortress, and with its abutting watch-towers, harmonises well with the rocky elevation from which, on the south side, it rises. On witnessing the good taste indicated here, one cannot help contrasting it with the gross blockheadism which was unaccountably allowed to perpetrate the new barracks erected in Edinburgh Castle. They remind us of a manufactory or union workhouse, and one could almost wish they would tumble down when the inmates were engaged elsewhere. Additions are being made at the end to the north of the advocates library. It strikes us that this building has been too much doctored—that it is spoiled and deteriorated by the patchwork addenda which are inflicted upon it. A new edifice would have been the preferable, perhaps the cheapest exbeen the preterable, perhaps the cheapest ex-pedient of the learned faculty. The new Physicians' Hall, a fine building on the north of the New Town, is nearly finished. The front will be highly ornamented, and will form a choice acquisition to Queen-street, rather wanting in striking buildings. The Commercial Bank, erected on the site of the former Physicians' Hall, in George-street, is advancing. It will add another attraction to advancing. It will add another attraction to a street already one of the finest in Europe. It appears to be designed in the Italian palace style. Near it some striking improvements have been made in the buildings intended for public companies and banks. Nothing can be finer than the light, graceful, and ornamental fronts which we meet in this locality.

Donaldson's Hospital, to the west of the city, is progressing rapidly. It is a truly grand and noble structure, and nothing could have been more judiciously chosen than the fine elevation which forms its site. We un-derstand that no less a sum than 100,000% is to be expended in getting up the building, and adapting its internal economy to the purpose for which it is extended. A new Heriot's is nearly finished. The "Political Martyrs" monument in the Calton burying-ground is so far advanced, that it can be seen from the North Bridge. Additional erections-stations of railways, and other buildings are soon to be set agoing. And we believe that in addition to the commodious and elegant villas, and other buildings existing at Newington, a large number of houses are to be erected by one of our banks, which has recently obtained the greater part of the ground. A better site for, building cannot be imagined, with its delight-ful southern exposure and salubrious air. It is a peculiar feature of the present era of improvement, that houses in streets occupied by the highest order of gentry who keep man-sions in Edinburgh have been converted into shops and business establishments. This is particularly observable in George-street. The stream of rank has a tendency to flow north-ward in the direction of the back part of the New Town. The shops in several parts of Edinburgh have, in many cases been improved to a high degree of elegance, and, in some cases, decorated with very fine ornaments; One great evil has been removed from the

HISTORICAL PAINTING — PREMIUM ONE THOUSAND POUNDS.—A notice with this heading has been put forth during the present week, and to it are affixed the names of Thomas Bell, Don Alkali Works, South Shields, and Charles Hill Roe, Hermitage, Aston-road, Birmingham. The competition is for an oil painting of the Baptism of Christ, to be not less than 12 feet by 10, nor larger than 15 feet by 12, and two years are allowed for the sending in of the paintings. We know nothing respecting the parties whose names are affixed to the notice, nor of the ultimate purpose for which it is issued, it will therefore be at least discreet on the part of artists to obtain further and more satisfactory information before they risk their time and substance.

city, in the covering up of that huge, unsightly stream of dirty water which passed to the sea through the Queen's Park. A sad infliction it was. The laying out of the splendid carriage road, and the excellent arrangement of the grounds, will form permanent attractions to this delightful promenade. A wall around a part of the royal domains is still wanting, and should be set about: miserable hedges of whinstone are out of keeping in such a place. It is the felicity of Edinburgh, that close at hand to its busy streets and closely-wedged buildings are solitudes such as Zimmerman might have envied. From the park under notice a very short walk conducts to scenes as still and picturesque as are to be found in the secluded spots of the Grampians, while, at some point suddenly attained, there bursts forth the full majestic spectacle of a great and sublime city, and the hum of voices falls upon the ear like soft and distant music.

THE IRON TRADE.

THE evils resulting from the late inconsiderate rise in the price of iron are daily developing themselves; they are great and numerous. The unsettled state of the trade in South Staffordshire is attended with the most inconvenient, if not ruinous, consequences. The manufacturers, especially the makers of heavy goods, are suffering under the depression caused by the recent extraordinary advance on the raw material, although there is an abundance of orders from Canada, and the United States, in Wolverhampton, Birmingham, and Walsall, the completion of which cannot be longer delayed.

The home market suffers in the same degree from the same cause. Travellers for factors now on their journeys in all parts of the kingdom are in many instances unable to take, and their employers at home unable to exeoute, orders for manufactured iron goods, on account of the uncertainty, in the price of iron. But bad as this state of things is, the mischief does not end here. At the time of the advance, the iron-masters considerately raised the wages of the workmen, and now, as a matter of course, some of them are proceeding with the reduced price of the article to attempt a corresponding reduction of the price of labour. A partial turn-out in the districts of Bilston and Wednesbury has been the consequence, and one riot of rather a serious character has already occurred.

From Newport we learn that sales of bariron have been effected as low as 71. 5s. per ton.

ELECTRIC TELEGRAPHS.

THE recent thunder storms, both at home and on the continent, have elicited some interesting phenomena connected with electric telegraphs. One of the needles on the dial at the Southampton terminus became unfitted for use by its polarity being destroyed, and the attendant who was working the machine at the time received a smart shock from the handle. At Rouen, the atmospheric electricity, combining at times with the current conveyed along the wires, impeded or precipitated the movements of the needle, giving to the composition the effect of dropped letters and occasionally destroying the sense of the intended phrase. M. Masteucci of Piss, who is well known for his experiments in galvanism and electricity, has announced his belief that the electric telegraph can be made use of between Dover and Calais, the wires being sunk deep into the sea. He has arrived at this conclusion, from having succeeded in passing the fluid along wires immersed in the waters of the Arno.

A similar ides, only on a grander scale, of course, has been started in America. The New York Tribune proposes to run a copper wire, well covered and as large as a pipe stem, from Nova Scotia to the coast of Ireland. The writer says, "Its gravity would sink it to the depth where water was so dense as to be of equal gravity, and consequently beyond the reach of any kind of collision." While on this subject we may mention an experiment that was tried last week at Brussels, in the presence of the Minister of Public Works, by which the dispatch was written with a pen by the mere action of the fluid; it is stated to have been entirely successful.

DEATH FROM THE USE OF LEADEN PIPES.

An inquest has been lately held at Malvern Wells, on the body of an agricultural labourer named Richard Wilkins, who came by his death it appears from having drunk a quantity of cider which had been con-veyed in leaden pipes from the cider-house to the place where it was drawn for use. It ap-peared that the deceased, with several others of Mr. Benbow's farm servants, had, after partaking of this cider, been seized with illness resembling the painters' colic, which it is known arises from the constant use of lead in their business. Mr. West, surgeon, of Mal-vern, at first attended him, but Mr. Hamilton, of Malvern-wells, attended the deceased at the time of his death, which happened on Saturday last. Mr. West explained that the deceased died of apoplexy, brought on, he believed, by drinking the impregnated cider. Mr. Benbow, the deceased's employer, explained to the coroner the circumstances under which the which the circumstances under which the pipes had been laid down. He had employed Mr. M'Cann to lay down pipes of the proper white metal, tin, or composition; but he (Mr. M'Cann) had substituted lead, saying it was superior for the purpose. On the discovery of the mischiercus effects produced the use of of the mischievous effects produced, the use of the pipes had been discontinued. The jury acquitted all parties of blame except Mr. M'Cann, and returned a verdict "that the de-ceased died of apoplexy, induced by congestion of the brain." The coroner intimated that, after an investigation like this, every farmer and publican using such pipes would be sub-ject to a verdict of manslaughter or murder in the event of a similar catastrophe.

The fact is well known that leaden pipes and cisterns become dangerous when the water which fills them is soft and pure. The lead, however, which the water takes up may be removed by filtering the water through paper, a circumstance which has been explained by supposing that the oxide of lead is not really dissolved in the water, but merely suspended in it. At a recent meeting of the chemical society, Lieut.-Col. Philip Yorke stated that the oxide of lead is taken up by the substance of the paper and combines with it, from an affinity such as subsists between the same metallic oxide and cotton fibre; the last taking the oxide from solution in lime-water, and lead being often fixed as a mordant on cloth for dyeing in this way, according to the statement of Mr. Crum. He stated also, that the power of the filter may be exhausted, and that therefore it would be unsafe to trust to the action of a filter to separate oxide of lead from water for an unlimited time.

THE BURIAL GROUND NUISANCE.

THE manner in which the action brought against the parties concerned in the Spafields burial ground has terminated has astonished all persons who are interested in the matter. Immense trouble had been taken by individuals, and much expense incurred, especially by Mr. G. A. Walker, and by Mr. Watt who lives near the ground; the former was in court prepared with evidence which would have frightened the country into some change in the system, but the whole was frustrated by the course pursued by the counsel for the crown, a course which we find it very difficult to account for. It is to be hoped that Mr. Walker, to whom the chief merit of laying bare the enormities of the system belongs, will not be disconraged in his praiseworthy efforts to abate one of the most serious evils existing in the metropolis.

SONNET ON LINCOLN MINSTER.

I've seen the Lyncolne Mynster and the hill Which for long centuries it hath ycrowned, And in beholding, such delight have found As our forefathers' pious minds did fill At the evolving from th' inspired will, A work yet onward endlessly renowned. Acthereal Fancy ! thou art here unbound Roving from human deeds of subtle skill, (Pillar and lancet-arch, and tracery rare, Proportion, whose perfection bears a spell ! The Votive Chapel, proofs of holy care, With roof by worthy Willson carved well) Unto the destination of my prayer, Where our great God, beneficent, doth dwell.

THE ROUND TOWERS OF IRELAND.

S1R,—Now that the subject of the origin and uses of the ancient round towers of Ireland is again before the public, I shall deem it a favour (as an old correspondent) to be allowed to offer a few observations upon it through the columns of THE BUILDER.

I may premise that some of our most learned antiquaries have promulgated opinions in regard to those towers quite inconsistent with an actual inspection of these interesting memorials, connected as they are with the adjoining ecclesiastical ruins,—for the ruined church and the old tower are invariably found near each other. Now the periods assigned to the erection of the old churches seem scarce a matter of dispute; in fact, their dates of construction are given with as much precision as of yesterday, whilst no notice appears to be taken of their "next door neighbour," the old tower.

On this omission on the part of early writers I shall hazard an opinion: it is simply this, that the date of the tower and that of the adjoining little church are one and the same, for reasons which I shall give before con-cluding. Should this assumption appear probable, for direct proof is out of the question, it follows that much of the obscurity connected with the earlier notice of our old ecclesiastical edifices may be cleared away, by considering the tower as a part or in direct connection with the church. Viewing the brief and simple notice of the old chroniclers, we find it seldom went beyond naming the founder of the church, the period of erection, and the name of the locality where erected, and passed over all architectural details as apparently unimportant. To the scanty materishs thus supplied by early historians in re-spect to the towers, modern commentators have not hesitated to supply details; as many of the fanciful theories advanced by our antiquaries rest on the analogy between certain Phænician and Egyptian antiquities and the round-towers; while others still more numerous draw all their resources from some antiquated glossary of the Irish language having reference to the derivation of names said to belong to the old towers.

Many of these learned inquiries were carried on in the study or library of the antiquary, and the result when before the public was attacked and instantly demolished by some contemporary, by precisely the same mode of reasoning as that adopted by his opponent, neither parties bestowing a single thought on the stone and mortar of the round-towers, beyond the undeniable fact of their being well built, Aghadoe, near Killarney, though apparently wanting in character from being what is deno-minated a "Stump," or ruined tower, is nevertheless not without interest, arising from a comparison of the quality of stone with which the outer casing of the tower is constructed (pale yellow sandstone), and the stone employed in the door and window-jambs of the ruined cathedral or church close by, the stones referred to in both buildings being precisely of a similar class of rock : and here I may observe that no yellow sandstone rock is nearer Aghadoe than 30 miles. Having had ample opportunities of comparing the stones in both ruins during a stay of seven months at Killarney, I found the angles or ornamented parts in the church shewed more signs of decay than the stones of the round-tower; but this is easily accounted for from the circular form of the tower; the ashlare having no exposed ends or joints, are less liable to be acted on by changes of the atmosphere than the stone used in the church.

To understand the matter fully, it is necessary to offer a suggestion not heretofore made. Whoever proposed to build a castle, abbey, church, &c., without first consulting their architect? That our ancestors had wisdom and sagacity enough to follow a similar course there cannot be a reasonable doubt. The object of such consultation would naturally be to look to the locality, the site, water, and, in the *then* early days, the procuring of *efficient workmen* and materials. These preliminary steps settled, the architect, who in all probability was an ecclesiastic, would, as a matter of necessity, say how am I to protect my work-people, collected here with great difficulty, from the assaults of the marauding Dane, and the not less dangerous attacks of the turbulent natives? The project of the

round-tower was a noble idea, it affording lodging for the architect and masons; here he could at a glance have a bird's eye view of his little church as it progressed towards completion; here he kept his people under his eye in a circle, propounded his plans, and, " though last not least," was safe from any nightly attack, from the elevated position of the door-No doubt it afterwards formed a useful way. appendage to the church as a depositary for books and other valuables of the church, us well as affording a certain landmark (by its lofty proportions) in a country nearly covered with wood to the weary pilgrim and traveller. It is easy to make objections, as by asking "Where did the architect and work-men reside, or how guard themselves from men reside, or how guard themselves from attacks from hostile parties, while the tower was in progress of building?³ To such ob-jections I will merely say, the zeal shewn by the people in every great undertaking, and that for a religious purposo being best calcu-lated to excite the feelings, might have the effect of collecting a body of persons not only able to excite in the work but by able to assist in the work, but by their numbers to overawe any hostile parties daring to approach. That such laudable zeal at last to approach. That such laudable zeal at last may have gradually died away it is but reasonable to conclude, but then one great object was attained, the building of the tower. Hence I conclude, the tower and the ad-

joining church are of one and the same age and period.

Gorey, June 7th, 1845. J. K.

Correspondence.

FIRE-PROOF STAIRCASES.

Sin,-The late fatal fires in Dover and Fenchurch-streets fully prove the absolute necossity of especially constructing staircases freproof, by which the inmates could make a safe retreat from a dreadful death. Al-though I am neither an architect nor builder, I really cannot see any great difficulty in following out this efficacious plan, it only re-quires any man of note in that profession to adopt it, and then all houses would quickly be rendered sufe. Why could not the whole well of the staircase, its sides, ceiling, and flooring, be made of thin iron plates let into frames of the same metal; then again the stairs, halusters, hand-rails could be also constructed of that material, and here there would be great scope for ornamental castings. There is no doubt that the staircase forms the chief flue to a bouse when on fire, and as wood feeds the flame, so does the staircase the fire, allowing it to make its way into rooms leading on to the staircase, therefore I would suggest that all such doors should be of iron; they need not be heavy, the object being to keep the fire on one side only, and to prevent its spreading. I hope that some of your professional readers will take up this matter with spirit, for we must remember that the staircuse is always the place first sought for when these accidents occur, and moreover we ought ever to bear in mind, that fires may and do take place in houses in which every possible care is taken to avoid its presence. Gas, sparks, flues, often being the primary causes of destruction of life and property by fire. I am, Sir, &c.

June 23rd, 1845. P. A. T. H.

COST OF LOCOMOTIVE ENGINE.

SIB,--I should be obliged if any of your correspondents could inform me, through the medium of your columns, the cost of a three or four-horse power locomotive engine. It is proposed to be used for drawing loaded carriages down, and empty ones up, a line 11 mile in length. I presume a tender would not be neccessary, as sufficient fuel might be kept in depôt at each end of the road. Also, what quantity of water (rather a scarce article) rould be necessary for the supply of the boiler for that distance, I am, Sir, &c.,

21st June, 1845. J. F.

FIRE-PROOF COMPOSITION.

SIR,-Is there not a patent for some material which if used instead of plaster will prevent houses from burning? I am, Sir, &c., A. B.

PASSAGE OF WATER THROUGH PIPES. SIR,-I wish to know the quantity of water that would be discharged through a pipe of that would be discharged through a pipe of one-inch bore per minute, the head of water being kept level with the top of the pipe, with the least force possible; and also what would be the increased discharge per minute, the head being raised from one to twelve inches. I am, Sir, &c., F. E. H.

Aliscellanea.

WASTE OF STRAW IN THATCHING. -- It would be impossible, after having entered so generally into all the various details connected with homesteads, to omit one most important consideration respecting them, I allude to the habit, too often in use, of thatching buildings, This cannot be too generally reprehended. The arguments against it are endless; it en-tails considerable expense, robs the land, creates danger from fire, is a harbour for creates danger from fire, is a harbour for vermin. Either of these objections is a sufficient reason for stopping this monstrous practice. If landlords reflect upon this, they will see that they ensure an injury to their land by compelling their tenants to repair with straw; whereas tiles or slates are preferable in every way. It is only the first out-lay which is to be considered; by adopting which, robbery to the land and unceasing ex-pense to the tenant are prevented. In the buildings lately pulled down at Peckham, there must have been nearly an acre of thatch, and they harboured vermin enough to stock a whole county. There are instances in the Weald of Kent, where nearly the whole straw of the tenant is used for his house and buildings, a fact lamentable in every view of the question. If straw is to be taken from the land, let it be sold, and the money laid out in artificial manure; but it is most desirable that it may soon cease to be used for such improper purposes .- Lord Torrington.

THE USE OF IRON .-- A correspondent of the Mining Journal in writing on the general utility of Iron says, "The immense destruction of property occasioned by fire, in most of our large manufacturing towns and cities, would be rendered less disastrous if warehouses and other depositories for merchandise, were constructed of iron, formed in different compartments and made secure. How lamentable it is to hear of the almost daily occurrence of some conflagration by which property to an immense amount is destroyed in this kingdom, when all public buildings would be more safe, as well as more durable, if constructed of iron, whilst the architectural beauty need not be diminished: the pointed spire, however or na-mental, on all newly-erected or repaired churches, would be placed there with iron cheaper than any other material. The fame of our great statesmen and England's unconquerable heroes, might be perpetuated to the latest posterity in the erection of monuments constructed with iron, indeed the whole transactions of the British nation, in all her great mercantile pursuits, might be recorded on iron. I myself have written upon paper manufactured from iron, and seen a book, with both leaves and binding of the same material.

THE RELATIVE FREQUENCY OF PHTHISIS IN CERTAIN TRADES AND PROFESSIONS.-Among those persons engaged in the different professions at Geneva, 114 fell victims to con-sumption out of 1,000. The average varies; in some professions it is higher than others; in the varnish painters it is as high as 37 in the 100, in the gardeners as low as 4. Among polishers, plasterers, sculptors, stone-cutters, watch-hand-makers, it reaches to 116 in the 1,000; and among the tailors, engravers, printers, clerks, &c. even to 141 in the 1,000. The average falls in carpenters, blacksmithe, slaters, and agriculturists, to 89 in the 1,000; in butchers, tanners, and candle-makers, to 73 in the 1,000; in weavers, dyers, bleachers, and watermen, to 53 in the 1,000; and in persons of easy circumstances it falls us low as 50 in 1,000. M. Lombard found that the age of the stone-cutter averaged 34 years, the sculptor 36, the miller 42, the painter 44, the joiner 49, the butcher 53, the lawyer 51, the surgeon 54, the mason 55, the gardener 60, the merchant 62, the Protestant clergyman 63, the magistrate 60.— Hastings on Consumption.

PRINTERS' ALMSHOUSES .- A meeting was held last Monday evening, in the theatre of the Mechanics' Institution, of the friends and subseribers towards the building of almshouses for decayed printers. The chair was taken by Luke James Hapsard, Esq., who not only ably advocated the cause of the association, but was announced as a subscriber of the liberal sum of 50%. The report, which was read by the secretary, proved in the most satisfactory manner that the object which the committee have so assiduously prosecuted for the last four years will ere long be fully realised, and another of those benevolent institutions be erected which reflect so much honor upon the working-men of the present day. The amount of subscriptions, &c., received since the last report was announced to be 3351. 2s. This added to the sum previously in hand makes a total of nearly 1,500%

SINGULAR DISCOVERY OF LEAD ORE IN AMERICA.-As Mr. Booth, who is an experienced miner, was sinking a shaft near Dubuque, through successive layers of hard sandstone, when about 25 feet from the surface he suddenly found himself in an immense cavern, which has since been accertained to be 1000 feet in length, from 15 to 40 feet wide, and the height varying from 12 to 40 feet. In one place the roof almost reaches the floor, and divides the whole into two immense gloomy chambers, where, probably, Nature has been at work for an animaginable series of ages: The strata is formed of stratified silicious limestone, with crystalisations and stalagmite hanging from the roof and sides. The prin-cipal portion of the lead ore contained in this cavern is found beneath the floor; small shafts have been sunk at intervals along its whole length, and the ore is found in detached masses, some probably weighing 1000 lbs., embedded in red silica, the total value of the deposit is said to be incalculable .- Mining Journal.

NEW CHURCHES .- At a meeting held last week of the Society for promoting the en-largement, building, and repuiring of Churches, it was determined to crect seven new churches, it was determined to crect seven new churches, namely, in the districts of Portland town in the district parish of Christ church, Maryler bone; at Waterhead in the parish of Oldham, Lancashire; at Middleton, in the parish of Rothwell, near Leeds; at Clydach, in the parish of Llangyfilach, near Swansea; at Faila, worth, in the parish of Manchester; at Wick. parish of Liangyniaco, near Swansea, at rains, worth, in the parish of Manchester; at Wick, in the parish of Wick, and Abson, near Bristol, and in the district around Peter street in the parish of St. John, Westminster. The and in the district around Peter-street, in the parish of St. John, Westminster, The churches which are to be rebuilt, enlarged, or otherwise altered, are the parish churches, of East Ardsley, near Wakefield; Nettlebed, near Henley-on-Thames; Beeford, near Drif-field; Sandford, near Woodstock; Stert, near Devizes; and the Chapel of North End, Fulbar Fulham.

FLOORING FOR PIGSTIES .- At a late meeting of the Agricultural Association, in answer to an inquiry as to the best mode of laying down an asphaltic or bituminous flooring in pigstics, Mr. Parkins informed the Council that he had found the following composition very useful for that purpose, namely, liue or pounded chalk mixed with so much coal tar from gas works as will leave the mixture in a state not too soft for ramming, adding a suffig cient quantity of sand or fine gravel to bind the whole. Mr. Parkins stated that these mate-rials not only formed a hard basis for pigsties, farm-yards, &c., but made good walke, on which weeds would not grow, and answered the pur-poses generally for which as halte was commonly employed.

GERMAN HOSPITAL IN LONDON. -- An attempt is being made to establish a German hospital in London, and from the patronuge and support it has already received there apmeeting has been held, at which the Duke of Cambridge presided, supported by several of the foreign ministers, &c. The sum of 5,000. will be required for the establishment of the institution, and the needful annual expendi-ture will amount to 1,200%, or 1,500%. Already upwards of 3,0001. have been subscribed.

PINE Logs -Dr. Bowring last week moved in the House of Commons that the duty on pine logs not exceeding 10 feet long and 11 inches square be reduced to 12s. 6d. a load. Sir G. Clerk opposed the motion, and it was withdrawn.

A NEW GLASS.-Styrole is a volatile oil, obtained by distilling the balsam styrax or storax, although only in small quantity, and has a general analogy to benzoin. In one property styrole is, perhaps, the most extraor-dinary of substances; a limpid fluid at ordi-nary temperatures, it becomes a transparent colourless glass when heated up to a certain point, and remains so when it again becomes cool—a circumstance which will draw the attention of optical inquirers to styrole. In distilling storax to obtain this liquid, 20 parts of storax are mixed with 7 parts of carbonate of soda and water put into the retort. In one experiment, 41 pounds of balsam yielded 12 ounces of styrole; in another, 27 pounds yielded 3 ounces. The fresher and softer the storax, the more productive is it of styrole .-Mechanics' Magazine.

THE ARCH KNOWN TO THE GREEKS .- Mr THE ARCH KNOWN TO THE GREEKS.—Mr. Page has lately presented to the Institution of Civil Engineers sketches made by himself of two arches at Cape Crio (Cnidus, Rhodes). These arches are semicircular, built of large stones, regularly radiating from a centre, without any mortar in the joints, and stand among Cyclopsean remains, of which they apparently form a part. He is of opinion that the Greeks were aware of the properties of the arch. They evidently appreciated its form, for it must have been noticed by all travellers how frequently the flat lintels are travellers how frequently the flat lintels are cut out on the under side; several specimens of this exist in the sepulchral remains now in the British Museum. At Athens he has no-

the British Museum. At Athens he has no-ticed a very considerable excavation of a regular arched form through solid marble. PLANK ROADS IN CANADA.—The experi-ment of planking public roads has been successful in an eminent degree in Canada. One between London and Port Stanley, 30 miles long, is already finished, and another now constructing between Port Dover and Hamilton, 50 miles long, and a third between London and Hamilton, 80 miles in extent, are now under contract. They are laid for double and single tracks, the expense of the former and single tracks, the expense of the former being 4,000 dollars, and the latter at 3,000 dollars per mile. The roads already con-

structed are expected to last ten years. VENTILATION OF COMMONS' COMMITTEE ROOMS.—It is surprising that members can be found to subject themselves to the evils resulting from the want of ventilation in the present committee rooms. As one honourable member observed to us lately, if a workhouse could be found as ill ventilated as these rooms are, the journals would blazon it all over England, and force an improvement.

THE ROYAL RESIDENCE AT COWES .first stone of the new building about to be erected at Osborne House was laid on Monday last by her Majesty and the Prince of Wales.

Works of FINE ART IN WESTMINSTER HALL.—This exhibition will be opened to the public on Monday next. There is a private view to-day, Saturday.

NOTICES OF CONTRACTS.

We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.] [We are

For the execution of a New Harbour at Greenock.

For the construction of Two Divisions of the Chester and Holyhead Railway, being Nos. 8 and 12. No. 8 contains a length of 7 miles and 54 chains. No. 12 contains a length of 5 miles and 26 chains.

For excavating and levelling Land, building Sewers, making a new Road, &c., on the Wheatley Estate, Erith, Kent.

For lowering and making certain Improvements at the Yeuston Hill, Henstridge, Somerset. For the Removal of several Wrecks in the

Thames. For the Erection of a New Church in the parish

of Whitechapel. For the Erection of Schools and a Teacher's Resi-

dence in connection with the new church of St. Jude, Whitechapel.

For the Repairs to the South Aisle, Roof, &c., of St. James's Church, Bury, St. Edmunds. For the Erection of New Schools at Great

Chesterford, Essex. For the supply of 2,500 Yards run of flat

Granite Curbing for the Parish of St. John, Hackney. For some additions to the House of Industry at

For the supply and erection of a Steam Cooking Apparatus at the New Workhouse at Cuckfield. To be capable of cooking food for 450 inmates, and providing Hot and Cold Water in the Scullery, Bath-rooms, and Wash-house, with a Closet for drying linen

For furnishing and fixing an Engine Pump at the Sevenoaks Union.

For Paving certain of the Foot-paths of the Parish of St. John, Hackney. For Building the intended Somerset Lunatic Asylum. (Time extended).

For taking down and removing the House, Out-building, and Offices, erected by the Rev. W. H. Gorton, in a field at Portisham, Dorchester, and rebuilding the same on the glebe land adjoining the Church-yard there.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

In the parishes of Terling and Fairsted, Essex : 215 Capital Oak, and 11 Ash Timber Treses, many of them of large dimensions.

At Norton Hall, and Purleigh Round Bush Farms, Essex: an assortment of Oak, Ash, and Elm Timbers and Whips.

At the Crown and Anchor Im, Ipswich: the Martello Tower, situated on the point of Bawdsey, Suffolk. The materials arising therefrom could at a triffing expense be conveyed to any part of the kingdom.

At Dinton Park, and Lutton Mandeville, Wilts :

At Dinton Park, and Latton Mandeville, whits : 93 capital Oak Trees, some of large dimensions, 250 Oak Flitterns, 200 Ash and other Poles, &c. In Shirley Park, near Croydon: 2,000 straight Poles, and 8,000 Bavins, Fir, Oak, Elm, Chesnut, and Alder, but principally Larch of 35 years' growth.

At Sibley's Farm, Chinckney, Essex : 40 fine Oak, 47 large Elm, and 50 Ash Timber Trees. Most of the trees are of large dimensions and good quality. At Blois Farm, Sible Hedingham : about 800

Oak Trees

At Fyfield Farm, near Pewsey, Wilts : 60 Oaks, 111 Elms, and 103 Ash and Abeles. They are of extraordinary dimensions and fine quality.

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TO CORRESPONDENTS.

"B. A."-Mr. Eastlake's letter to Sir R. Peel. on National Gallery, may be obtained at Mr. Murray's, Albemarle-street.

"A Constant Reader."-As to river wall, we should use Roman cement.

"B. Green."-We have received the communication, but have not had time to examine it. We will give it most kindly consideration.

"Bedroom Ventilation." — In answer to our correspondent last week, "A Mason," we beg to direct his attention to an advertisement of "Baillie's Patent Slide Ventilator," recommended by Mr. Reid, brother to Dr. Reid, as the

menaed by pr. Reta, broker to Dr. Jecus, as the one for which probably he was making inquiry. "W. J. S."—We are not disposed to publish the sketches sent. They are left at the office, with our thanks.

"A. B." - Bernan's History and Art of Ventilating gives much valuable information.

"Mon. F."-We are fully disposed to entertain the proposition, and will write shortly.

" Philo-Alpha."-Received.

"F. T."-Received, but not yet read. Our correspondent shall hear from us.

"Inexperience."—Renew the weather-boarding a piece at a time. An external enclosure may be all times repaired with materials of the same sort as those of which the enclosure has been built-

a chedule D, part II.
Received : "B. B." "H. T." "Humanitas,"
"A Constant Reader," "W. G. Pinkey," "Bunnett and Corpe."

ADVERTIGERETTS.

Just published, price Ss., neatly bound in roan, with tack, gilt edges, and lettered, a Pocket Edition of A CYCLOP/EDIA of the NEW ME-TROPOLITAN BUILDINGS ACT, together with the Act itself, a Folio Table of the Metropolitan Districts (old and new), a List of the Surveyors, with their Residences and Offices, and a Table of Fees to be paid to the Registrar for services performed. In the Cyclopædia all the details of the Statute are arranged Alphabetically, so as to be instantly found, and accompanied by extensive references and counter-references to the sections of the Act itself and its minute provisions. By the late A. BARTHOLOMEW, Esq., F.S.A., Architect, Surveyor of the Hornacy District. Published at the Office of "The Builder," 3, Yorfi-treet, Covent-garden; and to be had of all Booksellers.

ROYAL POLYTECHNIC INSTITU-ROYAL POLYTECHNIC INSTITU-TION.—A WORKING MODRL of the ATM OS-FHERIC RAILWAY, capable of carrying visitors, is lec-tured on and exhibited daily, and also in the cremings. During the week Dr. Ryan will lecture daily at a quarter part Three, and on the Evenings of Monday, Wedneaday, and Friday at Nine, on the causes of STEAM-BOILER EX. PLOSIONS; and especially those arising from incrustation, with the means of prevention. Among the Novalties recently introduced is a full-sized Cast from the CENOTAPH of GALEN, in which the PORTLAND VASE was found; a curious MECHANICAL HAND; new and beautiful Objects in the Chromatrope, Phisicscope, Protoscope, &c. New Dissolving Views; Skoola, half-price. A Class for instruc-tion in Mathematics is about to be formed under the direc-tion of Mr. A. W. Hobson, B.A., of St. John's College, Cambridge.

NOTICE TO INVENTORS. OFFICE FOR PATENTS OF INVEN-TIONS and REGISTRATIONS of DESIGNA, 14, Lincoln's-inn-fields.—The printed INSTRUCTIONS gratis, and every information upon the subject of PEOTECTION for INVENTIONS, either by Letters Patent or the Design Acts, may be had by applying personally, or by letter, pre-paid, to Mr. ALEXANDER PRINCE, at the office, 14, Lincoln's-inn-fields.

Lincoln's-inn-fields. PRIZES IMPORTANT TO INVENTORS AND PATENTEES. GOLD MEDAL, value 100% and a SILVER MEDAL, value 100% and a SILVER MEDAL, value 50%, will be given by Mr. M. JOSCELIN COOKE. The Gold medal for the best Patent, and the Silver medal for the bost Design taken out or Registered at the OFFICE for PATENTS and DE-SIGNS, 20, Half-Moon-street, between the 1st of Norem-ber, 1844, and the 1st of June, 1846. The Prizes will be awarded by competent judges on the 19th June, 1845. The conditions to be observed, together with instructions, charges, and every information for obtaining Patents in England or Foreign Countries, or Registering Designs, will be forwarded gratis, on application to Mr. M. JOSCELIN COOKE, at the Office for Patents and Registration of Designs, 28, Half-Moon-street, Piccadilly, London.

Moon-street, Piccadilly, London. WARNISH.—It has long been a desideratum amongst the consumers of Varniah to obtain a good and genuine article; brilliancy, faility of drying, hardness, and durability are the qualifications necessary, but these are seldom if ever found united. The experience of a 555-time devoted exclusively to the manufacture of this article, the great and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled Messer. George and Thomas Wallis to produce Varniahs (both oil and spirit) unrivalled in every respect, and they confidently recommend them to the trade, as deserving of notice both in price and quality. Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unsulterated arcele. Fine Oil Varnish, from 100. per gallon; best White Spirit Varnish, 21s. ditto; Best Spirit Branch Polish, 30s. ditto; White Lead, Oil, Turps, and Colours of every description at the very lowest price.—WALLIS'S Varnish, Jagam, and Colour Manufactory, 64, Long-acre, one dose from Bow-street. Established 1750.

WALLIS'S PATENT LIQUID WOOD KNOTTING. - This newly-discovered Liquid satisfaction which Micsars. Geo. and Thoe. Wallis have the satisfaction of introducing to the trade, possesses the im-portant qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through maked in-figuring the paint above. Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but bitherto without success. Measr. Wallis therefore feel much plea-sure in offering to the public an article so long and enviced called for.

called for. In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat. Sold wholesale and retail, by Messrs. 6. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

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BUILDER: THE



SATURDAY, JULY 5, 1845.



E stated in the middle of last April, when speaking of the necessity which existed for a museum illustrative of our national architecture, that Mr. Wyse was about to

bring the subject before Parliament, and we urged all those who felt how valuable such a collection would be, to petition the legislature and otherwise assist the endeavour as far as they might be able."

The attempt has since been made, and we are sorry to say has failed. Following these remarks, our readers will find a report of the proceedings in the House of Commons on the necession, and will see that a proposal of an address to her Majesty, that she would be pleased to establish a museum of national antiquities, and appoint a commission for the conservation of national monuments, was NE-CATIVED WITHOUT A DIVISION.

Mr. Wyse introduced the motion eloquently. as he always does, but we think the honourable gentleman did not display his usual taot in selecting the mode and moment in which it was brought forward. It came upon the artistical public unexpectedly; no evidence was sought, no opportunity was given for the expression of opinion upon it. Mr. Wyse feeling, and justly, that his case was a strong one, relied solely upon it, and asked no aid. He seems even to have neglected recognized evidence that was before him, and to have given up a foundation already prepared on which the new structure might have been raised. We refer to the report from Mr. Hume's Committee on National Monuments and Works of Art, appointed in 1841, which contains important evidence on the value of ancient monuments, the injuries to which they are exposed, and the necessity that exists for protection.

The Chancellor of the Exchequer's objection to the general question was singularly weak. He mid it should be remembered that abroad matters of this sort were the object of the care of the government, but that in England custom left them to the tender mercies of private individuals: in other words, because the English Government never had given any sort of attention to our national atructures or to works of art, they never merg to do so, although the result of this noninterference was seen to be most disastrous and unwise.

In France, ten years ago, M. Guizot urged to his sovereign that the history of the arts ought to occupy a place in the minds of those who regulated the social and political state of a nation,-and why is it less true here than there? "Perhaps," continued he, "no study reveals to us more clearly the social state and true spirit of past centuries than that of their monuments, religious, civil, public, and domestic :- than that of the varied ideas and laws which presided at their construction ; the study, in short, of all the works, and all the varieties, of architecture, which is at once the commencement and the resumé of all the arts." We hope that Mr. Wyse will renew his motion next session, and that in the meantime

* See page 181, ante.

THE BUILDER.

the architectural and artistical public will express their views on the subject. Before leaving the House of Commons, we are led to mention briefly a conversation which took place there a few nights since, on the grant for repairs and other expenses connected with public buildings being proposed. Dr. Bowring wished to know if there were any hope of improving the external appearance of the National Gallery. If any proposition were made for that purpose, he was sure that all parties would cordially concur in supporting it, (Cheers.) Mr. Warburton trusted that the right hon. baronet would be prepared in the course of next year, as the cheapest mode of obtaining a good collection ofpic tures, to recommend the erection of a suitable building to contain the great national collection. (Hear.)

Sir R. Peel was quite willing to admit that we had thrown away the most magnificent site in Europe, No one could tell until he stood on the steps of the National Gallery what a magnificent site it possessed. He thought they would do little good, however, in now laying out money in ornamenting the exterior of that building. They might, it was true, make some improvement in the cupola, and they might make the little turrets somewhat more beautiful than at present; but still, that would not contribute to what was, after all, the main point in the construction of a gallery,-the mode of lighting the pictures. It was, no doubt, a matter of great consideration. (Hear, hear.)

Mr. Hawes wished to put in one word for the modern school of painting by our own countrymen. Their works, he believed, if wisely selected, might form a collection which would compare with any gallery that had ever existed. Lord Mahon suggested the propriety of procuring a collection of portraite of eminent men distinguished in the history of this country. Such a collection might exercise a most beneficial influence upon the rising generation, whilst it could be procured probably at little expense.

It is so seldom that our legislators talk about art, as legislators, that we must not omit reference to it when they do,

MUSEUM OF NATIONAL ANTIQUITIES.

On Friday, the 27th ult., Mr. Wyse, pursuant to notice, rose to "move an address to her Majesty, that she will be graciously pleased to give directions for the establishment and maintenance of a Museum of National Antiquities, in conjunction with a commission for the conservation of national monuments." He did not complain either of the application or results of the expenditure dedicated to the purchase of Greeian or Roman works of art; what he wanted was, the foundation and maintenance of a gallery for the preservation of those monuments and specimens, either of skill or feeling, which characterized the arts and history of this country. It was only by a juxtaposition of the monuments of art connected with the different epochs, from the earliest to the latest, that they could either duly estimate the past or produce for the future. It was a cardinal mistake to call on artists to produce historical works, without the means of cultivating their powers, and ascertaining the spirit of the sge they had to represent. These means ought to be afforded represent. These means ought to be afforded in a liberal and ample manner, worthy of so great a nation. Hitherto our artists had but small means; although their enthusiasm had been great, their education had been limited. Much labour had therefore been misapplied, and a large expenditure of time and money forced upon them; and thus not only individuals but the nation had been deprived of opportunities of excellence which a little previous arrangement might have secured. There was no place provided for the reception of

British antiquities. Throughout the country a gradual dilapidation of public monuments was going on. In their architecture alone many of the finest old buildings were injured by neglect or injudicious repairs; many speci-mens of their best artists no longer existed; and, where they had been repaired, they had too often witnessed the destructive results of the "beautifying" of churchwardens and others who had no knowledge or feeling of art, and who had no knowledge or leeing of art, and whose labours exhibited a spirit of Vandalism existing in the midst of a Christian and civilized community. He mentioned the neg-lect with which many specimens of old church architecture had been treated, among them St. Saviour's Southwark, and the Cathedral of Durham; and in Ireland, Glendalough and Cashel. He quoted an extract from the essay Cashel. He quotea an extract from the ensay of Mr. Petrie, on the Round Towers of Ire-land, in which that gentleman states, that he was induced to undertake his researches solely from an ardent desire to rescue the antiquities of his native country from unmerited oblivion, and from a hape that, by making them generally known, some stop might be put to the wanton destruction of those remains, which threatened to lead to their total annihilation. The same efforts should be made to preserve the ecclesiastical and historical monuments of the kingdom, and he was sure there was no one who would not co-operate with the govern-ment for the purpose, if the government was disposed to assist them. He adverted to the destruction that fell on the monuments and antiquities of France during the tempest of the revolution; but the nution had at last become conscious of the misfortune. Like ourselves, the people could complain of seeing their old buildings dilapidated, or injudiciously re-paired. Many of the monuments of the country were disappearing from the soil, and remains of great value, in the precious metals, or in painted glass, were being transferred to the stranger. In a memoir of the Com-mittee of arts and mouuments it was stated that the Cathedral of Nôtre Dame, at Paris, was sadly shattered, that in very recent times some of its beautiful imagery and earvings had been broken or taken away, even the ancient inscription which re-corded the date of its erection was almost effaced; and that it was made the place where the children of the neighbourhood assembled to amuse themselves, to the great injury of the fabric. To remedy these evils a provisionary school was instituted for the purpose of awakening attention to the subject of ancient art; the plan became more developed, and, to the honour of France, it was not long before the Government exerted themselves in the matter. The present minister of that country took up the question zealously, and the committee of historical monuments and arts was appointed. The church of St. Martin des Champs, one of the oldest in Paris, was selected as a repository for monuments and specimens of ancient art. In consequence of the exertions of this committee a new spirit had been aroused in France for the illustration of every period of the progress of Christianity both in that country and throughout Europe; and there was a general desire among the people to give the fullest effect to the intentions of the Government. He hoped that not only would the historical remains of France be preserved from further injury by this committee, but that all Europe would be benefited by the liberality with which their museum was thrown open to every class of strangers. These exer-tions were not confined to France alone; similar efforts were making in Belgium and Germany. He reminded the House that for the decoration of the new Houses of Parliament they were going to resort to Christian art, dealing with the poetry and history, not of the ragans, but of a Christian people. Was he not justified, then, in calling on them to imitate the example of France, and to found a museum of national art, combined with a commission for preventing the further decay and destruction of national monuments? He was confi-dent the public would assist them, nay, that public liberality would outstrip their own. He knew more than one gentleman who would willingly present their collections to the public if the Government would make them ac-cessible, by providing a place in which they might be deposited. These collections were of great value, as they were not acquired at auctions, but by a long life of research and

labour. Such were the collections of Mr. Brittion, and those in the studios of many other affists and antiquaries. He believed that in founding such a museum they would be supported by a general feeling out of doors that it would not be a lavish expenditure of public money, but one in harmony with their past money, but one in harmony with their past and present efforts, one they were called on to make by the present position of the arts in this country, one to which they were invited by the general voice of Europe. The hon. gentleman concluded by moving an address to her Majesty to appoint a commission to inquire into the best means of preserving the national monuments and antiquities.

Mr. Hawes seconded the motion. Mr. Bernal said the inquiry called for by the hon. ¹ Mr. There member was absolutely necessary. There was, unfortunately, too great an apathy in this country with regard to such subjects as these, because they had not the interest of personality and strong political feeling. If the state of the Treasury did not allow the right hon. baronet to give the public money for the pro-motion of these objects, a public subscription ought to be opened for the purpose. We were the only country in the world which left these matters to private enterprise and taste. At the member was absolutely necessary matters to private enterprise and taste. At the Louvre there was a large collection of middleage relics, but we had no such public collec-tion. He thought the the most fully a such public collection. He thought that the motion of his hon, friend was somewhat too confined-that it ought to extend to antiquities generally, which were analogous to and coeval with the antiquities of this country,—for instance, those which were to be found in Brittany. There ought to be an institution where the student could see the dresses, weapons, costumes, and antiqui-ties of past ages. It was true that there was ties of past ages. It was true that there was the Geological Museum, but it was confined in its objects. And at the British Museum there were vast collections of most interesting objects, which, however, either from want of room, or want of good will on the part of the conductors of the institution, were not pro-perly accessible. He was satisfied that if a periy accessible. He was satisfied that if a national museum were once established, pri-vate individuals would immediately contribute to it. Such an institution would have the best effect on the manners and morals of the

people. The Chancellor of the Exchequer said, of course it was out of the question to expect any co-operation from the Government in the course of the present session, after the supplies had been voted. With regard to the general had been voted. With regard to the general question, it should be remembered that abroad these public institutions were the object of the these public institutions were the object of the care of the Government, while in England custom left the advancement of such objects to private individuals. He believed that a greater number of works of art and of anti-quity could be found in this country than were to be account of the private state of the set of th to be seen in foreign countries, and he doubted very much whether the collection of all these very much whether the collection of all these into one institution would be so advantageous as to leave them as they were. With reference to the appointment of a commission, he thought that for such a purpose it was open to considerable objection; at all events until after very great consideration. \rightarrow Mr. Borthwick thought it extremely desirable that increased would be bettered upon the preservition care should be bestowed upon the preservation of the religious and ecclesiastical monuments of this country, even to the comparative neglect of those of pagan and profane anti-quity. The state of our ecclesiastical archi-tecture was such as to call for much greater attention, though greater expense should thus be incurred than had hitherto been devoted to it. The hon, gentleman adverted at some length to the exaction of fees from persons visiting cathedral structures, and strongly expressed his disapproval of the prac-tice. of the religious and occlesiastical monuments tice

Mr. Ewart said it was a mistake to suppose that the right hon. gentleman (Mr. Wyse) wished to have existing monuments despoiled; he only desired to have them concentrated in one establishment, instead of mouldering in one establishment, instead of modeleting in various public edifices. He entirely concurred in the view which had just been taken in reference to cathedrals. Forming, as cathein the view which had just been taken in reference to cathedrals. Forming, as cathe-drals did, part of the history and religion of the country, it was the duty of the Govern-ment to do all in its power to secure their being open to the public without any charge whotever whatever.

Mr. Wyse having replied, the motion was put and negatived without a division.

THE FUTURE DEVELOPMENT OF STYLE IN ECCLESIASTICAL ARCHITECTURE.

As the history of former nations is being illumined by the labours of their successors, much that we were priding ourselves upon as new, is proved to have originated in time, more or less gone by. The wisdom of the Egyptians is placed on evidence, more convincing than assertions of the classics, and the learning which did exist in Europe during the middle ages is made manifest, shewing that that period was not entirely one of darkness and ignorance. Indeed, we are gradually dis-covering, how unsafe it is to form general opinions supported on the evidence of only isolated facts; and may shortly be compelled to allow, that the standard of knowledge has been placed, in this century, at too great an elevation. But it is not the less obvious, that the discoveries at this epoch are of such a nature, as would at one time have seemed too wonderful for mortal agency, and subjected their authors to terrors of the dungeon and the inquisition. Still, the age is essentially a matter of fact age, one more inclined to for-get that "the race is not always to the swift," get that "the race is not always to the switt," than to pursue the path, which is laborious but certain. It is an age of anomalics, feverishly excitable as to the future, and probing into the records of the past; an age in which advanc-ing science, and the study of its former state find equal votaries. The Anglo-Saxon scholar, and the learned in modern languages, the archeologist, and the professor of science. archæologist, and the professor of science, meet in every circle, and excite a like interest in their labours. But the future object is pursued with too slight knowledge of previous attempts, and too little considera-tion as to the best course; whilst the an-tiquarian pursuit is still one of mere observation and curiosity, less than reasoning and de-duction from examples, towards their bearing upon present time. To such or other singularities, we must attribute the peculiar state, in which the art of architecture finds itself, for perhaps the first time in the bistory of the world, a state alike irreconcilable with the desire for progressive improvement, and with any useful application of previous discovery, a state often commented upon, but yet un-altered. It is still held to be an axiom, that architecture is the only art, which has reached its perfection, and is now no longer progres-sive. The works of the ancients we must admire and study, but not deviate from. Our Gothic architecture must be the architecture of former centuries, when the style is sold to have been in uncensing search of movely, yet never attaining the desired excellence, and to have expired from mere insuition, the table is

It is assumed, that our churches should be, if not copies, at least such as might have been erected at a particular period, and might have been mistaken for works of that date. But why should we say that the intellectual vigour in architecture is dead? Did Shakspeare and Miltun exhaust all the fountains of a sister art, and are not the stars of heaven, and the flowers of earth as pregnant with associations which conduce to poetry, as before Dryden, Pope, or Byron wrote? And though art has known, days, — can this century, before all others, deem that architecture has no future being, a century, in which the whole range of archi-tectural history is beheld, and understood with a clearness before unknown, which possesses all the pawers of investigation, yet deems a good result beyond attainment, and in which the resources of science are not wanting to produce, as the works of architecture were never executed before. And in gothie architure, which had the power to conceive, and the principles, but sometimes lacked the means to carry out, we have, in the study of ancient models, and in inherent resources, the latent skill to produce works, in design more won-derful than the cathedrals of Cologne or Beauvais, and in stability far surpassing those structures. The means for studying the prin-ciples of the mediaval architects are around us, the knowledge of the chemist, and the geologist, with that in every other department of science and art is, for almost the first time. open to us, and shall architecture remain insensible to these advantages? With so many inventions, available for the construction and decoration of buildings, it would appear that the art is rather about to commence, than to

have reached the height, from which there is no advancement.

have reached the negat, from which there all at no sdvancement." If the progress of other styles, feel certain that gothic architecture of least is not to be improved upon, yet preserve that style for imitation. The writer in a latt number of this journal, who has done is the honour to notice some of our previous 're? marks, seems inclined to such opinions, shift we can only wish that his pen could be confided in what we deem a sounder line of argument? Doubless, existing examples convey more fin-struction, and excite a larger amount of pleasure in the beholder, when constructed in a mix-ture of styles, harmoniously blended, thain work should shew any such discrepancy, any more that we down any such discrepancy in the value of all examples in the style of one particular date; but we cannot consider, that a modern work should shew any such discrepancy, any more that we down any such discrepancy in the value of an examples in the secondly to fits in the people from whom it originated. The first object is the pursuit of the artist, the second that of the antiquarian analysis, filled trative of the time in which it was eracted, first but in estimating the value of a model, which is not to be neglected by the architect, but in estimating the value of a model, if its pecause the rist of ages has thivested the fabre with an interest, which we do not take the with an interest, which we do not take the with an interest, which we do not take the with an interest, which we do not take the with an interest, which we do not take the with an interest of ages has thivested the fabre with an interest of ages has thivested the fabre with an interest of ages has thivested the fabre with an interest of ages has thivested the fabre with an interest of ages has thivested the fabre with an interest of ages has the But there are some who, without broaching by an imitation to create a like interest. We omit the consideration, that the modern pile will no longer be an exponent of its age, and will therefore be deficient in precisely that value, which the original possessed, while, in general rank as a work of art, the original may be inferior. The universal principles of art hold the highest place, to which the investiga-tions of antiquity are but the stepping stenes; and in aiming at the wrong goal we miss both. The heads of Edward III. and Queen Philippa when used in a modern church (wide due; n. 183) active to mark the invitation of a barp. 183) serve to mark the initiation of a par-ticular period, but seem to as illustrations of the improper application of medieval arc. So the fleur-de-lis of the Tudor period, no longer a national badge, and the letters, which even a cannot always-read, may be Gothic architeet

With all the interest, which we feel in the antiquarian and bistorical part of aveilacture, antiquaritin and instorted part of architecture, and alloun admiration of forbic, architecture, in its former, state, our desire in not leasened, for a style of art, which we can truly call for own." If modern be as fertile in investion as, ancient days, the barrier, which excludes that investion from our art should be insurmount. invention from our art, should be insurnound; able. That excellence, it not to be hitained by a neglect of existing examples, as some work a neglect of existing examples, as some working argue, but is to be gained by pareful examina-tion of those remains, and from full concention of the principles which guided their erections. An opposite opinion would be founded on an illogical basis, assuming that all executes works, whether good or bad, could give an is-struction, and that the art must recommence a long and experimental course. The main reason of the present, initiative state of tasta-is, that the purely antiquarian possesses an updue influence over the art, to which in the parault of architecture, it should the entirely subry servient. servient.

The infusion, of new and besutiful features The infusion of new, and besutiful features into Italian anchitecture, (which, , gonaisteni, with the *azimus*, of the art, should yet give an entirely new character to that atyle, would give the name of the architect a place, among at the greatest in its days of splendour. Why should invention in modern Gothic architec-ture not be deemed an equal merit? . We must guard against the possible mistake, that the study of ancient models is unnecessary. Whether it be, that the principles of art are difficult of discovery, or that we acquire a love of certain forms, and desire their reproduction, or that, without the chain of rules, our fancy would be apt to draw us in search of novelty into the singular and ridiculous, it is true that rules, deduced from the examination of ex-amples, are never so necessary so in the infancy of the art, or the pupilage of its pro-fessors. We deem this the infancy of a use style of art; and that Gothic architecture was not exhausted in the sixteenth century; that,

irmsh the comhined exertions of individuals in the systematic examination of ancient models, a my style of, flothic architecture may arise, the origination of this architecture of provident of this are, and not interior to a systematic examination, so the architec-ture of listy declined at the establishment of the christian, religion, and at last appeared to be single, if did, Review of d'Agincourt's His-ture of listy declined at the establishment of the christian, religion, and at last appeared to be single, if did, Review of d'Agincourt's His-ture of listy declined at the instrument of the systemation in the north, Byzantine in a set, a distinct style at Pisa, and the in-ture, the the frecian stock had been ex-ture, the the Grecian stock had been ex-ture, the the decline of the empire, the reput of a national style, and to free the mary in the decline of the empire, the state in the decline of the provent and interest is the treat of the provent and interest is an envire of the provent of its of the provent of a style of the interest is the decline of the models of its of the provent of a style of the recently, discovered with of the succession. If the Italian is defined in producing an original, style, its of the succession. If the Italian is defined is the succession of the success appear to its of the succession of this age. The instrument, the such abundant materials, and its provers of science as we posses, we instrument of a style is the science con-tend the principles of our ancestors, and its provers of the produce another con-tend the principles of our ancestors, and its provers of the principles of our ancestors, and its provers of the science to perfect our instrument structs, produce a style, which like instruments of assigned from present arrors instruments of asuggest, but as a convicti through the combined exertions of individuals. in the systematic examination of ancient models,

the times. The methan of secaring from present errors a methan of secaring from present errors a methan of suggest, but as a conviction of a mid methan and the remedy, we will the one of the tracking of such the tracking of such the tracking the tracking of such the tracking the tra

impre-read, may be

REVOLVING IRON' SHUTTERS.

Auto ATRAFTT AND BOARS A. SMITH.

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The the 23 diad 24 th olf.; in the Court The the def is before the Lord Chief Baron, The Tollure? Kit, and is special jury. "Tollure? Kit, and is special jury. "Tollure? Kit, and is or curtains to the "Tollure? Briter House, by his Grace the "Tollure? A pitch house, by his for a for the for the for the for a for the for a for the for a for the All the state of sources of several inge-the several the state of sources of a similar the several by the several security. The several B33, Messes. Turner and Barron We be several several several several several several the several several several several several several several the several se

I hat is of iron, connected by hinges of copper I hat is of iron, connected by hinges of copper Find a way that a series of interstices were Find a way that a series of interstices were Find a way that a series of interstices were Find a way that a series of interstices were Find a way that a series of interstices were Find a way that a series of interstices were Find a way that a series of interstices were Find a way that a series of interstices were Find a way that a series of interstices were Find a way that a series of interstices of the series of the building. "The raising of these find a way that a series of the series of the win-find a way that a series of the series of t This and the second sec fion connected together by hinges of withing away the edges of the strips to the knackles of the hinges. Mr. Bun-

worm-wheel, as populiarly adepted for raising or lewering ell such abutters. In Mr. Ban-nett's improved shutter each lath or strip of iron overlaps and lies in close contact with the one below it, so as to form a firm sheet of iron, which not only concealed the joints or hinge but also effectually secured them from external viblence.

The utility of Mr. Bunnett's invention was duly appreciated by the public, and his revolving shutters came at once into most extensive use, being adopted by nearly all well as bankers and insurance companies, as by numerous tradesmen and others in the metropolis, and in the principal towns through-out the kingdom. The demand had gone on progressively increasing, and for a period of eight years the patentes were allowed the un-disputed monopoly of their patent right. In 1844, however, the defendant Stillt made and put up eight shutters in a building in George-street. Mansion-house, belonging to Messrs. Smith, Payne, and Co., which were considered to be a direct infringement of the plaintiff's patent; and an application was made for an injunction to restrain the defendant from proceeding with his infringement. The Vice-Chancellor, Sir L. Shadwell, deferred granting the injonction, making the usual order, and directing the plaintiff to establish the validity of his patent in an action at law.

The evidence of Mr. Carpmael, Mr. F 'arev. Mr. Laxton, Mr. Cottam, and Mr. Baddeley went to shew the novelty and usefulness of the plaintiffs' invention as well as the sufficiency

of the specification. The defendant's record contained the usual pleas of want of novelty, utility, &c. An attempt was made to prove the former by reference to two patents granted to Mr. Michel and Mr. Whiting in the years 1818 and 1819 (both for wood shutters); and that the defendant's shutter was an improvement upon, and not an infringement of, the plaintiffs' patent. The trial lasted nearly two whole days, and after a deliberation of upwards of two hours, the jury returned a verdict for the plaintiffs upon all the issues, with damages, and his lordship certified that the right to a patent came in question, and that it was a proper cause for a special jury.

THE LATE CONFLAGRATIONS IN EUROPE AND AMERICA.* BY J. L-

" Prevention is the best remody."

Aushouda every thing gets now-a-days drawned and engalphed by the overfleeding of an exeberant (and in many cases useless and unnearing) public press-wet; the later awful calamities have been uble making some im-pression on the public mind; a reason why we resume this subject, to bring it to a final close. Having in our preceding paper arged "the regeneration of architecture," as the surest and soundest remedy for the preventing of calamitous fires a moral agency withal, of calamitous fires a moral agency withal, at least in its leading principle; we have to state now, that notwithstanding the fragile and futile (main) buildings, in which people con-descend, or are compelled to live—we are most anxious to fill such frait receptacles with every sort of equally futile and combastible tawdrinees; such as huge bed and window curtains, table covers, earpets and rogs, and drapery and trappery of every kind. But we do not wage war against comfort and opsament, but against its abuse and "lilegitimacy." In this respect also our forefathers were the better mon-their furniture was made for centuries, like their buildings for ages." But a such most futile tumber is often sequired by very most futile lumber is often scouired by very heavy sacrifice (aye, cook of principle), we say, let us not go too far that way; let us somewhat retrograde to the noble and stern and pure etrograde simplicity of our forefathers; and, we are sare every loving parent will approve of our sag-gestion, "let your children sleep in a safe house, even if their hed be without ourtains." Another cause of fires (it comes always to principle) is the careless atheistic way; in which den is beaded end matematic her not

which fire is handled and managed by, not alone servants, but even by masters, who ought to know better. The criterion of atheistic belief is to consider ourselves as the centre and sole aim of every thing around us. "We

* See pp, 200 and 280.

have heard of Hamburg and Pittpburg and this street and the other in our neighbour this street and the other, in our neighbours-hood-but such accidents, happen, only, to in-significant vermin around us they never will or can reach met.". If other means have been found, unavailing...to check such belief, and acting ...noon .it, .the. legislature ...ought ...to step in ; ...as ...tr, is really .too. matues ...ought ...to step in ; ...as ...tr, is really ...too. matues ...ought ...to ther bill may amount to .54, or .104.; ...while, they will set the bad-curtains on firs, and ...auther the loss of property, hundredfold that amount, with a few human lives into the barrain. A sthere with a few human lives into the bargain. As there ought not to be even an accidental homicide without a judicial procedure, no more ought there to be an accidental arson (!) without itand if persons were to know, that they will be subjected to, at least, annoying proceedings by subjected to, at least, annoying proceedings by setting the bed-curtains or any part of a hotel or other place on fire, they will be more careful than hitherto. Moreover, we think, where the bast negligence or carelessness can be proved, such party ought to be subjected to either heavy fine or other punishment-and if malice (on the part of servants on others) can be traced, then, certainly the party should be indicted for either miademeanour or even felony. The too far extension, and lax organization of fire insurances has had that disadvantage, that fires are only considered as material accidents; but the moment that the public would be made aware that they (in most cases) entail moral evils, the thing would be different.—It is, after all, again our favourite seven and a half per cent. Capitalists get, their dividend, and the uninsured poor is assigned over to the poorhouse or other. "public" charity, which, to say it again, has to pay (in all cases) part of any axces. sive dividends.

An unpleasant (!) secret has lately come, out, at Hamburg, which will lead us to another, phase of our subject. It has been observed, that a certain merchant had burnt down his premises twice even since the great fire for which he obtained his premium—and it was first considered a strange coincidence (!) that it was the same gentleman, on whose premises the great fire originated. Similar hists have been thrown out in this country in one or two instances. What punishment ought or two instances. What punishment ought, to be awarded to a brute, which, for the sake of a mean and pitiful lucre of a few thousand pounds—will distress a whole city—human imagination (or human philan-thropy) can scarcely desire. Still, such awful cases exist— Hamburg and Pittsburg have followed each other, at any rate, too close, and we say boldly and unreservedly: "let ua be prepared for, or rather guarded against, similar occurrences — at London, at Bir-mingham, &c." But this is neither the time mingham, &c." But this is neither the time nor place to write (a book) on "public estab-lishments for preventing conflagrations." We, many throw out some broad hints, and must leave it to the "discretion and conscience of; the people" to carry them out if they are found deserving. London, certainly (and other cities). have a fire brigade, but it lacks proper organihave a *fire brigade*, but it lacks proper organi-zation. Any body of men, who are called upon to act promptly, energetically, *concentra-tedly*, cannot do so without military organiza-tion; amongst which the hierarchy of privates, corporals, sergeants — up to the commander (in chief), for every city or district is included. The man who was drunk when he had to use, the fire-escape in Dover-street, has been dismissed, and very properly - nay, we say, he ought to have been tried for homicide. But do our respected readers know how these fireescape men are now situated ? They have to, attend, night after night, to their engine to them. Is it to be wondered that they are seized with *ennui*—tired out in fact? and then the resorting to a near public-house, and all the other et ceteras are the consequence. The first, therefore, would be to place the fireescapes at, or very near, the stations of the fire brigade, where the men attending them would have not only company, but be under the eyes nave not only company, but be under the eyes of the corporal, sergeant, and the inspecting officers. This leads us to another important item without which no body of men will ever be efficient. This is "the surprising system," as we boldly call it. This system has been resorted to by men like Sultan. Joseph II., Frederic the Greet greater concerns then that greater concerns than that however, holds

(fire) commander-in-chief, or any fire-major or captain get up occasionally and unpreparedly, and surprise and visit some or other posts of the fire-brigade or the escapes, and ha'll see (I'm sure of it) strange things going forward — but this only for a very short time. Because these gentry would soon find cut, that the eyes of their superiors are ubiquitous, and that they can-not gammon them. The public may have for-gotten it—but history has not, that when the large conflagration of the Tower took place, there was no water, for which, certainly, something might have been said to the constable on duty. If such destruction of (public-national) property ought to have had any result, it ought to have, at least, that of teach-ing mankind a lesson. But it seems, it does not. Even since the fire, other property has been consumed on account of the deficiency of, water — and none seems to think, that a stop ought or could be put to such scandal. Our suggestion on this score-the practicale of the surprising system is, that the fire com-mander-in-chief or other superior should appear ex tempore one fine night in a certain locality, and give an artificial alarum to the fire and water men. If, then, any defect should be discovered, say in the most essential --- the supply of water, the company, or whose-soever fault it is, should be made to smart for Oh! but where is the seven and a half it. per cent. then-may some of our readers ex-claim. To which we merely reply, "Beware of a repetition of Pittsburg or Hamburg!" The complaints, in fine, on our present social condition from the throne (here and elsewhere), the constant talk-large and smallin the legislatures, the thousand philanthropic and charitable societies, the tons and ship-loads of paper stained therewith, are becoming nigh disgusting, if not acted upon by every one in his sphere. Otherwise, it would be preferable, to at chose and openly declare our-selves Atheists-consider human (aye and cosmic) affairs as something adventitious and futile; continue barefacedly the hitherto gambling of life, where every sort of craft has a good chance of success, and leave the large mass of fools (the people) to shift as they best-may, and to have no more fuss about it.

EXHIBITION AT WESTMINSTER HALL.

³ In addition to six artists who were deputed to execute a cartoon, coloured sketch, and a specimen of fresco-painting, for subjects which eregiven, her Majesty's commissioners on the fine arts threw open the same subjects for general competition, and offered three premiums of 2004. each for the most worthy specimens. The commissioned pictures, as well as those specimens sent in competition, are now open to the public. Some of the newspapers have fallen into the error of expressing their surprise that none of the six artists selected last venr have obtained prizes on this occasion, overlooking the circumstance that they are each to receive defi-nitely the sum of 400% for their work. As regards the assignment of the fresh prizes, we do not hesitate to say the judges have performed their daty fairly and ably. It must be gratifying, in a high degree, to the com-mittee of the Art-Union of London again to find two out of the three premiums most worthily borne off by young artists whom they by honorary rewards for outline drawings have in some degree led forth, namely-Mr. J. Noel Paton and Mr. John Tenniel, jun. The third is awarded to Mr. E. Armitage, who distintinguished himself in a former competition.

Considering that England is an infant in the art of cartoon making, and still more so in fresco painting, she must certainly be allowed to be a precocious and apt scholar. The exhibition as a whole is deserving of the highest commendation, and must equal the hopes of the most sanguine. No. 5. by Mr. A. Aglio. The subject " Re-

ligion," is clever, more particularly in the upper part, but Faith, Hope, and Charity, want refinement. In the fresco this artist has shewn considerable ability.

11. "The Spirit of Religion," by J. Noel Paton. The idea is remarkably fine and is carried out with great energy and executive power. It will amply repay careful examina-tion. The specimen of fresco, which the

artist informs us is "the first experiment," plainly shews ability to do better next time;

this is one of the deservedly rewarded. 23. "An Allegory of Justice," E. H. Weh-nert. An excellent cartoon, the grouping and drawing are successful; the whole, though pervaded by Germanism, is true to nature, and

in parts unexceptionable. Mr. Buss's cartoon (29) is barely redeemed by the figure of Gascoigne, which has con-siderable dignity; the rest is weak and un-

meaning. 32. "The Baptism of King Ethelbert," J. Severn, is a falling off from his "Queen Eleanor!" The fresco is more happy.

Mr. John Callcott Horsley, one of the com-missioned artists, has produced a work of pure unaffected truth and refined sentiment in his cartoon of "Religion," of beautiful breadth cartoon of "Religion," of beautiful breadth and drawing. This work is a masterpiece. The freeco and coloured sketch are alike excellent.

cellent. 33. "Justice," by William Cave Thomas, another of the commissioned. This artist aims at the style of the earliest German masters. It is a grand work of time, labour, and much study; in parts strongly reminding the specta-tor of Albert Durer's works. The fresco The fresco shews knowledge of the material.

If excellence consisted in finish. Mr. Maclise's cartoon (4)) is the acmé of perfection. Never was finish carried to such an extent before in cartoon drawing. Each head, hand, and leaf, is a picture in itself. The shine of the armour, and strong light and shade which pervade it, render it somewhat confused, but the general drawing is truly beautiful, and the coloured sketch is as good a picture as he has painted for some years. The fresco is disagreeably coloured, particularly the flesh. Mr. Maclise is another of the commissioned.

A sketch by Edward Corbould (44) is excellent in colour, but does not tell the story. The fresco of Ethelbert's head is well executed.

"The Spirit of Religion," Edward Armitage, is broad, grand, and well-drawn; and characterized by high and religious feelings. The fresco and coloured sketch are much inferior. The cartoon has been most deinferior. servedly rewarded.

Mr. Cope, A.R.A., has produced an excel-lent cartoon of "Edward the Black Prince receiving the order of the Garter from Ed-ward III." (57), finely drawn, and effectively shaded, but the figure of Edward is rather exaggerated in action. The sketch and fresco

exaggerated in action. The sketch and fresco are both excellent, especially the former. "Prince Henry acknowledging the autho-rity of Chief Justice Gascoigne," by R. Red-grave, A.R.A. This is not satisfactory, the drawing faulty, and the fresco unworthy the painter of "Catherine Douglas." This is enother of the commissioned works is another of the commissioned works. "The Baptism of Ethelbert" (63), William

Dyce. An extraordinary performance, full of feeling and pure truth unalloyed by prettiness. This is one of the commissioned cartcons, and has high pretensions to perfection. To say more of the sketch and fresco than that they are worthy attendants of the drawing would be superfluous.

Mr. Bendixen's "Religion," is a mistake. The figure meant to represent the New Testament seems toasting some absent swain.

Mr. John Bridges exhibits a graceful and lever cartoon from the subject of "Prince Henry acknowledging the authority of Chief-Justice Gascoigne." It is accompanied by a most careful oil sketch, and an able production of fresco.

"An Allegory of Justice," (85) by John Tenniel, jun. This young artist promises to excel in the grand art of cartoon drawing; in this work he exhibits extraordinary talent for design, and power in the use of the cravon. Although but an outline, the parts are made out One of the pre-most justly. The with astonishing boldness. One of the miums has been awarded it most justly. fresco and sketch in colour abate nothing in excellence.

A good idea is brought forward by Mr. Brown in the cartoon of "Justice" (98): wellstudied and carefully executed ; it deserves considerable commendation. "Sketches of the Spirit of Chivalry, Reli-

vourite subject) is ably illustrated by John G. Waller in cartoon 108, the effect of which

is broad and clear. And again, by T. Y. Hurlstone: the figuré allegorical of Mercy is well expressed, although in rather an awkward position.

The sculpture, which forms an accidental feature in the exhibition, is in many in-stances remarkably beautiful; the works that chiefly excited our attention are "A Hunter returning Home" (117), by Frederick Thrupp; chiefly excited our attention are "A Hunter returning Home" (117), by Frederick Thrupp; "The afflicted Mother" (122), by John Evans Thomas; "The Dying Briton," and "The Or-phans" (123 and 124), by Felix M. Miller; "William Shakspeare" (127), John Bell; "Pastoral Apollo," and "The Wanderer's Home" (128 and 129), by Edward B. Ste-phens; "Abel and Thirga" (130), by Thomas Earle; "David" (131), E. Richardson; Mr. Mac Dowell's group of "Love Triumphant" (139); and "A Girl Reading," by the same excellent artist (140). excellent artist (140).

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

The fifteenth meeting of the Association has passed very pleasantly and very usefully, not-withstanding what may be said by its opponents, and will, there is every reason to believe, continue to pursue its course for many vears to come. Sir John Herschel, in his address as

come. Sir John Herscher, ... ____ president, eloquently observed :_____ "True science, like true religion, is wide-"True science, like true religion, is wide-the science of the science divide the worldly, and jealousies torment the envious! We breathe, or long to breathe, a purer empyrean. The common pursuit of truth is of itself a brotherhood. In these our sinual meetings, to which every corner of Britsinits representative some distinguished cultivator of some separate branch of knowledge : where, I would ask, in so vast a variety of pursuits which seem to have hardly any thing it com-mon, are we to look for that acknowledged source of delight which draws us together and inspires us with a sense of unity? That astronomers should congregate to talk of stars and planets - chemists of atoms - geologists of strata - is natural enough; but what is there of equal mutual interest, equally connected with and equally pervading all they are engaged upon, which causes their hearts to burn within them for mutual communication and unbosom-Surely, were each of us to give attering? ance to all he feels, we should hear the chemist, the astronomer, the physiologist, the electri-cian, the botanist, the geologist, all with dne accord, and each in the language of his own science, declaring not only the wonderfal works of God disclosed by it, but the delight which their disclosure affords him, and the privilege he feels it to be to have aided in it. This is, he feels it to be to have aided in it. This is, indeed, a magnificent induction - a consilience there is no refusing. It leads us to look on-ward, through the long vista of time, with chastened but confident assurance that science has still other and nobler work to do than any she has yet attempted; work, which before she is prepared to attempt, the minds of men must be prepared to *rcceive* the attempt,—pre-pared, I mean, by an entire conviction of the visdom of her views, the parity of her objects, and the faithfulness of her disciples.

Of papers which relate to subjects especially treated of in our journal, there was a dearth; in the mechanical section, for exam-ple, little or nothing was done. We have selected, however, a few items of information which will interest our readers.

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Strength of Stone Columns.-A paper on this subject was read by Mr. Eton Hodgkinson. He had experimented on columns from 1 inch to 40 inches long, and 1 inch and 11 inches broad. Care was taken that they were cut from the same block, and in the same direction of the strata. They were crushed between har-dened steel plates, by means of leverage, and a specimen of 1 in. square required a pressure 10,000 lbs. to crush it; in the crushing, it of was invariably the case that the piece operated upon split into wedges, with keen edges. A column forty times longer than wide or thick, was one-third weaker than a cubic piece, and in these long pieces the splitting always began at the ends; the practical utility of this know-ledge was, that stone pillars for buildings, sketches of the spint of Onivary, item gion, and Justice, to shew the relation be-tween the three subjects," (104) by Frank Howard, are clever ideas, well executed. "Justice" (which by-the-bye seems the fa-ut the ends than at the middle, to make the

periments. Coloured Glass.—Prof. Playfair, in the absence of Prof. Grahum, communicated the results of some experiments on coloured glass, by Mr. Splitgerber, and exhibited some speciments of white glass, containing gold, which coloured a deep red on the application of a certain heat, and loses this colour, though not entirely, on being heated to a point approaching fusion.

Production of Iron in Scotland.—Dr. Watt read a paper on the production of iron in Scotland. This paper shewed the improved state of the iron trade in Scotland, the increase of new works and additional furnaces, with every probability of continued prosperity. Dr. Watt stated that it required a million tons of coals to produce 400,000 tons of iron. Mr: Porter said that in the iron works in

Mr: Porter said that in the iron works in Great Britain, for one year, 1,396,400 tons of iron were made from 4,877,000 tons of coals; this shewed a discrepancy according to the statement of Dr. Watt.

Prof. Pryme thought the discrepancy might arise in part from the impurity of the ore; upon the purity of which a good deal depended as to the quantity of coals required.

A member said the introduction of hot blast had made considerable alteration in the iron works in Scotland. It once took seven tons of coals to make one of iron; consequently, the iron works were regarded as hardly profitible; but by the hot blast, the average of coal is about 21 tons to the ton of iron; and the profits of iron works have riseu in proportion. The refuse of coal, or small dust, which cost nothing, was used for hot blasting, and was not counted in the weight.

Mr. Porter, in adverting to the requirements upon the Iron works, said there was one district of railway now before the House which was calculated to require 851,000 tons of iron. Our export trade in iron had also become of itimense magnitude. In 1843, there was exported 460,000 tons of iron, and the use of this metal would be greatly on the increase if its price were kept moderate, as it was much used in the building of steamers, and found to answer well. One person had forty-five iron steamers in England, and another gentleman had informed him that he had had an iron it among the twenty-five years, and that it had not cost 50% for repairs the whole period, nor had it been haid up a week.

period, nor had it been laid up a week. Railway Gradients.—Mr. Fairbairn read a paper on the improvement which had been effected in railway gradients, from which we iske the following tables :—

| ••• | | · · · · · · · · · · · · · · · · · · · | |
|------|---|---------------------------------------|-------|
| •• - | · | TABLE OF ATMOSPHERIC RESISTANCE. | |
| | • | 20 miles an hour 107 | / |
| ł. | ۴ | 22 130 | , |
| | | 24 155 | , |
| | | 26 | |
| 1 | | 30 211 | |
| _ | | DISTANCES AT THIRTY-THREE MILES AN H | |
| ; . | G | reditere. Force of friction Gravity i | n per |

| | 0.00000 | in per ton. | ton. |
|---|---------|-------------|--------|
| • | 1 in 20 | | 11,206 |
| | 1 in 30 | 25 | 7,466 |
| | 1 in 40 | | 5,600 |
| · | 1 in 60 | 25 | 3,733 |
| | | | |

The President said that, by these improvements, railroad companies would be enabled to lay out their money more economically on engines of greater power, and the stationary ones might be done away with.

A member stated that the single lines were now coming into use (as in the Peterborough Bailroad), with the electic telegraph, protected by which they were safer than the double ones. Looking at the saving of human life, this was a question of the deepest interest; and if, as on the Great Western, the electric telegraph were destroyed by the collision, there might be a second telegraph on the other side, to be worked in case of such accident taking place. In a pecuniary point of view, at this moment, when millions were about to be laid out on new lines, the improvements brought before the section were of the greatest importance.

Steam Pile-driving Machine.-Dr. Greene read an interesting paper on the Steam Pile-Driving Machine, recently invented by Mr.

Nasmyth, of Plymouth. At the last meeting of the association the steam hammer, invented by the same gentleman, was brought before the consideration of the mechanical section, and received its approval. The new instru-ment, which had only been put together within the last few days, depended much upon the steam hammer. It consisted of two uprights, each 80 feet high, such height being necessary, in consequence of the immense piles it had to take up and drive into the sea. These uprights were parellel to each other. There was a cap in the middle, through which the pile went, and the piston moved in the cylinder upwards by the force of high-pressure steam. It was self-propelling, and moved on a railway. Dr. Greene was happy to be enabled to state to the section, that he had received a letter, a day or two back, from Mr. Nasmyth, stating that he had just completed the instrument, and tried it, with the most signal success. The first pile driven down by it—and this into a bed of hard yellow clay— was 14 inches square, and 18 feet in length, and was done so in the space of 17 seconds. "It was truly laughable," said Mr. Nasmyth in his letter, "to see this gigantic machine running along, picking one monstrous pile after another, and driving them into the earth with as much ease, and almost as quickly, as a lady would stick pins into a pincushion. Dr. Greene exhibited the drawing of two piles-one bent, crookened, and split, after having been driven into the earth by the old method, with 20 hours' labour-and the other perfectly 20 hours' whole, after having been sent down by the new instrument in the incredibly short space of 41 minutes. The advantages of such an enormous power, he said, were incalculable in the saving of time, labour, and capital : and we should reap the benefit of them in all directions where great national works were going on, and especially in the formation of the harbours of refuge slong our coast, and recovering land from the sea. The enhankment at Devonport had a stubborn sea to contend against; and it was calculated that it required even yet 30,000 piles to be driven down to complete it, in which case the power and ad-vantage of Mr. Nasmyth's invention would be at once felt and acknowledged. One of the Lords of the Treasury had been very recently in his neighbourhood and having seen the instrument tried, expressed his approval of it; and he (Dr. Greene) was happy to add, the inventor received an ex-cellent Government appointment. Mr. Na-smyth, when his principle of the steam hammer was primarily developed, never anticipated that he should ever be enabled to carry it out to such a wonderful extent as he had succeeded in doing in the space of twelve months. The weight had been at first about from four to five tons ; but it was subsequently found that this was a great waste of power, and that one-fourth of it was all that was reand that one-fourth of it was all that was re-quired. The face of the hammer was parallel with the face of the anvil, and its power of sustension was wonderful. When tried the other day, Mr. Nasmyth, to prove this feature the more satisfactorily to some persons who went to see the instrument tried in all respects, said it should crack a walnut without crushing the kernel; but the walnut not being at hand, one of the workmen offered a small tin shuff-box, which being placed open under the hammer, the lid was delicately shut down, without dinge or injury. Mr. Fairbairn testified to the powers of this

Mr. Fairbairn testified to the powers of this wonderful hammer, having seen it tried. The velocity was in the ratio of the force of the steam; it might be made to strike from four to five hundred blows a minute.

The President said that he had had some experience in pile driving at Sheerness and the London bridges, and he could safely say that it took more hours to drive down a pile by the old method than minutes by the proposed one. He congratulated the section on what they had just heard; and he thought the lovers of science, and the country in general, were much indebted to Mr. Nasmyth. The next meeting of the Association will

The next meeting of the Association will be held in Southampton; Mr. Murchison is elected president.

IMPROVEMENT AT DARWEN.—Mr. Eccles Shorrocks intends to build, at his own expense, a spacious covered market-house, and Mechanics' Institution, at Darwen.

DECORATIVE ART SOCIETY.

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ON Wednesday, 25th ult., the consideration of "Geometrical figures as the foundation of graceful outline," was resumed with more especial reference to the "properties of the oval."

From observations of the works of the Ancient Egyptians and Greeks, it was considerel that those nations were acquainted with a practical method of producing continuous curves which is not apparent in either Roman or modern art. The elliptical lines on which the beautiful outlines of the Etruscan vases were founded were supposed to have been selected from a series produced by some simple and convenient system, and are not to be altogether ascribed to the greater perfection of their skill in design.

An approximation to the forms of the ancient vases may be undoubtedly produced by mathematical arrangements of straight lines and segments of circles, as was shewn, but such systems were considered to be necessarily complex and unattended with that practical accuracy and freedom observable in the originals. The defects of our practice were instanced in the Tudor-arched heading of the windows to the new Palace of Westminster, where an approximation only to the beauty of a curved line is attained.

It was also argued that curves based on hexagonal proportions were the most graceful; and Mr. Jopling partially explained the "septenary system of generating curves by continued motion" through combinations of rotatory movements with those of an ordinary tranumel as invented by himself, and he exhibited drawings that certainly appeared to possess a variety, precision, and accuracy, much to be desired; he also affirmed, that for practical purposes, the expense of a couple of shillings would supply a workman with means to produce correctly any curve that might be required.

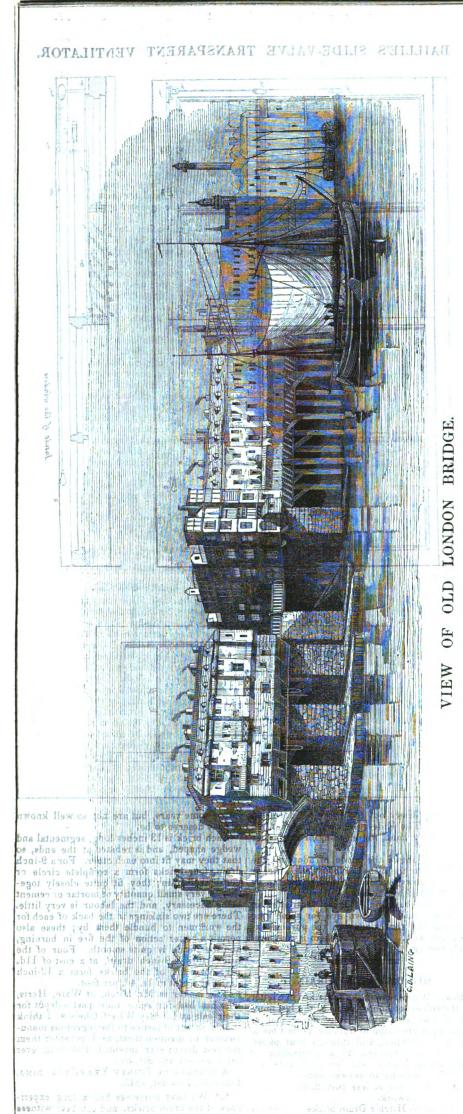
required. The discussion of this subject will be resumed on the 30th July, when the merits of Mr. Jopling's septenary system and the principles of spiral or serpentine lines will be considered.

ART-UNIONS. ----

A BILL has been introduced into the House of Commons, by Messrs. Wyse and Ewart, for revoking so much of the laws against distribud tion by lottery as may legalize the proceedings of Art-Unions. Reciting the recent circums stances in the history of these institutions, the hill enacts that all such voluntary associations for the purchase of paintings, drawings, &c., to be afterwards allotted by chance, now constituted, or which may hereafter be so, shall be deemed and taken to be lawful associations, --provided always "that a royal charter of charters shall have been first obtained for the incorporation of such associations, or, provided that the deed of partnership or other instrument or instruments constituting such associations, and the rules and regulations relating to the proceedings of such associations for such purposes as aforesaid, shall have first been submitted to the consideration, and he approved of, by a committee of her Majesty's most bonourable Privy Council, and a copy thereof de-posited with such committee; and provided such proceedings for such purposes as aforesaid shall have been conducted in strict conformity with the royal charter or charters which may have been granted, or the deed of partnership, or other instrument or instru-inents constituting such association, and the rules and regulations which may have been approved of, as hereinbefore set forth.

The newspapers, in mentioning this provision in the bill, have all storped short at the royal charter, and omitted the alternative, which is of considerable importance.

FALL OF A WALL, AND FATAL RESULT.--Last Saturday afternoon about 30 feet in length of a wall, bounding the premises of Mr. Davies, an emery manufacturer, in Richardson street, Bermondsey, was thrown down, in consequence of 100 tons of emery stones being piled against it. The wall was 10 feet in height, and 9 inches in thickness. Several children were playing near the spot, and one was crushed to death, while three others received severe injury.



In an ind that and the second representation of the second ob noitas which for several centuries encumbered and dis-figured it from one end to the other. The date of this bridge is much better authenticated than that of most buildings possessing claims to a remote origin, for we find in the "Annals of Waverley" (an abbey in the county of Surrey), the following entry :---- "1176. In this year the stone bridge, at London, is begun, by Peter, the chaplain of Colechurch." * in the stone bridge, at London, is begun, by Peter, the chaplain of Colechurch." * in the stone bridge, at London, is begun, by Peter, the chaplain of Colechurch." * into the bed of the river, and was 926 feet long, 15 feet wide, and 60 feet high. It had a draw-bridge, and twenty pointed arches, from 15 to 32 feet span, with massive piers from 17 to 30 feet thick, and of various lengths of from 26 to 115 feet. The longest pier stood in the middle of the river, and served as well for the bridge as for a chapel which was erected on it, and dedicated to St. Thomas-d-Becket. This chapel was a very elegant structure, and consisted of two chambers, an upper and an under one, or crypt, immediately on the starling: the communication batters figured it from one end to the other. The date structure, and consisted of two chambers, an upper and an under one, or crypt, immediately on the starling; the communication between the upper and under chapel was by a spiral flight of stone steps. The upper chapel was loity, and elegant, being supported by four-teen groups of clustered columns, and lighted by eight pointed windows. The crypt be-low was even superior, for, although it was not so lofty, the intersections of the pointed arches and windows were more beau-tiful. The length and breadth of each were the same, nearly 60 feet long and 20 feet broad; the height of the upper chapel was 40 feet, and that of the lower was 20 feet. This was the first building erected on the bridge, and was coeval with the structuret. At what period the other buildings were erected is uncertain, but it is generally supposed what period the other buildings were erected is uncertain, but it is generally supposed that the towers were built soon after the bridge was finished. In the year 1426 the tower at the north end of the drawbridge, over which traitors' heads, were usually exposed, was erected, but in 1577 it had become so decayed as to require removal. A new building was commenced, and the traitors' heads, amongst which were those of Fisher, Bishop of Rochester, and the celebrated Sir Thomas More, were placed over the gate on the Southwark side, afterwards called the Traitors' Gate. But the most splendid building that Gate. But the most splendid building that adorned old London Bridge was the famous Nonesuch House; so called from its having been constructed in Holland, entirely of wood, and constructed in Holland, entirely of wood, and brought over to this country in pieces, and erected on the bridge with wooden pegs only, not a single nail having been used in the edifice. It stood by the seventh and eighth arches from the Southwark end, projected considerably over each side of the bridge, and presented a very striking appearance from its varied and highly decorated architecture. In the year 1582 the first water works were erected by one Peter Morris, for the purpose of supplying the City with water, and size years afterwards three other water-wheels were erected at the Southwark end of the bridged for grinding corn. How long the latter mills remained is uncertain, the former existed until 1822, when an Act was passed for their entire

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remained is uncertain, the former of their entire 1822, when an Act was passed for their entire removal, and the proprietors received 10,000Z ; for transferring their rights to the New River

for transferring their rights to the New Fried Company. In 1754, the bridge requiring very extensive repairs, a wooden bridge was prected on the starlings, on the west side to the houses were removed, the centre pier, and two arches adjoining taken down, and replaced by one large arch, the bridge widened several feet, and finally opened to the public in 1759. These alterations are said to have cost 100,0004. The annual loss of life and property that The annual loss of life and property that

This church stood, until the great fire of London, on 11 north side of the Poultry, at the south end of a turning destrominated Conyhoop-lane, and was famous as the plase where St. Edmund and St. Thomas-à-Becket were presente at the baptismal font.
† From the same authority we have already quoted, namely the "Annals of Waverley." we learn that the remain of the plous architect of the bridge were entombed in the chapel. The passage runs thus : — "In 1205 died Peter the Chaplain of Colechurch, who began the stone bridge and he is sepultured in the chapel upon the bridge."

occurred through the dangerous state of the navigation under the arches, the fall being at times as much as five feet, and the perpetually recurring expense of keeping the bridge in re-pair, added to the rude appearance of the structure itself when contrasted with the fine bridges which had been recently erected over the Thames, suggested, about the beginning of the present century, its entire demolition, and the construction of one more in accordance with the taste and skill of the times, as well as with the princely character of the Corporation of London. Accordingly, surveys, reports, and estimates were made, various plans proposed, some for once more repairing the proposed, some for once more repairing the old bridge, and others for constructing a new one. The most eminent architects and engineers had their attention directed to the subject for upwards of twenty years. At last, in the year 1822, the corporation advertised for plans, and premiums were awarded to three of those sent in. After much discussion both in the city councils as well as in the House of Commons, Mr. Rennie's design was adopted and carried out.

On the 4th of March, 1824, Messrs. Jollife and Banks, the contractors for building the new bridge, commenced their operations : on the 15th of June, 1825, the first foundation stone was hid by the late Duke of York : and stone was laid by the late Duke of York : and on the 1st of August, 1831, his late Majesty William the Fourth, and the present Queen Dowager, were pleased to honour the opening ceremony with their presence. Shortly after this event took place, the work of destruction commenced on the old bridge, and within a few months, not a vestige was to be seen of a structure which had been very famous in its day, and the Chronicles of which illustrate most vividly the manners, customs, and events of London, during a period of six centuries and a half. J. H. a half. J. H.

BAILLIE'S SLIDE-VALVE TRANSPARENT VENTILATOR.

THIS ventilator consists first of a series of This ventilator consists first of a series of louvres of glass, which are permanently fixed at a certain inelination, so that the currents of air may be directed upwards and dispersed; and secondly, of a sliding valve, likewise of glass, which regulates the quantity of air ad-mitted, and which when closed, renders the openings perfectly air tight: the whole is con-tained in a neat thin frame, which may be readily adapted by a common glazier to any of the panes of a window; the frame itself, when thus fixed, seems to coincide with the sash bars, and the rest of the ventilator being quite transparent, the general appearance is by

san bars, and the rest of the ventilator being quite transparent, the general appearance is by no means displeasing. A Several advantages arise from having the louvres stationary, instead of being moveable, for example: — First, the draught of cold air is articled which in the sea of moveable louvres avoided, which in the case of moveable louvres enters through the interval that is required to be left between their ends and the sides of the frame. Secondly, this apparatus has no joints, nor other working parts where the dust can accumulate and become hardened so as to obstruct their action; but it may be closed in a perfectly air-tight manner, even in the most dusty situations. Thirdly, its construction is so simple, that nothing but rough usage could injureit; and if out of order, it may be repaired

by any ordinary workman. The annexed diagrams will serve to shew its appearance and action.

Figure 1 gives an elevation and a vertical section of a sash window with the ventilator section of a sash-window with the ventilator fixed in the position which is thought to be the best for avoiding draughts; aa, the fixed inclined glass-louvres; bc, the slide-valve for regulating the quantity of air admitted, which is moved by the cords (de); coinciding with, and hidden by the sash-bars, and passing over pullies (as at f, g, h, j), to any required posi-tion; in the sketch the cord is finally passed over a rack-pully (n), in the same way as in ordinary roller-blinds; but, when it is required frequently to pull down the top sash itself, frequently to pall down the top sash itself, the cord had better be furnished at its lower the cord had better be turnished at its lower end with a balance weight instead of passing over a rack pully; k, an eye screwed into the sash bead through which the cord runs; l, connecting socket which serves both to unite the cords (as shewn in the sketch), and also to stop (by means of the eye k) the slide-value

* "The Chronicles of London Bridge," Svo. 1827.

1256 Ĵ Fig. 1. Fig. 2.

from being drawn out too far or let down too violently. The slide-valve may, however, be lifted out by hand, for cleaning or any other purpose.

Figure 2 shews the mode of adapting the slide-valve to the sashes of basement, attic, or other windows, where the top panes can be easily reached by the hand. We have had one of these ventilators in

operation under our own eye for some time past, and find that it answers the purpose ex-ceedingly well. The cost of them is comparatively trifling.

HITCH'S PATENT DRAIN.

SIR,-With the remarks contained in a letter SIR, — With the remarks contained in a letter on the subject of house drains in the last num-ber of THE BUILDER I fully agree, but as drain-pipes are liable to fracture, permit me to call your attention, and through your paper, that of your readers, to a description of drain which I have used for some years, and have always found to answer admirably, and at the same time at lose cost then drains of at the same time at less cost than drains of

in use some years, but are not so well known

Each brick is 13 inches long, segmental and wedge shaped, and is rebated at the ends, so that they may fit into each other. For a 9-inch that they may fit into each other. For a 9-inch drain, four bricks form a complete circle or gun-barrel-drain; they fit quite closely toge-ther, a very small quantity of mortar or cement being necessary, and the labour is very little. There are two sinkings in the back of each for the workmen to handle them by; these also permit a better action of the fire in burning, and the inside is quite smooth. and the inside is quite smooth. Four of the bricks form a 9-inch drain, at a cost of 11d. per foot. Six of the bricks form a 12-inch drain, at a cost of 1s. 4d. per foot.

The maker is Mr. Hitch, of Ware, Herts, who has had for some time past a depôt for their sale at Lindsey Wharf, Chelsea. I think it only an act of justice to the ingenious manufacturer to mention them, as I consider them the best drains ever invented, and shall ever

use them.—I am, Sir, &c. A BUILDER OF THIRTY YEARS' STANDING. Lambeth, July 1st, 1845.

common brickwork. I allude to Hitch's Drain bricks, for which a patent has been obtained. They have been to their great excellence.

BAILLIE'S SLIDE-VALVE TRANSPARENT VENTILATOR.

of the wind

Inside

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EXAMINATION IN ARCHITECTURE AT UNIVERSITY COLLEGE, LONDON.

Last week we gave the course of examination in architecture as a science: we now add the series of questions as relates to architecture as a fine art.

First Year.

GREEK AND ROMAN ARCHITECTURE.

1. What analogy has the column and its entablature with any object of early invention? 2. In what respects do its various parts corre-spond with those of its prototype? 3. What is spond with those of its prototype? 3. What is the use of the capital? the architrave? the cornice? 4. In which orders does a base form an essential feature? in which not? 5. State the general proportions of the Greek orders of architecture. 6. Which is the essentially distinctive feature of an order? 7. How many orders were there in Roman architecture? 8. In what respects does the Greek or Roman division of the orders approach nearest to the obvious classification of hysical distinctions, or to the relative proportions generally admitted to exist in all objects throughout nature ? 9. Should the axis of the solumn according to the Greek canons be vertical or not? 10. Quote the authorities, whether in writers or examples. 11. Sketch a profile of the Doric capital and the several varieties of anulete. 12. Sketch the varieties of triglyph heads. 13. Sketch and describe the essential differences in the entablatures of the Greek orders. 14. In what examples of Greek Doric buildings are the tryglyphs omitted? How are the gutte of the frieze then ar-tanged? 15. Sketch various forms of gutte. tanged? 16. What do the antse of Greek architecture represent, and where are they introduced, and what proportions? 17. Sketch the capitals of the antee of the Greek orders. 18. Did any the ante of the Greek orders. 18. Did any and what difference exist in those of Græcia propria and Asiatic Greece? 19. State the reasons for considering whether sculpture be or ba not an essential element of Greek edifices. 20. To whom does Vitruvius attri-bute the invention of the Corinthian capital, and on what occasion? 21. Is there any complete exemple of Greek Corinthian and complete example of Greek Corinthian, and where ? 22. Was the Corinthian, Ionic, or the Doric introduced or adopted as the leading order of any principal monuments in Græcia propria? 23. Which was the prevailing order in Asiatic Greece? 24. Give the names and state the orders of the most distinguished temples of European and Asiatic Greece. 25. Into how many classes may mouldings be divided? State the names of the divisions. 26. Draw the profiles of the first class with the names attached. 27. What is the purpose of the crowning mouldings in cornices? What is their usual angle of inclination in Greek buildings? 29. Draw combinations of mouldings. 30. Which were the usual crown-ing mouldings of the cornice of the Greek orders? 31. Was there any moulding peculiar to the Greek Doric and never used in any to the Greek Doric and never used in any other order? 32. Give the name and varieties of profile. 33. Under which class does it come? 34. In which periods of the art were mouldings sparingly and profusely used? 35. mouldings sparingly and profusely used ? .55. Should mouldings or plain faces predominate, and why? 36. Draw some of the sculptured decorations of mouldings with the names attached. 37. Sketch a plan of a Greek decastyle hypethral pseudo-dipteral temple, with the names of the parts attached.

- ... Edyptian Architecture.

^b 38. Which are the earliest specimens of Byptian architecture? 39. What are the general characteristics of Egyptian architecture? 40. Whence is their general impress derived? 41. Is it varied or uniform? 42. State the reasons. 43. Sketch a plan of one of the temples at Thebes. 44. Give a general description of the parts, and describe its chief accompaniments. 45. Into how many divisions may be classified the capitals of their columns ? 46. Give a sketch of two columns of different characters. 47. State the proportions. 48. Sketch and describe the proportions of an obelisk and its pyramidion; its material. 49. Illustrate the value in which obelisks were held by the anecdote related by Herodotus. 50. Describe the influences exercised by the conquerors of Egypt upon its architecture. 51. State the nations by whom Egypt was subjugated, and the periods of conquest. 52. Enumerate the leading works on Egyptian architecture.

THE BUILDER.

Second Year.

MEDIEVAL ARCHITECTURE.

I. At what period and by what Emperor was the Christian faith adopted as the religion of the Roman state? 2. What religious edifices did he construct for divine worship? 3 When were they erected? In what form? Give a general plan of one of the primitive Christian churches, with the names of the several parts attached. 5. Describe the pur-pose or destination of each part. 6. Had the position of these early churches originally any reference to the cardinal points ? 7. State the origin of the term Byzantine, and describe the characteristics of that style of architecture. 8. Give a plan of certain ancient Byzantine churches at Constantinople and Ravenna. 9. Give a plan and section of a Greek church at Athens. 10. Sketch the varieties in the cruciform plan adopted in the Christian churches. 11. By whom were baptistries first built? Enumerate the most celebrated ones. 12. Give plans of some, and state their relative position in regard to the church to which they belonged. 13. Give a plan of the baptistery and Church at Parenzo in Istria. 14. With what previous style is Norman identical, and in what respects? 15. What is the distinctly different feature which prevailed in the Norman and preceding style, as contrasted with that of the subsequent styles of mediæval art? 16. Sketch the varieties of the Norman arch. 17. Give the profiles of the mouldings, plans of columns, elevations of caps and bases 18 Sketch windows with single or double lights. 19. Sketch an elevation and section of a Norman buttress. 20. What was the general form of the altar end of a Norman church, and how called? 21. Sketch the primitive form of a Norman church generally prevalent in England. 22. Give the names of succeeding Gothic styles in this country, and dates of dura-tion. 23. Sketch the forms of arch prevalent in each style, and the varieties in the arch of each each style, and the varieties in the arch of each epoch. 24. Whence may it be supposed that we derive the pointed arch? why? and at what period? 25. State some of the theories of the origin of the pointed arch. 26. Were the caps and bases of the lancet circular or poly-gonal in plan? 27. Of what material were the columns? and why? 28. Sketch eleva-tion and section of buttresses; and in what particular did the lancet buttress present a particular did the lancet buttress present a character essentially different from that of the preceding style? 29. When did the succeeding style commence and finish? and state the origin of the name given to it by Rickman. 30. What is the peculiarity of the door at this period? Sketch one. 31. What peculiarity in the tracery of the windows? 32. Name the different parts of the tracery, and notice any peculiarities in the transoms of the windows. 33. What crowning enrichment exists in the cornice of the later periods, and in what respects does it correspond with a like feature in classic architecture ? 34. In what parts were heraldic embellishments introduced, and when? 35. State instances of heraldic punning in gothic architecture. 36. Sketch dif. ferent forms of shields in the order of their respective epochs. 37. Give a plan of a gothic cathedral, with the names of the parts attached. 38. Sketch plans and sections of gothic vaultings. 39. Define the different features and parts of arch-vaultings, and the classes of ribs. 40. What is the difference between a groin and a rib? 41. Name dis tinguished instances of vaultings. 42. Give a brief notice of mediæval architecture in Italy, and compare it in its progress and results with the architecture of northern Europe during the same period. 43. Lay down the general principles of composition as taught by Durand. 44. Name the most eminent authors on architecture, classified according to the subjects on they treated. 45. State the qualificawhich tions and studies to be acquired by the architect. 46. Give a tabular view of the history of architecture from the earliest periods.

NEW SURVEYOR OF THE DISTRICT OF ST. JAMES'S.—Mr. Charles Mayhew has been unanimously elected to the above appointment, rendered vacant by the death of his father. We feel much pleasure in being able to congratulate him not only upon his success, but also upon the good feeling displayed on this occasion by his professional brethren in not offering an opposition.

STIR IN THE SCHOOL OF DESIGN.

THE disorganized state of the School of Design, to which we have been forced to direct attention on several occasions, has been recently mentioned in the House of Commons.

Mr. Ewart, a few nights since, referring to the dispute which occurred in the School of Design, and which had resulted, he said, if the dismissal of the second master; and the withdrawal of the pupils almost without exception, wished to know whether the discord still continued, or whether there was any hope of its being settled?

ception, wisned to know whether the orscord still continued, or whether there was any hope of its being settled? Sir G. Clerk said, "a difference of opinion unfortunately arose in the early part of this year between the director of the school and some of the masters regarding the principles upon which the education of the pupils should be conducted. Several of the students joined warmly on the side of the master, and expressed themselves disrespectfully of the character and attainments of the director. The council, considering this to be a gross set of insubordination, felt it to be their painfal daty to interfere, by suspanding the pupils whe had so erred until they made an apology. The disagreement still continuing, the council felt themselves under the necessity of changing the second master ; who had accordingly been he would not say dismissed, but removed."

The question now is, how will this step operate as regards the state of things between the pupils and the director, and between the public and the school? Will it restore to this gentleman the confidence of the pupils which unfortunately he seems by some means or other to have lost? We are airsid not; any more than it will make a bad system a good one. The school as at present conducted does not produce such results as are looked for, and some alteration is unquestion: ably necessary. We have feedived a number of letters on the subject, mostly, it must be observed, from the students who objected to Mr. Wilson's system. Although *ex parte*, we insert two of them, in order that the complainants, and as it has proved, the sufferers; may state their own views:--

Sta,—Seeing in your columns a short time since, comments on the "School of Design," I beg to offer a few remarks, tending to shew, if, indeed, it can be more clearly shewn, the total inadequacy of the system pursued there to produce any thing above an humble class of copyists.

copyists. A defect which, in my opinion, lies at the root of the plan is, that no instruction whatever is given in the characteristics of the different styles. When the student enters, he is set to copy indiscriminately a number of casts and other examples, and having, I suppose, obtained a stock of ideas by this means, without any other preparation, he proceeds to "design," or, in other words, to produce a hotchpotch, having a portion of the forms of every, without the spirit of any, style. This is what we should be led to expect, and

This is what we should be led to expect, and this really is the exact character of the tawdry and frigid soi disant designs that are the only productions of the school. But what else could we expect of an institution where nature, the great storehouse of the beautiful, is entirely neglected; where the study of the human figure is suspended and interrupted; where the art of perspective is unknown; where the different styles of art and their respective characters are unexplained, and where even the library is fettered by such restrictions, that very few students can have access to it?

The difference between us and foreign designers is essentially this,—that while they produce real artists, we produce nothing more than partially instructed, half-formed draughtsmen. In fact, now that the only students of promise that the school could boast have been expelled, there is none at present designing of even attempting to design. The School of Design at present is nothing more than a cheap drawing school.

Casts and examples are certainly copied, but as the only end of this copying is to acquire mechanical dexterity, and as the peculiar beauties or defects of none are pointed out, Government might as well have provided bad casts as fine ones at such an expense.

Copies of Raphael's performances are to be found there, and give a pretty appearance to the room, but the grand principles of colouring upon which Raphael laboured are neither

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explained nor exemplified: his peculiarities, his manner, his beauties, the student is left in ignorance of.—I am, Sir, &c., H. J. L.

The other writer says :-

SIR,—In your paper of the 21st inst. is inserted a letter upon the School of Design, many of the views contained in which are so thoroughly sound and practical, and much of the criticism so perfectly just, that I trust you will allow me to correct a few mistakes into which the writer has been led, by his being perhaps but a casual visitor at the school.

Your correspondent says very justly, that the conducting such a school would be a fit task for an artist of some twenty or thirty years standing, an assertion the truth of which no one can doubt. As a proof that the council really are of opinion that "with the various examples in the school any man may play the master," allow me to state, that the gentleman whom they have appointed director with a salary of 4000. per annum, is practically ignorant of design.

The writer's *ironical* praise is very just, but it is too bad to place the faults of others upon the back of the council, particularly as they have been recently filling up the measure of their mismanagement themselves; how can any persons, for instance, doubt their just appreciation of the talents necessary for a teacher, when they are told that the council have just dismissed Mr. Herbert, A.R.A., the late master of the figure class, and sub-director, under the plea that he is *too efficient*, and have lowered the salary attaching to that office, in order to insure a less efficient successor? Yet such is the case. In speaking of the students in the last portion of his letter, he is mistaken in calling the paintings, from which they are in the habit of copying, frescoes; they are copies in tempera from the arabesques of Raphael in the Loggia of the Vatican.

Now, Sir, such is the state of dissatisfaction on the part of the students, and of mismanagement on the part of the council, that three months since, all the students in the upper classes of the school felt it necessary to petition the council for a redress of their grievances; that the system laid down by the council in their report might be carried out, and that the instruction there promised might be given : for doing this the students were immediately suspended, and although they laid before the council a series of depositions proving their grievances, still no notice was taken of their complaints; until at last, without any inquiry into the truth or falsehood of the statements advanced by the students, the council issued a notice stating that they would not be re-admitted to the school without individually apologizing to the director for their conduct: thus placing their necks under the feet of the individual of whom they complain.—I am, Sir, &c., PHILO-ALPHA.

An inquiry into the results of the system pursued should at once be made, or we may go on spending money and have nothing but disappointment for our pains.

THE PATENT FIRE-PREVENTIVE PLASTER.

In reply to an inquiry made by a correspondent last week, for an incombustible substance to be used instead of common plaster, we have received a description of the "firepreventive plaster," for which patents have been obtained for England, Ireland, Scotland, and the colonies. It is asserted that perfect security from fire may be attained at a moderate cost by costing the timbers and floors with a thin stratum of the composition, in place of the ordinary lime plaster on the lathing of the ceilings and partitions. The composition is susceptible of all the ornamental forms of cornices and mouldings to which plaster, stucco, or carved wood-work are usually applied, and is capable of a fine polish, and may be painted. The works are in Upper Ground-street, Blackfriars Bridge.

A correspondent, who dates from Kensington, suggests that slate fixed to the underside of the joists to form a ceiling, would tend to prevent the spread of fire.

THE NEW PADDINGTON HOSPITAL.—The first stone of the new hospital (near the Great Western Railway Station) was laid on Saturday last by his Royal Highness Prince Albert. OSMASTON CHURCH, DERBYSHIRE.

THE newly-erected church at Osmaston, near Ashborne, was consecrated, agreeably to public announcement, by the Lord Bishop of Lichfield, on Friday, the 27th ult. This edifice, of which the first stone was laid on the 8th June, 1843, has been built at the expense of Francis Wright, Esq. (of Lenton, near Nottingham), and will cost, when completed, eight or nine thousand pounds. Mr. H. J. Stevens, of Derby, was the architect; Mr. William Evans, of Ellastone, was the builder. Was obtain the following constants of the 11

We obtain the following account of the old and new structure from the Derby Mercury :--

"To satisfy the archæologist and antiquarian, it may be as well to preface our descrip-tion of the new church by stating that the ancient structure, which was dedicated to St. Martin, and stood a few yards to the south-ward of the present building, did not contain any interesting features, either in form or detail; a very early date may be assigned to the original foundation of the church, and if the name of the village denotes clearly its Saxon origin, we may venture to imagine that a church might even have existed in that remote period. The old walls, however, exhibited no peculiar construction, or style of ornament, and the greater part were evidently of a comparatively recent date; some very unsightly modern ad-dition had been made some years since for the purpose of increasing the accommodation, but it was found to be still insufficient, and thoroughly inconvenient in arrangement. It was much out of repair, and therefore beyond its doubtful antiquity (which was much more than counterbalanced by its want of beauty), no good cause could be shewn why the liberal intentions of the founders of the new church should not be carried into effect—and the work of demolition commenced, and was carried on without regret; but, on the contrary, with confident expectation on the part of the parishioners that the latter house would greatly exceed the former house in convenience and beauty.

The old font, which is still preserved in the churchyard, as a memorial of the past, is so much decayed that little more than its octagonal form can be ascertained, and that it was probably of late perpendicular character. The new building is situated nearly in the

The new building is situated nearly in the centre of the ancient and unusually picturesque churchyard, in which some venerable yews and Scotch firs contribute largely to the general effect. The churchyard has been inclosed by a low lime-stone wall, which, from being only slightly raised above the level of the ground within the inclosure, and just affording a sufficient protection from the road, has the appearance of a substantial broad base to the church.

It is evident, from a general view of the structure, that the prevailing idea which the founders and their architect sought to carry out, were the principles adopted by our fore-fathers in the construction of the numerous village churches which form so many bright spots in this our beautiful country. It consists of a nave, ailses, chancel, west tower, south porch, and vestry; the material employed for the main portion of the external walls is the mountain lime-stone, from the property of Sir Henry Fitz Herbert, near Tissington, and freestone from the quarries at Stanton, near Ash-bourn, is used for the windows, doors, buttresses, and all moulded and ornamental portions of the building. The fine dark grey of the former is agreeably contrasted with the light tint of the latter, and is in excellent harmony with the grassy carpet of the churchyard, and the deep tones of the old trees. Black Westmoreland slates are used for the covering of the nave, chancel, porch, and vestry, the roofs of which are high pitched, with free-stone ridges. The aisles and tower are covered with ridges. The aisles and tower are concrete in lead. The general architectural character of the building and detail is the late decorated, or that style as it prevailed in this country during the middle of the fourtcenth century. The whole building stands upon a bold, doubleweathered base, with the addition of an extra base moulding in the tower. The aisles are divided by strong buttresses into four com-partments. The principal entrance door occu-

design. The walls of the aisles are not more than 16 feet high, and are crowned by a low parapet. In the cornice immediately over each buttress, which are double at the angles, carved heads have been introduced, in some of which, we recognize likenesses of the reigning sovereign, Prince Albert, the Archbishop of Canterbury, &c.

The quadripartite arrangement of the aisles is continued through the nave, which has a low clerestory, pierced on each side by squareheaded windows of two lights and trifoliated heads. Instead of a parapet to the nave, a beld cornice is introduced, with earved paterse at close intervals in the hollow of the same, and the spout is formed in the upper member. The walls of the chancel are 18 feet high

The walls of the chancel are 18 feet high with cornice and spout of similar character to that of the nave; the east end is pierced by a large four-light window, with flowing tracery in the head; the south front is divided into three compartments by bold buttresses, sloped at the first stages, and terminated at the line of the eaves cornice by weathered hoods, with crockets and finials, and deeply suck trefoil in the face; each division and that nearest the east end on the north front, is pierced by twolight windows, the modilings and design of which as well as the east window, being of a more elaborate character than other parts of the church.

The tower is entirely disengaged from the nave and aisles, and is in three stages, and 69 feet high to the top of parapet; there is a low door on the west front for access to belfry, w three-lighted window over the same in the lowest stage, a circular dial carved in stehe, of the south side—in the second—and a double two-lighted window, on each face of the upper stage; these windows are bold in character, and the slopes of the sills agule; the divisions of the stages are marked by free stone strings, and weatherings, whield reduce the width of the tower at the upper part; there are double rectangular buttresses at the angles, and a partially engaged octans gular stair turret at the north-west angle; the former are terminated by crocketted pinnecles; the latter by piercings on four of its facesy which rise slightly above the tower—crockletted gables on each face; and a comical reofy crocketted on each angle, and crowned by a bold gilt vane. The parapet of the tower is pierced, and the panoramic view from the top is very extensive and comprises scenery of no ordinary beauty.

The porch has a bold doorway with shafts; carved capitals and the hollows filled with ball-flower ornament; angular buttresses with considerable projection, terminated above the coping by crocketted hoods; a cornice and eaves with carved pateræ, and an cariches finial at the upex of gable.

The vestry is octangular and connected with the north side of the chancel, and the east end of the north aisle by a porch, covered with lead, in which the door for the minister is fixed. There are two light windows in two of the faces and buttresses at each angle, termis nated by sloped weatherings; the walls are crowned by a plain moulded cornice, and east angle of the conical roof is finished by a graduated moulding with large carved orns f ment at the apex.

Having completed our survey of the exiterior, we will enter by the south porch, which is 10 feet long by 8 feet wide in the clear; each side is occupied by a stone seat, with four arched recesses over the same. The roof is entirely open, and consists of three main and two wall ribs of bold dimensions, springing, from stone carved corbels in the spandrils of the arches. The entrance door is of oak, and derives its principal ornament from a pair of elaborately wrought-iron hinges, which nearly cover the door; lock, latches, handles, escutcheons, being all of massy and similar character.

during the middle of the fourtcenth century. The whole building stands upon a bold, doubleweathered base, with the addition of an extra base moulding in the tower. The aisles are divided by strong buttresses into four compartments. The principal entrance door occupies the westernmost division on the south side; the other three, the two central ones on the north side, and the east end of the south aisle, are pierced by three-light windows, the west ends of both aisles by two lights, the heads of which are filled by elaborate tracery of varied

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which are, pnoccupied by sittings, are laid with the blest free stone, and by these circum-state and the university of material, a pleasing impression or solidity and stability if conveyed to the stind. "As we have before described the awardows in our external view; if will be unbeckessivit add more that that a string conset is continued under them through dir, that all angles of or plays are fittibled by dirt, that all angles of contained by mails, with bases and capitals or continuou man, with bases and capitals of continuous manufacted as possible, and that the tracery is filled with ornamental plazing. The nave is connected with the north and south asiles by dintered piers, each of a single stone, with another and south asiles by which and two attached piers at the east and west ends spring the arches supporting the defeatory walls: "The roof of the sieles is derestory walle: The roof of the sieles in fat pitched, Wildes into bamparanenty every part of which is micarately wronght and monifed, with characteristic supplings of the 2007 of the mays has more many quased, with andied und mosten in unter man drusse, with andied und mosteled pringery udpressed by der best with the following description bivided bailther form of them: Biory site Book on yearth a posed of them in Biory site Book on yearth a posed of them in Biory site Book on yearth a posed of the initial description Book approximately motogram mitle description Book approximately and book approximately and the site of the second approximately and the second approximately approxi the main since ane-two collers, without the carved with and wind arases are infroduced between them and kindler the splaw of hereof of the shance) is source of of a series of strong whens, with daryed braces water them, springing from wood corbels, on a continuous ston applies, carved with the sak less, and con-timed arenthe bead of the east window; every part of the noofs are wronght and monided.

of bendrat tarch in supported on clustered agaged pient, of a similar character to those o dave, the bold capitals are carved with delivata foliage, and the ball flower ornament in dutteduced, within the bollow of the arch. But while off the situings in the nave and selecture to an in the state of the selection of the church. The ends of the select

were dreak open, and are made lavel with the floor of the church. The ends of the sente are, panelled with tracery, heads, and have a very strong cap moulding, which is continued of the Aop, of the backs of sittings, bits, funk, which is of Bocha Abbey stone, is a using a circular, boyk, with a continuous hypernetic and the upper part, standing on a high a bat, which is of Bocha Abbey stone, is a using a bat, which is of Bocha Abbey stone, is a using a bat, which is of Bocha Abbey stone, is a using a bat, which is of Bocha Abbey stone, is a using a bat, which is of Bocha Abbey stone, is a store of the upper part, standing on a high a bat, which a moulded base and capital, dwy sty, why a simple part as a capital, and the store of the upper back, are of oak, and are used, the deak has an open traceried front with double rectangular buttresses at the angles, terminated by carved canopies; the pulpit is a ranged so as to be accessible either from the deak of the verty, and is morely five factor of an ostagon, the other faces being or the deak of the verty, and is morely five factor of an ostagon, with the vine leaf. The chancel is approached from the nave by two book board is carved with, chance faces being or the stops, an aroada with, cance faces being or the board is carved with, being folled with book board is carved with, the vine leaf. brade within the areade with singue foliated under the windows ; one entoperturent is, re-turned on each side at the sast endy ithe string rie othen dies in otherindenide unf a et window-sill, and inclosed two loftien airphes. wheel some sense with phin shows are a first and inclosed two forthers are a first and inclosed two forthers are a first and the sense and the sense are a first and a first are a first are a first and a first are a first are a first are and are and a first are and are and are and are and are and are a carved upon it, is the only ornament behind the communion table, which is of solid oak the communion table, which is of solid oak carved with cherolas', heads at the angles, and is the gill of the resident. Promission of the resident. Promission of the resident of the resident. Promission of the shanes is which the communion. Source is administered is laid down with oak framesh in paragentry, and a massive kneel-ingerstik the open integers, accupies a portion only of the front, allowing free access at the solid the shall be allowing free access at the of Ken the

The entrance to the restry is by a deeply recessed doorway, about the centre of the north sNe of the changel ('it is contangular, with a roof of strong moulded wood ribs springing from corbels in each angle, on which atmorial bearings are extremely well carved in Caen stone-they consist of the arms of Edward III. the reigning sovereign, Archbishop, Bishop, Archdeacon Shirley, and the families of Beres-ford, Fitzherbert, and Wright. The fittings are all of oak, and the doors, both external

THE BUE DEF

and internal, are of the same material, and hung with floristed strap hinges, with other iron-work to correspond. Returning to the west end, we find the lowes part of the tower open to the church, in which the westwindow has a very good effect. The accommodation for the children is provided in low one spats, of similar character to the remainder ; behind of similar character to the remainder; semina which, and under the tower, the choristers' seats are placed, the extreme back rising con-siderably higher than the remainder; forms a screet, and conceals the entrances to the belfry, There were one or two small old bells in the former tower ; they have been substituted by a fine peal of five, cast and fixed by Mears, of Whitechapel; a clock also is ordered, and there does not appear to be any thing forgetien which can conduce to the comfort and good feeling of the parishioners. We should state feeling of the parishioners. We should state in conclusion in the theodern's to capable of accommodating the whole parish, and that its internal dimensions are as follows : -- Nave, 46 fast longs 12 feet wide, 38 feet 6 inches high, to the point of roof; each alale 46 feet long, 11 fest 10 inches wide, 16 feet 9 inches high to 1481 40 inches wide, 10 test 9 inches high to the highest part of nonf; chancel, 28 feet long. 15 feet wide, 30 feet 3 inches high; tower, 14 feet square within, 26 feet high to the point of groin; vestry, 11 feet diameter, 22 feet 6 inches high to apex of roof; extreme length of church from east to west, 94 feet; extreme width of church from north to south, 45 feet 2 inches.

NEW CHURCH AT CLIFTON IN ASHBOURN. THE consecration of this church by the

bishop of the diocese took place on the 25th ultimo. No time has been lost in its erection, for the first stone was only laid on the 4th of September last. The Derby Mercury, in de-scribing the structure, says "It is exceedingly simple is plan, and the design evinces throughout a studious attention to economy. It con-sists of a nave 58 feet 6 inches long, 25 feet wide, south porch, and a vestry opposite the same on the north side; corresponding there-with. The style of the building is a transition from early English to desorated, and is built of Stanton stone. The actional face is not marked with a tool and that is market worked with a tool, and has a substantial effect. The roof in high pitched, and covered with Newcastle tiles; there is an octangular bell turnet constitution the sectst gable with bell turret constructed on The retest gable with a conical roof and vane. - The east gable has a floristed ernse. There are two single-light windows in the west end, and the flanks are pierced by windows divided into two lights, by a bold mullion, the spandrils, being filled in with trefoils and quatrefoils, the seat window, has there light of bold characteristic has three lights of bold character, similar to those, on the sides. The jambs of the porch doorway have shafts with capitals and bases. There is nothing worthy peculiar notice in the interior, the limited funds, not allowing much scope for architectural display. The roof is and has four main trusses of arched form, springing from stone corbels in the walls; the sease are low, open, and, as well as the roof, stained and warnished. The arrangement of the pulpit, reading desk, and communion rails, at the east end, is novel and satis-factory. The pulpit is of stone semi-hexagonal in form, and rests upon a low inverted pyramid. steps, constructed in a receas, the face of which arghes resting upon alender shafts. The font is of stane, and good dimensions, and all the other furniture of the church has been designed in a consistent style. An ancient chapel stoad on the site of the present building, parts of its foundations are now remaining. The churchfoundations are now remaining. The church-yard is well situated, and inclosed in a substantial manper by a stone wall,"

The architect was Mr. Henry J. Stevens, the same gentleman who designed the church described in the preceding article. The works were rescuted by Messre, John Wood and Edwin Thompson, of Derby.

HARRIS'S PERIDONEUS .- Under this title is registered an admirable arrangement for is registered an admirable arrangement for binding temporarily the current numbers of periodical works, loose music, or MSS. The buyers of THE BUILDER will find a peridoneus specially prepared for it at Kennett's in Yorkstreet.

SMOKE PROHIBITION BILL

Tris bill has at length passed through the committee, but not without very could detable opposition. "Mr. "Vivian moved as wer could detable ment that it should not comprehene? Int the factor nace of any steam engine "engined as the factor near that it should not comprehene? Int the factor near that it should not comprehene? Int the factor near that it should not comprehene? Int the factor near that it should not comprehene? Int the factor near that it should not comprehene? Int the factor near that it should not comprehene? Int the factor near that it should not comprehene? Int the factor minufacturing of any description what the factor near the factor of the factor of the factor near the factor of the factor of the factor works?" Int the and the factor of the factor works?"

"Phe motion was lost by a large majoraty, Mr. Villers they suggested that the america ment be restricted to steam engines employed in mines of ores, leaving out the hitter part of Mr. Vivian's simendment. This was also for

Mr. Richtle fier attempted to stay further progress for the present, but in this he was supported by Bhily seven votes in a bouse con-sisting of Sixty members. Sin S. Grisham said he had understood that he was also a general fail, and the seven users

the committee, after full consideration of the Whole question, and come to the determinatory that stationary togenes were only to The fiol cidded in the bill." It was under life marked sion that be had voted against the unander of Mr. Hawes said the bill in question wire about Unannamously agreed to by the committee? Mr. Will have add accommitted bid in the statistical with the set of the transmitted bid in the statistical and the set of the statistical bid in the statistical statistical in the set of t Williams said experiments and been Erich in without and warlous places, and the full bear sumption of smoke had been useer the full bear completely practicable. The experiment had also been tried at the dockyards, and had been attended with complete success. With these facts in experiment, had been alternative of facts in existence, he was issueidhed at the opposition which the hont member had midel? Mr. Hawes moved an exemption in fireday he was ustanished at the

of buildings under the survey of the excise, but without effect.

On the motion to bring up the report, Alderman Copeland stated that "if the bill passed into a law, he must shut up works, and and turn 1,000 men out of employment." Trovi wa

1.1 PROTECTION OF LIFE FROM FREMO

Nette schard a sende sets antrage trasta Mrs DoWe Wars sin presenting a petition's few days, since to the Gourf of Berlman Conneil fi n the Royal Basiety for the Pini-(Jothini in rum (in a poyse in unitig opri) are in a mer-fection (of Life from Fine) taski dessific (e) state; that (b) of abs i pen , which stells disso efforcies ware acoustratied had graved and e suggested; and state only bitherto , acticly upon dor suggested; and state only bitherto , acticly upon dor suggested; and state only bitherto , acticly upon dor suggested; and state only bitherto , acticly upon dor suggested; and state only bitherto , acticly upon dor suggested; and state of the s lives of ten of your fellow wrighter / his bean saved by the use of the michines of this society

Baredi by the use of the manner su can success in Mr. Lottives descounts lenger with the thirs. machines which were constituted upon docution those plans, and which were also sheat with the Guildhall to be used by the paires, were not now in operation Per trauto wan out lo e Alderman Wood mid, that of sall blace lo samota

of fire competitions was the base of the formational utility, and that was the base of the carries of the second of which description of machine had been sent to almost every station house in the city. B almost every station-human in the minima list: there was no established body appointed to apply them in cases of energency, or to here them in a stati of prepiration. Dr. would be most desirable that they should be in the finands and under the icontrol of the police, but the commissioner could not apply the glabhic maney; under the Act of Perlimment, to sugge the but has

manner an even of PBrilinnent, dorqueb da parsé poses: any and non-space a to consum we but "Mr. By Taylog could abbrivery distributy one-how the coust wave justified in plasing implicits reliance upons the locatabet, of the Vidle stary Society, which had thus puttioned the court." They designated the motives a royal modely but he could not seen what reliance usis to be placed upon the institution file was completed that the care and locat agreement do only be infr the power of the police, or a bind a data interiment. the power of the police os a bid y constituted from the cliff. If he who e'e. as the police were, we some and I

THE DRESDEN GALLER 10 10 Instant Treasure of atoms of great souls translated in the constrained of a source of atoms of great souls translated at the end of the constraints of an inertiagnishable firshight of a source of the source

NOTES FROM THE PROVINCES.

NOTES FROM THE PROVINCES. edi daugudi beeng di the Manchester Colle-gland, find a sone of the Manchester Colle-grad and the sone of the State of the South Labi Mater, Rage, in the presence of a very large number of the chergy of the established church, cat the head of whom was the Bay. Go Driving in the year of the direct ob-jest, in they is, to provide classical education. The direct ob-transform fails of the perpess of the South Devon Railway took place at the end of the last of the cliffs for the purposes of the South Devon Railway took place at the end of the last of the cliffs for the purposes of the South Devon Railway took place at the end of the last of the cliffs of the Parson and Clerk rock. Darding of sight and eleven charges of perfer respectively, and was intended to displace the large mass of rooky cliff impe-diately before the entrance of the turnel. The distely before the entrance of the tupoel. The enormous quantity of 42 out- of ganpowder. whe used, and the two largest chargest chargest contained 1000 lbs. of powder in asch. The whole was upden the direction of Mr. Wir Glennien the synychor, assisted by Mr., Dawson, and proved environtly, and east of the state of Tork 5 developments and embeliate manual and the store of the grace, where the store the state of the store of the grace, where the store the state of the store of the store of the store of the store conservation of the store of the store of the store conservation of the store charges of Brooklands, which the noble duke is upper tool to be desirons, of adding to the Armodel, restate. Stevenstone, she ancient eset, of Lord Rolle, is now andergoing con-splarshin, respire, by order of the trustees of the she lord. The interior of this fine old mannion, and the noble stabling, are to be put in, order and mainted, as well as new stabling erstad it is so be theroughly restored to its best she and appearance, and the outlay will be considerable. This is the dot well as duty will be considerable. This is the dot will be a duty will be considerable. This is not be dotted to be a sonsiderable. This was be the duty will be considerable. Is a so the dotted the duty will be considerable. Is a so the duty will be addition going a further enlargement, by the addition going a further enlargement, by the addition of Aggood wing, corresponding is every re-spirit with; that, encoded by Lord Northwick. Some three or four years age, and forming the present microsciently, to, which purpase, the new building, when complete, will also be ap-propriated. Bo extensive has the Thirlestane House stillentian be phintings become; that the present apartments, though forming one of the nodes when compare any devoted to the the entry of which the common devoted to the form the books are consistent to the set of the s wall social only other body to the set of th and Mish Sacaders are spoked of as likely to have sthe houser of vikying the foundation Montegrand difference of the performed in a few days. -to -The spore function the common of the second statement of the secon upoil commendarating the occamony of the opening by a public dinner, to take place early in Julyo: The suggestion eminated from the auchitanty Mr. J. die Glark, and was instantly adopted: by: the : mayor , and : town : council. -od: The . Weaton duper Mure Pier Company having receivity purphysed the island of Birsa they propose samewing it tar the main land by means of a suspension bridge, to be constructed on directory provided by the sub-abio freen provided their approach the island by means all is relatively fairned of losse stones at the bases with a course on topic fission means. Mrt. Dradge bas furnished the courseptuse with several designs for the suspension bridge. The fitst represe fibet sepresents the elevisions and sections of the bridge p the second the détails of constructhe heidings, the second the détails of construc-tiber; and the third; a perspective view as seen from the cliff. The whole length to be groased is about 1,400 feet; of this he proposes that about 1,100 feet; should, be accomplished by means of the bridge, to be composed of iron, the central spin of which would be 545 feet, and the outside openings 278 feet. The re-maining 300 feet he proposes should be of solid meansary.¹¹ The height of the towers above the readway is here a be at 2 feet. Upwards of 4,000. his been subscribed in Burnley in of 4,000. has been subscribed in Burnley in less than two days for the erection of a Mechanics Institution, including library, read-ing-coopy museum, news-room, and lecture-hall.

COUNTY OF SOMERSET LUNATIC

Eas following are the tenders which were delivered at Bridgwater on the 30th ult. for the existing of the few metune at Wells :-----

| Look and Nesham, London | £39.989 |
|--------------------------|---------------------------|
| Winzland, dow | 87.447 |
| Stockholm, Bridgwater | 34.050 |
| Browne, Frome | 33,786 |
| Bavis, Lorgport | 33.609 |
| Lewis, Bath | 32,990 |
| Davis, Frome | 38,932 |
| Signt, Warminstor | 32.740 |
| Sheops, Hull | 32.489 |
| Kirk, Sloeford | 30,800 |
| The lowest was accepted. | , a = a dr a atractica |
| | a des cours |

of the amilian Correspondence. de tionos m olar ta olda 1905 a to 1

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time with the transmer

He was 2 "But, Mr. Dredge seems to be labouring under some error in his communication to your journal of last week relative to the nature of the accidents it Derby shid Autoni-under Lyne, which were not occessioned by erroneous principles of construction. The former, I believe, originated in consequences of the centres having been struck too early as from the extreme wetness of the season the mortar had not become sufficiently inducted. mortar had not become sufficiently indurated, the latter from defective workmanship in the piers. In the event of a failure, from defective workmanship or other causes, in the piers tive work manship or other causes, in the piers or towers of a suspension bridge, even on Mr. Dredge's principles, I am inclined to think it would be fatal to the structure. Notwith-standing the beautiful aerial appearance of suspension bridges suitable for some situations, I am vary much in favour of bridges of fixed principles for heavy, general traffic, where great strength and derability are required. If suspension bridges are so "perfectly quiescent," as Mr. Dredge would wish us to suppose, why are they not adapted on railsuppose, why are they not adapted on rail-ways, where lightness and economy of con-struction are considered so essential ? atri

I am, Sir, &c., Breeon, South Wales, B. B. I June 25, 1845.

....

Miscellanea.

'PALL OF HOUSES IN WELLCLUSE SQUARE. -Un Sunday morning last about 3 o'clock, the presestin the possession of the Rev. Mr. the prenarses in the possession of the feet. My, Smith, 17, Wellchose-square, and which were pecupied as a Mariners' Church and Sallors' Orphan Asykim, together with a public bound known as the Mabagany Bar, and the upper part of the adjoining premises, fell with a tremendous crash. It is stated that some months since, when a saloon at the rear of the public-house was being built, an excernation was made for a cesspool, and that several alors, ations affecting the stability of the same premises were also made. These facts, together with the dilspidated state of the buildings, afford a reasonable solution of the cause of the accident, akhough the immediate cause - ie stated to be the removal of the floor of the church. Most fortunately, all the isomates escaped unburt.

ENLARGEMENT OF NEWGATE MARKER A long discussion took place last week in the Court of Common Council on the enlargement of Newgate Market, as recommended by the Markets Committee in their report their pro-sented. Mr. W. Jones, the obstrain of the committee, informed the court in saling their committee, informed the court, in calling their attention to the report, that the limit of the amone which might be required to be be the market was 60,000Å. The report was did mately referred back to the committee with instructions to report the present area of Newgate Market, the space proposed to be added, the sum estimated to be exected. the plan of the building intended to be exected.

LIGHT FOR ALL NATIONS. A few days since Admiral Dundas presented a petition to the House of Commons from Mr. Bush, atating that he had constructed a column on the Godwin Sands, and praying that the work might be inspected by a scientific engineer, with the view of erecting a light-house and fortifica-tions for the protection of the trade in the Downs. It was referred to the committee on light-houses,

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the new hard and the Unice they have formed in a connection with the the statistic and the matter the the statistic and the statistic and

Anniquerre orto Carronnes Ling Bacokilo "Artiques a de l'Ontragantes: Aves Sanakalo JADRS, ---- ML-Jophaga de seletier tor de editor sol: the adde description of a Sanakalo "when I wrete the adsortption of a Sanakalo metallic lining for administry," fifteen head ago, I made resonate as to the antiques of chimneys. The oldest certain set 2 found to be 1347, and it is conjectured they were the vented in Italy. 'Smoke jacks, which sature have been invented subsequently to chining is are supposed to be of German wigins and Road a paining which is hirdware to be elder that 1350, it is supposed they have also use baller that period." and an all in the ball of the other that that period."

TNSTITUTE OF THE FIRE ANTS. DU SLUT

NOTICES OF CONTRACTS [We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, Sec. new so be addressed. For the scorpalase of our restants however, they are entered in a book, and way the more on application at the office of "The Builder," S. Forf-stroct, Covent-garden.]

For the Removal 'of' several Wrecks' in 'the Think

For the supply and decellow of a Stame Cooking Apparates at the New Workhows at Cuckthan To be as able of specing food, for 450 immedes; and providing. Hou and Gold. Water in the Scallery; Bath-rouns, b and Wash-house, with a Gloss day drying line

in Gray's Jun Lane, the definition of the second states of the second st

bert berten eine state geschlichten in Septemati For Building a New Church of Kentish Rhge Stone and Cam. Stones at Hemerton (times) at-tended).

tended). For the execution of the Works necessary in the Extension, of the Towing-path of the Regents Canal, near the Hampstead Road Lock, St. Pan-

For the Construction of a Shed at the Dock at Ratcliffe, for the Regent's Canal Company. For the Erection of Two Cast Iron Bridges, one

of 80 feet span, the other of 45 feet span, near the Hampstead Road Lock of the Regent's Canal Company.



For the pulling down the present School House and creating a new one at Chesterfield, Derbyshire.

For Supplying the East-India Company with British Iron

Yor Lighting the town of Devonport with Gas for a term of fourteen years, to commence from the ist day of October next.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

At the Crown and Anchor Inn, Ipswich: the Martello Tower, situated on the point of Bawdsey, Suffelk. The materials arising therefrom could at a trifling expense be conveyed to any part of the kingdo

In Shirley Park, near Croydon: 2,000 straight Poles, and 8,000 Bavins, Fir, Oak, Elm, Chesnut, and Alder, but principally Larch of 35 years' growth.

At Cottered Warren, Hertfordshire : 500 Prime Oak Timber Trees, and a few very large Oak Pollards, &c

Yollards, &c. At Mrs. Wragg's Navigation Inn, Osmaston; a quantity of Timber, of good size and quality, con-sisting of Oak, Ash, Elm, &c. At the Windshill Inn, South Hansingfield: 144

Oak, 60 Ash, and 20 Elm Timber Trees ; also 20

Whips. At Deskhead, Bermendsey : a valuable and ex-tensive assortment of Yellow Battens, Spruce Deals and Planks, Yellow White Pine, and Geffle Deals and Ends, from 6 feet to 21 feet.

TO CORRESPONDENTS.

"G. R. F." has our best thanks, although we were unable to avail ourselves of the MS.

"D. M." (Exeter). - We shall be glad to receive the account offered, but cannot undertake the expense of an engraving.

"F. T. "-We regret that we cannot avail ourselves of the MS. sent. It shall be returned by post on receiving a request to that effect. Even as a voluntary contribution we could not insert the whole of it. As regards Maude's cement, obligingly aned in second letter, we have not had sufficient experience of it to warrant unqualified praise.

"J. 8." We should probably mislead our cor-respondent by replying to his inquiry without sce-ing the premises. He can reinstate the boarding spiece at a time without difficulty.

"Querente," suggests that we should publish the answers to the two series of questions which formed the architectural examination at University College. This would be to write a large book There are many points in them on which we should be glad to receive communications.

"H. T." Plasterer. — We regret that our ar-rangements will not permit us at this time to give the diagram he requires.

"W. G. P." (Blackheath.) — The district sur-veyor named seems bent on rendering himself and his office unpopular. We do not wish, however, to appear too severe. "A. D." "Amateur." "P. P." "Strict."

Our kind correspondents should bear in mind that, as we have before said, we have more than one class of readers to consider. They would be satisif this if they were to see each other's letters
even in the present case.
"W. A." (Yorkshire.) — The importance of a

"W. A." (IOKSDIPE.) — The importance of a good school cannot be over-rated. Such an educa-tion as our correspondent wisely proposes for his son would fit him to take a good place in the pro-fession and the world. We are unable conscien-tiously to name a school at this moment, but will inquire.

"Mr. Wood."—A parcel is left at the office : it is that be forwarded if Mr. W. will oblige us with his address. Many apologies are due to him.

"T. L.' Cooper and Son, founders, of Drury-lane, may be depended on for the iron girders required, and will afford every information.

"A. R.* (Pimlico.)-If we mistake not, an en-graving has already appeared elsewhere of the column sent.

"E. S."-We should be glad to insert a repr sentation of the new front, but think that the drawing sent is hardly effective enough. It is left at the office with many thanks.

et the office with many thanks. "J. C." complains with justice that few recent architectural works are to be found at the British Museum. By sending a list, as he proposes to Sir Henry Ellis, the principal officer, attention will be drawn to the circumstance in the proper guarter. It cannot be denied that the regulations in force press heavily on architectural authors, nor woodered at that they are evaded where evasion is vossible.

" J. E. G."-We have several fonts in hand at this moment, and cannot promise immediate atten-tion to the specimen sent. With our correspondent's leave, we will retain it a short time. "B. Green."—We are disposed to engrave the

diagram sent, but cannot speak positively at

present. "Veritas," "B. B.," and "C. Mallet" next week.

ADVERTISEMENTS.

A TMOSPHERIC RAILWAY, Daily a Work, carrying visiters, at the ROYAL POLY TECHNIC INSTITUTION. This interesting Model i lectured on by Professor Bachhoffner at One o'clock daily also on the evenings of Tuesdays and Thursdays at Nin o'clock. The working of the Biodel always follows the Lec ture. It is also worked at Four o'clock, and at other con venient times. All the other interesting Works and popula Lectures as usual. Admission, 1s.; Schools, half-price. Daily at popular

WINDOW BLINDS. TO ARCHITECTS, BULLDERS, CONTRACTORS, AND OTHERS. AND OTHERS. BUNNETT, 19, Newington-causeway, ternal and internal Window.Blinds and Shades on the most improved principles, and of the best materials and workman-ship. TRANSPARENCIES painted to any design. OLD BLINDS repainted or new clothed, &c. ESTIMATES furnished and CONTRACTS taken.

VENTILATION. "A most ingenious, simple, and effective plan." Mr. Reid's Lecture on Ventilation, delivered, June 7, 1845, before the Mechanics's Institute, Liverpool. BAILLIE'S PATENT TRANSPARENT VENTILATOR, ventilates rooms or public building

Mechanics's institute, Liverpool. Maintains's partent TRANSPARENT VENTILATOR, ventilates rooms or public buildings without causing unpleasant draughts of air-may be fixed as easily as a pane of glass, whose place it supplies-does not derauge blinds, shutters, or other fixtures belonging to windowa-most useful to public places of every descrip-tion, especially smoking and coffee rooms, and moreover a simple remedy for smoky chinneys. This article may be obtained from Messre. Chater and Hayward, St. Dunstan's-hill, and all respectable glass dealers in London; Mr. Edgar Parks, ironmonger, 140, Fleet.street; Messre. Stock and Sharp, and Mr. Samuel Beale, Birmingham; Messre. John Hall and Sons, and Messre. Diris and Williams, Bristol; Messre. Thos. and Will. Stock, Liverpool; Messre. Jouridoon and Armstrong, Manchester; Mr. James Hell, Glaggow, &c.; who have models to explain its action, and will be glad to give any further information; also to be seen in use at Mr. Fred. Smith's, the Albion, 259, Blackfriars-road; Mr. Ed-ward Baille's, 19 B, Cumberland-market, Regent's Park; Mr. Seaton's, Dublin Castle, Park-street, Camden Town; 2. Coleman-street-builings, Moorgate-street, and at the office of this Paper.

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and natted guss of superior colour, and carefully scienced. BI RVEYORS, CONTRACTORS for PUBLIC WORKS, and the TRADE generally, sending specifications of quanti-ties required, will receive by r. turn of post an invoice at the very lowest cash prices. — For complete lists (priced) sply to R. COGAN, 5, Princes-street, Leicester-square, London. Also may be had, Whole-sale and Retail, LAMP SHADES AND GAS GLASSES. Gas Contractors, Fitters, Glass Merchants, and others supplied with any de-cription. Lists of nearly 100 patterns, with prices affixed, sent to any part of the kingdom gratis. CLOCK MAKERS, ALABASTER FIGURE MAKERS, ARCHITECTS, MODELLERS, and others, supplied with FRENCH ORNAMENT SHADES. for covering Models of Public Buildings, Geological Curi-osities, &c., &c., of all sizes and shapes. List of Prices may be had on application. Bee Glasses, Striking Glasses, for Nurserymen, Fish Globes and Confectioner's Glasses, &c., of every size and description.



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TO RAILWAY SURVEYORS AND ENGINEERS TRACING PAPER. — SAMPLES for-warded by Post, free. — WATERLOW and SONS, having devoted much attention to the manufacturing of the above article, have succeeded in producing a Paper superior to any yet introduced, combining the great requisites of clearness and a surface warranted to work well with pencil, int and colur.

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TO ARCHITECTS.

TO ARCHITECTS. IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSBEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the have autho where the

SEYSSEL ASPHALTE

SEYSSEL ASPHALTE has been used. For the purpose of socuring the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Ca-ridge's Patent," and not merely "Asphalte," or "Bim-men," as in many cases where these terms have been used, gas-tar and other worklides and offensive compositions have been introduced. I. FARELL, Secretary, Stangate, near Westminater Bridge, Jan., 1845. Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

⁴⁴ The Builder, and of all Bookeners in Yown and country, price 1s. *.* In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. Curtis, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's A-sphalte" was to be used.

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SATURDAY, JULY 12, 1845.



RRANGEMENTS are being made, under the direction of Mr. Decimus Burton, preparatory to raising the colossal equestrian statue of

the Duke of Wellington, now nearly completed by Wyatt, to its illchosen destination,—the top of the triumphal archway leading into St. James's Park. A strong inverted arch is about to be formed under the opening, and other precautions are to be taken to prevent unequal subsidence.

We fear it is too late to strive against the unwise determination to place the group on the structure in question; the press, as reprecentatives of public opinion, were loud in their outcries against it at the time (1839) when a wooden model of the statue was set up, to the great alarm of wondering nursemaids and the crows; and, as their remarks were not then listened to, it is hardly likely, now that the arrangements are more forward, that the ruling powers will be induced to abandon their intention. Still we cannot avoid making one effort to that effect. The top of a triumphal arch, complete in itself, is not a proper place for a commemorative figure. One of two evils is certain to result : either the archway must be degraded into a mere pedestal, or the figure must lose its individuality and purpose, and become simply an adornment of the arch.

It was urged at the time we refer to, by those who wished to place the statue on the archway, that Mr. Burton, long before the Wellington statue was proposed, had suggested that a group of figures was essential to the completeness of his design; and it is very likely he did: but we will undertake to say he never desired a figure so large as entirely to destroy the importance of the structure, or, in fact, that it should be any thing more than an ornamental accessory. If they had made the structure the "Wellington Archway," and placed a quadriga, or figures, of a moderate size upon it, it would have been complete in itself and unobjectionable, excepting on the ground of situation ; but by placing one monument on another, as they are about to do, degrading one without advantaging the other, they are, to speak in the mildest way, depriving the metropolis of one additional adornment, and committing a grievous mistake.

We referred to the situation of the archway. When it was first proposed to place the figure there, the writer of the present no ice urged that it was objectionable as regarded the duke's own feelings. Behind Apsley House stands "Achilles," to the occasional embarrassment of him whom it honours; and now that his grace may have no means of escape by turning to the Piccadilly side of it, this second memorial is to be placed there to stare him and his graces out of countenance.

Observe, too, the position in which the group must stand; crossways, presenting the flank of the horse to all who pass beneath it,—as unprecedented as its effect will be unpleasant. Surely we have not so many public monuments in London that we can afford to sacrifice two at once? Let us leave the archway as it is, making it perfect, if you please, with accessory figures, and form a proper pedestal for the colossal statue in some of the many fine sites in London which require adornment. Look at it in which way you will, the present intention is full of objections, and, if carried out, will prove a great reproach.

HONOUR TO ARCHITECTURAL LITERATURE.

THE Castle Hotel, Richmond, was on Monday last the scene of the most gratifying meeting we have had to record, namely, a public dinner given to Mr. John Britton, the indefatigable antiquary and topographer. The numerous fine works which that gentleman has produced, illustrating the architectural triumphs of England, have led to a wellmerited expression of gratitude and admiration, not only from professors and students of architecture and engineering, but from literati, artists, and others.

To present Mr. Britton with a permanent testimonial of the high estimation in which his labours are held, a subscription has recently been opened, which already amounts to above 300%. The meeting on Monday was a supplementary feature of the project.

Owing to the unavoidable absence of Mr. Wyse, M.P., in consequence of the debate in the House of Commons on the Irish Colleges Bill, the chair was taken by the treasurer, N. GOULD, Esq., who conducted the business of the evening very efficiently. Near to him were seated Mr. Britton, the Dean of Hereford, the Rev. Dr. Ingram (President of the Trinity College, Oxford), Professor Hosking, W. Tite, V.P. of the Architects' Institute, Capt. Smyth, Lieut. Stratford, Mr. J. D. Harding, Dr. Conolly, Dr. R. Dickson, Mr. D. Roberts, R.A., J. B. Nichols, F.S.A., Mr. Lewis Pocock, F.S.A., Mr. Gaskoin, Mr. Wansey, F.S.A., and Mr. Rainy. Mr. Wm. Tooke, F.R.S., and Mr. Wm. Jerdan, the veteran editor of the *Literary Gazette*, acted as vice-presidents, and were supported by the Rev. Dr. Rees, the Rev. E. Tagart, Mr. Brayley, Mr. Maugham, Mr. S. C. Hall, F.S.A., Mr. B. H. Smart, Mr. Ingram, Mr. Corner, F.S.A., Mr. J. Timbs, and Mr. C. F. Whiting. There were also present, Mr. Fowler, Mr. Booth, Mr. Mair, Mr. Douthorne, Mr. Chapman, Mr. Herbert, Mr. W. Cubitt, Mr. Grissell, Mr. Dunnage, Mr. E. Hall, Mr. Crew, Mr. Sealy, and many others. After the usual loyal toasts had been given,

the CHAIRMAN, in proposing the health of Mr. Britton, expressed his regret that Mr. Wyse was prevented attending, as he would have been much better qualified to do justice to the subject. He, however, could speak of Mr. Britton from long acquaintance, having associated with him at a Board of Commissioners, to which for upwards of thirty years that gentle-men had been attached in the discharge of onerous duties, with their entire satisfaction and with honour to himself. Mr. Britton was not ashamed to have it known that he was of humble origin, and that he had not had the advantages of education in his youth; but he had been both the builder and the architect of his own fortunes, and by unwearied industry and perseverance he had succeeded, in spite of every disadvantage, in producing those works which had placed him in his present position. (Great cheering.) By a paper which he then held in his hand, he found that the number of those volumes was 66; besides numerous, almost innumerable, essays; that they com-prised no less than 17,122 pages; and such of them as had ever attempted to write even twenty pages would be able to appreciate the labour. The engravings in Mr. Britton's works were 1,866, and their beauty and accuracy were well known; and to come to a matter which he, as a commercial man, might be supposed to know more about, the money expended in these productions amounted to the enormous sum of 50,3281. (Renewed cheering). And all of these, it should be remembered, were essenthese, it should be remembered, were essen-tially useful and instructive. That day was Mr. Britton's birth-day; on that day he entered upon his seventy-fifth year; and his whole life had been actively and industriously whole life had been actively and industriously spent. He rejoiced to see amongst them on that occasion a gentleman whose name, in conjunction with Mr. Britton's, was well-known. He alluded to Mr. Brayley. (*Cheers.*) It was unnecessary for him to enlarge further on these topics. Whatever the testimonial to

be hereafter given to Mr. Britton might be, he was sure the committee would give it with the same sincerity as he then proposed his health and happiness. He only regretted that he had no son to whom his virtues might descend, and who in pointing to his many works, and to the record of the measures then in progress, might say with pride, "that was my father."

The toast was drank with the greatest enthusiasm; the cheering lasted for many minutes.

MR. BRITTON, with much feeling, addressed the meeting as his "kind friends;" and said it had been his intention to have given them some lengthened account of his struggles and his exertions; but he found old age creep upon him, and having been suffering for a week past from indisposition, he felt that such an effort would be imprudent. He had never had the advantages of a collegiste or aca-demical education; indeed, when he was about ignorant either of a grammar or a dictionary; but he was thereby induced to procure and study both books. He alluded to his confinement, in his youth, to the cellar of a wine-merchant, for six years, where he contrived by great industry to do as much work in six great industry to do as much work in six hours as his fellow-apprentice did in ten, enabling him to devote four hours so gained to mental improvement. Throughout his life his works had been received with much kind commendation; unkind remarks (which no man could escape), although he felt them at the time, only stimulated him to further exertions. He had consequently been able to publish the many works referred to by the chairman, and which he might say without arrogance were of utility and importance. Only one or two of them could be considered as of an ephemeral nature ; yet although he had always made every effort to ensure the strictest accuracy, none of them had completely satisfied his own judgment. With reference to the testimonial p posed to be offered in kind approval of his works and his exertions, he had at once refused to accept a piece of plate, or any com-pliment of a pecuniary kind. He had confided the decision on that point to a committee, who he was convinced would adopt some plan which while it would be gratifying to himself would combine some benefit to art and literature. He thanked them for the cordiality with which they had received the toast, and trusted that the younger of them would be led by these proceedings to acts of emulation, and that they would all feel, like him, delighted, honoured, and gratified in the last hours of life. (Great

арраизе.) MR. W. Тоокв proposed the "Society of Antiquaries" in a short but able speech, which was replied to by DR. INGRAM.

THE DEAN OF HEBEFORD, in proposing the health of the chairman, commented at considerable length on the works of Mr. Britton.

THE REV. DR. REES then gave the health of the honorary secretaries, Mr. Godwin and Mr. P. Cunningham, and took occasion to offer his testimony to the worth of Mr. Britton, and the value of his labours.

MB. GODWIN said, before he thanked them for the kind manner in which they had acknowledged the small services of his colleague and himself, he would, in pursuance of his duty as secretary, read a letter from Mr. Wyse, to shew that his absence had not proceeded from want of desire to be present. The letter was as follows:--

" House of Commons, July 4th, 1845.

MY DEAR SIR,—I have just learned from Sir James Graham, in answer to my question in the House this evening, that it is the intention of the Government to take the Colleges Bill (Ireland), the first of the orders of the day, on Monday. The bill being still in committee, demands the close and uninterrupted attendance of every Irish member, and I especially, from the long solicitude I have felt on the subject, feel myself more particularly bound to watch over its progress. This will compel me most reluctantly to sacrifice the honour and gratification I had anticipated in presiding over the dinner intended to be given to my friend, Mr. Britton. I cannot tell you or him how much I feel this disappointment; I had hoped it would have afforded the opportunity I have so long desired, of expressing my own sense of the many obligations which our

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national antiquities owe to his zeal and intelligence, and have been the organ in so doing, of what I believe to be the sentiment of every one acquainted with his long and most meritorious and useful labours.

I also desire to be afforded an occasion, and none could present itself more favourable to the purpose, of calling the attention of the supporters and appreciators of our early arts to the want of which we all feel and deplore, of institutions for their preservation. The issue of my late motion in the House of Commons is proof of how much remains to be done, to place us in this respect in the position which we ought to occupy. The interest which the public takes is not, I trust, to be mea-sured by the apathy of public men, and I can-not but believe I should have found an echo

amongst the gentlemen whom I had hoped to meet, to my strong feelings on the subject. Though compelled by this mal apropos to give up the pleasure to which I had looked, I hope you will not less believe I most warmly sympathize in the object of your meeting, and hope I may be afforded, on some future occasion, the means of enlarging these expressions of regard and respect to the object of these honours-Mr. Britton.-I am, dear Sir, yours THOMAS WYSE. very truly.

The same cause, continued Mr. Godwin, had kept Mr. Home away, who had stated ín a letter that he "was desirous to shew that re-spect to Mr. Britton, which his long and va-luable services merit." He had also received luable services merit." He had also received letters regretting inability to attend from Lord Northampton, Lord de Grey, Mr. Cockerell, R.A., Mr. Barry, R.A., Mr. Uwins, R.A., Mr. Pickersgill, R.A., Mr. Neeld, M.P., Mr. Do-madson, Mr. Ludlow Bruges, M.P., Mr. Baily, R.A., and fifty others. The first-mentioned dis-tinguished and amiable nobleman said in a letter to Mr. Britton : "I must conclude by miching to Mr. Britton : " I must conclude by wishing that you may long live to remember it as a satisfactory proof of the sense of your coun-trymen of your important services to the knowledge of medieval architecture." As regarded the office of secretary, he (Mr. Godwin) had accepted it as a duty, —as a slight ac-knowledgment of the advantage he, in common with other architects, had derived from Mr. Britton's works. Every lover of our ancient Britton's works. Every lover of our ancient architectural glories, every man studying to acquire the power humbly to imitate them, was much indebted to him. By placing faithful representations of these buildings before the public, and rendering topographical literature agreeable as well as instructive, he had led them to appreciate these structures, and had mainly induced the present improved state of feeling on the subject. What should we know of many buildings now destroyed, if they had not been faithfully depicted and described, and how many more would have been destroyed but for the preservative spirit inculcated.

Out upon time, who for ever will leave, But enough of the past for the future to grieve, O'er that which hath been and that which must be : What we have seen our some shall see ; Remnants of things that have passed away, Fragments of stone reared by creatures of clay !

How much then we owed to those who had ravished these noble works from the grasp of time, and induced a general desire to pre-serve them. He should have felt gratitude for this even as a stranger, but having had the gratification of a long connection with Mr. Britton, and having always found him a warm friend and a good man, there was still stronger reason why he should give all the aid in his power to the present endeavour to gratify him. This was but the beginning of the end,— which end was to present to Mr. Britton some permanent testimonial of respect and esteem, and until that was effected, they might still command his services.

DR. CONOLLY proposed "The Royal Institute of Architects," and connected with it the name of Mr. Tite. In the course of an eloquent speech, the doctor mentioned amongst other services for which thanks and praise were due to Mr. Britton, was the restoration of the church at Stratford-upon-Avon, the burial place of Shakspeare, mainly brought

about by his remonstrances and advice. As regarded the Institute, he was glad to learn that it had served to bring the members of the profession more closely together, and to induce kind feeling.

MR. TITE in replying to the toast (which he did very ably), acknowledged, on the part of the architects of the country, the lasting debt of obligation due from them to Mr. Britton, strongly contrasting the present state of general information on the subject of ecclesiastical architecture with its position before his works were published. MR. GODWIN said he was deputed to pro-

pose a toast which could not fail to interest a meeting like that present, although from the lateness of the hour he feared to address them at any length. The toast was "the an-cient fraternity of Free-Masons." The freemasons of to-day were known only in con-nection with good dinners and very great charity, but in former times, as they well knew, the freemasons occupied a different position. It seemed clear that the greater number of the magnificent works produced in the middle ages were erected by bands of men having in some degree a religious cha-racter, and protected by certain enactments, who were in fact the freemasons, progenitors of the present lodges. Without going into a long story, this fact accounted for several phenomena observable in tracing the history of architecture, and which might have inter ested them if there had been time for comment. There were at the table (continued the speaker) several of the largest builders of the day, Mr Cubitt, Mr. Grissell, Mr. Herbert, Mr. Elger and many others, who each in themselves re-presented large bands of freemasons, — men who had built miles of sewers, covered new London with squares and terraces, and old England with interminable railways; and this made the toast more fitting still, especially as several of them were high in the mysteries. He did not know that they could still sing—

"High honour to masons the craft daily brings We're brothers of princes and fellows of kings :" but he did know that they practised charity and the virtues, and if they did not teach Euclid, they still inculcated morality. In order that he might bear witness to this, in at least one case, he would couple with the toast the name of Mr. William Cubitt, not simply because he was a distinguished member of the craft, but because he was an old and warm friend of Mr.

Britton. MR. WILLIAM CUBITT made one of the best speeches of the evening in return, but the hour was then so late, that to take notes was out of the question.

"The Royal Academy" proposed by the chairman, called up Mr. DAVID ROBERTS in reply, and Mr. S. C. HALL appropriately terminated the proceedings with some excel-lent remarks full of feeling, on the value of a kindly demonstration in favour of one who still lived, as compared with posthumous honours.

THE ARCHITECTURE OF VENICE ILLUSTRATED IN THE WORK OF CICOGNARA.*

WITHIN the memory of persons yet living a republic which had passed through many centuries unchanged, though often menaced by foreign and internal commotion, has ceased to exist. Its city was the centre of much en-terprise and traffic, and its children imprinted signs of their presence on the shores of distant lands. The Venetian masonry is found added to that of older date in every Grecian acropolis; and one of their castles is seen on the Red Sea in Arabia. The fugitives from the ravages of Attila in the fifth century, and from the invasion of the Lombards in the seventh, were the ancestors of those, who contested with Genoa more from mere motives of rivalry than the attainment of a definite object. The same "hundred isles," which are formed from only the slime of neighbouring rivers, were the seat of that people whose merchants were princes, and of the most brilliant school of painting, that the world has known .-

"The Rialto, where merchants most do congregate'

became the centre of a government, whose policy was the riddle and admiration of Europe, but was stained by the records of crime. From circumstances apparently ad-deducible, and in the midst of the islands in the Lagune-a surface of water from twenty to

• " Le Fabbriche più cospieue di Venezia misurate illus-trate ed intagliate dai membri della Venezia Reale Accademia di belle arti.-Venezia, 1815-20." In two vols. folio.

thirty miles across, but which, except where intersected by the deeper channels of the rivers, is seldom more than one or two feet in depth arose a state, whose dominion extended over half the empire of ancient Rome, and whose palaces, though shewing a peculiar style of architecture, are hardly surpassed in that city. The fall of Venice at the close of the last century, before the arm of that revolution, whose influence penetrated into every part of the world, exploded the mystery of centuries, and revealed the internal policy and condition of the state. In the works of condition of the state. In the works of Sismondi and the Count Darn, Venetian his-tory has been ably treated : and from the work now before us we gain an accurate conception of the several styles of architecture, and of the order of their influence. This elaborate work was undertaken by members of the academy of fine arts at Venice, under the presidency of Count Cicognara, and gives rapresentations of all the buildings of any impor-tance. The work is throughout of the most elaborate character, and, like many others appearing from the academies of Italy, suggests a slight contrast to the spiritless existence of similar bodies at home. Two thick folio volumes of plates, carefully engraved in out-line, and interspersed with letterpress, are de-voted to the subject. They consist, of plane, elevations, and sections, but have not the set-vantage of perspective views, in which per-ticular the book is inferior to the companion work on Genoa,* which we shall shortly take occasion to notice.

The earliest remaining architecture of Venice had that Byzantine character, which prevailed on the continent of Italy. The church in the island of Torcello has stilted arches, springing immediately from capitals of Byzantine taste. The cathedral of St. Mare, generally held to be the work of Greek artists, shews a still greater tendency to the Gothic style, in the crocketed and ogee canopies in its style, in the crocketed and ogee canopies in its exterior and interior. It has the plan adopted in the Greek church, occupying a space of ground nearly square, at the end of the piazes of St. Marc, where the piazetta joins it at a right angle. At one end of the latter is the detached Campanile, immediately opposite the cathedral, and at the other and next the grand or the Read Columns the alexating of canal are the Red Columns, the elevating of which gained so great honour for a Venetian architect. Immediately contiguous to the cathedral, is the Ducal Palace, having one front in the piazetta, and the other looking on to the grand canal. "The Bridge of Sighs" joins the palace and the prison, an embodi-ment of that contrast between festive pomp and ment of that contrast between festive pomp and the unrelenting vengeance in the name of justice, which every page in the annals of Venetian history discloses. Nearly opposite the palace, at the entrance to the grand canal are the Dogana and the church of St. Maria della Salute. The cathedral of St. Marc is most remarkable for its numerous domes, but which are not of the heat form and arrange which are not of the best form and arrangewhich are not of the best form and arrange-ment. They shew some knowledge of car-pentry, being entirely of timber construction, elevated above the lower dome. The latter has the proportions and construction observ-able in Sta. Sophia, at Constantinople, and is, as well as the whole building, profusely deco-rated. The timber dome was entirely a feature of effect, far more space being lost in the cavity than in St. Paul's cathedral, where this has been decemed a fault orinany other cathethe cavity than in St. Paul's cathedral, where this has been deemed a fault, or in any other cathe-dral in existence. The front is highly enriched, but still is ansatisfactory, much of the ornament being disproportionate to the façade. The se-micircular pediment, if we may so call it, which was so often used in later buildings over door-ways, is often repeated. The winged lion of St. Marc is displayed, as on all the public buildings, and here are the celebrated bronze horses, at length "bridled." Much of the internal decoration displays consideraof the internal decoration displays considerable beauty, particularly about the great altar, where there is the gothic character above alluded to. The Campanile is square in plan, plainer than some in other parts of Italy; it has a staircase in the thickness of the wall. The upper story, and pyramidal termination, were not parts of the original structure. In

P. Gauthier les plus beaux edifices de la Ville de Genes, folio, Paris, 1824-30.
 † "Before St. Mark still plow his steeds of brass, Their gilded collars glittering in the sun; But is not Doria's menace come to pass? Are they not bridled !" BYRON-Childe Harold, Canto 4.

the church of St. John and St. Paul, the nave has greater length, but the plan is still Greek. Subsequently, we find that the Gothic style, which prevailed in Italy during the 13th and 14th centuries, had considerable influence in Venice, but it must be confessed that the buildings in which it was used display little of that elegance observable in other parts of Europe, or even in other cities of Italy. The "Casa d'Oro" has gothic forms and arches, but has horizontal lines. The external eleva-tions of the Ducal Palace were in the main gothic, but had many peculiarities assimilating them to the buildings of Lombardy. Much beautiful carving is observable about the capibeautiful carving is observable about the capi-tals of the columns. The Porta della Carta, the gate of entrance to the Ducal Palace, belongs to the 15th century; it is still gothic, but has a square-headed door, apparently of the same date. The arch in front of the Giant's Stairs, in the same building, has some eurious pinnacles. In the Palazzo Foscari, horizontal lines prevail along with gothic fea-tures; and in the Palazzo Pisani there is the same character, with the addition of quoins, and a rusticated basement. The influence of gothic timete did not last longer in Venice than in other parts of Italy, and before the close of the 15th century, Italian architecture was the the 15th century, Italian architecture was the only style in use. In the 16th century, the talents of some of the most celebrated archi-texts were called into play during a temporary state of tranquility, and Sammicheli, Palladio, Antonio da Ponte, and Scamozzi, left the most remarkable buildings of Venice; whilst in painting we find the names of Titian, Gior-gione, Paolo Veronese, and Tintoretto. The Morentine Samsovino erected the mint, the library of St. Marc. and the Procuratie Nume. library of St. Marc, and the Procuratie Nuove, and sculptured the statues of Mars and Nep-tune, emblems of the military and naval power of Venice, which still stand at the Giant's Stairs.

The style of this period, though corresponding with that of the most important buildings in Rome, Vicenza, and elsewhere, had some local peculiarities, even in the hands of architects, who had practised in other cities. One of these was the extraordinary propor-

tion, which windows and clear openings bore to the general front. Indeed, it might seem that much more light was sought than would be desirable, even where the front was towards some narrow canal or street, but the peculiar feature is equally observable in palaces upon the grand canal, where light would be attain-able in abundance. It has been suggested, that this quantity of light was necessary to the effective arrangement of the numerous private festivals in this city of gaiety and wealth, but we cannot understand the force of the argument. We would venture the opinion, that ment. We would venture the opinion, that the preponderance of voids over solids was a precaution suggested by the questionable nature of the foundation; or perhaps it may be sug-gested, that as locomotion had its difficulties and drawbacks, it was necessary to provide a good view of the scene without, from the apartments. The Palazzo Grimani was the work of Sammicheli and displays the fourse work of Sammicheli, and displays the features alluded to. The arrangement of the cornice, in which height was given to the frieze, that In which height was given to the frieze, that member having windows and decorations, first practised by Peruzzi, was employed in the library at Venice by Sansovino. That beauti-ful building is of two orders in height, the columns being coupled transversely in the thickness of the wall, and the upper entabla-ture proportioned to the whole building. In the intercolumns we find the Vonetian In the intercolumns we find the Venetian window. The art of sculpture—at this period window. The art of sculpture—at this period —contributed to the perfection of architecture, and to render the buildings of Venice es-pecially remarkable amongst those of Italy. The extent of window-opening noticeable in palaces is not found in churches, which is an argument for the propriety of the view, last-mentioned above. Most of the churches were of a date, earlier than the palaces, and in their details are many singular points for notice. Sometimes the fascia was inclined in an exaggerated degree, and the patera of the Doric order was often mitred at the angle. The fronts had often no other opening but the door, Doric order was often mitred at the angle. The fronts had often no other opening but the door, and had frequently inscriptions and projecting panelling. The church of Santa Maria della Salute has the circular plan often employed at Venice, and a larger and smaller dome having a fine effect from all points of view. The thrust of the dome is resisted by a number of large scroll buttresses, upon each of which is a statue, giving the building a peculiar but pleasing effect. In the gate of the arsenal, the singular use of an angular modillion is found. We cannot do better than advise all, who

are interested in the history of Italian archi-tecture not to confine their attention to the graphic part of this fine work. The future state of Venice promises to be more prosperous than her late history, and the junction of the city to the mainland, by the viaduct of a railcity to the mainland, by the viaduct of a rail-way, will probably effect a great change in her condition. Let us hope, however, that such change will not obliterate the records of the past, records which have prompted the poetry of Byron, and afforded materials for the dramas of Shakspeare. E. H. dramas of Shakspeare.

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CUTTING INTO CHIMNEYS.

AWARD UNDER BUILDINGS ACT, AND MODIFICATION OF A CLAUSE

THE following clause in schedule F. has occasioned some embarrassment.

"Cuttings into Chimneys.—And as to every chimney-shaft, jamb, breast, or flue already built, or which shall be hereafter built, in rebuilt, or which shall be hereafter built, in re-ference to cutting the same, no such erection shall be cut into for any other purpose than the repair thereof, or for the formation of soot-doors, or for letting in, removing, or altering stove-pipes or smoke-jacks, except as directed for building an external wall sgainst an old sound party-wall." This has been held to prevent an owner from enlarging his room by the *removal* of a chinney-breast against an internal wall even, unless he also took down the breast above, although the latter could have been securely

although the latter could have been securely supported without difficulty. The referees, by the following award, recognize the hardship of the enactment, and shew the considerate

view which they propose to take of it. We give first the surveyor's application to the referees on the subject, and his notice to the builder.

District of Saint John, Saint Thomas, and Saint Olave, Southwark, and Saint Mary Magdalen, Bermondsey.

12, Bermondsey-square, April 24th, 1845.

Sin,-I hereby request the determination of the official referees as to the following matters, concerning which, difference has arisen between the builder of the under-men-

Mr. Henry Horlock, of 11, Augusta-row, Spa-road, builder, has cut into, and cut away certain chimney-jambs, breasts, and flues, for other purposes than those allowed by the above Act.

Previously to the commencement of the works hereafter mentioned, a certain stack of chimneys existed back to back in an internal wall of a certain house, situate and being No.3, Grange-road, in the occupation of Mr. Teversham, and was built from the founda-tions which are below the surface of the basement floor upwards.

The whole or greater part of so much of the said stack as extended through the ground story has been cut away, and the upper part of the stack is now supported upon a brest-summer and two iron columns based upon the part of the stack still remaining in the basement story.

The notice of irregularities, of which a copy is hereto appended, was duly served on the builder, and the first-mentioned irregularity has not hitherto been amended.

I have the honour to be, Sir, &c., (Signed) Ковкит Низкитн. "To the registrar of Metropolitan Buildings.

(Copy.)

To Mr. Henry Horlock, of 11, Augusta-row, Spa-road, builder, or to the foreman or principal workman on the premises hereunder mentioned.

I do hereby give you notice, that the build-ing operations now in progress under your superintendence, situate at Mr. Teversham's house, Star-corner, in the parish of St. Mary Magdalen, Bermondsey, are not conformable to the statute in the portions thereof under mentioned; and I require you within forty-eight hours from the date hereof, to amend the same .- April 16th, 1845.

IRREGULARITIES REFERRED TO.

Certain chimney-breasts, jambs, and flues. baving heen cut into for other purposes than those allowed by the said Act; and certain timber being placed under the chimney openings, so that the same is, or will be within 18 inches of the surface of the hearth.

ROBERT HESKETH, District Surveyor. 12, Bermondsey-square."

The following is the award :-

With regard to the house in the occupation of Mr. Teversham, situate and being No. 3, Grange-road, in the district of St. John, St. Thomas and St. Olave, Southwark, and St. Mary-Magdalen, Bermondsey, within the limits of the Metropolitan Buildings Act, 7 and 8 Vict. cap. 84. Whereas the official referees of metropolitan

buildings, daly appointed in pursuance of the said Act, have received and duly considered the information of Robert Hesketh, the surveyor of the said district, against Henry Hor-lock, relative to certain works done by him at the said house, dated the 24th day of April, 1845, containing a copy of the notice of irre-gularity, from the said Robert Hesketh to the aid Heary Horlock, a copy whereof is hereto annexed.

And whereas on the 13th day of May inst. the said official referees did duly hear the said Robert Hesketh and Henry Horlock touching the matters of the said information, and did also proceed to view the said premises.

Now, inasmuch as the works in question have been securely done and are not dangerous as regards fire, and are entirely within the same premises, we the said official referees make no award thereon.

And with regard to the costs and expenses attending this proceeding, we do hereby award that the same be paid by the said Henry Hon-

that the same be paid by the said Henry Hon-lock, that is to say, First, as to the fees and expenses of the office of metropolitan buildings, that on or before the 3rd day of June, 1845, the sum of 24. 5s. 6d. be paid to the registrar of metro-politan buildings at the said office at No. 3, Trafefer-course London

Trafalgar-square, London. Secondly, as to the costs and expenses of the said Robert Hocketh, as such surveyor as aforessid, that on or before the said 3rd day of June, 1845, the sum of J. 1s. be paid to the said Robert Hesketh, at his office, No. 12, Bermondsey-square, or to the said registrar at the office aforesaid.

In witness whereof, we, the said official referees, have to this our award on two pages of foolscap paper, set our hands this 26th day of May, 1845. (Signed) JAS. W. HIGGINS. Off. Ref.

WILLIAM HOSKING. Off. Ref.

ARNOTT'S VENTILATING VALVE.

The clause above referred to prevented the insertion even of the ventilating valve, and the referees accordingly obtained a modifica-tion of it, as is set forth in the following document

"To all to whom these presents shall come, "I'o all to whom these presents shall come, greeting. Whereas by an Act of Parliament passed in the 7th and 8th year of the reign of her Majesty, entitled "An Act for regulating the construction and the use of buildings in the metropolis and its neighbourhoood," after reciting that for the purpose of prevent-ing the avarage provisions of the asid Act ing the express provisions of the said Act from hindering the adoption of improvements, and of providing for the adoption of expedients either better or equally well adapted to ac-complish the purposes thereof, it was enacted with regard to every building of whatever class, so far as related to the modification of any rules thereby prescribed, that if in the opinion of the official referees the rules by the Act now in recital imposed should be inapplicable or would defeat the objects of such Act, and that by the adoption of any modification of such rules such objects would be attained of such rules such objects would be attained either better or as effectually, it should be the duty of such official referees to report their opinion thereon, stating the grounds of such their opinion to the commissioners of works and buildings; and that if on the investigation thereof it should appear to the said commis-sioners that such opinion was well-founded. sioners that such opinion was well-founded, then it should be lawful for the said commissioners, or any two of them, to direct that such modification might be made in such rules as would in their opinion give effect to the pur-

poses of the said Act. And whereas the offi-clal referees have, by their report, in writing, bearing date the 7th day of March last past, certified to us that the invention denominated Dr. Arnott's ventilating valve is an improvement tending to increase the ventilation, and thereby produce a healthier atmosphere in apartments. And that it may be made so as not to counter-act the enactments for security from fire. And that there is no provision in the said Act pro-hibiting its being built into new chimneys, and therefore cuttings for its insertion into chimneys already built may be permitted. And that the present rules in the said Act are inappli-cable, and such as would hinder the adoption of the improvement denominated Dr. Arnott's ventilating valve. And that by a modification of such rules in schedule F. of the said Act such objects will be better attained. And having, on investigation of these grounds, and of the subject matter set forth by the official referees, considered them, and the opinion of the official referees to be well-founded, we, the undersigned, the said commissioners of her Majesty's works and buildings, do hereby direct that a modification be made in the rules of the mid Act. after the last existing clause in schedule F., as follows, viz. :---"And except for the insertion of Dr.

"And except for the insertion of Dr. Atmott's ventilating valve, provided that such cutting be not nearer than 9 inches to any timber er other combustible substance, and that the valve be so arranged as not to be capable of opening more than 30 degrees from its versical position. And that every part of the valve be made and fixed with incombastible materials."

Which modification being made in such roles will, in our opinion, give effect to the purperses of the said recited Act.

LAs witness our hands this 17th day of June, 1845. (Signed)

Commissioners of Gone, Works and Buildings.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

p:

AT an ordinary meeting held on the 23rd alt., Mr. Tite, V.P., in the chair, several presents were received, and Mr. J. Dobson, of Newcastle-on-Tyne, was elected a fellow. A paper was read by C. Parker " On the presenting of the Borne mach by Automatical Science and by Automatical Scienc Proportions of the Beams used by Ancient and Modern Architects." The paper commenced by showing the strongest heam that could be cut out of a round tree, and contrasting the proportions with the usual forms which ancient and modern architects adopted in beams, the former making the breadth, and the laster the depth, the element of strength. It then traced the views that different nations have held and practised in their constructive operations. It stated that the Egyptians pre-ferred the square form of bearing bean, which proportion was used in Solomon's palace, and that the Greeks and Romans used the rectangle placed horizontally. It then remarked that in the timber buildings erested before and after the Norman conquest, the breadth of a beam was placed to resist an opposing force, and so continued to be used in rebuilding of London after the fire in 1666. Prior to this date, the system of double framing was introduced on the continent, and changing the proportion of timbers made the depth preferred to the breadth, which view is now thought correct. The diversity of opinions thus shewn, induced the writer to institute a number of experiments, which were made with iros, from the difficulty of obtaining specimens in wood of equal strength.

The results of these were given; one curious deduction was, that two bars of equal size will not bear double the weight that one of them will support. The same bars formed into the reversed T shape ($\underline{1}$), would support twice the weight that they would carry placed side by side. Making a beam two, three, or four times the width does not make it proportionably stronger. In a conversation on the subject that afterwards occurred, Mr. Tite referred to the tables in Tredgold, and cautioned young architects against unlimited dependence on them; he believed the scantlings there given, to be too slight. The scantlings there given, given for a queen-post roof of fifty feet span were insufficient. He had made a roof in younger days with scantlings in accordance with Tredgold's instructions, and it had failed.

Much was often said of the smallness of timbers used now as compared with those in old buildings; for his part he believed our houses (that was, our properly built houses) were better timbered now than then. He regretted that Mr. Parker had not tried his experiments with timber, instead of iron, as the materials were not analogous. Mr. Godwin directed attention to the report recently made by Mr. Cubitt and Sir H. Delabeche as containing valuable information on the subject of iron beams. Mr. I'anson said the great point was to discover the neutral axis in beams.

A paper drawn up by Mr. G. Bailey, was afterwards read, descriptive of a series of drawings of buildings in Southern India, made some time since under the direction of General Monteith. The drawings comprised some elaborate views of the pagodas, and the palace and choultry of Tremail-Raig at Madura, a city on the Coromandel coast, and erected about the year 1623; likewise of the Great Temple of Shivven, on the sacred island of Ramisseram, between the Coromandel coast and the island of Ceylon, and but little known to Europeans. This temple and its appurtenances almost entirely cover an area of 830 feet by 625 feet. The building is of different periods, a small shrine or temple having existed on the island from a remote period, but the chief additions were made by the Rajah of Ramnad, about 150 years since. Mr. Moon offered some remarks on his improved chimneys. He stated that in consequence of the new Metropolitan Buildings

Mr. Moon offered some remarks on his improved chimneys. He stated that in consequence of the new Metropolitan Buildings Act, and in order to comply with its regulations, he had been compelled to new model the bricks, in doing which he had been enabled to simplify the construction. He observed that different opinions existed as to the space required for the emission of smoke, and that various sizes and diameters had been adopted. In his original formation he adopted three sizes, but experience and attention had brought him to the conclusion that one size was sufficient for ordinary purposes, viz., 10 inches diameter; which, bonded and worked in a wall two bricks thick, and complied with the stipulations of the Building Act, by leaving 4 inches of solid brick at the thinnest point.

4 inches of solid brick at the thinnest point. July 7th. — Mr. Pocock in the chair. A paper was read by Mr. Edward l'anson, jun, on a mosaic pavement in the cathedral of Sienna. Mr. Scoles afterwards made some remarks on columns.

THE CONSTRUCTION AND WORKING OF RAILWAYS.

-As you were kind enough to insert my former communication on railways, I beg leave to trouble you with a few more observations on the same subject. I observe that a commission is to be appointed by her Majesty, to inquire into the inconvenience attending the break of gauge, and the practicability of having a uniform gauge established throughout the country; and as the commission is to be composed of men of science unconnected with the Houses of Parliament, and, I hope, uninterested in any line of railway, I anticipate much good will result to the country from their labours. There cannot, I am sure, be two opinions on the subject of the inconvenience attending the difference of gauges of railways, and even Mr. Brunel's proposition to obviate the same, namely removing the train of car-riages from the broad to the narrow gauge, and vice versa, is but a clumsy and objectionable substitute to cover an acknowledged deficiency; for if we are to reap the full benefit of railway locomotion, we should not be subject to any such delays or obstructions as would be required to transport a whole train of carriages from one line to the other at every point of junction of railways of different gauge

In Ireland one uniform gauge might have been adopted, and even a different principle, if considered necessary, but I observe they are pursuing the same short-sighted policy as we are in England.

The evil consequences attending the difference of gauge was foretold by Mr. Hawkshaw, civil engineer, in his report to the Great Western Company in 1838, immediately after the Great Western Railway was commenced; he observed: "It will not be too much perhaps to say that three-fourths of England are already being traversed by railways of the narrow gauge. It follows then that any company deviating from this gauge will be isolating themselves to a certain extent, if not as regards their main line, yet as regards their branches; if not as regards their direct traffic, yet certainly as regards their collateral traffic. But in the present early stage of railway traffic it yet remains to be seen whether or not it may become a great evil for a main line to be thus isolated and rendered impossible of connection with the great lines in its neighbourhood. That it will be an evil in this sense as it regards the branch lines there can be little doubt, for they, or some of them, in course of time will of necessity run into the neighbourhood of other lines of different gauge; but with these, however vital the connection may be, all connection will be impossible.

In this point of view only it has become a serious matter for any company in this country to make their line differ as to dimensions from the majority of the lines around them. It is to a certain extent as if a canal company in a country of canals should construct a new navigation so, and with locks of such a obscapter as would totally shut out the boats of all the canals that surrounded it."

Although it has been remarked by a me of a committee of the House of Commons that no engineer would commit himself to similar what he considered to be the best gauge for railways, yet when we reflect that all the loss ing engineers of the day, with one or two ex-ceptions, are projecting railways on the nervour gauge principle, it is pretty conclusive evidence which system they prefer. I always judge of engineers by their works. I regret that the powers of the commission are to be limited to the subject of the gauge, and not extended to the construction and working of railways, a these appear to me to require scientific analysis and investigation as well as the gauge. There is now and will be as much squabbling between engineers about this construction of railways as there was formerly between, the disciples of Telford and MacAdam respective the correct principles of construction of turnpike roads ; and unless this subject, as well an the more important one of the moving power, be submitted to the mature deliberat a of 12 scientific commission of inquiry, a further sacrifice of the "sinews" of the country must be made to the great benefit of engineens and gentlemen of the legal profession. The great cost attending the progress of private bills through Parliament has frequently proved a source of serious and permanent injury to the works.

As the extent of railway on the narrow gauge principle exceeds nearly fourfold that of the broad, and as it would be streaded with a considerable expense to increase the width of the narrow gauge railways, isasmuch as the cuttings and embankments would requires widening, the bridges and tunnels enlarging, and the upper works reconstructing and strengthening, and as it is not too inte even now to obviate the evil of the difference of gauges, I would recommend the broad gauge to be reduced, which may be done at a comparatively trifling cost merely by laying down an additional line of rails to suit the narrow gauge traffic, and that the respective companies of the broad gauge railways could introduce gradually locomotive engine cartiagion, &c., on the narrow gauge principles as their old stock became depreciated or unit for mervice. As this alteration would be required for the public convenience, I think in justice the public treasury. B. B.

Brecon, June 30th.

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* In the committee, on Wednesday, the 25th ult., Mr. Cobden moved the following resolution, which was afterwards agreed to :--" That, it having been represented to this House by petitions from various public bodies, as well as from merchants, manufacturers, and others, that serious impediments to the internal traffic of the country are likely to arise from the 'breaks' that will occur in railway communications from the want of a uniform gauge; and these representations not having been fully inquired into by any of the committees of this House upon private bills, and it being desirable that the subject should be further investigated, an humble address be presented to her Majesty, praying her Majesty to be graciously pleased to issue a commission to inquire, whether in future private Acts for the construction of railways, provision ought to be made for securing a uniform gauge, and whether it would be expedient and practicable to take measures to bring the railways already constructed, or in progress of construction, in Great Britain, into uniformity of gauge; and to inquire whether any other mode of obviating or mitigating the apprehended evil could be adopted; and to report the same to this House."

Her Majesty has since appointed Sir John Mark Frederic Smith, Lieutenant-Colonel of the Royal Corps of Engineers, late Inspector-General of Railways; George Biddle Airy, Esq., Astronomical Observator in her Majesty's Observatory at Greenwich; and Peter Barlow, Esq., Professor of Mathematics in the Royal Military Academy at Woolwich, to be her Majesty's Commissioners for the purpose stated.

INSTITUTION OF CIVIL ENGINEERS.

On Tuesday, June 24th, Sir John Rennie, president, in the chair, a paper was read by Mr. J G. Bodmer, "On the advantages of working engines with high-pressure steam expansively and at great velocities." The author based his observations upon the

The author based his observations upon the principle of a considerable area of piston being essential for taking advantage of the initiative impulse of highly elastic steam, in contradistinction to the idea of the percussive action which had some time ago found advocates. In order therefore to take advantage of this action, and be enabled to cut off the steam at an early period of the stroke, the piston at abort intervals, and consequently making a great number of strokes within a given time, must travel over a limited distance, that as little as possible of the heat, and consequently of the elasticity, should be lost.

It has been generally acknowledged that the action of a short crank and rapid stroke is very disadvantageous to the framing and founda-tions of ordinary engines. Mr. Bodmer has in constructing his compensating engines con-centrated the action, and confined the strain to the crank, connecting rod, and piston rod. By this construction he has been enabled to carry this consta the expansive principle to such an extent, as to deliver the steam into the condenser almost in a state of mere vapour, or within 3lbs. of a The saving of fuel must therefore be ettum. in proportion; and there must be a very con-siderable reduction of the actual weight of the machinery, and of the coals on board steam results on long voyages. The paper consi-dured at great length the reasonings upon these principles, and in tabular forms gave the somparative results of this and the ordinary megiaes. The peculiar construction of the compensating engines was illustrated by several models and detailed drawings, shewing the peculiar action of the expansion valves, and the two pistons in each cylinder. The great difficulty encountered appeared to have been in the valves of the air-pumps, which were destroyed by the extreme rapidity of the action; this was provided for by constructing an air-pomp without valves. By a peculiar arrangement of the air and water passages it became practicable to substitute for the ordinary cover a piston travelling through a very limited space, and for the air-pump bucket a solid pieton travelling the full length of stroke. The values were thus done away with, and the action of the engine became complete. This construction has been adopted with great suc-ores in several stationary and locomotive engines, and is now being applied to marine engines, to which it is peculiarly applicable, as it is of great importance to be enabled to work the Archimedian or screw propeller without the intervention of bands or wheel work.

Mr. J. Woods exhibited and explained the action of Siemens' chronometric governor. The centrifugal governor of Watt being acknowledged to be an imperfect instrument in consequence of its inability to adjust the valve to the altered circumstances of the load of the engine, Mr. Siemens invented the chronometric governor. The new instrument was stated to have been at work successfully for some time at Carpenter's Corn Mills, Shad Thames. It consists chiefly of a heavy pendulum which is allowed to move to a certain arc of vibration of chronometric revolutions, and it is connected with the horizontal pinion

above, which therefore moves in union with it : an endless screw is geared in contact with the horizontal pinion, and is drawn by a con-stant weight in a horizontal direction : it has therefore a tendency to produce revolution of the pinion and pendulum. This horizontal screw must be turned by the engine at the exact velocity necessary to insure its running in gear with the pinion, driven at the condulum; and should the engine succeed in turning the screw at the proper velocity no horizontal movement will take place, and the weight on the lever, before mentioned, con-tinues a constant driving power independent of the engine, for overcoming the existence of the atmosphere and the friction of the pendulum. It the load, or the supply of power varies, a tendency to alter the speed of the horizontal shaft immediately commences, and it takes up a new position, by having travelled faster or slower than the pendulum and its pinion, and it retains this altered position, and conse-quently the adjustment of the valve, by means of appropriate connecting levers, until the conditions of equilibrium of load and power are again varied.

The action of this governor is so sensitive, that no variation of the speed of an engine, when 40 per cent. of its load is thrown off, can be observed, for the entire change is performed in one fiftieth of the revolution of the flywheel; this change absorbs or adds a portion of the momentum of the pendulum, and slightly alters its arc of vibration, the limit of which is between 18° and 21°, and by the laws of pendulous motion this is shewn to effect the number of revolutions to the amount of only 8 per cent. of its velocity, and even that small variation in the extreme position of the pendulum ceases immediately the momentum is restored to its former condition.

This being the last meeting of the present session, the president addressed the members, with congratulations on the interesting character of the papers read the discussions at the meetings and the very full attendance of members and visitors; and impressed upon them the necessity of redoubled exertions in future in order to support adequately the elevated position which the Institution had attained. Mr. Walker, in a speech full of kind feeling, proposed a vote of thanks to Sir John Rennie for his devotion to the duties of president, his uniform attendance at the meetings, and the kindness and hospitality he invariably displayed to the members collectively and individually. The meeting then adjourned until the second Tuesday in January of the ensuing year.

In closing our notice of the proceedings during the session, we cannot omit a brief commendation of the energy and ability with which the present secretary, Mr. Manby, discharges the duties of his office, and materially conduces to the effectiveness of the association.

| PRIZES IN ARCHITECTURE. UNIVERSITY COLLEGE, LONDON. THE following is a list of the students who |
|---|
| were rewarded after the recent examination : |
| FIRST YEAR'S COURSE. FINE ART.—Prize Mr. G. Lamb. 2nd Certificats Mr. Fred. Chancellor 2nd , Mr. John Seddon 3rd , Mr. W. W. Deane. SCIENCE.—Prize Mr. Frederick Chancellor. 2nd Certificate Mr. George Lamb. 3rd , Mr. W. W. Deane. |
| SECOND YEAR'S COURSE. |
| FINE ART.—Prize Mr. E. P. Boyce. 2nd Certificate Mr. Charles Corbett. 3rd , Mr. Howard Bankart. SCIENCE.—Prize Mr. C. Corbett. 2nd Certificate Mr. T. O. Donaldson. 3rd , Mr. Howard Bankart. 4th , Mr. Edwin Ireland. |

THE ACADEMY OF FINE ARTS, PHILADEL-PHIA.—On the night of the 11th of June, this establishment was consumed by fire, an event that is ascribed to the act of an incendiary. Among the very few works saved are Gilbert Stuart's full-length portrait of Washington, West's "Death on the Pale Horse," Haydon's "Christ's Entry into Jerusalem," and Alston's "Dead Man Restored to Life." LEVERINGTON CHURCH.

For some months past the church of Leverington, near Wisbech, has been undergoing repairs, which the fearful state of dilapidation into which it had fallen rendered necessary. These are now completed. The restorations, though they have not been so complete as they might have been, are yet very extensive, and have converted almost a ruin into a very interesting structure. We have not heard the exact cost which has been incurred, but believe the burden upon the parish is under 1,000*l*., as the rector himself contributed 500*l*.

Leverington is a good specimen of architec-ture, and contains valuable examples of the early English, decorated, and perpendicular styles, the tower is early English; the spire above it rising altogether to the height of 162 feet, is decorated and pierced with small lights. The base of the spire is flanked by four octagonal turrets, which somewhat awkwardly serve the purpose of the pinnacle and flying buttress in Louth and other celebrated spires. The body of the church is built in the pe rpendicular style, and is upwards of 200 feet long, presenting a very open and light appearances. Before the late alterations, abuse upon sources had been inflicted on the church. One part had been built off to form a coal-hole, at the expense of two beautiful perpendicular wind dows, one of which of elaborate design now forms a conspicuous feature in the west end. On the opposite side another large piece had been built off to form a vestry; and between shees unsightly incumbrances a very mean gallery had been erected, immediately in front of a rich early English arch, with foliated capitals, supporting the east wall of the tower. All these blemishes have been removed, and, by the exertions of the Rev. H. Jackson, the curate, the windows have been restored, and the floor of the tower thrown open to the news The south side of the church has been atmost entirely rebuilt; and two heavy brick bat-tresses, that seemed actually dragging the walls they were erected to support, have been taken down, and the architecture finished in its original taste. A new roof, braced by simple open work, has also been put up, and the whole church re-pewed, or rather re-seated. This has alteration will be a much ensured. last alteration will be as much appreciated by the inhabitants as any that has been made. No church had suffered more from the abuse of pewing, that grand abuse of English churches, than Leverington. Pews of the size of parlours encumbered its aisles, and even intruded into the middle width of the neve. Mr. Jackson has, however, fought and conquered the prejudices that were raised against seating the church, and the advantages will, we are sure, be appreciated even by those most hestile to it in the first instance.

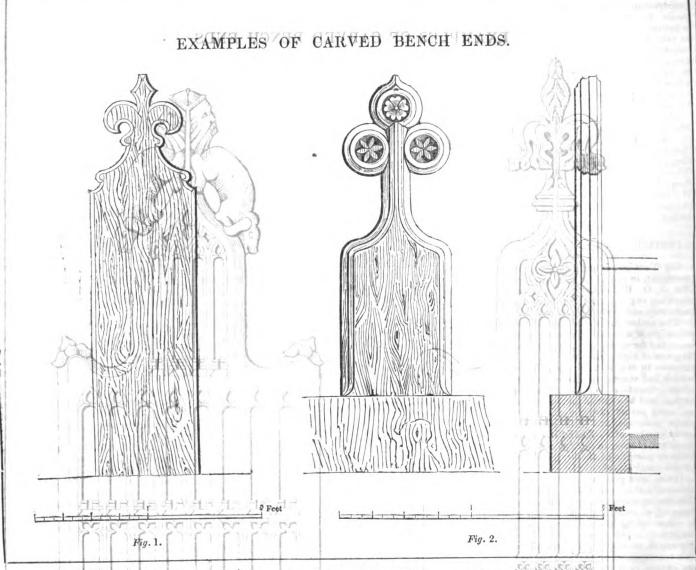
Leverington has several claims upon the antiquary. The font, which has been engraved in Van Voorst's work, is one of the fibest perpendicular fonts in England. It is octangular, and 8 niches with figures form its sides. The pillar is similarly ornamented, with eight emblems at its foot. Leverington has besides, the rather uncommon ecclesiastical curiosity of two credence-tables, attached to two portions of the aisles, which were formerly chapels. They are perpendicular, like most other parts of the edifice, and are in excellent preservation. The piscina of each chapel is also preserved. The south porch is one of the most remarkable parts of the building, and is, at the same time, one of the building, and is, pediment crocketed, and a very rich open parapetrum along the ridge of its stone roof. Over it is aparvise shamber whose sloping stone roof is broken into the pointed arch by the latter springing from nearly the centre of the slope, the space between the point of the arch and the meeting of the roof is perhaps singular in ecclesiastical architecture. There is also a piscina in this chamber,

There was formerly one entire window of rich painted glass in this church, but it has been suffered to be strangely mutilated, and is now only a wretched fragment. Several portions of painted glass are also inserted in the other windows of the chancel, which, together with the parts we have mentioned, and some costly monuments, make Leverington well worth a visit from all interested in our old ecclesiastical remains.-(From a Correspondent.)

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THE BUILDER.



CARVED BENCH ENDS.

ALL SAINTS CHURCH, BRANSTON, RUTLAND. This church contains several bench ends, as shewn by the engraving, fig. 1. There is not any thing else worth remarking in this church, except the old Norman font, which having been discarded from the in-terior, now serves for a tank to catch the water which falls from the nave roof.

DICKLEBURGH CHURCH, NORFOLK,

Is on the road to Norwich, 41 miles from Diss; it is a very interesting church, dedicated to "All Saints," and consists of chancel, nave,

"All Saints," and consists of chancel, have, aisles, and chapels, and western tower. The accompanying engraving, fig. 2, shews "the character of the bench eads, which are "remerkably small, being only 2 facts inches in height, and 10 inches broad. There is a very house with external form in this chirah Beautiful octagonal font in this church.

NEWARH CHUBCH, NOTTS.

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The accompanyin gengraving, fig. 3, repre-sents one of the seven different designs of bench (ends in the Church of St. Mary Magbench (ends in the Gburch of St. Mary Mag-dalen, at Newark, so well known for its elegant tower, and spire. This church was founded by Allan Flemyng, in the reign of Henry VI., to whose memory is the splended brass now on the wall at the back of the altar, but formerly in the south transept. It has shared the fate of most of our churches, in the way of huge galleries; some good stained glass still remains, and there is an excellent picture by Hilton, who was a native of Newark.

ST. GILES'S CHURCH, AT BALDERTON," NOTTINGHAMSHIRE,

Is entirely filled with open benches. The ends, one of which is represented by the engraving fig. 4, vary only in the animals and heads, the general outline being preserved throughout. They have a very beautiful effect. There is also a very fine Norman porch on the north also a very me-side of this church. Burwood-place. GEORGE TRUEFITT.

ART AND MANUFACTURES.

Art-Union Journal of the present THE month contains, in addition to its usual varied and valuable matter, a detailed account of the articles lately exhibited at the Free Trade Bazaar, viewing it as an exposition of the products of British industry,-as a first attempt to bring the various manufacturers of the country together, that they may compare the progress that has been made in the application of art to their several materials,—and as shew-ing the importance of design in enhancing the mercantile value of our manufactures. The account is ably written and profusely illustrated by wood cuts, and cannot fail materially to influence the healthy movement now being made by our manufacturers. At the conclu sion the writer urges, as we have already done, the importance of establishing forthwith a periodical NATIONAL EXPOSITION :- " Com mercially, viewed, such an enterprise would more than repay the cost and time of its pre-paration. We have heard large contributors to the Bassar assert, that the advertising effect of having their goods displayed in Covent-garden, under all the disadvantages of sale and arowding, wery meanly compensated the cost of the goods. It was asserted in the French Chamber of Deputies, that the sales of goods to the foreigners who crowded to Paris to see the Exposition last year, more than doubled the whole expense of the building and attendants.

A National Exposition in London would attract visitors from every quarter of the globe; and the rent which manufacturers would gladly pey for the use of the space necessary to the display of their goods would more than cover the cost, even if admissions were gratuitous. Such a project is worthy the combined efforts of the Board of Trade and the School of Design. They would be nobly supported by the country, and the Temple-Palace of British In-dustry would surpass any thing which this world has ever witnessed. A hint of this kind was given at the Bassar, and was received with an enthusiasm which left no doubt of the re-

sult, and just as little doubt that the enterprise will be undertaken by some public body, even if it should not be taken up by the Government.

We look upon such an Exposition as an important part of national education. Speci-mens of beautiful conception and artistic exe-cution cannot be contemplated without elevating the mind and improving the feelings. The Bazaar gave evidence of the benefit of such a display in improving and enlarging the sym-pathies. No one could avoid feeling a persona interest in the continued prosperity of those who produced such triumphs of ingenuity and industry, of taste and of intelligence. It wa scarcely possible to avoid reflecting on the consequences that would follow, if the looms which wove those shawls, carpets, and dresses were stopped; if the farmaces that produced those magnificent castings of iron were blown out; if the hanners that wrought this steel ceased to sound; or if the spindles that span this yarn ceased to turn. How many families would at once be consigned to misery! how many happy costages would be reduced to the deplorable condition of the rick-burner's home! We sadly want to be introduced to each other in this country, and to learn more of our mutual dealings and productions. The worker at the loom has much to learn from the worker with the hammer; the weaver of lace and the weaver of horsebair might communicate with profit; and the designer for inth might inter-change valuable bints with the designer for porcelain.

A more perfect National Exposition of the products of British Industry would lead to the display of high and noble feelings with greater intensity and wider extent. It is for this reason chiefly that we so strenuously urge the project we will be taken inductor. project. We value taste, we esteem industry, we love every form in which intelligence embodies ideality; but, above all, we estimate the influence of artistic beauty in developing emotions of moral loveliness, and the influence of the triumphs of Britain's industrial prowess in strongthening every man's interest in the prosperity of the British nation,

EXAMPLES OF CARVED BENCH ENDS, **XXXX** that the enterp who body, 1111 by the Gove xposition منب al equeation. and artistic deno. without ele 26. he feelings. R Poet. Feet. Fig. 3. Fig. 4.

The long night of darkness, in which Nations fought for vain shadows and derived their dereans of glory from violence and derived their dreams of glory from violence and bloodshed, has gone down the sky. "The dayspring from on high has visited us," and taught that "Glory to God in the Highest" is blended and identified with "Peace on earth, good will towards men!" Commerce must bind together the nations which were dissociated, and trade unite the races which blind and selfish jealousy dissevered. The soothing influences of Art, superadded to the usefulness of manufactured products, will give force and efficacy to those lessons of eivilization which it is the proud destiny of Britain to preach to the whole human race. In this career we see no goal fixed to our country's march of prosperity and greatness: her benefits to humanity will be coextensive with the wants of mankind; and her high reward will be a recognized supremacy in intelligence more glorious than the sway of the proudest empire that ever existed.

MONUMENT TO THE LATE SIR WILLIAM FOLLETT.—We understand (says the *Exciter Gazotie*) that it is in contemplation to erect a statue to the memory of our late respected representative, as the most fitting memento of the admiration of his genius and character entertained by the citizens of Forter entertained by the citizens of Exeter.

IMPORTANT TO ARTISTS.

THE Art. Union of London are about to offer a premium of 500% for a group in mar-ble, to be competed for by models in clay, the size of the intended work. These must be sent in by the 1st of July, 1846, and the work finished in marble by the 1st of July, 1847; 200% will be paid when the pre-mium is adjudged and the remainder on com-pletion. pletion.

As regards the historical picture for which a premium of 500% has been officred, the com-mittee request artists to forward by the 1st of December next (that is, a month before sending the cartoon), a sealed letter contain-ing name and address, and having on the out-side a motto by which the cartoon mast also be distinguished. The object of this arrange-ment is, that the committee may learn how many cartoons will probably be forwarded, so that they may provide sufficient accommoda-tion for the exhibition of them.

On Monday, the 15th of December, artists may learn by application at the office, the name of the place to which the cartoons are to be sent; 200%, will be paid on the selection

being made. We observe with regret that in consequence of the approach to the end of the session the

bill brought in by Mr. Wyse some weeks ago to place art-unions on a permanent basis has been withdrawn. A temporary bill of indemnification, however, has been brought in with the full consent of the Government, so that no practical inconvenience will result.

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THE PEERS AND MR. BARRY.

WE learn with gratification that our respectful remonstrance against undue basts in the completion of the new House of Péers,* to which the daily press gave increased circa-lation and weight, has received considerate attention in the proper quarter, and is likely to effect the desired end. Lord Brougham has since given notice that he will, on Mondây next, name a day for moving an humble ad-dress to her Majesty, praying that she would be graciously pleased to order the preparation of the House of Peers for their lordships' oc-cupation from the beginning of next session, with temporary fittings, and that care should be taken in providing the means of ventilating and warming the same'; that all risk from fire should be guarded against by making the building fire-proof. to which the daily press gave increased circubuilding fire-proof.

* See page 301 ante,

PAVING, CLEANSING, AND DRAINAGE.

A PUBLIC meeting of an association for the prometion of improved paving, cleansing, and drainage, was held on the 3rd inst. at the Hanover-square rooms, with the view of enforcing upon the public the fact, that if the streets, coarts, and alleys of towns throughout the United Kingdom were properly swept and kept clean, not only would the accumulation of mud and dust be entirely prevented at a trifling expense, but employment could be given to 40,000 labourers. There were upwards of 500 persons present, including a number of ladies. On the platform amongst others were the Duke of Grafton (who presided in the unavoidable absence of the Duke of Cambridge), the Earl of Charlemont, Lord Ranelagh, M.P., Sir Burgess Carnac, P. Borthwick, Esq., M.P., C. Cochrane, Esq., the President and Founder of the Association, B. B. Cabbell, Esq., &c.

Esq., &c. Mr. Cochrane, in detailing the objects of the association, divided his remarks into three distinct propositions, undertaking to prove, first, that the streets could be kept so clean, as to prevent the accumulation of any mud or to prevent the accumulation of any mud or dust; secondly, that by keeping the streets so clean, they might secure the employment of 40,000 of the able-bodied poor; and thirdly, that the public would be reconsiled to pay any extra expense entailed by raising rates through the parochial authorities towards the accomplishment of these ends. (Cheers.) In proof of the first proposition, he referred to the experiments which were made last winter in Oxford-street and Regent-street, when those streets were kept so clean, that a lady's shoe would not be soiled in crossing at any part of them, whilst some of the adjoining streets were little better than quagmires. With regard to the second proposition, he stated that most accurate calculations had been entered into, which were open to the inspection of any one who wished to examine them, and from which it appeared that each man could keep an area of from 1,500 to s,000 square yards perfectly clean. Upon that effectiation, about 330 men would be required for the city of London, 80 for St. James's partich, 140 for St. George's, from 500 to 600 partifh, 140 for St. George's, from DUO to DUO for St. Marylebone, and so on, giving through-out the whole country employment to at least 40,600 persons. (Cheers.) With regard to the third proposition, as to the expense, it had been calculated that in the city of London the expense entailed upon every housekeeper would be about 7e. per house per year, in ad-dition to what was already paid; or, upon individuals, the expense would be from 1d. to 1d. per head per month. Mr. Cochrane concluded by moving a resolution to the effect that it is essential to the community at large. in a sanatory, moral, and social point of view

that the greatest possible cleanliness should be maintained in the public thoroughfares. Mr. P. Borthwick, M.P., moved a resolution to the effect that the improved system of cleansing the public thoroughfares, while it would relieve parochial burdens by securing employment for the poor, who were compelled for want of work to ask for parochial relief, would also tend to the more perfect preservation of buildings and monuments, theimprovement of the morals and health of the people, and wrould also effect a diminution in the logges to how ebolders in furniture, goods, &c.

These resolutions, together with others of secondary importance, being carried unanimossly, and thanks having been awarded to the hoble chainman for his kindness is presiding and for his conduct in the chair, the meeting was dissolved.

STRE LL

Naws FOR CHUB ON BUILDING COMMITTEES. —An "divertisement has lately appeared in one or awo of the daily papers, stating that "A sum of money has been appointed by the will of a gentleman lately deceased, to be given (on certain conditions) in aid of the funds for building twelve new churches;" and informing parties wishing to put themselves in communication with the trustees how they can do so. The regulations of the stamp office do not allow us to publish the address of the party who advertises, but for the benefit of those who are interested in the bequest, the advertisement itself can be seen on applying to our publisher.

THE BUILDER.

THE STRENGTH OF STONE COLUMNS.

LAST week we mentioned a paper on this subject read by Mr. E. Hodgkinson, at the late meeting of the British Association for the Advancement of Science (p. 316). Our contemporary, the *Athenæum*, gives the following additional notes :--

"On the Strength of Stone Columns, by Mr. E. Hodgkinson. — The columns were of - The columns were of different heights, varying from 1 inch to 40 inches; they were square uniform prisms, the sides of the bases of which were 1 inch and 12 inch, and the crushing weight was applied in the direction of the strata. From the ex-periments on the two series of pillars it appears that there is a falling off in strength all columns from the shortest to the longest; but that the diminution is so small, when the beight of the column is not greater than about 12 times the side of its square, that the strength may be considered as uniform, the mean being 10,000 lb. per square inch, or upwards. From the experiments on the columns one inch the experiments on the columns one inch square, it appears that when the height is 15 times the side of the square the strength is slightly reduced; when the height is 24 times the base, the falling off is from 138 to 96 mearly; when it is 30 times the base, the strength is reduced from 138 to 75; and when it is 40 times the base, the strength is reduced to 52, or to little more than one-third. These numbers will be modified to some extent by the experiments in progress. In all columns shorter than 30 times the size of the square, fracture took place by one of the ends failing; shewing the ends to be the weakest parts; and the increased weakness of the longer columns over that of the shorter ones seemed to arise from the former being deflected more than the latter, and therefore exposing a smaller part of the ends to the crushing force. The cause of failure is the tendency of rigid materials to form wedges with sharp ends, these wedges splitting the body up in a manner which always pretty nearly the same; some attempts to explain this matter theoretically were made by Coulomb. As long columns always give way first at the ends—shewing that part to be the weakest—we might economize the material by making the areas of the ends larger than that of the middle, increasing the strength from the middle both ways towards the ends. If the area of the ends be the area in the middle as the strength of a short column is to that of a long one, we should have for a column whose height was 24 times the breadth, the area of the ends and middle as 13'766 to 9.595 nearly. This, however, would make the ends somewhat too strong; since the weakness of long columns arises from their flexure, and increasing the ends would diminish that flexure. Another mode of increasing the strength of the ends would be that of preventing flexure by increasing the dimensions of the middle. From the experiments it would appear that the Grecian columns, which seldom had their lengths more than about ten times the diameter, were nearly of the form capable of bearing the greatest weight when their shafts were uniform ; and that columns tapering from the bottom to the top were only ca-pable of bearing weights due to the smallest part of their section, though the larger end might serve to prevent lateral thrusts. This last remark applies, too, to the Egyptian columns, the strength of the column being only that of the smallest part of the section. From the two series of experiments, it appeared that the strength of a short column is nearly in proportion to the area of the section, though strength of the larger one is somewhat les the

than in that proportion. Prof. Challis inquired whether Mr Hodgkinson had found the columns to give way chiefly in the direction of the cleavages of the Mr. Hodgkinson replied that he had; stone and that hence the same size and shape of stone cut out of the same block, required very different forces to crush them across the grain from what they did with it. Prof. Stevelly said, that it was one peculiarity of Mr. Hodgkinson's researches, that they opened up so many collateral objects of interest and wide fields of in-quiry. It was easy to see that the present rehes might become important to the geoloseard gist, by leading him to the source from which originated the splitting up of extended rocks into beds and strata, and the contortions of them; for example, to some volcanic matter

forced up vertically in such a manner, as to exercise a crushing force upon even distant masses. — Prof. Willis shewed, by examples deduced from various styles of architecture, that the ancients must have been practically is possession of similar principles; and from several examples which he gave, it would appear that columns of a shape suited to these principles were again coming into use.

CHURCH OF THE HOLY TRINITY, BARNSTAPLE, DEVON.

THIS church, which was consecrated by the Bishop of Exeter on the 21st ult., is built in the style of the fifteenth century; the plan is cruciform and consists of a nave (without aisles) and transepts, a spacious choir and aisles. The tower, which is at the south-west angle of the building, is to be surmounted with a spire. The exterior walls are faced with a sort of sand-stone obtained in the neighbourhood; the dressings and windows are of Bathstone.

The large west window is a copy of the beautiful window at St. Mary's, Oxford. Oa entering the church, the choir, which is raised several steps above the nave, is seen through three lancet arches which divide it from the nave; and the view is terminated by the eastern window of three light filled is with stained glass, manufactered at Exeter by Mr. Bere. The arches and elustered columns between the nave and choir, are of Bath-stone; the two lateral arches being much narrower than the centre one; a low open panelled screen of oak between the piers of the arches divide the nave and chancel; the transepts which are lighted by windows of three light, are divided from the nave by arches of stone springing from corbels; the nave is lighted on either side by four windows each of two lights; the mullions, tracery, and jamba, are of Bathstone; the open timber-framed hammer beam roof, forms a principal feature on entering the church; the pulpit, reading-desk, and font, are all sculptured of Caen-stone by Mr. Rowe, of Exeter; the pulpit, and reading-desk, which are uniform, are placed at the easternmost angle formed by the junction of the nave and transepts, the pulpit being on the north side.

The pews are constructed of American oak; the framing is low, somewhat similar in con-struction to many of the old oak seats in the neighbouring churches, with the exception that they have a low door to each seat or pew, somewhat similar to St. Katherine's Church, Regent's Park; the pews will seat above 800 persons, out of which number 326 attings are to be free for ever; there is a small gallery at the western end of the church, capable of holding 150 persons; the front is of oak panelled; the internal length of nave, 77 feet by 34 feet 10 inches; chancel, 27 feet by 16 feet; chan-cel aisles, 35 feet by 11 feet 6 inches; transepts, 16 feet by 14; height from floor to springing of roof 27 feet; to centre of roof, 56 feet; the east window is 15 feet high by 7 feet wide in three compartments; the four top compart-ments of the tracery represent the emblemes of the four Evangelists; the remainder of the window is filled with stained and ornamental glass; the tower when completed will rise 100 feet with a spire on the top 56 feet high; there is ample room in the bell-chamber for there is ample room in the bell-chamber eight bells; the lancet-windows in the north and south chancel aisles are also fitted with ornamental glass, that in the south has the emblems of the Alpha and Omega; that in the north, represents the three pails and a crown of thorns encircling "J. N. R. J.;" it is pro-posed to fill the west window with stained glass with emblematic representations of the twelve apostles, at a cost of about 200 guineas. The font stands in the aisle near the

The font stands in the aisle near the western entrance, and has on the rim, in old English characters—"In the name of the Father, and of the Son, and of the Holy Ghost." An organ is in course of erection for the church by Houlditch of Sobo, and will be completed within six months. The nomination of the minister is in the hands of the Rev. John James Scott (at whose sole expense this church was built and endowed), his heirs and assigns for ever.

The church is capable of holding 1,200 persons, and built at a cost of nearly 8,000/. when completed. The architects are Mr. G. Abbott, of Barnstaple, and Mr. D. Mackintosh, of Exeter.

- 29 of NOTES IN THE PROVINCES. Indiana

BANNY church is about to be built in Beddlagton-road, North Brixton, the 1 Die meighbourhood of which has become a new which have been recently erected there. It is said that the Roman Catholics have obtained a lease of a large portion of ground at the head of Breatsfield Links, Edinburgh, for 'a seminary on an extensive scale. Their ent college at Blairs will be removed to it. It is further stated that the plans, which are now out of the hands of the architect, include the design of a magnificent cathedral. The same religious denomination are about to erect a splendid church, school, and presbytery, or primet's residence, in the immediate neighbour**bist's residence**, in the immediate nerghoour-listed of Burnley, at an estimated cost of a bist 6,000.—It is in contemplation to effect a theatre in Bridgwater. Some of the most respectable inhabitants have started the project of building it by shares. The want of such a place of amusement has for a long time been complained of by parties visiting the town, ---- A movement has been made in castle, with a view to the establishment and the public. They require an addition of as least 1,500% to the funds already subscribed, exclusive of 700% for a spire—The Stockton and Darlington suspension bridge across the river Tees, near Stockton, which was opened to the public in 1830, is now nearly taken down, the engines, coaches, and waggons, have for some time past crossed the river on the new bridge, which is crected at a short distance, in a more substantial manner. The demolition of this structure, once an object of general admiration, attracted thousands of persons to the spot.—The present Widford Bridge, on the road between Chelmsford and Ingatestone, in Ease having how procupated space to in Essex, having been pronounced unsafe, the county invited tenders for a new iron bridge, and Messrs. Cottam and Hallen, of Winsley-street, Oxford-street, obtained the contract at 730% and the old materials. It is to be completed in about two months from the present time, under the supervision of Mr. Hopper. _____The Durham Victoria Harbour, erected at the expense of the Fishery Board and town of Dembar, is now completed. The local com-mittee have been so much satisfied with the unwearied attention and anxious superintendence of Mr. David Ross, the inspector of works, that they have presented him with a handsome watch, bearing a suitable inscrip-tion. The contractors were Messrs. David Lyon, and Co.— At a meeting of the Litch-field Diocesan Church Extension Society, which took place on the 17th ultimo, the following grants were made :-

To Brockmoor new Church, in

Kingswinford£250 additional. To Leigh, for increase of accom-

| modation. To Boxley new Church, near | 60 | ,, |
|--|--------------|------------------|
| Wednesbury Te Biggin, in Hartington | 723 300 c | ,, onditional |
| Towards a parsonage, at Quarry Bank, in Kingswinford Towards Ditto, at Brown Edge, in North | 200 | 75 |
| Towards increase of Endowment | 200 | " |
| of Colchain, in St. Julian's, Shrewsbury | 150 | ,, |

The committee for the erection of the new district church of St. Thomas, in the parish of St. John's, Coventry, have nearly brought their preliminary arrangements to a close. The town council have agreed to grant one acre and twenty-eight perches of waste land, situate in the Summerland Butts, for a site in accordance with the suggestion of Mr. J. L. Akroyd, whose plans are to be carried out. The extreme dimensions of the new building will be 43 yards long and 24 wide. It is to contain 700 free sittings.—On Saturday last the Birkenhead Dock Committee commenced driving piles on the Seacombe side for the new river wall, which is to extend across the mouth of Wallasey Pool. The first pile was driven about 20 yards from the Seacombe-slip.-----On Tuesday week a meeting of the Yarmouth Haven and Pier Commissioners was held at their office, for the purpose of receiving ten-

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THE BUILDER.

ders for the completion of the new drawbridge, according to the plans of Mr. Birch. The only tenders were, one from Mr. Peto, and another from Mr. Simpson. We have not tenders, but are assured that Mr. Simpson's was winder 20,0007. At the precise amount of the tenders, but are assured that Mr. Peto's ex-ceeded 32,0007. While Mr. Simpson's was under 20,000. — At the present time, in the diocese of Salisbury, the following new churches are in the course of erection : -At churches are in the course of erection :--At Chittoe, in the parish of Bishop's Cannings; Sedghill, in the parish of Berwick St. Leo-nard; Zeals, in the parish of Mere; and at Cholderton, near Amesbury. The following churches are undergoing thorough repairing and repewing, with a view to increase the ac-commodation :--Melsham, Tilshead, Stratton St. Margaret, Wanborough, and Stert, near Devizes.---The woolcombers of Bradford St. Margaret, Wanhorough, and Stert, ucas Devizes.—The woolcombers of Bradford Devizes.—The woolcombers of Bradford are prosecuting their inquiries with a view to the improvement of their dwellings, and thereby to increase their comforts, and to pro-mote their sanatory condition. A meeting of a few of the most influential gentleman of the a few of the most influential gentleman of the town was held in the Exchange on the 1st instant, for the purpose of assisting them.—— At a meeting of the Yarmouth Church Trustees, held last week, it was resolved to expend the sum of 1,250*l*., in the re-pairs recommended in the report of Messrs. Hilling and Norfor, the surveyors deputed to inspace the fabric of the variable short of St inspect the fabric of the parish church of St. Micholas.— The Newport Harbour Com-missioners, a short time since, addressed a memorial to the Trinity Corporation, reprememorial to the Trinity Corporation, repre-senting the disadvantageous situation of the present lighthouse, and soliciting that a new lighthouse, of similar construction to those at the Maplin Sand and at Fleetwood, might be erected 1,650 yards S. by E. from the mouth of the Usk. It appears that the authorities at the Trinity Board suspended proceedings in the metiluty monding arguments which are still the matter, pending experiments which are still in progress in respect of the best mode of ob-taining a permanent foundation for structures in situations similar to that pointed out by the barbour commissioners of Newport; and the Trinity Board have instructed Mr. James Walker to "examine the said proposed situation, and to report his opinion as to the de-scription of building which, in the event of the board's determining to accede to the prayer of the memorial, it may be most advisable to set up."——The general committee appointed at the last meeting of the Ipswich Town Council have elected a sub-committee, to whom is delegated the arrangements necessary to give *éclát* to the opening of the new custom-house. Several preliminary steps have been already taken, and measures are being adopted to raise the necessary funds by public subscription. The ceremony of the opening is fixed to take place on Monday the 21st of July: to be succeeded by a public dinner, and by aquatic sports, and a brilliant display of fireworks.—— The annual report of the Health Committee of the Town-council of Liverpool, made a few days since, states that the operations of the baths and washbouses for the poor during the past year were of a most favourable character. After paying all expenses a surplus of upwards of 50% was left. The new baths and wash-houses now being erected in the north end of the town will cost nearly 7,000*L*, they will not be opened till next year. The committee strongly recommend the erection of a third establishment in a central locality, and there is every prospect of its being carried into effect. Thus, while the Corporation of London have contributed only about 500% towards a similar object, the municipal authorities of Liverpool have spent 10,000%, and most likely they will soon devote 3,000% or 4,000% more to the same laudable purpose.——The railways are making such rapid progress in this country, that canal traffic cannot successfully compete with them. It is therefore proposed to convert certain of the canals into railroads. With this object in view, a meeting of the Kennet and Avon Canal Company was held on the 1st instant at the London Tavern, and on the 12th ult the pro-prietors of the Ellemere and Chester Canals met for the same purpose. In both cases there is every prospect of the conversion being made.——The Admiralty having refused the promoters of the South Wales Railway Bill leave to carry the line over the Severn by means of a bridge, Mr. Brunel proposes to effect the object in view by means of a tunnel under the river.—At the Warwick Quarter

Sessions, held last week, the presentment made at the last Sessions, stating "that the present Sessions, held last week, the presentment made at the last Sessions, stating "that the present prisons at Warwick ought to be removed, and that a new gaol and house of correction are necessary to be areoled in a more aligible size-ation near to the town of Warwick," was see-firmed on the motion of Sir John Merdeustar bart, by a majority of two, there being be in: its favour and 12 against it.

MANCHESTER, TEN CHURCHES 2011 ASSOCIATION.

Contractor of the local division of the loca

A MEETING of the friends and members of this association was held last week, the Bishop of Chester in the chair. The report, which was read by the hon. secretary, traces the progress of the church-building spirit in Manchester during the last fifty years. In the first twenty years from 1745 to 1815, not one church was consecrated in that immense parish. From 1815 to 1825, two churches only were conse-crated. From 1825 to 1835, five were con-secrated, four of which were built out of the million parliamentary grant. From 1835 to the present time, the number of churches conthe present time, the number of churches con-secrated, or in course of erection, or about to be built, the money being already subscribed, is no less than twenty-eight, including the en-tire re-building of three on a greatly enlarged scale. In 1835, the number of churches in Manchester amounted to exactly thirty, it has consequently nearly doubled during the past ten years. From the treasurer's account, it appears that the receipts during the past year amount to 20,4787. 10s. and the expenditors it amount to 20,4787. 10s. and the expenditure to 20,1834. 12s. 9d. In the fatter sum are the following items :-

in banker's hands, subscriptions growised, but uncollected, and cash recently received make a sum of 4,673/, 19s. 3d, to begin the current year with. The proceedings of the meeting terminated with a proposal to miss 25,000% for the erection and endowment of six other churches. And had

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CARPENTERS IN BRANCES SC D. DOV Twars is much commotion 'at the time" amongst the carpenters ; they have published a circular, setting forth that the sum of 47 a day, their established wages (in sommor with main sons and others) for these twenty years past, is it insufficient, and refuse to work for less that 5f.; giving as reasons for the claim, 1st. that through bad weather and want of work, they, in reality, have only to depend on about beven months out of the twelve; 2nd. the progres-sive increase of the cost of food and lodging, sive increase of the cost of food and lodging," and 3rd, that they ran more personal risk that" other operatives. They further refue to under that take any "task-work," or work to be paid by⁽ⁱ⁾ the piece, and call on the masters to abundon" the prastice. "Task work," says the circular, " " is the run of industry. It this the 'godd" workness, and induces bad construction. Task" work is sometimes undertaken by a bidd. wanted work is sometimes undertaken by a bold, good of workings, who strives early and late to effect what he has agreed to, but more other to after where the has agreed to, but more often it and to the top of the state where the more barrow by the state of the matter of a barrow of them still remain out of employing the set gauge of the state of

PROPOSED JOINT STOCK COMPANIES.

The following is a sampling of bills "spin plied for during the presents settlent of Para-liament, for which a subsarption contract, or undertaking in hou thereof, has been deposited in Private Bill Office

| Description. | Evension expenses | Capital stock. | Money to be borrowed |
|--|---|-------------------|--|
| Railwaye Navigasions and eanals Waterworks Ferries and Docks Piere and Hasbours Bridges | 2,92,921,779 170,140 613,452 1,653,000 381,658 49,568 3,558 | | 2. 30,370,880 70,000 367,400 1,100,500 530,000 7,700 |
| | 95,748,599 | 96,566,893 | 33,166,183 |
| Digitized by | Go | og | le |

DR. RITTERBANDT'S INVENTION TO PREVENT INCHUSTATIONS IN STRAM BOILERS.

The process consists merely in converting all the carbonate of lime into chlorida of exclum, by the introduction into the boiler of a small quantity of chloride of ammonium. In this way, the lime remaining constantly in solution, the boiler cannot foul, and fuel is eaved to a great extent. Nor is this the ease merely with fresh water. Dr. Ritterbandt's experiments prove that when sea water is boiled, the first change is the liberation of carbonate of lime, the excess of carbonic acid being driven off by beat, and that the particles of that compound become nuclei for the adhesion of the crystals of common salt, &c., which begin rapidly to form in consequence. In preventing the formation of carbonate by the introduction of chloride of ammonium, the chemical effects of contact are obviated, and no salt can be deposited until the water is almost evaporated away. This invention will do away with the necessity of blowing off so very frequently, and will supersede the brine pumps, both attended with an excessive loss of heat and waste of fuel.

A NEW MODE OF PREPARING LEATHER.

To a commercial country like Great Britain, and indeed to the world at large, the manufacture of leather must always be a matter of the first importance, whether we consider its value in the construction of most implements of husbandry, its use in mechanical trades, in the multitude of innumerable engines and machinery of every description, and in our manufactures, or as an article of general con-samption in the production of those things which conduce so much to our domestic comforts and necessities. The article of lea-ther has always ranked in point of value and extent as inferior only to cotton, wool, and iron ; indeed, some statistical writers have gone so far as to consider it equal, if not greater, than cotton. From this circumstance, and an, according to the statement of those practically acquainted with the subject, 170 to 180 parts of leather might be obtained from 100 parts of dry hids, instead of 50, if every part of the gelatinous tissue could be made to combine with a full proportion of tannin, some inter may be formed of the advantages to be derived from any improvement in the art of tanning. And yet notwithstanding these im-portant facts, it is equally true that in this en-lightened age, when almost every other branch of the arts has made such rapid strides towards perfection, little, if any progress has been made in improving the art of tanning.

A patent for "a new mode or method of more speedily and effectually tanning bides and skims" has been recently obtained by Dr. Turnbull. The inventor seems to have been impressed with the important fact, that a knowledge of the disease was necessary to the cure, and to have brought to the study of his subject great scientific knowledge and research. In his specification, which is now before us, in pointing out the various difficulties in tanning, he says : "In preparing the skins and hides for the tanpit, they are steeped for a consider able time in a solution of lime to remove the hear and epidermis. In this process, the skin imbibes a considerable quantity of lime, which has the effect of either removing from the hide, or skin, a portion of the gelatinous substance in the form of soluble gelatine, or of altering the gelatinous fibre, so as to reader it incepable of speedily and effectually combining with the tannin or tannic acid, and the pores of the skin are so impregnated with lime, as to prevent the tanning principle from operating freely, or reaching the heart of the skins."

"And; after enumerating other obstructions, he observes that the great object to be attained is" to find out some means of removing these obstructions and antagonist principles, and of bringing about a speedy and effectual combination of the gelatinous fibre of the hides or skins, and the tanning matter, and thus produce, in a short space of time, leather superior in weight, quality, and durability to any yet produced. The object of my improvements is to remove these difficulties and obstructions, either by extracting the lime with which hides and skins are impregnated in the process of removing the hair, or removing the hair and

epidermis from the hides, or skins, without the use of lime, by means not hitherto attempted."

The doctor then states that by steeping the hides or skins in a mixture of sugar, or any other saccharine matter and water, for from two to four days, according to the size of the skin, the lime is entirely removed. "The action," says the doctor, "of the sugar and pyroxylic or wood spirit upon the lime is so rapid, that in the largest skins the lime is entirely removed and the skins are rendered fit to receive and imbibe the tannic acid, and thus the operation of tanning is perfectly accomplished in a very short time."

We know the immense prejudice which exists against all new methods of tanning, especially if the tanning is accomplished in a short time. This, we believe, has been engendered by the signal failure of almost every attempt at improvement. It is worth while therefore to inquire a little into the philosophy of the doctor's discoveries, and to endeavour to ascertain from known facts whether the doctor is likely to be more fortunate than his predecessors in the same line.

All great chemists have described lime as a solvent of gelatine; indeed the fact is easy of demonstration by placing a small quantity of pure gelatine or isinglass in lime water. No doubt therefore can exist when we reflect on the energetic action of lime on organic bodies, especially on animal tissue, that the destruction of a great portion of the most valuable part of the skin must be the result of employing lime in taking off the hair. The means hitherto employed to extract the

The means hitherto employed to extract the lime has been the application of an alkaline lixivium called "bate." This is composed of the dung of pigeons, and other domestic birds, but this mixture has been found not to remedy the evil, for the bate does not dissolve the lime, but merely destroys its causticity by converting it into carbonate or chalk. Besides which it causes the destruction of a portion of the gelatineous tissue by the fermentation created by the decomposition of the animal matter in the bate.

Sugar, on the contrary, is well known to be a great preserver of the gelatinous fibre; our domestic experience proves this beyond controversy, and it has been demonstrated by Mr. Ramsay, of Glasgow, in a series of experiments published in "Nicholson's Journal" for 1807, that sugar is a powerful solvent of line. We think therefore that we see in the doctor's discovery the means of removing "the antagonist principle, and of bringing about a speedy and effective combination of the gelatinous fibre with the tanning matter," and that the public may safely conclude that the doctor has been fortunate enough to discover the application of a remedy for an evil which has long baffled the skill of chemists and others, and which will go far to realize the enormous adwantages in the quantity and quality of leath er, to which we have before alluded.

THE WOOD-CARVERS .- At a general meeting of the profession of wood-carvers, held April 4th, 1845, it was moved by Mr. R. Moore, "that the services of Mr. W. G. Lock, wood-carver, in conducting the correspondence with her Majesty's commission on the fine arts, rela-tive to the decoration of the new Houses of Parliament, on behalf of the wood-carvers, have entitled him to the warmest approbation of the pro-fession. And this meeting, desirous to testify its estimation of the same, recommends a voluntary subscription throughout the profession, to present him with a suitable acknowledgment of the same." The motion was seconded by Mr. of ray, and carried unanimously. A committee of nine gentlemen were appointed to receive the subscriptions, and to decide on the nature of the testimonial, &c. Subscriptions were re-ceived from 221 wood-carvers, residents of London, Dublin, York, Cambridge, Hull, Manchester, Brighton, Leeds, Peterborough, Warwick, Leamington, &c. The result has been that the committee have publicly presented to Mr. W.G. Lock a splendid watch and ap-purtenances, engraved with a suitable inscription commemorative of the same. Mr. Lock has for some time past been acting as honorary secretary to the general body of wood-carvers, metropolitan and provincial, who have been in correspondence with the royal commission upon the subject of the decoration of the new Houses of Parliament with wood-carving.

Marresnondence......

THE ROUND TOWERS OF IBELAND.

SIR,---Will you permit me, through the medium of your paper, to make one or two nbservations to the writer of a letter in This BUILDER of June 28, on the round towers of Ireland, signed "J. K."

Your correspondent says that they doubtless were intended originally for the convenience of the architects employed in constructing churches, for he says, "That the towers and Now, churches are invariably found together." if he means to say that the towers are only to be found near churches, I can only say, that I have not found such to be the case. I have had occasion to visit Ireland frequently, and of course those memorials of the past, concerning which there is so much doubt occupied no small share of my attention. I have examined them carefully, and have not the least doubt as to their being of the same date as the buildings they adjoin. But I have found them near the castle quite as often as the church; so that I do not think they were originally built by the architect merely to protect his workmen and suit his own convenience, far from it. That suit his own convenience, rar from it. I hat they were erected as reconnoitring towers no one can doubt, but not for the special use your correspondent seems to think. They were th-tended as part and parcel of the building about to be raised (be it castle or church), as a necessary appendage for the safety and welfare of the inmates of the main building; the sta-bility of the workmanship is a sufficient proof thet it was for no temporary nurnee, but to that it was for no temporary purpose, but to last for ages. Further, I have observed that in nine cases out of ten they are within sight of others; so that in case of a general enemy appearing, signals to that effect might be conveyed from place to place, to rouse the natives to arms to repel the invading foe. Trusting you will pardon this intrusion on your time and attention, and give publicity to these few remarks,-I am, Sir, &c., VERITAE.

NEW DOORS AT YORK MINATER-STONE USED AT HOUSES OF PARLIAMENT.

Sin,—Perhaps it is only justice, in reference to your accurate and explanatory engravings of the western doors, York Minster, to name, that the framing and plainer portions were made by Mr. James Wallace, of Newcastle-upon-Tyne, and the carving by Mr. Scott of the same place; the latter artist is, one of the best carvers in wood of the present age, and is also an expert modeller.

To clear up a doubt will you have the goodness to state what kind of stone the axiernal ashlar work in the new Houses of Parliament' is composed of — whether lime or said stone? I mean the plain portions, without reference to the carved surfaces. P. Tyanet I. Tynemouth, near Newcastle.

•• Magnesian lime-stone, from quarries between Worksop and Mansfield, in Yorkshire, and called Anston or Norfal stone.

PROPOSAL TO CONVEY LETTERS 100 LEAGUES PER HOUR.—An original, if we cannot call it a clever, idea was: communicated to the Paris Academy of Sciences on the 23rd ult. by the Baron de Colonge an attaché of the French legation in Bavaria. The rate he proposes to convey letters is not so quick me that of the English inventor, who has taken out a patent for conveying them at the rate of 400 miles an hour through an exhausted tube, like Mr. Vallance's tunnel, which was to transport passengers from London to Brighton în 10 minutes; butit is quick enough— and how does the scientific baron propose to accomplish his feat? Listen, gentle reader, and wonder at the progress of science in this nineteenth century. He would build small bouses as stations, and provide each of them with a revolving lever, 300 feet long, which should throw the mail to the next station, and so on along the whole line. Would it not be more easy to adopt the school-boy plan of trap and ball? We need not say that the A cademy attached little importance to the communication of the Baron de Colonge, and that it is not probable a committee will be appointed to examine and report upon his scheme.

Miscellanea.

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PROPOSED NEW CHUBCH AT SEACOMBE. The amount required for the erection of this church is 3,000% of which 2,364% have been already contributed. So much difficulty exists in obtaining the remaining 636/, that the recfor of Wallassy (Dr. Byrth), at a meeting held at Parry's Hotel last week, stated that 500% of the amount subscribed was placed entirely at his disposal, and that if by the 10th of August next, the remainder of the money was not pro-vided money to held the provided, he should proceed to build Day, Sun-day, and Infant Schools, on a large scale, near his own church. He also said that a further portion would be withdrawn, and applied to the building of an Infant School in another part of the parish. He subsequently stated that a perthe parish. He subsequently stated that a per-sonal friend of his had allowed him to say, that if the subscription came within 100% of the sum required, he would add that amount to his already very liberal donation. Another conditional grant of 100% was made by Mr. Mainwaring, leaving 436% still deficient, for lack of which sum, there is every probability that. Seacombe for the present will remain without a church. without a church.

mense stimulus the trade of the country would derive from the formation of the contemplated derive from the formation of the contemplated railways, it is only necessary to state, that were 2,000 miles of the projected railways to be constructed, it would give employment to 500,000 labourers and 40,000 horses for the next four years. The necessary buildings, sheds, and permanent ways, would cover 20,000 acres of land, and to lay a double line of rails would require 400,000 tons of iron— Bristol Journal.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For Building a New Farm-house at Swavesey, Cambridgeshire.

For 1,000 Tons of Scotch Pig Iron, and 500 Tons of Finers' Metal, to be delivered at Rotter-dam in the months of July, August, and Septem-ber.

For Building a New Church of Kentish Rag Stone and Caen Stone at Homerton (time ex-tended).

For the pulling down the present School House and erecting a new one at Chesterfield, Derbyshire.

For Lighting the town of Devonport with Gas for a term of fourteen years, to commence from the 1st day of October next.

For Building a Sewer of the first class (in length about 1,700 feet), at Little Chelsea, for the Parish of St. George, Hanover-square. For the Construction of Four divisions of the Chester and Holyhead Railway, comprising the entire line through the County of Anglesey. For the Erection of a Church at Zeals, in the marish of Marce Wilte

parish of Mere, Wilts.

For the Erection of a Church at Merthyr Tydvil,

in the County of Glamorgan. For Building Sewers in the Old Bailey, Hang-ing Sword-alley, and Crown-court; also in John-street, Crutchedfriars, and Cullum-street, all being within the City of London.

di lo Adosti COMPETITIONS.

Plans are required for Laying out and covering with Villa residences about 20 Acres of land having a frontage of about half-a-mile to the Queen's-road, Richmond, Surrey, extending from Spring-grove towards Richmond-hill, Premiums will be given of 25 guineas for the most approved plan, and 15 guineas for the second.

deilgmonTO CORRESPONDENTS.

"J. C. S." — Mr. C. J. Richardson's works are the best on the subject named. Weale, of Hol-born, would give particulars if applied to. "B. C." — We will make inquiries on the sub-ject suggested. "W. A." (Yorkshire). — The Rev. H. Carrow,

ject suggested. "W. A." (Yorkshire).—The Rev. H. Carrow, Loxton Rectory, near Cross, Somersetshire, has been named to us as likely to afford the education ought. If terms be too high for the inquirer's views, Mr. Emberton, Croydon, Surrey, might be applied to.

" A Constant Reader " (Aldgate) .- Much would depend on the instructions that were given and the nature of the specification. We might mislead him by replying in ignorance of these.

" J. J." (Belfast) .- We are obliged to him for the enclosure, but have not yet had time to examine

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THE BUILDER.

the enclosure, but have not yet had time to examine it. An account of the scaffolding, if peculiar, would be acceptable. "Col. M." has our best thanks for his kindness. "Mr. Wood."—A parcelis left at the office : it shall be forwarded if Mr. W. will oblige us with his address. Many apologies are due to him. "D. M."—The notice which appears in to-day's "BULLDER," was in type before the arrival of our correspondent's parcel. We believed it to be from him. him.

him. "A Subscriber" (Paddington), "J. L.," "Ten-ders," and "D. F.," next week. Received: "J. D." (Bath.)— "The Pictorial Gallery of Arts," Part VI. (C. Knight), — "Old England," (C. Knight), — Young's "Lec-tures on Natural Philosophy," edited by Kelland, (Taylor and Walton),— "The Illustrated Family Journal," Part IV. (Sherwood),— "The Illumi-nated Magazine," No. 1 of new series (a very good specimen), and the Natural System of Archi-tecture as Opposed to the Artificial System of the present day, by W. P. Griffith, F.S.A., to which we shall refer shortly.

ADVERTISEMENTS.

TO ARCHITECTS AND SURVEYORS. THE VESTRYMEN OF RICHMOND, THE VESTRYMEN OF RICHMOND, SURREY, are desirous of obtaining PLANS for lay-ing out and covering with Villa Residences about 20 acres of Land having a frontage of about half-a-mile to the Queen's-road, Richmond, extending from Spring-grove towards Richmond Hill, and within a few minutes' walk of the Terrace there. The Plans will be expected to include the laying out of grounds and suitable offices, but it is not expected nor re-quired that the elevations shall be uniform. — PREMIUMS will be given of TWENTY-FIVE GUINEAS for the most approved plan, and FIFTEEN GUINEAS for the second.— Lithographic plans of the ground and further particulars had on application to Messrs. SMITH and SON, Solicitors, Richmond, to whom the designs are to be sent before the lath day of August next.

MITH'S PATENT SASH SUS-S MITTH'S PATENT SASH SUS-PENDER, or SASH-CORD SHIELD.—Its purposes are for releasing cords from windows, giving a facility to take the sashes out, or to turn them for cleaning or repair-ing inside the room, thereby avoiding any accident, of which many daily occur from the present dangerous method of con-ducting these operations on the outside. The price within the reach of all classes—only One Shilling a pair for each asah.—To be had, with instructions, of all frommongers, or of the Proprietor, W. SMITH, Architect, Alnwick, North-umberland.

TO ARCHITECTS AND BUILDERS.

TO ARCHITECTS AND BUILDERS. BARTLETT, ARCHITECTURAL MODELLER, 33, DUNCAN-TERRACE, CITY-ROAD, begs leave respectfully to inform Architects, Builders, and others, that they may be supplied with any quantity of Cement and Plaster ornaments from his unlimited collection, consisting of Centre Flowers, Soffits, Bed Mouldings, Pateras, Trusses, Serolls, Ballusters, Gothic and other Shaffs, Gro-tesque Heads, Chinney-Pots, Corinthian and Ionic Capitals. Vases, Figures, Fountains, and every description of orna-ment for parks and gardens, at unprecedented low prices for cash.

THE CAUSES of EXPLOSIONS in STEAM-BOILERS, and the prevention of those arising from incrustation, is now lectured upon by Dr. Ryan daily at half-past Three, and on the Evenings of Monday, Wednesday, and Friday at Nine, at the ROYAL POLY-TECHNIC INSTITUTION. Professor Bachbofmer, lec-tures daily at Ten o'clock, and on Tuesday and Thursday Evenings at Nine, on the ATMOSPHERIC RAILWAY, a Working Model of which, carrying visitors, is exhibited daily and in the Evenings. A curious MECHANICAL HAND; new and beautiful Objects in the Chromatrope, Physioscope, Proteoscope, and Dissolving Views. Work-ing Models described. Experiments by the Diver and Diving-Bell, &c., &c.-Admission, One Shilling; Schools, half-price.

PRIZES IMPORTANT TO INVENTORS AND PATENTEES.

PATENTEES. GOLD MEDAL, value 1007. and a SILVER MEDAL, value 507., will be given by Mr. M. JOSCELIN COCKE. The Gold medal for the best Patent, and the Silver medal for the best Design taken out tor Registered at the OFFICE for PATENTS and DE-SIGNS, 20, Half.Moon-street, between the lat of Novem-ber, 1844, and the 1st of June, 1846. The Prizes will be awarded by competent judges on the 10th June, 1840. The conditions to be observed, together with instructions, charges, and every information for obtaining Patents in England or Foreign Countries, or Registering Designs, will be forwarded gratis, on application to Mr. M. JOSCELIN COCKE, at the Office for Patents and Registration of Designs, 20, Half-Moon-street, Piccadilly, London.

FREESTONE. - Noblemen, Gentlemen, **FREESTONE.** — Noblemen, Gentlemen, Engineers, Architects, Railway-Contractors, Builders, Grainstone-cutter, and others, are respectfully reminded of the admirable Freestone (a perfect colite), which may be ob-tained at the LITTLE CASTERTON QUARRY. The in-ducements for using this Freestone consist in its property of resisting the most intense frost, the facility with which it is wrought, and consequent great saving of expense, the uni-formity and beauty of its colour and texture and its low price. It has been used and approved for many years past by some of the first Architects in the Kingdom, and is now being used in the Stations on the line of the Elisworth and Peterborough Railway. The Quarry is situate in the County of Rutland, about one mile from Stamford and the River Welland, six from Wansford and the Nene, about ten from the Bourn Eau, and the same distance from the Quarry.-Apply to FRANCIS SIMPSON AND SONS, Stamford.-July, 1845.

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LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance What, Greenwich. Further particu-lars at Ma. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

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SAMUEL CUNDY begs to Inform An-chitects, Builders, &c., that he is supplying VEIN MARELE BOX CHIMNEY-PIECES, Opening 3 feet square, and 7 inch piers, for FORTY-FIVE SHILLINGS! STONE BOX CHIMNEY-PIECES, opening 3 feet square, and 7 inch piers, Twelve Shillings; do., do., with MOULDED CAPS, and 8 inch piers, FOURTEEN SHILLINGS.

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PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares. Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast-Irou, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch hore. kept for Hire. 12-inch bon

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32 10. 34 in. 36 in. 40s. 42s. 42s. each. Best Register Stoves, at 7d. 9d., and 9d. per inch. Ditto Elliptic do. at 33d. and 4d. do. C. & H. having a large Stock of Rain-water Pipe, Gutters, and Sash Weights, purchased before the advance of iron took place, are selling at the old prices, AT CORNWALL ROAD, LAMBETH, and WINSLEY-STREET, OX-FORD-STREET.

VARNISH.—It has long been a desideratum amongst the consumers of Varnish to obtain a good and genuine article; brilliancy, facility of drying, hardness, and durability are the qualifications necessary, but these are seldom if ever found united. The experience of a life-time devoted exclusively to the manufacture of this article, the great and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled Messrs. George and Thomas Wallis to produce Varnishes (both oil and spirit) unrivalled in every respect, and they confidently recommend them to the trade, as deserving of notice both in price and quality. Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unadulterated article-fine Oil Varnish, from 10s. per gallon; best White Spirit Varnish, 21s, ditto; Best Spirit French Polish, 20s. ditto; White Lead, Oil, Turps, and Colours of every description at the very lowest prices.—WALLIS'S Varnish, Japa, and Colour Manufactory, 64, Long-acre, one door from Bow-street. Established 1750.

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TKINBON'S CEMENT .- The public is A respectfully informed, that the price of this very ex-alient Coment, which has now been in use for Architecture and Engineering works upwards of thirty years, is reduced to a s.d. per bushel, and may be sad in any quantity at Wysts, arker, and Co.'s Wharf, Heilland-street, Surrey side of

Parker, and Co.'s WERT, HEIRINGSTOOL, GATEY and C. Blackfriars-bridge. N.B.—This Cement being of a light colour, requires no arti-ficial columning or peinting, and may be used for stucco with three parts its own quantity of sand.

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106, DRURY-LANE, LONDON.

Agent for Liverpool and Matichester, Mr. R. Part, 11, Atherton's-buildings, Dals-street, Liverpool.

Kineron's balance, Data-street, Inversor. KEENNE'S PATENT MARBLE CEMENT.-The Patantees of this composition beg to refer to the British Muscum, the Royal Exchange, the new works at Bethlem Hospital, Greenwich Hospital, and the Co-lingum in the Regent's-park, as buildings finished or in pro-print 14 White Heeves's Comment has been used as an internal tinceo. Its superiority to common plastering consists in its articular historic content has been used as an internal tinceo. Its superiority to common plastering consists in its articular historic content is the replation of the finishing sconer thin ofher water Content. When employed for skirings, architrave, and other mouldings, in place of wood, it checks dry-rot, is impervious to vermin, prevents the spread of fire, and is more eco-mouldings, in place of wood, it checks dry-rot, is impervious to vermin, prevents the spread of fire, and is more eco-tion it is application than the material for which it thus bedding the upditute. "Confirmations of these versuments is to be found in the shift informed adoption of Keene's Comment for Shirting and Hall fouring in its to be seen to the fullest advan-tion. The full fouring in the new houses on the Hyde Park Estate, the superior of the seen to the fullest advan-tion.

where it is application is to be seen to the fullest advan-tage. In Livepool and Manchester, Keens's Coment has in synthese thorn, where its furtheces and hardness give it the prediverse aver those and flagging, which are much heavier, still dependently leave the floor intersected with numerous jetts, which Lives's Coment is hald down in one unbroken setting.

The high polish and marble-like hardness of which this inshit is sessiptible render it the most suitable material i the manufacture of Songliols. Patentees, J. R. WHITE & SONS, Millbank-street, Patentees, J. Sandacturers of Roman and Portland

Depát in Liverposi, 35, Scel-street ; James Woods, Agent.

O ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MABONS, AND PLASTERERS, MER-THANTS, SHIPPERS, AND THE PUBLIC IN GENERAL. TO

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SATURDAY, JULY 19, 1845.



N our number for the 5th of April last, • we alluded to the proposed restoration of that noblest of parish churches, --St. Mary Redcliffe, and stated the amount of sub-

scriptions received, and the desire of the committee to proceed immediately with the works to the extent of their means. We also reported the proceedings of a meeting held in May, whereat it was resolved that the committee should make early application to each of the subscribers for permission to apply his donation to the repair of the fabric forthwith. Since then this has been done, and some of the too-necessary works are to be commenced directly, under the direction of Mr. Britton and Mr. George Godwin. Mr. Britton, it will be remembered, had originally associated with him in this very interesting undertaking, Professor Hosking; and by them conjointly, the report was made on which the committee have been acting up to this time. When the latter gentleman was made an Official Referee, he felt it necessary to resign this work, and, at his recommendation, aided by that of Mr. Britton, Mr. Godwin was appointed by the committee in his stead.

In the first volume of THE BUILDER (page 106), will be found two engravings, representing the interior and exterior of the church in question, as originally proposed to be restored. They will serve to convey to the reader who is not acquainted with the edifice some notion of its style and character, but they give no idea of its extraordinary beauty. The genius, skill, and fancy, which it displays. cannot be conveyed by any small pictorial representation.

The tower is perhaps as fine as any thing in the world, and needs a long study before it can be fitly appreciated. The north porch, with its unique doorway, the boldness and variety of the mouldings throughout, the beauty and skilful arrangement of the groining inside, -are some of the many points which arrest the attention of the examiner, and compel him to admit what a fine appreciation of the beautiful the architects of the middle-ages had. In the latter particular, the groining, St. Mary's is, perhaps, unrivalled for variety and richness. The bosses, too, display extraordinary fertility of imagination, and will repay careful exemination; and, indeed, the same may be said of every part of the structure. Although exceedingly harmonious as a whole, it is the work of several eras. The inner north porch, for example, belongs to the beginning of the 13th century, the tower chiefly to the end of the same century or the beginning of the next, and the greater part of the body of the church to the 15th century, although we have ourselves little doubt that much of it was built considerably before that time

The material of which the building is constructed is an oolitic lime-stone from Dundry, and from various causes is in a dreadful state of decomposition, and in parts, of danger. The parapets are falling and fallen, the outline of mouldings is fast disappearing, the

crockets and finials of pinnacles are displaced by the wind, and the whole face of the stone is eroded to a considerable depth. There are, however, few forms at present, mouldings or sculptured ornaments, that could not be restored with truth; but every day will make the task more difficult, and if left for any considerable portion of time it will become impossible. One winter even, now that the stonework has reached its present state of disintegration, may do irreparable mischief. We need hardly say, therefore, that we in common with all who look with pride on the noble heir-looms received from our forefathers (Templa quam dilecta !) and are anxious that they should be religiously maintained, are well pleased to find that operations are to be commenced immediately. It is painful, however, to learn how small a sum, comparatively, has yet been provided for this noble purpose, namely, little more than 5,000%. nearly half of which, if we remember rightly, is the produce of estates vested in the parish authorities for the repair and support of the church. If St. Mary Redcliffe were destroyed by fire or otherwise to-morrow, so justly proud of it are all the inhabitants not merely of Bristol but of the neighbouring counties, that we are satisfied subscriptions would flow in from all quarters for its perfect restoration. Why, in York, after the destruction of the Minster by fire in 1829, forty-eight thousand pounds were collected in two months! And no less enthusiasm would be displayed in Bristol, Somersetshire, Gloucestershire, indeed all England, were any such calamity to befal Redcliffe church.

But while it remains whole as they believe, they are not roused to any act of munificence. They forget that time (*edax rerum*), is more certain than the flames, and they hardly know that if left alone only a short time longer, the object of their boast will be but a shapeless heap of stones.

The Diocesan Society when applied to, will of course afford a considerable grant of money towards the object in view, and the parent Society in the metropolis will doubtless do so too, but the bulk of the sum required must come from individuals, and we urgently call on the public for their liberal co-operation.

In Bristol alone, where the annual accumulation of money is enormous, much more ought to be subscribed than is yet announced; in fact, we have little doubt that the moment the works are commenced in earnest, additional assistance will be afforded. St. Mary Redcliffe does not simply belong to Bristol, but to the whole world,—it is one of those records of the past that all have an interest in preserving, and from which all may derive advantage. It belongs to history, it belongs to poetry, it belongs to art; and it will be a national digrace if it be not immediately rescued from its present dangerous condition, and restored in the minutest respect.

We will not believe for a moment that funds can be wanting for such a purpose, but we call on the wealthy inhabitants of Bristol themselves, if they are not disposed to keep the whole credit of the restoration in their own hands, at all events to set a good example. If there had been any public board for the conservation of national monuments, this building would not have been *suffered* to fall into its present state.

A desire for restoration is at this time general in Europe, — Germany, Belgium, France, all are actively engaged in this important task. The last project of the sort in France, and one of great extent, is the restoration of the Metropolitan Church of Paris, Notre Dame,-which is found to require thorough repair and reinstatement, a repair that is to extend to all the works of art contained in it; monuments, cenotaphs, carvings, and coloured decorations. Messrs. Lassus and Viollet le Duc, the architects engaged to effect the restoration, have been empowered forthwith to direct such works to be done as may be necessary to preserve the structure from ruin, and application has been made to the chamber for a grant of 2,650,000 france or 106,000/. sterling, with a statement that the repairs are not merely necessary, but most urgent. A commission was appointed to examine the nature of the works proposed, and there is very little doubt that when they send up their report, the required grant will be made.

At Cologne, the money required for the restoration of the cathedral is immense, still no one despairs; subscriptions daily come in, and the works progress. The town-halls throughout Belgium were in a dreadful state of dilapidation and called for a large expenditure; yet the money has been raised, and in several cases they are now satisfactorily completed. Surely then, as we before said, there can be no cause to fear for St. Mary Redcliffe. Once let the inhabitants of Bristol be convinced, that without interference on their part, restoration will be soon impossible, and we are quite satisfied they will come in munifi-cently to the rescue. We appeal, however, in its favour to every lover of our ancient architecture in the United Kingdom.

ILLUSTRATIONS OF ARCHITECTURE FROM THE BRITISH MUSEUM.

AMONG the most interesting remains of Grecian architecture, the marbles from the temple of Apollo Epicurius, at Bassæ, near Phigalia, hold a high place. They are not only interesting from their character and style of art, but as fragments of a singular edifice, contemporary with the Parthenon at Athens, and the work of the same architect. It is not an uncommon supposition, that the Grecian architects adopted one model, from which they made no very sensible deviations. But, although modern imitators have contributed to the prevalence of this opinion by adopting the same Ionic capital, or the same victor's wreath in all buildings, sacred or profane, the Greeks were an originating people, and did not restrict themselves to imitation in their architecture. It is true, that instead of trying a new experiment in every fresh building, they made use of the principles of their prede-cessors, which the voice of public taste had applauded; but they were not less strong in the endeavour to give each building the appearance of an original work ; so that we find in all Grecian buildings, that general character of resemblance which is sufficient to mark them all of one style, a scrupulous attention detail in points, many of which have only lately been discovered, and a marked difference in those details. In the temple under notice, we find some peculiarities, which are the more singular, as existing in a work of the architect Ictinus.

The notice which Pausanius gives of this temple in his "Description of Greece" adds greatly to its interest, as it leaves no doubt that it belonged to the age of Pericles. His words are "Phigalia too is surrounded with mountains; on the left hand by Cotylion, and on the right by the mountain Elaion. The mountain Cotylion is about forty stadia distant from the city. In it there is a place called Bassæ, and a temple of Apollo the Helper, the roof of which is of stone. This temple surpasses all the temples in Peloponesus except that which is in Tegea, for the beauty of the stone from which the roof is built, and the symmetry of its construction."—" Ictinus, the architect of the temple of Phigalia, was coptemporary with Pericles, and built the Parthenon for the Athenians." The temple had

been visited by Sir W. Gell, when subsequently it was examined by Mr. Cockerell, quenuy it was examined by Mr. Cockerell, along with Baron, Heller and with Mr. J. Foster, now of Liverpool. These gestlemendis-covered the existence of the aculpture, now preserved in the British Museum, and in 1812, a party was formed at Athens for the purpose of accurating, and delineating the purpose of excavating, and delineating the previous works of art. The temple was found to consist of six columns in front, with a range of fifteen columns on each side, two more than in the temple of Theseus, and was 125 feet in length, and nearly 47 feet in breadth. It is considered to have been hypethral. The external order is elevated upon three steps. The temple is peripteral, consisting of a peristyle, pronsos nace or cells, a space between the nace and the opisthodomus, and the opisthodomus itself. The space is separated from the opistbodomus by a wall, which has no opening ; but in the side wall there is a door into the peristyle, the use of which has occasioned some discus similar door is found in the Temple of Theseus at Athens. The structure does not stand cost and west, as most temples de, but nearly north and south. The Dorig columns of the peri-style were 3 fact 7 inches in diameter, and 19 feet 6 inches in height. In the interior of the cells were very curious celumns of the Ionia order, together with a single column of the Corinthian order, which, as it has been supposed, occupied the position opposite the en-trance, being an almost isolated instance of a central column in Grecian architecture. There is one other example at Poetun. This idea of the position of the column is, however, formed upon the assumption that the temple was hypethral, which may not have been the case, and upon the fact that the space would scarcely allow of two columns. The frieze would thus range round the four sides of the cells, being common to both orders, and it is an argument for the temple's being hyperbral, that otherwise the sculpture, would receive no light. The lanic columns project from the walls in a very singular manner, being at-tached to the eads of short walls, and are three walls, at the further ead, join the wall of the cells obliquely, for what reason does not seem clear. Engaged columns were not usually employed in Grecian architecture, but are found in the Erectheum, and the Temple of the Giants, at Agrigentum. The capitals and bases of the columns are very singular, so much so as to have led many to suppose, that they were of a later date than other parts of the fabric. 11 to is rather difficult to describe them, but a fragment of one of the capitals is in the collection, showing that the volutes were joined at a right angle, the capital facing all ways; an extension of the idea of the angular capital in the temple on the Llisaus, and in those of Minerva Polias, and Erectheus. The con-tinuous moulding of the volutes rose in a slight curvature from one volute to the other, and had not the usual abacus. The eye of the volute was a separate piece, it was, however, of any other material, as might not of stone, and be supposed, and was fastened into the socket by a plug. In the fragment, one of these balls is wanting. The base is not less singular. The small segment, forming the union between the shaft and base, is here expanded into a large curve, so that the bases have great projection. The bases hemselves have for their principal moulding a large scotia, the section of the whole being not unlike that of the moulding, immediately below the base of the order in the monument of Lysicrates. The flutes are more like those of the Doric than of the Lonic order, being of slight dents that for the long order, being of slight dents, they have narrow fillets between, as sometimes seen in the Doric. It is to be regretted, that the museum possesses no other fragment of this singular order than the small one above alluded to, which includes a portion of the flutes. The Corinthian capital is a still greater loss, as the examples of that order of Grecian origin are few :- it has now disappeared from the ruins, but a capital bearing close resemblance to this one, was found on the Acropolis of Athens by Mr. Inwood, and is now in the collection of that gentleman. The discovery of two capitals of similar description in these particular localities, is a circumstance of some interest, leading us to the inference, that they were both designed by Ictinus. That at Phigalia was much mutilated, but shewed a lower range of caulicoli, as in the monument of

Lysicrates. The other architectural fragments Lysicrates. The other architectural fragments are, one of a Dorie capital of one of the columns of the peristyle, fragments of tiles, an antefixa of beautiful design, and the cor-responding ornament at the ridge, besides fragments of the metopes, from the porticos of the pronaos and posticus. These parts of the of the pronaos and posticus. These parts of the building were not usually ornamented with tri-glyphs, but were so in the building under notice. It seems to us, that Pausanius, in speaking of the beauty of the roof of this temple, referred to the lacunaria, of which six different varieties were discovered, and figured in the description of the temple by Mr. Donaldson, which forms part of the supplementary volume which forms part of the supplementary volume of Stuart's "Athens." They were all beautiful, and two varieties were arranged in diamond forms. The ornament of the crowning cyma of the pediment is engraved in the title-page of the, fourth part of the description of the Museum marbles; it was of beautiful design, similar to that of the Erectheum, and may be considered to shew an advance upon painted ornament of the Parthenon. In the In accordance with the Grecian principle, the cyma was not continued along the flanks, its position being occupied by the antefixæ. The really valuable portion of the Phigalian

marbles is the frieze. When discovered, it was much broken, and the uniting of the several pieces was a work of extreme dif-ficulty, at last accomplished by Mr., now Sir Richard Westmacott. It occupied the position, above the Ionic columns of the interior. about 221 feet from the floor, and was attached to the wall by pins, the holes of which may still be observed. These pins are considered by Mr. Taylor Combe, the author of the deiption of the Museum marbles, to have been of lead, similar pins being used in the fixing of friezes of terra cotta. The positions of the slabs are almost a matter of conjecture, though evidently some of them followed in the order, in which they are now ranged. The subject of eleven of the slabs is, that which was so fertile a theme for Grecian sculptors, the combat of the Centaurs and Lapithæ; and that on twelve of the slabs, is the battle of the Greeks and Amazons. The direcbattle of the Greeks and Amazons. I he direc-tion of the slabs, belonging to the former sub-ject, was from right to left; that of the latter, from left to right. The frieze of the Parthe-non is in low relief, representing the Pana-thenaic procession in honour of Minerva, and is wonderfully accurate in anatomy, and the proportions of parts. But the Phigalian proportions of parts. But the Phigalian frieze, though not in every respect correct, as to the several parts of legs and arms, exhibits a marvellous spirit and energy. Some of the figures are almost detached from the background, and the whole are in violent action; the Centaurs are hurling rocks at their op-ponents, and everywhere the ardour of strife

prevails amidst the dead and dying. The marbles were purchased at Zante, in 1814, for the sum of 60,000 dollars, rather above 15,000*l*., which had been previously of-fered for them by Mr. Legh, one of the discoverers, and they are now hardly inferior in value to those other works of the age of Pericles with which they were in origin so intimately connected, and along with which, they are now united under one roof. E. H.

THE FUTURE ARRANGEMENT OF THE XANTHIAN MARBLES.

Since our former notice of these interesting fragments,* the question of their future ar-rangement, in the building now in progress, has become a ambiect of consideration. In consequence, is model has been prepared, we beproposed artangement, and we have heard, that Sir Charles Fellowes is about to prepare another. The former model is now in the another. The former model is now in the central saloon of the Mascum. Taking the door to be the same size as that of the Elgin room, 7 feet wide, we may venture to consider the scale of the model, one inch to the foot. This makes the proposed room 73 feet long, 40 feet wide, and 30 feet high. It is lighted by a range of long windows, immediately under the celling; the wells are shewn of a light red granite, about three feet in height from the floor, being left for scsgliola in imita-tion of Sienna marble. This leaves the lower This leaves the lower part of the wall entirely free, except at the ends of the room.

* Vide p. 301, ante.

On the walls are various has reliefs, many of them not yet unpacked; and the end of the room oppoalte the entrance is occupied by the fragments of the monument, erected to com-memorate the conquest of Xanthus by flar-pagus, previously described. They are arranged in the same positions, as they, occupied in the building, with the exception of the pedi-ments, and some of the figures from the inter-columns, which are necessarily placed on the ments, and some of the figures from the inter-columns, which are necessarily placed on the floor of the room. The lower range of bas-reliefs also, is placed too high, and we would much rather see it occupying its original posi-tion. The centre of the room is occupied by two immense tombs of the kind, which Str. Charles Fellowes has likened to Gotoic works. Charles Fellowes has likened to Gothic works. They precisely resemble each other, being only turned different ways, so that we don't under-stand why there should be two of them. They stand on pedestals having a pannel at the end, and a simple cornice of fascia, enriched ovolo, and fillet. Above this pedestal are bas-relief, apparently of good character, and above this is curious arrangement of pannels and more apparently of good character, and above ture a curious arrangement of pannels, and pro-jections very much resembling timber con-struction, and the projections much remind, ing us of the halving of the wall plates at the angles of a root. There are sign array projections in the form of books, or rather like the catch which receives the latch of a conprojections in the form of books, or rether fike the catch which receives the latch of a com-mon door." The roof is in the form of a coth-arch, and with its ridge, resembles the bottom of a vessel upset. The "pediment" all the ends has mutules, which are not found in the pediments of Grecian buildings. Two long heads project on each side from the curve of the roof. Nearer to the door of the mooth is the roof. Nearer to the door of the room, is the "Harpy Tomb," and on each side the door are examples of the two other varieties, of of monuments, which bear so strong resemblance to the dwellings of the present inhabitants of

Asia Minor. We trust, that the increased accommediation in the new buildings will allow of the better arrangement of many parts of the collection, which have long needed it—the architectural casts for example. We wish we could see any reason to hope for some provision for *inational* antiquities, which are as deserving of attention as those of Greece or Rome, and are to be had for a small fraction of the appoint for a small fraction of the expense. Έ.Ή.

THE (LINNEAN) SYSTEMATISING OF THE STREETS OF LONDON

5

"It leads us to look onward, through the long vists of think, with chatched but confident assirtance, this works has still other (1) and nobler work (11) to do, than any the has yet attempted." - Sir John Herseld's address to Private Association, 1843.

twochton 1842. IF the men of the present and the state of the state of the state of the present and the state of the stat our streets is remaining, leaves ample room for an analogous conclusion as to the whole of our an analogous conclusion as to the whole of our civic arrangements. It is, however, one of the standing and periodically reducing *Rena* of our periodicals, to dilate on the numeric of streets, going by the generic of Rings' or Queen's, the scores which are named after Charles (either I, or II), and so on. "There our perodicals have stopped spid. therefore, rather deserve the stygma, which has been cast, at least, opon one of then, vizlet filling cast, at least, upon one of then, viz. "mining fault with every thing, with dit stating dray thing to be done in fifely therefore." Bedder a most confusing and perplex "Systemme, the very nomenclature of many streets is errored as and anystematical in as much as que to any lst. Two opposite rows of boase of the

Cambridge terrace and Oxford terrace, and many other (even better) examples.

• A poculiar projection of similar description was noticed by Mr. Stephens in the buildings of México. May it not have assisted to support an awning, stretched at the side of the tomb, when the relatives visited the grave of the de-ceased? The blocks which we sometimes find projecting im-mediately below the caves of a Gothic church, those which ovidestly missered a constructive purpose, we might have a some difficulty in understanding, chd, we not know how for-quently a chapel was attached to the church, of which have are the only widenes, just a centain and of the reof, which reated upon them,

2nd. Streets of an immense extent have no sub-division into upper (middle) and lower for instance Oxford-street; while many others much minor have.

3rd. Streets quite contiguous and straight, are broken up by names different; so for instance John-street may end into Prince-street, and the like.

and the like. 4th. The labelling of squares, streets &c., is most defective, and there are some large squares which are not labelled at all.

5th. The numbering of the houses is at a par with the above, as many houses have no numbers at all, the same number occurring twice in the same street.

It would be matter of supererogation to dilate on the inconvenience, confusion, and unbusiness-like aspect, which result from this state of things. Besides, any such (palpable) momaly augurs bad for every other civic or social item of our huge metropolitan system; and what we wish is, that men should arrive (by-and-by—but not too slow) at a certain tidy, reasonable, business-like condition in this apd every other respect. It cannot be denied, however, that since our present reign, things are beginning to look very differently, from what they did at any period of English (or other) history; and as we are just in a numerative mood, we will resume by stating, that

Ist. Now-a-days there is scarcely a man of eminence in any department of science or art (or even literature), who is not consulted, employed and paid by Government; for instance, H. Hallam, Dr. Owen, Faraday, &c. 2nd. That last year only, Government have

2nd. That last year only, Government have expended 5,839% in experiments, scientific and otherwise.

otherwise. What is not to be expected under similar propitious circumstances! But we shall vary the point of a mere encomiast, by saying, that whilat it is very laudable to drag for instance "the depth of the Ægean sea," still the old homely proverb: "charity (justice) begins at home," should not be left unheeded. We consequently hope, that our Governmental or eivic authorities should not begrudge the granting a commission, or an adequate prize, for the systematising and regulating the nomenclature, and the proper labelling of the streets of London (and other large cities). In Paris it required a revolution to do all that, at least to a certain degree ---- but we hope that John Bull will do the same, without requiring such a strong extraneous excitement. This is our hope and trust, throughout: "that we shall have a revolution of allisirs without a revolution."

This, however, is after all not the report of a commission, way even a prize essay. We may, therefore merely throw out the following brief, remarks; and the following brief remarks;

Ist. It would be required, that all (what we rall) generic street appellations of King, Queen, Charles, Jöhn, &c., should disappear. They mean absolutely, nothing, as they apply, at present, to nobody at all. If their be any historical incident, which might have given to a certain (say Charles or other) street its name, this might be preserved, but no more. In so doing, a great number of vacancies would occur, for which there are, indeed, a great many candidates. Should any one believe, that while the Parisians have still a street of Jean Jacques Bousseau, Condorcet, Chaptal, &c. — we have none called after Jenner, Cabot, Chaucer, Herachel, Handel, &c. National recognition, even in that way, would excite national emulation and thus, the material result would cease as it were, to make, room for one of a more exalted character. We need hardly to add, that such an undartaking would require not only the aid of historical, but far more the surveyor's knowledge, as in many streets (especially the small and crooked open) there is at present no system of sppellation—none knows or can know, where a street begins or ceases, which all ought to be determined after certain laid-down rules and system. In fact, we have in our mind's eye, a certain tidy, complete, businesslike ooneummation of this undertaking—as we are a great enemy of all cobbling and botching.

Nomenclature, however, is only part of that metropolitan systematization which we propose, and which would avail but little, if the present wretched, beggarly, and jobbing way of *labelling* the streets were to be persevered in. **These tabels are really** a disgrace to the (materially) first city of the world. Some are large,

others small, some in one sort of type, and others in another, some at such a height, and some at another, and there is a new-fangled sort with moveable letters, of which, however, many have faded or fallen out, and look like the defective teeth-work of an old woman. We, however, propose (as we always do), that a uniform, solid, sterling, decorous, and or-namentive way of labelling the streets should be adopted. Having (albeit timidly) alluded to *jobbing*, we believe, that in most of our civic expenditure, there is too little regard paid to the humble and poor rate-payer. Paving is done most *futilely* and wretchedly, labelling in the Paving is done same way because such expenses increase the rate only by one penny or so in the pound; while none seems to think, that it is the last half ounce which breaks the back of the camel, and that that job which gives A, B, C, some employment, sends D, E, F, to the poorhousein fact, a mere repetition of our seven and a half per cent. parable, mentioned in previous essays. Solid, sterling, business-like work is, therefore—as every honest and candid man knows—always the most economical. And thus we propose a labelling of the streets which may last a century, or a couple of cen-turies-and we also, like Lord Stanley, say, that we don't want to legislate for any longer time.

Having, however, called our systematization, a Linnean one, we have to apply this principle to our present purpose. The labelling, as well as the proper naming of streets, will require a division of the metropolis—

division of the metropolis— 1st. Into certain localities according to their architectural and other respectability—say divisions A. B. C.—"Belgrave-square" and such like—"Soho-square" and such like— "St. Giles," and other such crowded and poor localities. This would form, say, the generics. But it is to be borne in mind, that in any, say A. (Belgrave-square) locality, there are streets of different size and architectural or other importance. We, therefore, distinguish in every of our A. B. C. localities, three species of streets (or better, aggregates of houses), which we shall mark 1, 2, 3. Thus, for instance, Belgravesquare would stand A. 1. in our proposed systematisation—meaning that it is a firstrate street (aggregate), in a first-rate locality; West-street, Petticoat-lane would be C. 3, meaning a third-rate aggregate in a third-rate locality, etc. And now we have to state, that this (simple be it) systematization will materially assist, as well the nomenclature as the proper labelling of the aggregates. For instance, the following rule (law) would result therefrom: If any No. 1. street is transected by another No. 1. street (no matter which locality), both retain the same name after having crossed each other. Such is the case with Regent and Oxford-streets. But if any (1. 2. 3.) street is transected by one which changes its character after the transsection—becomes 2. or 3., from having been 1.; then the name ought to be necessarily changed, and the major to retain its name, if other causes should not militate against it (for instance it being a generic name). A further detail and exemplification would be displaced here.

The above systematization would also greatly assist the labelling of the streets. This, we propose, should be done in a solid, sterling, showy manner. We propose it to be of the hardest and toughest China or the like possible—azure letters on white ground. But it would be wrong (in many respects), to have the same sized labels in an A. J. aggregate, as in one C. 3., vis.; in Belgrave-square and in West-street, Leather-lane. We propose, therefore three different sizes" of labels—thus. The names of the aggregates should be composed of oblong movable type (letters) of the above material, which could be manufactured wholesale, and them composed accordingly, encased in a (solid) brass frame, and then the back part filled out with some imperishable (hard and tough) cement; so much so, that every label should present a solid block of a certain size (according to the A. B. C. localities); most solid, we repeat, and not to be injured but by the mainest force. But it would be very wrong to charge the C.3. ratepayers with the same amount as those of A. 1. or the like. We, therefore, further propose, that the price, which a C. 3. label would cost,

• The shape of the labels would be either uniformly oblong, or, in some cases, orai-1/, viz., the names could not be well arranged in any other way.;

should be first ascertained, which we think would be 2*l*., made in such considerable quantities. A label of **B**. should be charged 4*l*. — and an *A*. one 6*l*. This were to be the general calculation. But, as a *B*. label would not cost the double of a *C*. one, and an *A*. label for less, the triple of a *C*. label the *C*. label prices of 2*l*., would be only a fictitious one, resembling (somewhat) the l49*l*. item of the income tax. In fact, it would then be, as it ought to be, everywhere the same "public" accommodation would be afforded to the public; but the man who has 7s. a week and he who has 7,000*l*. a week, would pay differently for it. Without the application of such a principle, nothing of any sterling nature can be accomplished; for which stating we have the high authority of the *Premier*, who said in the debate on the income tax: " the humbler classes cannot be taxed to any further extent."

No sterting work, however, of any kind can be ever effected, if it is made a job for any one. Thus, if our (Linnean) labels were to fade, break, split, exfoliate, melt (!), and all the like —it would only lead to the (accessory) conviction, that now-u-days no public work can ever be 'done workmanlike, and that all and every thing of the kind is merely done to put money in the pockets of a few favoured persons. It behoves us, therefore, to state briefly, how a (sad) repetition of that drama or farce is to be avoided. Our favourite system of super-revision (a system of revision) would have again to come into play. The patterns of the type or letters ought to be first produced by the persons tendering for the contract, and be subjected to a commission, of which men beyond all suspicion should be members—for instance Prof. Faraday, Brande, Dr. Ure, &c., &c. The ultimate contract of the accepted tender should be drawn out by a legal person, also beyond suspicion—and the material then received not in a whole lump, but in such quantities as they can be most conveniently fabricated.

In fact, every precaution ought to be taken, that the letters do not turn out to be made of gingerbread or pipeclay. Similar deep precautions ought to be taken with respect of the brass (or other) cases, forms; the cement, the filling-up—the placing in the walls.*

We are perhaps over-rating the importance of public tidingness and sterlingness--in saying, that the consummation of our plan would, and could not but, be of great influence on the morals, the behaviour, and (proportionately) on the whole social condition of the people of this metropolis. It is all idle to preach to the people a regulated and business-like behaviour-if the very labels of our streets (those pilot-marks on the estuary of the metropolis), proclaim in their dilapidated and fulle appearance the fact, that those above are hardly better than that people, who ex-hibit (in the three kingdome) the astoanding figure of 1,500,000 paapers. Do our respected readers doubt, that such a beginning even, of making all our streets looking tidy, nay ornamented, would not act like a constant memento on the idle, the disorderly, the filthy! Do our readers doubt, that the cobbler, the scavenger living in a C. 3 locality, would not be induced to some thought on seeing such a tidy ornamented plate inserted in his house- can their be any doubt that many might be induced to speak thus to their wives :- " why, missus, as how they have stock sich a snuggy thing in our street, I thinks we must keep the ouse somewhat more clean ourselves, and I shall send down Bobby to sweep the passage and clean the windows oftener as he did hitherto." And such and similar is the falcrum of Archimedes, with which to move the lumber of our present social condition. There is no use of sciling theories (books) on that score any more -business (John Bull-like business) is to be done henceforth.

CLAREMONT.—An extensive and convenient range of stabling and coach-houses has been completed at Claremont, for the accommodation of the horses and carriages belonging to her Majesty when the court is stationed there.

[•] If it were possible, I would propose that an additional slip (space) should be inserted at the bottom of each label, bearing the names of the manufacturers of the china letters, the brass forms, the coment, the builder who has placed them. Such an advertisement might somewhat deter the fraudulently inclined.

STIR IN THE SCHOOL OF DESIGN.

-As you have been pleased to give SIR.publicity in your journal of the 5th to letters containing statements on matters connected with the Government School of Design, and which represent that institution as in a state which represent that institution as in a state discreditable to all connected with it, whether as teachers or scholars, it is hoped that you will in like manner be pleased to insert at your earliest convenience a few short matter-of-fact statements, tending to shew that there is much misrepresentation afloat about the present state and future prospects of that establishment.

In your number of the 5th there is a brief In your number of the 5th there is a brief report of a conversation that took place lately in the House of Commons, in the course of which it was stated by Mr. Ewart, that the dis-pute in the School of Design had resulted in the withdrawal of the pupils almost without ex-ception. That this is very far from being the case is easily proved, by giving the number of scholars that composed the school prior to the drawing up of the remonstrance, the num-ber of those who were compelled to withdraw consecuent upon their airwing that document. consequent upon their signing that document, consequent upon their signing that document, and the number at present composing the school. (See postscript No. 1). But it is asserted that those remonstrators were the only persons in the school possessed of talent, and that, to use the words of your correspondent H. J. L., "in fact the only students of promise the school fact, the only students of promise the school could boast have been expelled." Our main could boast have been expelled." Our main answer to that will be made public about the 24th of the month, the time when the annual exhibition of designs and drawings will take place in the School. But it may be as well to answer this as the former assertion by a few simple facts. Before entering upon them you will perhaps pardon a short digression while we allude to the circumstances which have in a degree compelled us to come in this manner degree compelled us to come in this manner before the public. The thirty-seven remonstratbefore the public. The thirty-seven remonstrat-ing students have, in a pamphlet published by them, made a statement to this effect, that the students remaining in the upper classes of the school, are secretly as much disatisfied with the present management as themselves, and as anxious to see a change in existing arrangements; this, an as-sertion totally at variance with truth, as far as the Class of Design for Manufactures is con-carned, was circulated in such a manner, that while it might have heap working an injurious while it might have been working an injurious effect in influential quarters, we who were thus unwarrantably spoken of could not know of it, as they had never in any way communi-cated with us, neither personally nor by send-ing us a copy of the pamphlet, in which we were so dishonestly made use of. As the au-thorities of the school have apparently disdained making reply to the calumnies so plenti-fully heaped on them, and as the pupils have hitherto forborne answering, the expelled have become bolder and bolder in their assertions till they have reached a climax. In the first of the letters before alluded to, it is said, that the only students of promise having been expelled, "there is none at present designing, nor even attempting to design;" if the letter containing this statement be indeed the production of one of the thirty-seven, the the production of one of the thirty-seven, the only conclusion we can come to is, that he is guilty of wilful falsehood, because many of the designs about to be presented before the council were in progress before the outbreak, and the majority of the remonstraters having viaited frequently on the public days, they have seen many of our designs at their different stages towards completion. Surely a cause re-quiring the use of such disreputable means must be a bad one ! To the general assertion of in-competence in those of us who remain attached to the school, we will apply a test that the re-monstrators themselves must allow to be a fair one; we will take the list of prizes for original one; we will take the list of prizes for original designs awarded at the competition in June, 1844, and shew who of the successful compe-titors are now in the school, who of them have been expelled, and who have been promoted to masterships of provincial and district schools --(See No. 2). This is the most sure test that can be applied, because original designing is the end and object of the institution, the point to which all our studies tend, and there-fore the best criterion of talent; unless then it can be proved that they who were beaten are superior to those who beat them, it is incon-trovertible that the great majority of those who

last year distinguished themselves are still in the school, or have left it with credit to themselves

We think enough has now been said to shew the unfounded nature of the statements shew the unfounded nature of the statements contained in your paper of the 5th; for further proofs of the efficiency of the school, we again refer you to our coming exhibition, which we hope will exceed in quality as much as it will in quantity, all the former competitions at the School of Design.

| We are, Sir, &c., | | | |
|-------------------|--|--|--|
| GEO. WALLACE, | | | |
| W. E. CADMAN, | | | |
| C. HAIRS, | | | |
| P. HOLLAND. | | | |
| W. CHENLING WILD, | | | |
| SAMUEL WALKER. | | | |
| | | | |

This statement is signed only by students who will exhibit one or more original designs at the coming competition.

| ury | 1400, | 1040. | | |
|-----|-------|-------|--|--|
| | - | | | |

No. 1.

| In April, the month } Morning Class of the outbreak } Evening Class | 113 189 |
|--|------------|
| Suspended for Remonstrating | 302 37 |
| | 265 |
| In July, the pre- Morning Class sent month Evening Class | 82 111 |
| Now waiting for admission, when the new arrangements are | 193 70 |

completed 263

It is necessary to state that there is always smaller number of scholars in the summer • smaller number of scholars in the summer than in the winter and spring months, which may be accounted for by the fact that many of the scholars being artisans and apprentices, they cannot be spared from their employments in the summer, or busy season, as they can in the winter months the winter months.

| No. 2. | | | |
|---|--------------------------------------|--|--|
| une, 1844. | Remeria. | Now Master in the Zdinburgh School. Now Master in the Manchester School. Now Master at Spitalfelds. Sold to Mr. Pallatt for Tea Guineas. Two Guineas only were given, because the Council did not consider the design descring of more. Now at Spitalfelds. | |
| n ii | Sum Sum | | |
| A LIST OF THE PRIZES Awarded at the Competition in the School of Design in June, 1844. | Surpended. | Mr. Scewart 6 6 Mr. Scewart 6 6 Mr. Puscill. 2 Mr. Phillips Mr. Armsted Mr. Armsted | |
| | Remaining - at Someract House. | Mr. Walker Mr. Walker Mr. Wyld Mr. Wallace Mr. Wallace Mr. Wyld Mr. Wyld Mr. Wyld | |
| | Removed to Provincial Schools. | r.S. Blice. . Findom. . Brown. | |
| | Description of Design. | Arabicaque in Fresco Mr.S. Rice. Ditto, in Presco Sand. Mr.S. Rice. Ditto, into Second Presco Mr. Fradoa. Arabicaque in Oil Mr. Fradoa. Design for Paper-hanginga Mr. Brown. Design for a Subeboard Design for a Subeboard Design for a Subeboard Design for a Subeboard Design for a Subeboard Design for a Subeboard Design for a Subeboard Mr. Brown. Presign for of all mertit Design for of of all mertit Presign for of of all mertit Design for of of all mertit Pray Design of of of all mertit Mr. Brown. Prusce of of or all mertit Mr. Brown. Pray Design of of or all buert Mr. Brown. Pray Design of of or all buert Mr. Brown. Pray Design of of or all buert Mr. Brown. | |
| | No. | - 8 8 4 9 0 0 0 0 0 0 7 9 9 7 9 9 7 9 9 7 9 9 9 9 | |
| | | | |

NEW CHURCHES .- There are now in proress, in the diocese of Chester, no fewer than

EXAMINATION IN LINES AND CURVES.

Sin, - The accompanying are a few questions, which may be put to students to accertain their knowledge of lines. Doubters their answers would suggest many other questions, and such questions may be greatly extended both in reference to the different characters of curves and their spplications, as well as to the simple methods of tracing them. What is a right live

2. How is an original right line formed and proved to be such ?

3. Describe the various means of producing right lines in different positions, in the execution of architectural works. 4. What is a circle, or circular line ? 5. Describe the various means of forming

circular lines or circles in the office and in th setting out or execution of large works, both by continuous motion and otherwise.

6. What is an ellipse, or an elliptical line, and what are the varieties of its form?
7. What solid is an ellipse a section of ?
8. What is an elliptical line the perspective

entation or projection of ? repre

9. Describe the various means by which an elliptical line can be traced—distinguish those most applicable for the smallest or largest practical example required.

10. Are there any patchwork imitations of the ellipse, and in what do they differ from the true ellipse !

11. By whom and for what reason are such imperfect imitations of the ellipse used ? 12. Point out instances of the application of

the whole or part of an ellipse in architecture,

and give the proof that the examples are such. 13. By whom was the ellipse discovered P and point out the earliest known applications

of it in architecture or the arts. 14. What is the difference between an ellipse and an oval? and shew how the latter cad be drawn by continuous motion.

15. Describe the various kinds of ovals, and point out instances of the whole or parts of

such curves being applied in architecture. 16. What is the hyperbola, how traced, and where applicable in architecture? 29, Wimpole-street. Jos. Jopling.

THE MESSRS. BAKER'S DINNER TO

THEIR WORKMEN.

-Whatever is calculated to increase SIR, the happiness of the community is well worthy the happiness of the community is well worthy of general attention; and among the various means tending to that end I will venture to place the occasional meeting of large numbers of men who are engaged in the same occupa-tion. The good to be anticipated is an im-provement of the social qualities by an exer-cise of mutual good and friendly feeling, and

cise of mutual good and friendly feeling, and by affording an opportunity for each to leara the good points of his fellow-workman. On Saturday, July 5, the annual recreation of Messrs. Baker and Sons, builders, Stan-gate, was held at the Greyhound, Dulwich. Many of the men availed themselves of the opportunity to visit the picture gallery be-longing to the college, and manifested great interest in the inspection of this splendid col-lection; others occupied themselves with the various exercises for which the place is adapted, while the more quiet were satisfied to adapted, while the more quiet were satisfied to look on, and breathe the fresh air. It was look on, and breathe the fresh air. It was pleasing to see the unanimity which pervaded the whole party. At seven o'clock about 120 sat down to dinner, for which they were well prepared by the various exercises of the after-noon, Mr. T. Fielder in the chair; after which the party were served with punch. The custo-mary healths and toasts were drank with the usual formalities, and songs, recitations, and addresses were given. Thanks were voted to the chairman, and being duly acknowledged, the party separated in hope of seeing another July. It is thought that the example of Messrs. Baker and Sons is worthy of publicity and Baker and Sons is worthy of publicity and imitation from their cheerful liberality to this annual dinner. It is one proof among others of the interest entertained by them for their workmen, and no doubt can exist of its producing reciprocal respect and esteem. The inter-est of this annual dinner is also increased to the workmen by the kind and friendly manner in which the foremen and others meet and distinction when in the workshop. I am, Sir, &c., J. O.

THE GAUGE QUESTION AND THE DE-FUNCT RAILWAY BOARD.

WE mentioned in our last impression, that Government had appointed a commission to inquire into the expediency and practicability of securing a uniform gauge in the construc-tion of railroads. The subject at the first glance will, with many persons, appear to be a difficult one, the bearings of the question however, are within extremely narrow limits. The gauge or breadth between the rails is upon American railways 4 feet 6 inches; upon Jrish, 5 feet 3 inches. The Liverpool and Manchester Railway Company fixed their gauge at 4 feet 84 inches. Other railways adopted the same breadth. Mr. Brunel in-troduced the first exception. Upon the line of the Court Worth Ford for the prove the for the Great Western, 7 feet 6 inches were left be-tween the rails. With this single exception, the narrow gauge was universal. In process of time, the rival lines were united by other railways, and then the evil resulting from a want of uniformity in the gauge was ex-perienced. Trains constructed to ply the nar-row gauge could not run right on along the row gauge could not start this rendered ne-broad, and vice versa. This rendered ne-cessary the frequent shifting and transferring row and luggage. The question now arises, is it expedient to avoid this evil by enforcing uniformity of gauge, and if so, what gauge must yield?

If the narrow gauge be finally adopted, it is pleaded that great risk of life and limb will be incurred. A certain speed of train is alleged to require a certain breadth of rail. If, to abun this evil, the parrow gauge be sacrifieed to the broad, a vast expenditure of capital and labour is indispensably demanded. The narrow gauge extends over 2,000 miles of way the broad gauge over 300 miles only; 2,000 miles, therefore, must be altered to suffer 300 miles to remain unaltered.

If the broad gauge be compelled to conform to the narrow, only the rails require to be lifted, and the carriages slightly altered. In the other case, embankments must be reformed, tunnels widened, bridges broadened, and carriages made anew. It is also strongly denied that experience demonstrates higher risk of life and limb upon the narrow gauge.

Such is the nature and bearings of the question which the Royal Commissioners have to investigate and decide upon. Much speculation and uncasiness prevail with respect to the issue.

Since our last number went to press, Lord Dalbousie has delivered himself of the painful duty of pronouncing an *éloge* on the defunct railway board over which it has been his misfortune to preside. His Lordship stated, that "the Government having maturely considered the question, and having due regard to the constitution and operations of the committees of the House of Commons, and to the feeling which had been evinced by Parliament in the course of the present session, had come to the conclusion, that the Board of Trade should not in future prepare or submit to Parliament any report upon the merits of railway projects." He further said, that "the same preliminary steps on the part of railway companies which were now required, such as depositing with the Board of Trade a copy of the plan and a statement of the objects of the bill, would continue to be required. They would also be expected to deliver a copy of the bill when prepared; and if upon the examination of its provisions it should appear to the Board of Trade to be desirable, on public grounds, to direct the attention of Parliament to the nature of those provisions, the Board of Trade would be at liberty to submit to Parliament a report upon the subject, but in no case to pronounce any opinion upon the merits of the bill."

The determination of Government on this subject appears to have given universal satisfaction.

COGHLAN'S GUIDE BOOK FOR TRAVEL-LRES.—Now that our friends in "populous cities pent," town-wearied, are about to fly hastily to various parts of the world to get fresh ideas and health, we cannot do better than introduce to their notice Mr. Coghlan's extended guide book. Whether they propose examining the modern buildings of France, the town walls of Belgium, the cathedrals of Germany, or, later in the season, the glories of old Rome, they will find it a most serviceable companion.

NATIONAL EXHIBITION OF MANU-FACTURES.

WE mentioned some time ago that the committee of the Society of Arts, Adelphi, proposed to establish an exhibition of the products of British industry. They have now issued a preliminary prospectus soliciting promises of assistance from artists, engineers, manufac-turers and others. The prospectus says turers and others. The prospectus says justly: — Besides the delight and instruction which would certainly be afforded, it may fairly be expected that a periodical competition of this nature will exert some beneficial effect on the progress of the arts; not only by exciting honourable rivalry in the producers, but by enabling the consumers better to appreciate real excellence. The present moment seems particularly auspicious for making such an attempt. The triumphant success of two attempt. The triumphant success of two especially British products, the railway and the locomotive, has so united the remotest parts of these islands, that the exhibition, though taking place in the metropolis, would be rendered available to all persons, in all places; and would therefore be divested of much of that exclusiveness which might otherwise be objected to such a scheme.

Without entering into details, it may be stated, that the plan embraces the exhibition not merely of products, but of the instruments of production in actual work— the facility, rapidity, precision, and economy of the act of fabrication, being often much more wonderful than the fabric itself. In carrying out these ideas, it is intended entirely to exclude all private, personal, and political objects. It is hoped that the plan may be preserved so free from objection on these points, as to command the approbation of all ranks, and justify its promoters in anticipating the highest patronage.

Parties willing to assist in carrying out the proposition are invited to communicate with Mr. Whishaw, the secretary.

FREEMASONS OF THE CHURCH.

JULY 8.—The Rev. G. Pocock, L.L.B., in the chair. The minutes of the last meeting were read and confirmed. Mr. William J. Short, architect, and the Rev. F. Wrench, rector of Stowting, were elected members. The Right Hon. the Esrl Cadogan exhibited one of the columns of the bedstead of Pope Leo X.; an Italian carving of Arlimisia, and a carving of Rubens' Battle of the Bridge. Mr. G. Field exhibited the four seasons carved in boxwood by a Flemish artist of the seventeenth century, also a medal in carved wood of the sixteenth century, containing Greek and Latin inscriptions. Mr. B. Hertz exhibited a carved spoon of ancient Egyptian workmanship, a ram's head in ebony, a deer's leg in cedar wood, &c. Mr. J. W. Archer exhibited a monumental brass, enriched with enamelling of various colours, now being executed by him, and dedicated to the memory of Lieut. Colonel White by the officers of the Inniskilling dragoons. Mr. W. H. Rogers presented some impressions of seals of the middle ages from the seal of Boxgrove priory, Nutley Abbey, Bucks, and from the seal of the vicarage of Salisbury.

Mr. W. G. Rogers then delivered a lecture on wood-carving, and illustrated it with carv-ings of all ages He commenced by referring ings of all ages He commenced by referring to the neglect of the study of the art, and explained the difference between carving in wood and in stone. There is no branch of art which offers a larger field for investigation than the neglected subject of wood-carving. Disre-garded to too great an extent by the architects and sculptors of our own country, and scarcely considered worthy a place in its literature, its history contains facts of the greatest interest. The high antiquity of the art of carving in timber was referred to, and a glance given at its history from the earliest ages, tracing its progress among the Egyptians, Syrians, Jews, and its cultivation amongst the Greeks and Romans. Mr. Rogers endeavoured to account for the absence of Etruscan carvings, and enu-merated a few works of Oriental character. The impulse given to the art by christianity was noticed, and great stress laid on the extent to which carving in wood had been carried by the Norman and gothic architects. He no ticed a remarkable work of the former period in box-wood, in the cabinet of Mr. Cavan. The advantages and disadvantages of the

"Renaissance" were fully explained, and the pagan character of the wood-carvings of the period alluded to. After a few remarks on the loss of style, followed a catalogue of the principal carvings of antiquity, and those which in more modern times have gained the greatest celebrity. For instance, the lives of Demontrieul, the great wood-carver to the court of Marie Antoinette, Birbeck, the English, French, and Dutch carvers employed on the decorations of St. Paul's Cathedral, were severally noticed, and their works reviewed, not forgetting Grinling Gibbons, his works, his merits, his hoxwood portrait of Charles JI. in the Earl of Orford's cabinet, &c. The concluding remarks were on wood-carving at the present day, giving reasons for its decline, noticing carvings by machinery, and referring to the inventions and patents relating to the art.

After the lecture, Mr. Payne explained his process of injecting timber with a solution of iron, and exhibited numerous specimens which occasioned much discussion.

SAVINGS BANKS.

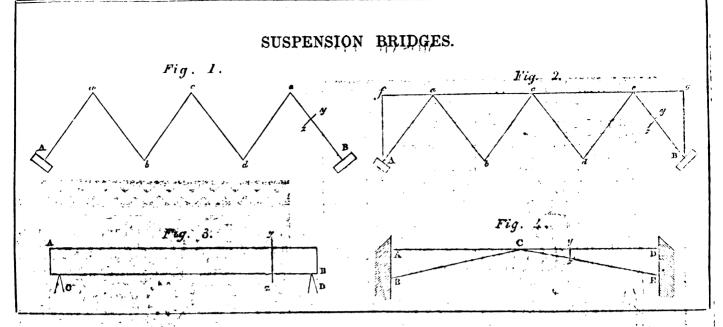
THE following comparative statement of progress, at specified periods, during the last seven years, has been forwarded to us by the secretary of the St. Marylebone Bank for Savings:

| | | | Open Deposit Account. | Sums invested with National D-bt Com- missioners. |
|-----------------------|------------|--------|--------------------------|--|
| On the l | the failer | 1090 | ₽ . 11,620 | £. 216.017 |
| On the 5th July, 1839 | | | | |
| ., | ,, | 1840., | 19,445 | 213,459 |
| | ,, | 1841 | 12,881 | 260,852 |
| | | 1841 | 13,100 | 275.078 |
| | | 1843 | 18,820 | 305,383 |
| | | 1844 | 14.638 | 840,509 |
| ** | | | | |
| ** | ** | 1845 | 15,784 | 85 6,965 |
| | | | | |

Mr. G. R. Porter, in a sketch of the progress and present extent of Savings Banks in the United Kingdom, read at Cambridge, stated that these institutions owed their origin to Miss Priscilla Wakefield, who in 1804 induced siz gentlemen residing at Tottenham to receive deposits from labourers and servants, paying 5 per cent as interest. Four years later eight persons, four of whom were ladies, took upon themselves the same responsibility at Bath. The first savings bank regularly organized was formed at Ruthwell, Dumfriesshire; its success led to many imitations, so that before any legislative provision had been made for their management, there were seventy savings banks in England, four in Wales, and four in Ireland. In 1817 an act was passed to encourage banks of savings in England and Ireland, but it was not extended to Scotland until 1835. Of the value of these institutions there can hardly be two opinions.

TERRA COTTA CHURCH, BOLTON-LE-MOORS.

THE church of St. Stephen and All Martyre, in the new parish of Leverbridge, Boltonle-Moors, which is built entirely of *terra cetta*, from designs by Mr. E. Sharpe, as already mentioned in our pages, was consecrated on the 26th ultimo, by the Lord Bishop of Chester. The ground plan is cruciform, and at the west end is a tower, surmounted by an octagon, and a beautiful spire of open tracery, after the manner of Friburgh cathedral. The church has two entrances, the principal one at the west, and a small south one under the window of the south transept. The nave is paved with unglazed, and the chancel with encaustic, tiles. The font is a large basin of stone, enclose l in solid panels of *terra cotta*. The pulpit is at the angle of the chancel and north transept. The pews are low and open, with bench-ends and poppy-beads moulded in *terra cotta*, and painted. The north and south walls of the chancel are ornamented by an arcade below, with seats used as sedilia, and above by recesses with canopies. The east and west windows, and the tracery of all the windows, are filled with rich stained glass. The east window is by Willement, and the west (a memorial window to the Rev. George Langshaw, late Fellow of St. John's College), by Wailes, and is seen through a tower arch. The cornices and mouldings are enriched with texts; the chief of which are John vi. 53; Rev. xix., 9; Isa. lxiii., 5, 6; Wis. iii. 1—5; Rev. xx. 12; Matt. xi. 28-



SUSPENSION BRIDGES.

Siz, —I perfectly understood the nature of my communication to you the other day, but since I have to explain some part of it, let us quote the whole sentence to which your correspondent B. B. refers: —'I must differ from you in supposing that suspension is more likely suddenly to give way than compression bridges - IN proof of the contrary, I will instance the fall of the bridge across the Mill Fleam at Derby, those at Ashton-under-Lyne, and several others that have occurred lately, by which lives have been lost."

Here the failures at Derby and Ashtonunder-Lyne are merely brought forward to shew that compression bridges are as liable suddenly to give way as suspension bridges are; and in the following sentence, when I peak of the the following sentence, when I both suspension and compression bridges are built, none are particularized, though it alludes to all (that is all the bridges in which the horizontal forware apprenticularized, though it alludes to all (that is all the bridges in which the horizontal forware apprenticularized, though it alludes to sens, gute way, from the trivial cause of the mortan not being sufficiently dry at the time the centres were strack, and which was as effectually destroyed as when, in the other case, the workmanship in the pier was defective. This shews the truth of my position by supplying an illustration omitted in my letter.

The most orthodox way of discussing the question of a principle is by reasoning mathematically upon the subject, which would directly shew my statement to be correct, but as many of your readers may parhaps prefer a simple common-sense, though rough illustra-tion, to following me through the intricacies of the calculus, we will dispense, in this instance, with mathematics altogether. Suppose A a b c d e B, fig. 1, to be a viaduct consisting of three arches, and A and B the ex-treme abutment. Now, if from defective workmanship, or any other cause, either of these piers were to yield, all the arches would of course be levelled with the ground: or, suppose from the mortar not being sufficiently dy at any part, as y z, that part was to yield, the whole viaduct would be as effectually destroyed as in the former case, when one of the pters gave way. But if tension lines f a a c &c., be introduced, as in fig. 2, to the aper of each article, so as to prevent any concentration of high zonal force, then if either of the preve, as B, were removed, not all the structure would be destroyed, but only that portion $B \cdot g$: or if a failure were to take place at any section, $y \perp$, only a similar portion would be destroyed; the rest would remain as firm as ever. Again, let A B fig. 3, be a beam resting on fulcra C and D, either of which taken away, or a section z made, would cause the beam to fall. Bat if on the other hand the beam be of the form as fig. 4, one of the piers, as D E, may be re-moved, whilst the other would still stand, or a section z y may be made, and only that porz y E would fall, the rest would stand as firm as ever. Figs. 1 and 3 illustrate that principle

which I say is erroneous, and will leave your readers to judge if I am not right.

If the piers of my bridge were to give way, the bridge of course would fall, but if only one was to yield, that part which rested upon that pier only would fall, the rest would stand as exemplified in fig 4.

The reason why suspension bridges have not been employed for railways is because in the common catenary principle the roadway hangs by vertical rods, and is therefore subject to the same motion as the chains, which would endanger the passing train. This, however, ceases to be the case when the suspending rods are arranged obliquely, for then the borizontal force is taken from the chains and resisted by the roadway, which renders it rigid, and over which railway trains may pass with safety.

ON MOSAIC FLOORS AND TESSELLATED PAVEMENTS.*

LET us now glance at the modes in which the decorative arts have been brought into requisition for covering the floors and pavements of buildings, or of forming the pavements themselves. Here, as in other matters, the usages of different ages and of different countries mutually illustrate each other, by shewing that in many instances a fashion after dying away for centuries revives again into new life.

That variety of pavement or flooring which consists of mosaic or tessellated work was very extensively employed by the Romans, as is evidenced not only by the pavements of stillexisting buildings, but in the excavated ruins of Pompeli. The specimens of this art there brought to light are chiefly composed of black frets, or meandering patterns, on a white ground, or white ones on a black ground. The materials of which they are chiefly composed are small pieces of black and white mumble, and red tile, some larger than others, so as to take a deeper hold in the mortar than the gress, and thus form a sort of bondingcourse which gave stability to the whole. These pieces were set in a very fine cement, level as a base.

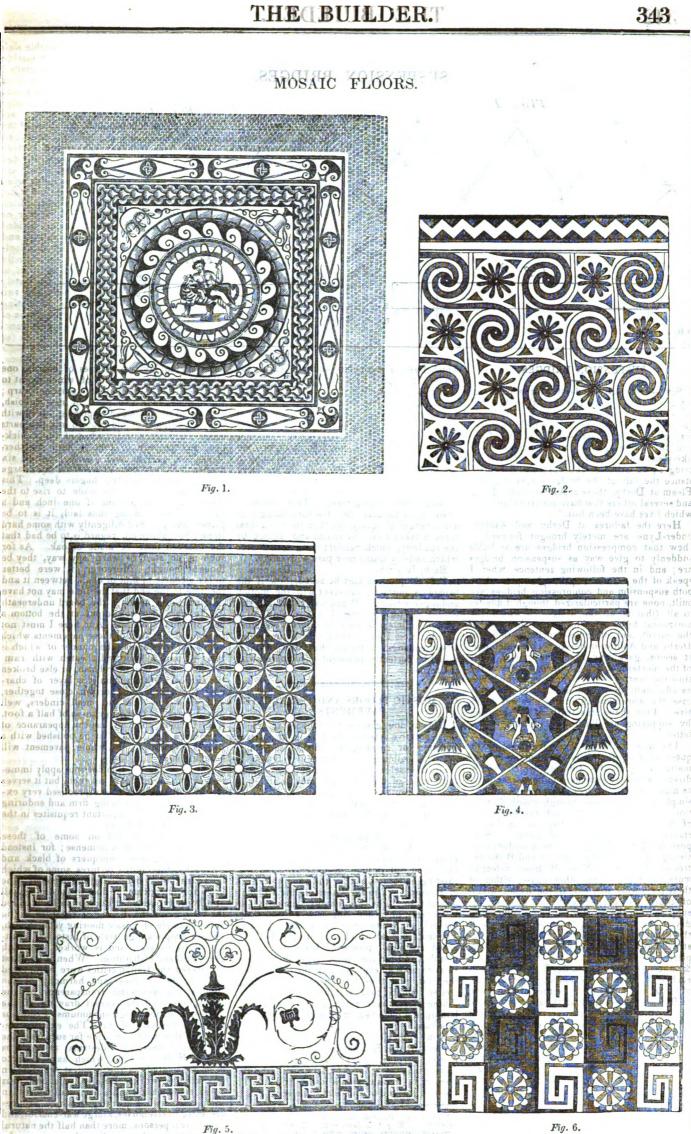
Pliny describes very minutely the plan adopted by the Romans in making cement or plaster terraces, which may have been the foundation or groundwork on which the tesseres or mosaic pieces were laid. "To make a terrace of this sort," he says, "it is

• From the "Pictorial Gallery of Arts," part vi., published by C. Knight, Ludgate-street. This work presents a mass of instructive matter profusely illustrated by woodcuts, at a cost singularly small. We cordially recommend it to our readers.

necessary to lay two courses of boards, one athwart the other, the ends of / which ought to be nailed, that they should not twist nor warp ; which done, take two parts of new rubbish, and one of tiles stamped to powder; then with other three parts of old rubbish mix two parts of lime, and herewith lay a bed of a foot thickness, taking care to ram it hard together. Over this must be laid a bed of mortur, six fingers thick, and upon this middle layer large paving-tiles, at least two fingers deep. This sort of pavement is to be made to rise to the centre in the proportion of one inch and a half to 10 feet. Being thus laid, it is to be planed and polished diligently with some hard stone; but, above all, regard is to be had that the boarded floor be made of oak. As for such as do start or warp any way, they be thought nought. Moreover, it were better to lay a course of flint or chalk between it and the lime, to the end that the lime may not have so much force to hurt the board underneath it. It were also well to put at the bottom a bed of round pebbles. And here I must not forget another kind of those pagements which are called Græcanica, the manner of which is this :--- Upon a floor well heaten with ram-mers is haid a bed of rubbish, or else broken tile-shards, and then upon it a layer of charcoal, well beaten, and driven dose together, with sand and lime and small cinders, well mixed together, to the thickness of half a foot, well levelled; and this has the appearance of an earthen floor; but if it be polished with a hard smooth stone, the whole pavement will seem all black."

The above description does not apply immediately to mosaic floors as such, but it serves to show that the Romans practised very extensively the art of forming firm and enduring plaster, one of the important requisites in the production of such floors.

The labour bestowed on some of these mosaics must have been immense; for instead of representing mere checquers of black and white, they form entire pictures, some of which have great beauty of drawing and of colour. The large specimen from the floor of the dining-hall of a house excavated at Pompen in 1829, called the "House of the Faun," is regarded as the finest example of mosaic flooring yet met wish, since it adopts a figh style of historical printing as its subject, and is worked out with great skill and elaboration. When it was first discovered the Italian critics were eproptured with it; the vividness and harmony of the colours, the wonderful transparency of the atmosphere, and the correct drawing of the figures, called forth pigh encomiums. Professor Quaranta has said of it: "The extreme delicacy of this work in marble far surpasses the celebrated mosaic of Palestrina, as well as that of Hadrian's villa, which have hitleerto been considered as the greatest wonders in this kind of work. Besides, what are four doves, some masks, and a few small figures, in comparison with a painting in which are represented twelve horses, a large war-chariot, and twenty-two persons, more than half the natural size, without reckoning those that were on the left side, which is almost wholly destroyed?



5. yill be persons, more than half the natu toout reckould those that were on t itsout reckould the almost wholly destroyed. It is impossible to describe the consummate skill with which so many figures are arranged and grouped in this confined space, or the truth and correctness of the drawing, the distribution of light and shade, the effect of the colours, and scrupulous attention to the minutest accessories. Michael Angelo and Raffaelle might have been proud of the dying horseman; and Alexander's Bucephalus, the horses of the quadriga, the others that lie on the ground wounded, and especially the one rearing and fore-shortened, are drawn with a boldness and truth in their motions and positions which the greatest modern painters, Raffaelle not excepted, might envy." This praise is perhaps injudiciously glowing; but there can be no doubt that this mosaic must be a wonderful specimen of the art. The subject is supposed to represent one of the battles between the Persians and the Greeks. The odd conceits at the bottom seem of a far inferior stamp, and are probably the work of another hand.

Various other very remarkable specimens of mosaic have been from time to time brought to light in different countries. At the end of the last ceutury a mosaic pavement was discovered near Seville, in Spain, at a small depth below the surface of the ground. It was forty feet long by thirty wide, and contained in the centre a representation of the circus-games of the ancients, while on three sides were circular compartments containing figures of the Muses, &c. In the race-course a busy medley of events was depicted, such as a chariot overturned, the charioteer thrown, horses in confusion, and horsemen dismounted; while several apectators are looking on at the sports. In the compartments, besides the representations of the Muses, were centaurs, children in variously-coloured tunics, and animals of various kinds. The floor between the different compartments also exhibited various birds, fruits, and flowers, and great diversity of colour was exhibited throughout the whole.

Another specimen, dug up near Lyons, was composed of small cubes of marble, interspersed in some places with pastes of different colours. In this, as in the specimen just alluded to, the whole details of the circusgames were represented; it comprised no fewer than eight chariots, which appeared as if they had started at once, some of which had fallen, and the horses and charioteers fallen. Spectators surrounded the scene, and seemed to regard it with eager interest.

The representation of pictures by means of mosaic for flooring or pavement was not the only variety known to the Romans. That ingenious people also formed patterns of a more or less elegant kind by the arrangement of small cubes of marble, or stone, or plaster previously coloured. The six cuts annexed give specimens executed apparently either by the Romans or while the Romans were in power. It is frequently the practice to denominate as "mosaic pictures nominate as "mosaic pictures" those which represent scenes or events, and as "tessel-lated pavements" those which exhibit simpler designs, generally in two or three colours only. The most beautiful specimen of Roman pave ment yet discovered in London is that represented in fig. 1. It was dug up in the year 1803, in Leadenhall-street, immediately in front of the eastern column of the portico of the the East India House. It lay at the depth of only nine feet and a half below the street; a sewer had cut away a considerable portion of it, but the central compartment, about eleven feet square, was nearly perfect. The whole is supposed was nearly perfect. The whole is supposed to have formed the flooring of a room about twenty feet square. "The device occupying the centre was a figure of Bacchus reclining on the back of a tiger, holding his thyrsus erect in his left hand, while a small two-handled drinking-cup hung from his right; a wreath of vine-leaves circling his forehead, a purple and green mantle falling from his right shoulder and gathered round his waist, with a shoulder and gathered round his waist, with a sandal on his extended left foot, the lacing of which reached to the calf of the leg. This design was surrounded by three circular borders, the first exhibiting on a party-coloured field, composed of dark grey, light grey, and red ribands, a serpent with a black back and white belly; the second, a series of white cornucopiæ indented in black; the third and innermost, a succession of concave sources and innermost, a succession of concave squares.

In two of the angular spaces between this last circle and the circumscribing rectangular border were double-handled drinking-cups; in the other two, delineations of some unknown plant; both figures wrought in dark grey, red, and black, on a white ground. The square border surrounding the whole consisted of two distinct belts, one described as bearing some resemblance to a bandeau of oak in dark and light grey, red, and white, on a black ground; the other exhibiting eight lozenge figures, with ends in the form of hatchets, in black, on a white ground, enclosing circles of black, on each of which was the common ornament, a true lover's knot. Beyond this was a margin, at least five feet broad, formed of plain red tiles each an inch square."—London, No. xvi.

Many other specimens of Roman pavement have been dug up in the various alterations which London has undergone within the last half century. Thus in the course of digging the foundation for an extension of the Bank of England, in 1804, a tessellated pavement was found at a depth of about eleven feet below the surface, and is now deposited in the British Museum; its dimensions are only about four feet each way, and it occupied the centre of a floor about eleven feet square. In Cannon-street, in Holborn-hill, in Crutched-friars, in Broad-street, in Fenchurch-street, in Longlane, in Eastcheap, in Lothbury, in Crosby square, and in Threadneedle-street, specimens of these pavements have been brought to light : thereby shewing that the use of such flooring was very common among the Romans. No longer ago than the year 1841, a specimen was found in the course of pulling down the French Protestant Church, in Threadneedle-street, still glowing with wonderfully fresh and vivid colours.

The Modes of producing Mosaic Floors.

The manufacture of all these varieties of inlaid floors or pavements, whether we call them mosaic or tessellated, depends on the arrangement of small coloured pieces in a definite pattern, the shapes being adapted to each other, and the whole brought to a uniform level. The mode of proceeding, however, differs considerably, according as a mosaic picture or pavement of tessellated tiles be the object in view. We will speak therefore of the former of these two, and then of the latter.

Where a picture rather than a pavement is required, enamel rather than stone is the material employed, as presenting greater facilities for adjustment in a delicate manner. There is first prepared a frame-work or foundation; then a layer of cement into which the mosaic may be imbedded; and lastly the mosaic pieces themselves. The frame-work, formed either of marble or of a volcanic stone called "piperino," is hollowed out to the depth of three or four inches, over the whole surface, except a portion to form a border at the edges. Grooves or channels, about one inch and a half in depth, are cut in the excavated hollow of the marble, somewhat wider at the bottom than the top, as a means of retaining the cement afterwards applied. The subsequent mode of proceeding is described somewbat minutely by Mr. Cadell, who witnessed the operations in Italy a few years ago; and to his account we will have recourse.

The early mosaic-workers used, as a cement in which to imbed the mosaic pieces, a mixture of one part of slaked lime with three parts of pounded marble, made into a paste with water and white of egg. But this paste is considered by the modern artists to barden too quickly, so that it solidifies before the workman has time to insert the pieces. It is therefore superseded by a mixture of one part of slaked lime with three of powdered travertine stone, mixed up with linseed-oil, and stirred and worked every day with a trowel; the mass is at first level on the surface, but afterwards swells up; each day more oil is added, to prevent it from becoming dry and intractable; and the mass, bearing some resemblance to a smooth ointment, is ready for use in a period varying from twenty to thirty days, according to the season of the year. The next point is the preparation of the

The next point is the preparation of the enamel pieces to form the mosaic. The materials, consisting of glass mixed with metallic colouring-matter, are heated for eight days in a glasshouse, each colour in a separate vessel. The melted enamel is taken out with an iron

spoon, and poured on a polished marble slab placed horizontally, and another flat marble slab is laid upon the surface of the melted enamel, so that the enamel cools into the form. of a round cake three-tenths of an inch thick. In order to divide these cakes into smaller pieces, each one is placed on a sharp steel anvil, called a "tagliuolo," which has the edge uppermost, and a stroke of an edged hammer is given on the upper surface of the cake: the enamel is thus divided into long square strips or prisms, which are cut to a length of nearly an inch. For small cut to a length of nearly an inch. For small pictures the enamel, while in a melted state, is drawn into long quadrangular sticks, which are divided across by the anvil and hammer, or by a file. Sometimes these pieces are divided by a saw without teeth, used with emery, and the pieces are sometimes polished on a lapi-dary's wheel. Gilt enamel is occasionally used : this is formed by applying gold-leaf to the hot surface of a brown enamel immediately after it is taken from the furnace, the two being made to adhere by a subsequent heating in the furnace. The colours of the pieces of enamels for producing a picture are extraor-dinarily numerous and varied. There is (or dinarily numerous and varied. There is (or was twenty years ago) a manufactory of mosaic pictures belonging to the Pope at Rome, situated in a large building southward of St. Peter's. In this building, the enamela, in the form of sticks about an inch in length, are arranged in a suite of rooms accord-ing to their tints; these tints are seven-tern thousand in number, all arranged in labelled drawers, boxes, and cases, from which they are withdrawn to be used by the artist very much in the same way as a compositor uses type for printing, the colours in the one case being somewhat analogous to the letters in the other.

The frame-work, the cement, and the enamels being thus all prepared, the artist pro-ceeds as follows :- The cement is laid on in small and convenient portions at a time, to the required thickness, and brought very smooth and level at the surface. The artist then, with the picture which he is to copy before him, selects one after another sticks of enamel of the proper colours, and imbeds them in the cement, taking them up and inserting them with forceps, and fixing them into the cement with a small flat wooden mallet, until their surfaces are level. If the effect does not please the artist, he takes them out and re-arranges them. The cement remains suffiarranges them. The cement remains suffi-ciently soft for a fortnight or three weeks, so that the workmen takes care to lay on no more cement at once than he can cover with enamel before it hardens. When one part of the picture is thus represented, more cement is laid on, and another part is done in a similar manner until all is enamelled. As there are likely to be minute crevices between the bits of enamels, they are filled up with powdered marble or enamel mixed with wax, which pe-netrates by having a heated iron passed over When the enamel has remained in its position two months, so as to allow the cement to harden, the upper surface is ground down and polished by means of a flat stone and emery—an exceedingly laborious process. Such is the mode in which the delicate

Italian pictures of mosaic enamel are produced, a mode necessarily involving a large expendi-ture of time and money. At the manufactory at Rome, to which allusion has been made above, mosaic-work is conducted on a large scale; the different materials are arranged in numerous apartments, from whence they are removed by the artists as occasion requires. Besides this establishment, there are many artists in Rome occupied in smaller works, such as pictures of birds, insects, flowers, and other objects not exceeding 2 or 3 inches scross; for such small specimens a frame-work or foundation of hardened copper is used instead of one of marble. As an example of the ex-traordinary minuteness of the work in some of these mosaics, we may state that there is one specimen, a portrait of Pope Paul V., in which the face alone consists of more than a million and a half of fragments, each no larger than a millet seed! and from this size up to 2 inches square, pieces are employed in various ways. celebrated specimen was one which nother Napoleon ordered to be made when his power was paramount in Italy. It was to be mosaic copy of the celebrated "Last Supper, be 🛔 by Leonardo da Vinci, and to be of the same

size as the original, viz., 24 feet by 12. The artist to whom the task was intrusted was Giacomo Raffaelle, and the men under his direction, eight or ten in number, were engaged for eight years on it. The mosaic cost more than seven thousand pounds, and afterwards came into the possession of the Emperor of Austria.

Such, then, is the mode of producing the delicate specimients of mosaic which are adapted rather for pictures than for floors or pavements. The latter are produced in a rougher way, with less costly materials, and in pieces of larger size. In most cases the separate pieces are called "tiles," and are made of prepared elay, though in other instances pieces of marble or stone are employed. Of the pavement before alluded to, as having been dug up near the East-India House, in Leadenhall-street, Mr. Fisher remarks:--"In this beautiful specimen of Roman mosaic, the drawing, colouring, and shadows are all effected with considerable skill and ingenuity by the use of about twenty separate tints, compowed of tesselike (cubical pieces) of different misterials, the more brilliant colours of green and purple, which form the drapery, are glass. These tesselike are of different sizes and figures, adapted to the situations they occupy in the design. They are placed in rows, either straight or curved, as occasion demanded, each tesselia presenting to those around it a flat side: the interstices of mortar being thus very narrow, and the bearing of the pieces against each other uniform, the work in general possessed great strength, and was very probably, when uninjured by damp, nearly as firm to the foot as solid stone. The tesselike used in forming the ornamented borders were in general somewhat larger than those in the figures, being cubes of half an inch."

The ecclesiastical architecture of the middle ages was one of the means of reviving the use of tessellated pavements; for many specimens of tiles, once used for this purpose, are from time to thme discovered in such buildings. A chequered flooring of black and white marble might be deemed a sort of mossic; but the specimens here alluded to were tiles, each of which had its own pattern, independent of the combined pattern which all might have presented when laid side by side. In the Norman churches it was a frequent custom to lay down such tiles as a flooring for the high altar, and before shrines: at first these tiles were irregularly shaped, and were formed of glazed brick or pottery, painted with some Scripture device on the surface; but afterwards the plan was adopted of using carefully squared pieces, so as to produce greater neatness of joint. Wreaths, circles, heraidle ornaments, and various other devices, were painted upon the tiles, together with griffins, spread-eagles, fleur-de-lis, &c. Various animals, such as the fox, the cock, and others, supposed to have had a symbolic meaning, were also adopted. It was long known to antiquaries that a mossic pavement existed in the Chapter-House at Westminster, and this was laid open to

It was long known to antiquaries that a mossic pavement existed in the Chapter-House at Westminster, and this was laid open to view a few years ago, when the tiles, each of which bore a particular device, were found to exhibit as brilliant colours as when first laid down, the sizes varying from about 6 to 10 inches square. At Little Marlow Priory, at Lewes Priory, and at Great and Little Malvern, other specimens have been met with. Towards the close of the last century the attention of antiquaries was directed towards a mosaic pavement found at Caen in Normandy, the separate tiles of which were supposed to be embliszoned with the heraldic bearings of the barons who accompanied William of Normandy to England. The pavement is supposed to have belonged to a building forming part of a convent or abbey built by William and to have covered the floor of a ball measuring 150 feet by 90. The tiles were about 5 inches square, made of baked earth. Eight rows of the tiles, running from east to west, bore the arms of William's followers, and between these were ornamental compartments of tiles, formed so curiously into a maze or labyrinth, that it is said the windings of the lines forming the figure or device in each compartment extended to a mile in length. Of the state of this pavement at the time of the French Revolution, Dr. Ducarel said, "Not-

withstanding these rooms have been used as granaries upwards of four hundred years, neither the damps of the wheat, the turning and shifting of the grain, nor the wooden shoes and spades of the peasants, constantly employed in bringing in and cleansing the wheat, have in the least damaged the floor, or worn off the painting from the tiles. The only injury this floor has received is the taking up some few of the tiles in order to open funnels through the floor for the more ready conveyance of the corn into the rooms beneath."

Tessellated pavements, like stained glass, have recently come again into fashion, in giving to ecclesiastical buildings a richness of decoration which has not been customery decoration which has not been customary during the last few centuries. Many such pavements have been laid down in churches within a recent period, of which one of the most notable specimens is in the Temple Church at London. This pavement was made Church at London. This pavement was made because, on renovating this ancient and beauti-ful building, it was found that a tessellated pavement had formerly existed there, which had for ages been buried beneath a pavement of another kind. The following is a description of the new tessellated flooring which has attracted so much the attention of the visitors to the Temple Church within the last two or three years :-- " The ground is a dark-red or chocolate, but so elaborately covered with the amber or yellowish ornaments as to make the latter the prevailing hue. The patterns form first, divisions of various breadth (the widest in the centre of the central avenue), extending side by side, from the entrance-door to the farthest end of the chancel. Within each division there is no alteration of pattern, but the divisions themselves, as compared with each other, present considerable differences. The two most striking are those next to the broad central one, where, as we pace along, we have the lamb on one side of us and the winged horse on the other, the emblems of the two societies ('Middle Temple' and 'Inner Temple') to which the church belongs. The former is founded on the device of St. John; the latter, it is supposed, on the poverty of the Knights Templars at the outset of their the Knights Tempiars at the outset of their career, when two knights rode one horse. Among the other ornaments of the pavement are a profusion of linked-tailed animals in heraldic postures; lions, cocks, and foxes; tigers, with something very like mail upon their shoulders; basilisks and other grotesques. There are also copies of designs of Anglo-Saxon origin, as figures playing musical instruments; and one illustrative of the story of Edward the Confessor, the evangelist John and the ring, a design which at once tells us from whence the materials for the pavement have been borrowed, viz., the Chapter-House, Westminster Abbey. The pavement formed by the tiles is as strong and imperishable as it is beautiful. The tiles are perforated all over with small holes in the under side; consequently, when they are laid in the cement pre-pared to receive them, and pressed down, the latter rises into these perforations, and harden-

latter rises into these perforations, and hardening there, binds the whole indissolubly together."-London, No. 102. The tessellated tiles of past ages were frequently, if not generally, called "encaustic" tiles, by which we are to understand (if the name be correctly applied) a kind of tile in which the device is in some way or other "burnt in," such being the meaning of the word "encaustic." Now, if the pattern were merely painted on the surface, and then burnt in or virified by the action of a furnace, the tiles would scarcely come under the denomination of mosuic or tessellated; and such seems to have been the case in many instances, so far as can be gathered from the descriptions. There was discovered, some years ago, near Malvern, an ancient Roman kiln, in which it is supposed encaustic tiles were baked. It consisted of two parallel arches about 35 feet in length, each 2 feet 3 inches wide by 15 inches high. These arches were composed of layers of brick and tile, and had a flooring composed of a less vitrifiable kind of clay than themselves. Below the floor was the fire-place, about 15 inches in height, and there was a flue at each end of the arches. Near the kiln were found several tiles similar to those in Malvern Church; and from this circumstance the purpose of the kiln itself has been inferred,

Whatever may have been the process followed by the early artists, the tessellated tiles now coming into use for pavements and floors are made by moulding and burning, but without any painting, properly so called. At the large porcelain-works in Staffordshire, Worcester, and elsewhere, this is becoming a regular branch of manufacture, and is conducted (in one of its forms at least) in a manner which we will now briefly describe.

The tessellated tiles are made of two differently coloured clays, one embedded in the other, and disposed so as to form an ornamental device. Three or more colours may be used by somewhat varying the process, but two is the usual number; and whatever may be the colours, the tile is first made entire in one colours, with a depression to be afterwards filled up with clay of one or more other colours. We will suppose the tile to present two colours, a yellow device on a brown ground. In the first place the modeller forms in stiff clay on evert model or repreforms in stiff clay an exact model or repre-sentative of one of the tiles, about an inch thick, cutting out to the depth of a quarter of an inch the depression which constitutes the device. When this is properly dried, a mould device. When this is property drive, a mean is made from it in plaster of Paris, and from this mould all the tiles are produced one by one. The ground-colour of the tile is that This This, which is adopted to cast in this mould. which is adopted to east in this mould. This, which we suppose to be brown, is mixed with water to a stiff consistency, and pressed into the mould by the aid of the press. On leaving the press it presents the form of a damp, heavy, square tile of clay, with an or-namental device formed by a depression below namental device formed by a depression below the common level of the surface, as in the ori-ginal model. The next stage is to fill up this depression with the yellow-coloured clay, so as to bring both colours to a common level. To effect this the yellow clay, so far from being made stiff like the first, has a much more fluid consistency. The tile being laid on a bench, the workman plasters the y llow clay on it by means of a kind of trowel, filling up every part of the depressed device. When this is completed, the tile is allowed to remain six or eight weeks, to dry gradually, as a displacement at the joints would occur if the outer surface became quite dry when the interior was yet wet. Each tile is next scraped all over the surface with an edge-tool, till the superfluous portion of the second clay is re-moved, and the two clays be rendered properly visible, one forming the ground and the other the device. In this state the tiles are put into a kiln or oven, where they are baked in a manner nearly resembling the baking of earthenware or porcelain, the degree and duration of the process having especial reference to the kinds of clay used. Here a point is involved which calls for much attention on the part of the maker. As one of the clays is used in a more fluid state than the other, it would, under most circumstances, contract to a greater degree by heating; but the selection so made that, notwithstanding the difference of consistency in the two clays, they may con-tract equally, and leave no unsightly gaps at the joinings. When the tiles are sufficiently baked, they are cooled gradually, and then dipped into a vessel of liquid "glaze," in the same manner as articles of porcelain. After this they are exposed for twenty-four hours to the heat of a "glazing-oven," by which the gluze is made to adhere to surface, and the tiles then appear with whatever ornamental device may have been designedly given to them them.

HOLBORN AND FINSBURY SEWERS.

THE result of the last meeting of the commissioners for Holborn and Finsbury was rather unusual. All the tenders sent in for the Gray's-inn-lane sewer exceeded the surveyor's estimate very largely, and neither was accepted; and for the Charlotte-street sewer, (Bedford-square) 3,400 feet long, estimated at nearly 4,000*l*., only one tender was sent in and this was returned unopened. The following is a list of the tenders for the Gray's-inn-lane and Liquorpond-street sewer, 800 feet in length :--

| Eldred | £1,186 |
|---------------------|--------|
| Cooper | |
| Hill | |
| Ward | |
| No tender accepted. | |
| Digitized by | Google |

CONSTRUCTION OF ICE-HOUSES.

Sin, Will you allow me to ask a question, through the medium of your year, useful paper, in which questions and answers from time to in which questions and answers from time to time from verious subscribers, form Argincon-siderable part? In the month of January last I built on joe-house at the back of mycellar, which is under ground, huilt and arebad over with 14-inch brickwork, the door opening into an area. On extravating for the ica-house to about the depth of 19 feet, I found a spring of water, which I thought would be available for the house. I carried the excavation down to the depth of 30 feet, steined the well with Sisch brick-work, and formed a door of feet up from the work, and formed a lieosolisident up framithe bottom (the height of the water being 9 feet); the floar was of la inch plank, perforsted with holes to lead any water from the ice into the well. Before filling, A with thick is, 1 put on a layer of straw ever the floor of the house was built and domed over with 9 ight bricks. was built and domed over with 9-inch brick, work, and well compo'd inside and outside, with 3 feet of earth on the top. Six feet under the dome, a little above the sellar floor, I inserted a cover of 13 inch mank, with man-hole, and had an inner, and patters down, heading into it from the cellar, also, an outer cellar-door: but notwithstanding all these precau-tions the ice has disappeared. If should feel much indebted to say of your readers by their informing me in what yay I have erred, and what remedy I can adopt to prevent a recurwhat remedy I can adopt to prevent a recu rence.—I am, Sir, &c., A SUBSCRIBER. Paddington, July 3, 1845. ecur-Tence.

• No ice could possibly remain in such a

receptacle, as the water in the well would speedily reduce the ice to its own temperature. Our correspondent must get rid of the water-well, - introduce an additional wall all round the inskin of the house and over the floor (keeping a spara between), and provide means for carrying off such water as may be produced by the melting of the ice, without the risk of intro-ducing air. There should be at least three ducing air. I here should be at least three doors, and the space between two of them should be alled with straw. The greatest care is requisite in the construction of ice houses to prevent the access of heat.

008.9 INON AND THE IRON TRADE.

THE were held last week at Wilsell on Tuesday ; Wolverhampton on Wednesday ;

Birminghara, op. Thyreday; Stourbridge on Friday, and Dudley on Saturday. During the dast quarter some houses had re-threed the price of har iron from 101. to 81. per tan, and k size arranged at the Birming the meeting that a general reduction to the last quoted price should be made of a way, hawaver, weeved; is accordinct with the trust practice; that the final confirmation of the reduction should emanate from the Budley meeting, and at the close of the basiness hast Saturday, the prices were declared as follows - bar iton St. per ton; pigs from Bl"POs."ta'4."per ton; How long they will remain at the reduction is uncertain, but there is no great danger of a sudden advance. The fluctuations which a sudden advance. The fluctuations which have latterly taken place have been of considerable embarrassment to the trade, and rendered is very difficult for the manufacturer to know how to purchase. The general impression is that $\mathcal{B}(\kappa)$ is a remunerative price, and the masters being well aware, that the manufac-ture scannot compete with the foreign market vancing they pay a higher price for the inter-if they have to pay a higher price for the ing in the material will we the input in the input of a main ad-vancing the prices adless under some very extraordinary offermistances.

extraordinary bill combinades. "While on the subject of tron, we would men-tion that at the late meeting of the Britten Association," at Osmbridge, Dr. Lyon Playfahr reads report, prepared by Professor Bunsen, and himself, on the chemical changes occurring in iron furnaces. Buring meny years the atten-tion of scientific men on the Continent/had been directed to the employment as fael of the combustible gases that escape from the mouths of furnaces. Dr. Playfair and Professor Builfrom different heights of the furnace, and gave tabulated results of their analyses, the results of which were that for a depth of 24 feet down the body of iron hot-blast furnaces worked with coal there is no available heat for the melting of the metal, the

THE BUILDER

whole, of the heat for that extent of the furnace being employed in distilling the coal. The important fact which they established by their experiments is, that in common hottheir experiments is, that in common hot-blast furnaces, as at present employed, ninely-one per cent. of the heating power of the fuel is lost; that is, only nine parts out of one hundred are effective, the remaining portion being carried off in gases. It was proposed, therefore, to collect the gas as it issues from the furnace mouth, and to employ it usefully in various parts of the works, though they did not recommend the re-introduction of such not recommend the re-introduction of such gas, into, the, furnace, for, smelting the metal. Dr. Playfair said that these researches had led Dr. Playing said that these researches had led, them to the consideration of a new system of manufacturing, iron, which would produce a complete revolution, in the present mode, but they had not had aufficient, time to digest the plan to authorise them to recommend it to the sanciation; if would form the subject of their labours for the pert year.

NOTES FROM THE PROVINCES.

It is in contemplation, at Yarmouth, to en-large and restore St. Nicholas' Church, and to convert the remains of a priory on the south side of the churchyard into a national school. The estimated expense is between 4,000*l*, and 5,000*l*. St. Nicholus' Church, to an ordinary observer, appears little better than a dilapitated disproportioned and unsightly erection, but to the eye of the antiquary it presents beauties and attractions of no ordinary character. It is one of the oldest parochial edifices of the kind in England; a great peculiarity, and one in which it perhaps stands alone amongst the churches of Christendom, is in having its nave considerably smaller than the sisles, both in regard to length and breadth. The remains of the priory are now being used as a stable. They still contain two very beautiful windows and other specimens ancient ecclesiastical architecture. Many of the corbel beads have been removed only within a very few years. Mr. Hakewill is the architect. The principal difficulties con-nected with the Woodhouse tunnel, on the Sheffield, Ashton-under Lyne, and Man-chester Railway have been overcome. From Shemeld, Ashton-under Lyne, and Man-chester Railway have been overcome. From the mouth of the tunnel to a little beyond the first shaft there is upwards of 1,200 yards completed, being arched, having side drains and the rails laid. Between the first and second shafts the arching for a considerable distance is finished. The whole of the exca-vation is completed with the exception of about 300 yards. The depth of the first shaft is 183 yards, and of the second 193 yards. The highest point of ground under which the tunnel passes is situate between the third and fourth shafts, and is 536 yards above the level of the sea at low water. The York and Scarborough Railway was opened on the 7th instant. The directors and their friends started from York, after partaking of a splendid breakfast in the Town Hall, in 36 carriages, each containing 18 persons. Near to Castle Howard the train stopped to take up Lord Morpeth, who had provided refreshments for the occupants of the provided refreshments for the occupants of the train. After remaining a short time at Scarborough the company returned to York, and dined at the Town Hall. — During the past winter the beautiful grounds adjoining Alton Towers have been greatly im-proved under the direction of Mr. W. A. Nes-field. The upper terraces and slopes have been decorated with groups of marble statues and colorast marble vaces interpresed with an colossal marble vases interspersed with rose trees and beds of exotic flowers. The growth of the trees, particularly the evergreens, were beginning to hide the architecture. Many of these have been removed, and the beautiful these have been removed, and the beautiful stone work of the scalleped walls and vases are brought to light again, and stand out in bold relief, against the rich background of forest, trees. The Earl, and Countess of Shrewabury permit the bouse, with its gal-leries of paintings and works of art, as well as the gardens, to be shewn to respectable per-sona, who can obtain cords for admission on who can obtain cards for admission on sons. engaged in improving the senatory condition of their town. The sewerage has been disgracetheir town. The sewerage has been disgrace-fully neglected for many years. A capacious reservoir, 30 yards long and 4 feet in depth, has been found to be full of filth, it not having been cleared during the last 30 years.

LIST OF NEW! HANDING THE TING TO ARCHITECTURE, ENGINEERING, GRANTED FOR ENGLAND. Sec.

Furnished by Mr. A. Prince, of the Ofice for Patente of Japontions, Lincoln of the Ficher, Lincoln, 810

Terx MONTHS YOR ENDOLWENT I' of bas

Cornelius. Whitehouse, of Wolverhamping, gun-barrel manufacturer, for improvementation. machinery for welding and hammering and int the manufacture of gun barrets And others tubes. June 3. an the star bezu senote eds william (Casten a Aitken alof Biffingerensi

William (Cneten) Aitken (1019) Birmingham; clerk of works, for a sextain improvements in (1017) and (1019) and (1019) ends for seven to in (1017) and (1019) and (1019) and (1019) ands and certain other articles. June 4, 5100) (John, Lionel. Hood, of Saint John's Woods) gentleman, for improvements in the application; of mativa pewers for (locomotive) and (1019) perposes (Reing a communication), Jane An William (Brent Brent; of Gowsets trains) Badford squares (barrister at lew, for (german) Badford squares (barrister at lew, for (german)

improvementado machinery for cutting or the cutting of the second state of the second vessels on canals and rivers, which improve-mente wre also applicable to an acting in generat, Jane & in succession and large

William Palmer, of Sutton-street, Old & car well, manufacturer, for improvenients in worker ing 'armospheric vailways;" and in Subficients railway and other machinery." But is final and Henry Kerr, of Abingdon; Berkes, Bitcher, for certain improvements in the constitution of temporary note or constitution

for certain improvements in the constant of temporary roofs or coverings. June 5. James Harday, of Birmingham, gentleman, for improvements in the manufacture of me-tallic tubes. or pipes, by machinery. June 5. tallic tubes, or pipes, by unschinery. June 5, William Willocks Sleigh, of Staimford Brook House, Chiswick, doctor of medicine and surgeon, for a hydro-mechanic apparatus

for producing motive power. (Colonies only) June 7.

Sancel Harvey, of Haleswitts? in the county of Suffolk, cabinet maker, for cer-tain improvements in sawing machinerin June 7. David Henderson, of London Works, R.

few, civil engineer, for certain improvements

Thomas Smith, of Wood-street, Cheapside, gentleman, for information suspending carriages, and in the construction of wheels

carriages, and in the construction of wheels for carriages. June 10, 10, 403, 303100 . Frederick, Rosenborgs, of hingston-spon, Ikul, gontianen, for improxyments in the ser rapgement or construction in the series apparatus for propelling, og impelling, weine and, in steering, ut i manieur the one space

June 12. Thomas Clark, of Hackney, http://www. Thomas Clark, of Hackney, of Hackney, oppinger, if an improvement on the admontheric average propulsion, which is an oppinger, opping motive purposes. June 24 admontheric average Robert, Grifficha, of, Havye, fragme, it enters Bolville, of Alillwall, and Grang, it enters Bolville, of Alillwall, and Grang, it enters the the

Bristol, engineers, for improvements in the construction of parts, of apprairus, und for propelling, carriagea, and wasses by the transfer and a sor propelling, carriagea, and wasses by the transfer and a sor propelling, carriagea, and a sor provements in the sort of th

provements in atmospheric railways, June 26 William Sykes Ward, of Leeds grant Reman, for improvements in exbausting air from mber or vessels for the purpose of working stm heric, railways, and for other, purpose

mont-square, engineer, far improvemente in obtaining motive power by air, in the 20 and Charles, Goodwin, of Bow-mneysbipene

brachtenie eichthaussprogramit nietnes alterite space ficerten, eicennen, solla sput sage

ACCOUNT OF THE PARIS OF STORES AND A COUNT OF THE PARIS OF STORES AND A COUNT OF THE PARIS OF STORES AND A COUNT OF THE Rev. F. Wrench has habit and a brocknet ander this head giving an account of the antiquities lately discovered there, which are considered to be Anglo-Saxon, and of the sixth of seventh centary. Mr. C. Rosech Smith, in a note on these relics, suggest that excavations for railroads about to be inside the text will probably bring the discovered there will probably bring the discovered to be inside the second to be inside the discovered to be inside the discovered there will probably bring the discovered to be inside the discovered there will probably bring the discovered to be inside the discovered to be inside the discovered to be inside the discovered there will be the discovered to be inside the discovered the discovered to be inside the discovered to be inside the discovered the discovered to be inside to be inside the discovered there are discovered to be inside the discovered the discovered to be inside the discovered the discovered to be inside the discovered to be discovere in Kent will probably bring to 'light many antiquities of different 'epochs, to 'light many which every man of good taste and feeling should exert himself.' Boundary vibeling

+ J. R. Smith, Old Compton-street.

OT DNIT EQUICADONDENCE. ັ້ມຄ EERING.

PBEVENTION OF DAMPNESS.

Bin, In the spripg of 1844 I built my house, Sis, In the spring of 1844 I built my house, and in the office, in an 18, inch rough stone wall, had a large iron safe fixed, which has a well'in the large iron safe fixed, which has a well'in the large iron safe fixed, which has a well'in the large iron safe fixed, which has a well'in the large iron safe fixed, which has a well'in the large iron safe fixed, which has a well'in the large iron safe fixed of the floor of the which 'he below' the level of the moor of the room!" Brwas remarkably fine during the pro-gress of the whole building, and great part of the stones used were old ones, 'yet, although it Brows Billeen' months since, 'if I close the dubing for a week may books begin to monity store a week they books begin to monity doors' tor a week, my broke begin to mould, and I'llave accordent able to keep any thing id influe well, which is covered with rast. Could you well, which is informing me how I Could you only a me by informing me how i only remedy this serious inconvenience without removing it; is: its front reaches from the builden to nearly the top of the round; and is, moreover, set in large Porthaid somes; which rdn's a considerable distance into the wall; and could not be removed without? great treatly reme with the interference into the series of and expended "I thought it applied to the sound means might be suggested; that if you ean attra means might be suggested; that if you ean attra means might be suggested; that if you ean attra means might be suggested; that if you ean attra means might be suggested; that if you ean attra means might be suggested; that if you ean attra means might be suggested; that if you ean attra means might be suggested; that at the suggest attra means at the suggest attra means at the suggest of the suggest at the suggest at the suggest of the suggest at the suggest at the suggest of the suggest at the suggest of the suggest of

the second start the second start which is the second start the second start is the se at eff off a Anves, at, different times, received several communications on this, same subject, but without an requisitance, with the *locus*, in gan the it difficult, io, suggest a remedya. We shall by happy to bear the opinion, of corres-pondents. An an expedient a lining of slate, logging, at a start distance, from the sides, bottom, and some of the sate might be reserved to.

June 5.

thamselves the different stories of the building with bricks and mortar. A labourer, told me that he was more fatigued going up, one day, by the ladder than he was three on the included

a Stord attet, Cheapside.

COLLEGE FOR Civil "Encineres, Pur-Met. The anould detribution of prizes was made here our "Tresdey last." The Hon. R. B. Howard took" the chair, but ultimately re-signed is too the Earl of 'Devon." The Rev. Morgan Cowie, principal of the college, in his proof on the general conduct of the todatt bthers, most various and extended in its ope-rations and effects from one side of the earth to the other. He, therefore, considered that the best way of qualifying the stadents was to give them is sound therefore, considered that the ground works of which was mathematics and elientwiry: "The popils were taught by models, and many of them made models themselves re-quiring great skill and experience in their ex-station." They were also occupied in leveling and the wying; "Ecompanied by an experienced pursue in these branches; who could point out the index platter what ever difficulty might arise's 'He's fact, 'they ald lexactly what they to is the first off off the state of the sta branch of learning necessary to complete the education of a centleman, and an engineer. I.M. all, these departments Mr. Cowie could say with much pleasure, that the progress of the students had been in general very satis-

the students: DAU, UPVH, AND BOUNDARE, The factory. In HE NEW PALACE AT OPBORNE. The works are proceeding rapidly under the special apper vision of the Queen and Prince Albert. The new wing will be about 70 feet square, and similar in character to the eastern front of Orborne, House. Her Majesty and suite unexpectedly attended divine service at Whip-ning ham church during their last visit. האונגלי לימי לטיצט בנוצא איי

THE BUILDER

CITY IMPROVEMENTS. — At a Court of Common Council recently held, "Mr. R. L." Jones brought up the report of the London-bridge Approaches Committee, to whom it was referred to examine the allegations in the network of the tikehitteit of the courts data. was referred to examine the anegations in the petition of the inhabitants of the north side of the ward of Farringdon-without, for the com-pletion of the improvements at Farringdon New street and Holborn-bridge, with instructions to report their opinion upon the expe-diency of carrying out those proposed improve-ments. It stated that the committee had viewed the new line of street, and the projecting houses on the north side of Holborn-bridge, and directed the clerk of the works to report his opinion as to the estimated value of report his opinion as to the estimated value of those houses, and also to report the probable amount of the cost of the improvement, det ducting the value of the surplus ground which they had subsequently received reports from the clark of the works, from which it appeared that, exclusive of law charges, the probable cost of completing the line of improvement at Holborn-bridge, after deducting the value of The surplus ground, would amount to 14,500%. That the committee having dily considered all the circumstances, were of opinion that it was desirable for the City to complete the line of improvement at Holborn-bridge, by pur-chasing and setting back the said houses, pro-vided suitable means and powers could be obtained for that purpose; and they were further of opinion that an opportunity would at the same time he afforded for effecting an addi-tional improvement of Holborn-hill. The committee, therefore, felt it their duty to draw committee, therefore, felt it their duty to draw the particular attention of the court to the pro-priety of taking measures to carry out these objects, and they recommended the same ac-cordingly. That they had caused the vaults to be constructed on both sides of Farringdon-timest and had already lat elsewn of the late street, and had already let eleven of the lots street, and had already let eleven of the lots of ground in that street on building leases, and were taking measures which they trasted would ensure future lettings, so that the whole of the improvement, so far as the City was concerned, might be completed without delay, and that they were the more strengthened in that opinion in consequence of the measures in progress for carrying on the new line of street progress for carrying on the new line of street in the county of Middlesex.

Reputtion in the Paice of Gas. The Chelmsford Gas Company have resolved to reduce from Michaelmas next to those who burn with meter the price of gas from 10s. per 1,000 feet (the sum hitherto paid) to 8s. 4d. They have also determined to allow 10 per cent. to those whose consumption in the year is 40,000 feet and inswards thus in effort hower. cent. to those whose consumption in the year is 40,000 feet and upwards, thus in effect lower-ing, the price to 7s. 6d. per 1,000 feet. The Barnsley Gas Company have agreed to reduce the price of gas from 9s. to 7s. 6d. per thou-sand cubic feet from the 1st instant. The sand cubic feet from the lat instant. The Birmingham Old Gas Company have given notice, that from the present time the price of gas to consumers under 5,000 cubic feet per quarter, will be 6s. 8d. per 1,000; to those consuming upwards of 25,000 cubic feet per quarter, 5s. 8d., and to consumers above that quantity 4s. 6d. per thousand cubic feet. New Schools AND CHURCHES IN Science.

WARK .--- In consequence of the great want of schools and church accommodation in Southwark and the adjoining parishes of Bermondsev, Lambeth, and Newington, a committee has been formed for the purpose of raising funds by subscription to be applied towards the erec-tion and endowing of several additional schools and churches in those districts." Her Majesty and churches in mose districts." Her Majesty has contributed 2002., and Prince Albert 1002. The Archbishop of Canterbury Fives 1,0002, and the same annown is subscribed by the wealthy brewers, Messrs. Bardlay, Perking, and Co. The contributions stready amount to opwards of 11,0002, and 2005 stat south

THE QUEEN'S PAVILION, 'Bocktoophile's and of the pavilion are now completed in presents of the pavilion are now completed in presents the from noticing them this, week, but we shall do sh in our noticing them this. and shall then be able, we trust, to remove on or two misconceptions which at present possess the public mind.

THE HOME MINISTER'S ELECTRIC TERS. ORAPH.—A metallie wire, for establishing a communication between the electric telegraph of the Rouen Railroad and the ministry of the interior, has been carried along the water-courses and under the Pont de la Concordo to the minister's offices .- Monthing paper.

CONSTRUCTION OF TE-HOUSES.

TENDERS delivered for the crection, of Two Warchouses in Montague-trose, London-bridge, for Alderman Humphery; Mr: T. Grinth, Archiv tett. 2010 2001 1000205 bas courses do a

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Tenders for the crection of Dwelling-house and Tenaers for the erection of Bwennig-house and Furin-buildings for F. Tucker, Esq., at Bour-ting heir Shiriwahining Berks, July 3rd, 1865. At the office of the Architect, Mr. W. F. Ordish, John street, Addipin. 1970 Dannes Date Statistics

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Kor Agnung me nymm r the Bloomsbury-street, For Building Savera from Bloomsbury-street, Holborn, along Charlotte-street, the east side of Bedford-square, and Gowet-street, with a branch Sewer along Store-street, the length being about 3573 feet with 1430 feet of gully street and 2380 feet of brivate drams.

3573' feet with '1430 feet of' gally street and '2320 feet of' jirlväte dialnig's sol terroring of word "For supplying her 'Majesty's 'second Dockyards with 'stride evolution' Gliss Invalues, crowel glass and green glass 'in tables!' and window Londy and glass filternais ord and values 210 s vag of 9 rost void it 'bron agrants alteristics of the pretaines (forses) the v Pest-Office); in a Geomerstruct of Burgonski Edmunds, and for a New Majesty's assessed. Dockyards with 'aron agrants and tables. A share of the pretaines in the start of the start of the start of the pretaines in the start of the start is chosen by the start of the start of the start of the elmonds, and for a New Majesty's assessed. Dockyards with Canada Rad and Kalays. Fine Timber, Rage Elmo, Timberg, Sprice, Deales, and Ash. Oar, Ballega.

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ai APPROACHING SALES OF WOOD, see and the second se and Pine Battens.

At Little Bentley Hall, Essex: 2000 particu-larly straight and good Larch Fir Trees in lots of from 10 to 20 trees.

COMPETITIONS.

Plans are required for Laying out and covering with Villa residences about 20 Aeres of land having a frontage of about half-a-mile to the Queen's-road Richmond, Surrey, extending from Spring-grove towards Richmond-hill. Premiums will be given of 25 guineas for the most approved plan, and 15 guineas for the second.

TO CORRESPONDENTS.

"Humanitus" draws attention to the open sewers in the neighbourhood of the Vauxhall-road and Pimlico, and urges that houses there remain unoccupied in consequence. "A Carpentor."—We will endeavour to supply him with the information he wiskes to have. "J. W."—Hilch's Drein-brieks may be ob-tained at Lindsey Wharf, Chelsea. "W. S. P."—The sum named would hardly suffice to provide the accommodation required even

suffice to provide the accommodation required even in the plainest manner. We should advise our correspondent to appoint some architect to prepare plans for approval. We should be happy ourselves to do so if applied to professionally; or would

plans for approval. We should be happy ourselves to do so if applied to professionally; or would give any information that might be desired. "T. W., (Islington)."—" Cornices to overhang-ing roofs" (unless building be insulated) must be built of the same materials as are by the Act directed to be used for building the external walls to which such projections belong, or of such other proper and sufficient materials as the referees may permit.

"Cube Dimensions."-" X. Y. Z." wishes to know the title and publisher's name of any work containing tables showing at a glance the cubical contents of bodies of which the dimensions are given: also, tables of superficial contents. "Credence Table."—A correspondent wishes to

learn if there be an ancient credence table in any church in London? We do not know of one.E. dc B."—The Act establishes that a fee of

11. 1s. shall be paid to the district surveyor for every "insulated" building erected. The drains

every "insulated" Duntaing c.c. would come under his supervision. "A. A."—Thanks.

"B. C." — The suggestion shall not be lost

"B. C. sight of. "Workmen at Paddington." — "J. L. G." "Workmen at Paddington." — "J. L. G." states that the way in which the ill-will to each other is shewn by workmen, particularly the plas-terers, at Paddington, is deplorable; mouldings and cornices are destroyed, and other injury done. He refers for an example to a balustrade wall in Westbourne-terrace, which has been recently erected. It is to be hoped that the police will keep a sharn look out, and meems be taken to detect and erected. It is to be noped that the points and point and means be taken to detect and punish such miscreants. "G. H."—The paper on railway curves shall

appear next week. "F. T."—We shall be happy to receive the paper mentioned, but should not be disposed to in-

paper mentioned, but should not be disposed to in-sert any violent abuse. "P. P." — Building operations are about to commence at White Knights, Reading. Land may be had for single houses. Received: "W. S.," — the Ecclesiologist, No. 4., new series.—"F. G. A."—"Q. Q." "Appeal in favour of the Warder and Statesman Fund."

ADVERTISEMENTS.

G.'s TRACING-PAPER.—It is warranted to take Ink, Oil, or Water colour, and is sold by MESSRS. ROBERSON AND CO., SOLE AGENTS, SI, LONG-ACRE, at the following each prices:-THIN TRACING-PAPER. 60 by 40, st 141. 0s. per Ream, or 15s. 0d. per Quire, 40 by 30, st 71. 0s. , 7s. 6d. , 30 by 20, st 31. 15s. , 4s. 0d. , 1 THICK TRACING-PAPER. 40 by 30, st 141. 0s. per Ream, or 15s. 0d. per Quire, 30 by 20, st 71. 10s. , 8s. 0d. , N. B.-Every sheet is stamped with the Initials of the Manufacturee.

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books, containing more than a thousand executed designs. Price 1. PICTURE FRAMES and other Articles of Furniture, either gilt or in imitation of the finest carved oak. An illus-trated Tariff forwarded on the receipt of eight post-office stamps.

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At the works, 15, Wellington-street North, Strand.

BUILDER. THE

TO ARCHITECTS AND SURVEYORS.

THE VESTRYMEN OF RICHMOND, SURREY, are desirous of obtaining PLANS for lay. ing out and covering with Villa Residences about 20 acres of Land having a frontage of about half-a-mile to the Queen's-road, Richmond, extending from Spring-grove towards Richmond Hill, and within a few minutes' walk of the Terrace there. The Plans will be expected to include the laying out of grounds and suitable offices, but it is not expected nor re-quired that the elevations shall be uniform. — PREMIUMS will be given of TWENTY-FIVE GUINEAS for the most approved plan, and FIFTEEN GUINEAS for the second.— Lithographic plans of the ground and further particulars had on application to Messar. SMITH and SON, Solicitors, Richmond, to whom the designs are to be sent before the 14th day of August next. THE VESTRYMEN OF RICHMOND,

PBIZES IMPORTANT TO INVENTORS AND PATENTEES.

A GOLD MEDAL, value 100% and a SILVER MEDAL, value 60%, will be given by Mr. M. JOSCELIN COOKE. The Gold medal for the best Patent, and the Silver medal for the best Design taken out or Registered at the OFFICE for PATENTS and DE-SIGNS, 20, Half-Moon-street, between the 1st of November, 1844, and the 1st of June, 1846. The Prizes will be awarded by compatent jadges on the 10th June, 1846. The conditions to be observed, together with instructions, charges, and every information to Mr. M. JOSCELIN COOKE, at the Office for Patents and Registration of Designs, 20, Half-Moon-street, Piccadily, London.

WINDOW GLASS, MILLED LEAD WINDOW GLANS, MILLED LEAS, and COLOURS, Pumps, Closets, Pipe, Basins, Brushes, Dry Colours, Ground ditto, and all materials at the lowest wholesale prices for cash. Crown sqr. not exceeding 12 by 10, 3d. per foot. Sheet squares, not exceeding 13 by 10, 5d. per foot. White Lead. Milled Lead cut to size. Pan Basina.

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Warranted Varnishes. Work, &c. Superior Spruce Oker, for Plasterers and Painters, at Gs. per cwt. Gilders, Print Publishers, Ficture Frame and Cabinet makers supplied with patent sheet, plate, and sheet, and flatted glass of superior colour, and carefully selected. SURVEYORS, CONTRACTORS for PUBLIC WORKS, and the TRADE generally, sending specifications of quanti-ties required, will receive by r.turn of post an invoice at the very lowest cash prices. — For complete lists (priced) apply to B. COGAN, S. Princes-street, Leicester-square, London. Also may be had, Wholesale and Retail, LAMP SHADES AND GAS GLASSES. Gas Contractors, Fitters, Glass Merchants, and others supplied with any description. Lists of nearly 100 patterns, with prices affixed, sent to any part of the kingdom gratis. CLOCK MAKERS, ALABASTER FIGURE MAKERS, ARCHITECTN, MODELLERS, and others, supplied with FRENCH ORNAMENT SHADES, for covering Models of Public Buildings, Geological Curi-osities, &c., &c., of all sizes and shapes. List of Prices may be had on application. Bee Glasses, Striking Glasses for Nurserymen, Fish Globes and Confectioners' Glasses,&c., of every size and description.

POLONCEAU'S POLONCEAU'S BITUMEN PAVE-MENT for paving Foot walks, Terraces, Gandan walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Boofing Dwell-ing Houses, Porticos, Balconics, and Sheds. Price 33: 6d. per square yard. BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 16, Wharf-road, City-road. BITUMEN

BASTENNE ASPHALTE and BITU-MEN COMPANY, Offices, 31, Poultry. The Directors of this Company beg leave to call the atten-tion of ARCHITECTS, BUILDERS, and others, to the very beneficial results attendant on the use of BITU-MEN in the erection of buildings, &c. Its application as a FLOORING will be found eminently useful. It is also valuable for numerous other purposes, more par-ticularly where the object sought for is the EXCLUSION OF DAMP AND VERMIN. The Directors beg to refer to the works in Trafagar-square, which have given general satisfaction. Scale of prices per foot square :-- inch thick, sd.; § inch thick, 7.1; § inch thick, 6d. Works not mea-suring 400 feet, 1d. per foot extra. Roofing executed at 6d. and 7d. per foot square. Concrete is charged in addition according to the thickness when required. Carriage and men's time are charged extra when works are executed beyond three miles from the General Post-office. Bitumen 26 per ton, without grit. Bitumen 25 per ton, with grit. CHARLES F. TILSTONE, See.

TO ARCHITECTS.

TO ABCHITECTS. In consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the Savase Laspatters had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

SEYSSEL ASPHALTE has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Cla-ridge's Patent," and not merely "Asphalte," or "Bium-men," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARELL, Secretary, Stangate, near Westminater Bridge, Jan., 1845. Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

¹⁰ The builder, ¹⁰ and ut an Bootschristh Town and country, ⁹ a⁶ In proof of the necessity of the above advertisement, it may be mentioned, that it has soome to the knowledge of the Directors, that in certain works which have been executed by Messrs. Curtis, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Expressly mentioned, that Callings's Asplants was to be used. In the case of a work at Lewisham executed by MESSRS. ROBERT and DANIEL YOUNG, of 16, Crown-row, Walworth-road, where Seysel Asphalts was apecified for, a spurious article was neverth cleas laid down by them.

WESTERN PROVIDENT BUILD. WESTERN PROVIDENT BUILD-ING SOCIETY for enabling persons to Build or Purchase Freehold or Lesaschold Property on the security of such property. The next Monthly Sale of Shares will be held at the City of Westminster Literary. Scientific, and Mechanics' Institution, 7, Great Smith-street, Westminster, on Wednesday, July 30, at Eight o'Clock processery. The shares will be put up at 47% premium, and the termination of the Society is fixed by the laws to take place in 1664. Fall information may be obtained of Mr. G. DETHBIDGE, 1, Broad Sanctuary, Westminster (opposite the Hospital).

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CAEN STONE. L UARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwick.-Further putch-lars at Mis. G. GATES', 18, SOUTHWARE.SQUARE, SOUTHWARE.

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Registers with Inside Backs 7d. per fuch. HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and yertical ornaments; drains, many sizes, with plain or sealet joints; paving in squares, heragons, octagoos, &c., dif-ferent colours; roofing, in Grecian or Halass styles, scher devices also, or plain; conduits, which do not injures pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, ethimney-tops; sloo tubular and other flues of peculiar material. No agent, but a depôt at \$2; WHITEFRIARS-STREET, FLEET, to supply genuine TERRO.METALIC goeds at far yelces as per quality; also, additional Stock at No. 4 Wharf, Mac-clesfield-street, South, City Basin. The TILERIES, TUNSTALL, STAFFORDORIES, are near the centre of England, whence boats are and sizes to any inland place; or to the Mersey for the coarts, the solo-nies and elsewhere. A INSLIE'S NEW IMPROVED PA.

nics and elsewhere. A INSLIE'S NEW IMPROVED PA-TENT DRAIN TILE MAKING MACHINE. Gentlemen interceted in precuring first-rase quality of drain-ing tiles at a cheap rate will find the above worthy their at-teation. It is portable, can be worked by hand or any power, producing tiles only of first class, and in any number, from 5,060 to 39,060 per day, or in proporties to the power applied. All small stones are crushed in the process, and a constant stream of tiles is kept up. It may be seen daily at the Polytechnic Institution, Regent-street, or at Mr. In Scotland, at Mr. Lawrence Hill's, civil engineer, Buchan-street, Glasgow ; Mr. James Slight's, engineer. Curator of the Highland Society, Leids-walk, Reinburgh, where particulars may be had ; or from the subscriber, JOMM ALNSLAE, Al-perton, Acton, Middleser.



SATURDAY, JULY 26, 1845.

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LL England has been railway mad,—perhaps it is so still; and the present session will be remembered by many members of the lower House as the session of "hard

lines." From the office-messenger at eighteen shillings a week (we speak what we know), to hereditary legislators, men of all grades have been dabbling in shares, and we might say, women too; for one distinguished peeress, until this time better known at Almacks' than in the share-market, made 30,000 good pounds by guessing cleverly, what lines would be favourably reported on by the Board of Trade. To put down the *roulette* tables at Epsom may be very desirable, but there are larger gambling-booths at home, where Home Secretaries intrude not.

Men without money, but with a friend in the "direction," have obtained large allotments, speculating on a rise, and generally with success; indeed, up to this time, it seems tolerably certain that all have benefitted. Let us hope that before "calls" are made, the shares generally may have passed into the hands of men who really have capital to invest, and that thus the difficulty and distress which must otherwise be anticipated may be avoided.

The excitement in which thousands have been kept for several months past, first by the reports of the Board of Trade, then by the discussion of the general questions (the advantage or otherwise of the atmospheric system, and the relative merits of the broad and narrow gange), and ultimately when reported on favourably by the special investigation of their own particular scheme before committees of both Houses of Parliament, - can hardly be described. The money spent in this latter stage must have been enormous (by some of the lines. it is said, as much as 1,000%. a day); and all but those personally advantaged by the expenditure must agree in wishing that some less wasteful mode of proceeding could be adopted.

In the course of a recent forced confinement in some of the committee-rooms, we have been led to cry shame on the undue advantage taken by landowners who possess influence, and have used that influence in opposition to projects of admitted utility, simply to extort an exorbitant sum of money as the price of their ultimate neutrality. In one case that we could name, 1,800% per acre is to be paid by special sgreement for land that the owner had contracted to sell only a short time ago for another purpose for 3001. per acre. If an owner is dispossessed of property against his will, he should unquestionably be paid handsomely for it, but surely the legislature should not allow him to use any accidental influence he may have, as, for example, being a member of their own body, to extort any unreasonable sum, which the company may be led to assent to rather than incur the enormous expense entailed by opposition.

The question of metropolitan railways is forcing itself on public attention, and several bold schemes have been propounded for connecting the principal lines in London. Amongst bese the Thames Embankment and City Rail-

way Company, of which the following is an outline, has been received with more than

THE BUILDER.

usual favour by the press :-"It is proposed to embank the river from Hungerford | Market to Blackfriars Bridge, forming, in the space recovered from the shallow parts of the stream, public gardens, terraces, and docks, and along the edge of the embankment a double line of road; the outer portion as an atmospheric railway, the inner as a macadamized road for ordinary vehicles, with a pavement for foot passengers, communicating with the streets and wharfs, and also, by short viaducts above and below the railway. with landing-places from the river. At Blackfriars Bridge, or about the site of Paul's Wharf, the proposed double road will leave the embankment, and be continued along a new street sixty-six feet wide, leading to the Blackwall Railway and Whitechapel, and, by a short branch at Southwark Bridge, direct to the Mansion House. The railroad portion of the line will join the Blackwall at Fenchurchstreet, or the Minories, and be carried along the middle of the new street, upon an open frame-work of iron girders, at the level of the first floor windows, leaving an under road of corresponding width for the usual street traffic. and opening throughout the whole line valuable frontages for building."

It thus presents two important and novel features,-the embankment of the Thames, as a money speculation (an achievement which seems too great for our Government), and the commencement of a system of railways through the public streets, out of the way of all ordinary traffic. Relative to these viaducts the Iron Times remarks :-- "After careful consideration, we can find no objection to urge against them, save that they are new. This is a fault we are satisfied will rapidly amend with the perception of their high importance-of the millions per annum that will accrue in savings by reason of their adoption. Have any of our readers watched the erection of the new Houses of Parliament? There may be beheld a railway viaduct set up for the purpose of constructing a building, to be removed when the building is finished. Surely it must be worth while to construct such viaducts for permanent purposes as well as for temporary ones! As an economical plan, these railway viaducts may probably be constructed for about 40,000% per mile. Of elegant construction they may amount to 80,0001, averaging 60,0001. Nor is it a mere speculation; the traffic exists-expensive horse traffic-where a saving of horses and a saving of time are both to be achieved."

The line will be in connection with the South-Western at Hungerford Bridge, and with the Great Western, and the London and Birmingham, either at the same point, or near Blackfriars Bridge, by a short extension of the City and Camden Town Junction, from their proposed terminus in Farringdon-street to the river.

Another project, instead of taking the railways over the ordinary course of traffic, takes them *under* it, and contemplates a series of tunnels, which would render London a huge warren and a perfect bore :---

They propose to establish their central terminus at or in the immediate neighbourhood of Hungerford Market, and upon a scale commensurate with the demands of an entire system of metropolitan railways. To proceed thus by tunnels of communication to the London and Birmingham Railway, to the Great Western Railway, the Eastern Counties, and, by subsidiary termini and approaches at the intersections of all the principal roads, to com-

plete the connection between all the northern lines and every part of the northern suburbs. To continue these lines across the river to a station on the south bank, and thence to the Dover, Brighton, and South-Western railways, "thus completing the access to and from every part of the kingdom and the continent." The suburbs are to have a company of their own, and are to be reached on the atmospheric principle. It would thus seem, that having driven the stage coaches off the roads, the rail will now compete with the omnibus, and take us from one end of town to the other, either through the air or through the earth, at "six-pence all all the way."

When railways were first projected, the towns near which they came strove to keep them as far off as possible, and spent immense sums in effecting what has been most injurious to them. They have now found out their mistake, and would gladly pay as many thousands to bring a station near them as they before spent hundreds to drive it off. Every town now strives for its line, justly feeling that without it, its importance must sink; and before long every village will have one too, or must cease to be a village. How strangely and how rapidly opinions alter ! Before we find fault with others, still more, before we burn them for not thinking as we do, it would be well always to remember, that ere long we may actually think as they do.

THE QUEEN'S PAVILION IN BUCKING-HAM PALACE GARDENS.

HER Majesty's summer-house, concerning which so much has been said from time to time, is now completed, and will hereafter be regarded with interest, if not at this moment, as an early example in England of the use of fresco painting in decoration.

Within the last few years, owing to a number of concurrent circumstances, public number of concurrent circumstances, public attention has been directed to the combination of decorative painting with architecture, after the examples left to us by the great Italian The introduction, or rather the revival, of fresco painting in this country has become, in connection with a great national monument, a topic of general interest, an affair of national importance, and no longer merely a matter of private or artistic speculation. While curiosity and interest were thus strongly excited towards the subject, and our artists were occupied in the subject, and our artists were occupied in considering its feasibility and the particular management of a vehicle almost unknown to them, it occurred to Her Majesty and His Royal Highness Prince Albert, that it would be well to have the experiment made on a small scale, yet under circumstances which might lend it a more than common interest, and at the same time offer to some of our first and at the same time oner to some a fair oppor-artists at once a high motive and a fair opportunity to try their powers in this new old method. The idea was surely a happy one; and not the less seasonable that every one who had considered the subject (at least every one who understood it), felt that it was a method which presented particular difficulties to some of the ablest and most distinguished of our painters, whose habitual style of execution, whose aim in point of treatment of their sub-ject and effect, had been precisely the reverse of what is required in fresco.

The application of fresco painting to the decoration of architecture demands the adaptation of parts to a whole; a preconcerted mode of treatment, in which the painting shall seem to be in unison with the original design of the edifice; the harmonious combination of many minds, working under the direction of one mind, to one purpose: and, with regard to the mechanical part of the process, it requires much thought and study in the preparation of the materials, and great care and precision, as well as great rapidity, in the execution.

The advantage of mingling in the interior decoration of a building isolated figures and bistorical subjects with anabesque ornaments,

has been proved to be twofold. If the locality be small, the space appears to be enlarged to the eye by the involution and continuation of multiplied and varied forms and colours; while, if the dimensions be large, the interest is concentrated by the presence of a leading ides, connecting all these separate compart-ments and all this maze of variety into one harmonious whole. The wild and dream-like arabesques are like vague, delicious music; the historical subjects form resting-places for the fancy; and the two in combination are like the lyrical drama, — action, sentiment, and melody woven together.

The building in question is very small, -quite a toy, and is situated on an artificial mount in the gardens, and overlooking the ornamental The view from the terrace in front of waters. it is beautiful, and will keep the stranger on his first visit, for some time outside the object of his search. Nash understood well the art of landscape gardening, and displayed much skill in these grounds. It is almost impossible to believe the proximity of this spot to bustling town, it is so still and luxuriant; and the triumphal arch at Hyde-park-corner, seen above the trees, renders the effect of the whole almost

magnificent. The entrance to the pavilion opens into the principal apartment, an octagon 15 feet 9 inches from side to side, and 14 feet 11 inches in height to the centre of the vaulted ceiling. It is here, in eight lunettes at the foot of the vault, that the frescos from "Comus" appear, of which for the most part types have been exhibited in the rooms of the Royal Academy by the respective artists. Over the entrance door, an indifferent place, is Stan-field's, illustrative of the following passage :----

Yet some there be that by due steps aspire

To lay their just hands on that golden key, That opes the palace of Eternity. To such my errand is."—Comus, v. 12—17.

It is admirably transparent, and exhibits more power over the material than the ma-jority of the works. Passing round with the sun, Mr. Uwins' follows, having for motto,

"This is the place as well as I may guess, Whence even now the tumult of loud mirth Was rife."

Then comes Leslie: Ross follows. East-lake's is over the mantelpiece; Maclise, Edwin Landseer, and Dyce, complete the eight. A copy of Mr. Eastlake's work is now in the Academy exhibition, and will be remembered by all. The lines illustrated are,

" If virtue feeble were,

Heav'n itself would stoop to her."

Maclise shews the lady spell-bound in the marble chair, and displays much of his usual power. Mr. Landseer has found in the follow-ing lines an opportunity to exhibit his great skill in depicting the brute form :--

"Their human countenance, Th' express resemblance of the gods, is changed Into some brutish form of wolf or bear, Or ounce or tiger, hog or bearded goat." Comus, v. 68-71.

Comus, surrounded by his crew, is terrified by the approach of the brothers, who appear by the approach of the brothers, who appear behind in the act of rushing upon them. A bacchante, with a beautiful temale form, and the head of a hound, has thrown herself in affright upon the arm of Comus. Other monsters, half brute, half human, in various attitudes of mad revelry — grovelling, bestial insensibility— confusion and terror — are seen around him; the pathetic, the poetical, the horrible, the grotesque, all wildly, strangely mingled. In the spandrils are two heads — a grinning ape, and a bear drinking. Mr. Dyce winds up the illustrations with the presentation of the lady and her two bro-thers to their parents, who come forth to re-ceive them, and he bas produced what must be considered the best fresco, although wanting in the right sentiment.

in the right sentiment.

The *lunette* in which this is placed was for-merly occupied by Mr. Etty, and as many ill-natured comments have been made on the renoval of the fresco executed by him, it is but just to say that the step was unavoidable. We are much pained that so distinguished an artist —the first colourist of the day,—should have his work superseded, but truth compels us to say after excell commission of the removed say, after careful examination of the removed panel, that the fame of Mr. Etty would have

suffered materially if it had been allowed to

suffered materially if it had been allowed to remain. Two other rooms open out of the octagon apartment: one to the left, which is purely *Romantic*, the subjects being all taken from the novels and poems of Sir Walter Scott, and the other to the right, which may be termed *classical*, having all the ornaments Pompeian. The walls of the first room are painted in imitation of grey marble by Moxon, and form decidedly the best specimen we ever saw. The perfection of the face was attained by varish-

perfection of the face was attained by varnishing it ten times, and rubbing it down after each coat.

each coat. The subjects from the novels were painted by H. J. Townsend, C. Stonbouse, J. Severn, R. Doyle, and J. Doyle. The small land-scapes are by E. W. Dallas, and the bas-reliefs were executed by J. Bell and H. Timbrell. The ceiling of the Pompeian room was de-signed by A. Aglio. The arabesques in the panels of the octagon room were painted by S. Rice, of the School of Design: the carving of the doors in the same room were by G. B. of the doors in the same room were by G. B. Lovati; the ceiling was painted by E. Mor-ley; all the stuccoes were by G. W. Nicholl, and the plaster work of Walter Scott's room by Bermasconi.

In concluding our notice, it is right to men-In concluding our notice, it is right to men-tion that the whole arrangement of the deco-rations, after the completion of the eight frescos, was confided to Mr. Lewis Gruner, the author of a fine work on "Fresco decorations in Italy during the 15th and 16th centuries," with the arrange attivulation that all the centuries with the express stipulation that all the artists employed should be English. The Prince is said to have taken considerable interest in the works, and Her Majesty has been pleased to order that they should be engraved and published.

ROYAL INSTITUTE OF BRITISH ARCHITECTS. CLOSING MEETING.

THE meeting held on Monday last was one of more than ordinary interest. The chair was taken by Mr. Papworth, and Mr. Donaldson introduced the Duke of Serradifulco, with a well-deserved eulogy on his researches into Sicilian antiquities, and his uniform kindness to members of the Institute. His grace was not merely an honorary member, but he had contributed five volumes, the fruits of his labours. The antiquities of Sicily were pe-valiable interactions, the factor was culiarly interesting : the Doric order was essentially different from the Doric of continental Greece, the Temple of Corinth being the only example, which at all resembled in pro-portions the Sicilian order. The island had been favoured not only in art, in architecture, in bronzes, in statuary, but was a country of great natural beauty and productiveness. Its rivers abounded with fish, its caverns with sulphur, and a deep veneration for art had possessed the people. The work of the Duke of Serradifulco consisted not merely of measurements, but in the 5th volume were the deductions from his observations, matter tending to elucidate the principles of art. His grace was then formally admitted a corresponding member, and returned thanks in suitable terms. Mr. Donaldson, in announcing the contributions from foreign members, commented upon the peculiar satis-faction which must be felt at this, the closing meeting of the session, in receiving the com-pletion of two great works on architecture, the one on Sicilian antiquities, and the other the work of the Cavaliere Luigi Canina. The latter was the most complete illustration of architecture, that had ever appeared, and as the production of an individual, was in the highest degree meritorious. It illustrated the Egyptian, Greek, and Roman styles, in all their variations, and was not a compilation, but the result of a most careful study of the monuments themselves. It consisted of nume-rous folio plates, with accompanying letterpress; one volume for each style, illustrating its history, and a second descriptive of the examples. Hitherto, a complete work on Grecian architecture had not appeared, but the want was now supplied. Another work, by the same author, on the temple at Jerusalem, was also unnounced, and though not so satis-factory as the other, had some novel views on this speculative subject. The secretary an-nounced the present of ten guineas to the library fund from Mr. Sydney Smirke, and of

Quatremère de Quincy's "Lives of Architects " from Mr. Bellamy, and read the report on the adjudication of the premiums. The committee aujuaication of the premiums. The committee found a decided superiority in the drawings furnished, and awarded a copy of Wilkins' "Vitruvius" to Mr. W. Wood Deane, for the best design for a portico to an assembly room. The design was praised for the effective treat-ment of the coefficient and coefficient for the conferment of the coffers, and ceiling of the portico, and it was noticed, that the modillions in the pediment had been omitted, as well as the antæ: but it was presumed, that the absence of the former was deemed essential to the proper effect of the sculpture in the pediment. The report also noticed, that the Greeks were in the habit of constructing the lower course of the wall in a portico, of blocks of great height, and that the Romans occupied a similar situation with a plinth, and surbase moulding, with a dado between; these points, it appeared, had not been availed of by the councilities. " Public Buildings of London" was presented, for the best series of sketches, to Mr. Jadge, who also received a copy of Wood's " Letters of an Architect," for notes of papers read at the Institute. The medal of the Institute was presented to Mr. S. J. Nicholl, for an essay on the various species and qualities of slates, Mr. Donaldson then read a letter from Vicenza, stating that one of the members of Vicenza, stating that one of the members of the academy there, was engaged in preparing a life of Palladio, and requesting the assistance of the Institute, in procuring access to the drawings and autograph of Palladio, in the possession of the Duke of Devonshire. A description of an antique portico at Da-mascus, communicated by W. R. Hamilton, Esq., honorary fellow, was read by the secre-tary. It was first described in 1838, at the Boyal Society of Literature, having bern dis-

Royal Society of Literature, having been dis-covered by him, a considerable time previous. His visit was made at a period, when travelling in the East was attended with great danger, and therefore he was unable to make a very careful examination. He observed, that there were six granite columns, supporting an en-tablature and pediment, and that in the centre intercolumn, the entablature was carried across in the form of an arch. The style was clearly that of Baalbec and Palmyra, and the date therefore referrable to the time of the Antonines. The cornice had great projection, but had less height than usual in works of like date. The ruin was covered with rubbish, up to a short space below the capitals, but the fect of the columns appeared in the bazaar below. It was the only known example of Roman architecture in Damascus, and might have been a part of the Temple of Serapis. It was seen by Col. Leake and others, and from was seen by Col. Leake and others, and from their observations, and those of Mr. Hamil-ton, all that had been known of fitup to'the present time was gained. In 1844, how-ever, it was seen by Sir Gardner Wilkinson under more favourable circumstances, and he succeeded in getting statutes of it and some succeeded in getting sketches of it, and some measurements. The columns were calculated to be 42 feet in height; they were set rather close, with a wider space for the centre inter-column. The whole entablature took the column. The whole entablature took the curve of the arch, the dentils radiating to the centre, and the dentils of the pediment were placed at right angles to the raking mouldings. At the spring of the arch, in the tympanum of the pediment, were square apertures, the use of which was not apparent. The The angular column was united to to vo pilastres in a curious manner, the mouldings of the pediment and entablature being broken, as observable in some caprices of Italian production. At this period, some remains of columns were found in other parts of the city.-Mr. Donaldson commented upon the extraordinary disappearance of architectural works in that part of Syria. The prejudices of the Jews long prevented the admission of the Roman style, but at a later period, it could not be doubted, that the country abounded in Roman works, which it was the system of the imworks, which it was the system of the imperial government to raise in the countries subjugated, and we were aware that in other subjugated, and we were aware that in other parts of Syria, as in the Decapolis, and in Arabia Petrzes, at Petra, were magnificent works. Mr. Scoles stated, that in his journey to Damascus, and in other parts of Syria, be had seen a great number of fragments of the Roman Corinthian order, of which there had been no mention by any traveller. When at Damascus, although he had examined every

part of the city, he was not aware of the existence of the portico described, which had not been mentioned to him by Mr. Hamilton, till subsequent to his visit.*

An account of the remains of the ancient city of Agrigentum was read by Mr. Angell, who said, that amongst the ruins of Magna Græcia, none were of greater interest than those he was about to describe. They had not the awful solitude of Selinus and Pæstum, but occupied a most picturesque site near the modern city of Girgenti. Their architectural character would afford much matter for ex-amination. To any one who might visit them, the Capuchin convent in the neighbourhood would afford comfortable lodging, and occa-sionally no bad cheer. Amongst the remains were those of several temples of the Doric order. The Temple of Juno Lucina was hexastyle, pe The Temple of Juno Lucina was hexastile, pe-ripteral, and formerly contained, the celebrated picture of Juno by Zeuxis. There were some remains of the peribolus. The Temple of Con-cord was similar in plan to the Temple of Yung. Of the Temple of Esculapius, the only remains were a part of the cella, and fragments of the staircases to the roof; but it had been ascer-tained, that it was a temple in *inuis*. The Temple of Hercules was the largest after the Temple of Jupiter Olympius; one column was standing, but a restoration had been published by the Duke of Serradifalco; who had found traces of polychromy. The Temple of Jupiter Olympius was the second in magnitude, of all Olympius was the second in magnitude, of all the temples of ancient Greece; it was never completed, not having had a roof. The Greeks had two modes of arrangement in the plans of temples; one was that of the naos, with columns in antis, or portico at the end, and the other, manus, or portico at the end, and the other, where the naos was surrounded by columns. The temple under notice partook of both modes; the columns being, as it were, built into the wall, appearing circular without, and square within. The structure was of vast size, each flute of the columns being, as described by Diodorus, wide enough for a man to stand in, or two feet at the lower diameter. Mr. Cockerell'a restoration in the fifth volume of Cockerell's restoration, in the fifth volume of Stuart's "Athens," has seven columns in the front, the telamones, or Persians, being placed within the naos for the support of the roof. These figures were twenty-five feet in height, and represented the giants conquered by Jupiter; in style of art they resemble the Eginetan scalpture, though the pediments were enriched with work of a better description. Sig. Raffaelle Politi, corresponding member of the In-stitute, had made a restoration entirely different to the one described, though he now admitted the greater probability of Mr. Cockerell's. The restoration was not, however, entirely unwarranted, as fragments of but three telamones had been found, and there was a passage in an and other, describing a building with three giants forming the portico; which figures had been inserted in the arms of the modern city. As the figures remain in the arms, Sig. Politi considered he had sufficient authority for considering the temple, originally built with a Per-sian portico. Besides the above, there are remains of the temples of Castor and Pollux, of Vulcan, and in the modern city, which was anciently the Acropolis, of the Temple of Jupi-ter Polyaenus. There was also a Temple of Ceres and Proserpine, and, in the modern cathedral, a sarcophagus, enriched with sculp-ture. Other remains in the city were those of

• We may here mention, that letters, which we have re-ceived from a correspondent in Syria, quite corroborate the statement, as to the existence of many architectural frag-ments, yet undescribed. They are built into the walls of cottages, or bollowed into water-troughs, and the carved friese, on which the hand of genius revelled in ornament, is often turned into a receptacle for fills and ordure.

"Imperial Casar, dead, and turn'd to clay, Night stop shole, to keep the wind away : O, that that earth, which kept the world in awe, Should patch a wall to expel the winter's flaw !"

Should patch a wall to expel the where in awe, Should patch a wall to expel the where's flaw !" In a letter from Jerusalem, the writer's flaw !" In a letter from Jerusalem, the writer's flaw !" In some antiquities found in digging foundations here; they are of the Dorie order; the echinus is quite straight, and not curved in under the abacus, as we find it in the best Greeian examples; there are two of these; the others are the base and capital of a small column; the capital is, I biak, good. Jerusalem is not the place for an architect, or an architectural antiquary; there are few ruins, and the whole of the city is buried in filth to an immense depth. At Asealon, I found cornices, capitals, and other fragments, in-dicating something of interest there at a previous period. The fragment of a cornice was enriched with oves, and with the leaf ornament of the reversed cyma; it was in white marble, and fixed to mark the last resting-place of a Turk. There was also a capital of no decided character. I saw a good specimen of a Corinthian capital at Tyre, it was of white marble, hollowed out for the purpose of holding refuse water. I shall have much to tell you of other antiquities in Syria."

the oratory of Phalarides, and of the tomb of Theron. The latter was one of those singular monuments, which the Agrigentines were in the habit of raising to their horses, and was the only one not destroyed by Hannibal. That general, finding that the monuments round the walls gave shelter to the besieged in their sallies, ordered them all to be cleared away; but a flash of lightning deterred the soldiers from completing their work. The monument is a singular edifice; it has Ionic columns, but a Doric entablature, and stands upon a lofty basement. In the intercolumns are recesses basement. In the intercolumns are recesses or doorways, diminished upwards. The pis-cina was a large basin, nearly a mile in cir-cumference; it was used for the supply of the city with fish, and afterwards for bathing. Mr. Angell concluded his account with some interesting remarks on the former state of the city and cupting the words of Parialos said city, and, quoting the words of Pericles, said that "the Agrigentines built like men who expected to live for ever, and lived as if they expected to die to-morrow." Mr. Donaldson drew attention to the fact,

Ar. Donaldson drew attention to the fact, that in Great Britain we were reproached for our restricted pursuit of wealth, and for our assumed inability to execute great works of art, whilst the people of Agrigentum, with a small territory, as well as all the cities of ancient Greece, depended solely upon com-merce, and yet had produced works of un-equal magnitude and beauty. He also made some interesting remarks upon the "hcpta-style" arrangement of the columns, and said that there were other examples at Pœstum, and probably in the Temple of Hercules at Pompeii, and observed, that the Greeks often set at nought many of the rules, which we are set at nought many of the rules, which we are accustomed to observe, when they thought, that in so doing, other advantages might be gained. In large temples, if there had been a centre intercolumn, there would have been a doorway, but in this case they preferred to put a column in the middle, and place a door on each side. The Duke of Serradifalco said, that he considered this was not the principal entrance, and shewed, from his work, that he had given six columns and a central doorway in the other front. Mr. Donaldson exhorted the members to greater activity in contributing to the in-terest of the meetings; and after thanks to the chairman, the meetings were adjourned to November next.

THE HEIGHT OF CHIMNEY SHAFTS. AWARD UNDER THE BUILDINGS ACT

It is necessary builders should bear in mind that in schedule F. it is declared, that any chimney-shaft (except that of a steam-engine. chimney-shaft (except that of a steam-engine, brewery, distillery, or manufactory,—subject to special supervision) must not be built higher than 8 feet above the slope, flat, or gutter of the roof which it adjoins, measured from the highest point of junction, unless such chimney-shaft be built of increased thickness, or be wilt with and honded to appethe adjoint built with and bonded to another chimneyshaft, or be otherwise rendered secure. Messrs. Grissell and Peto recently carried

up the chimney-shafts of three houses in Grey-hound-place, Grange-road, to a height of 12 feet 7 inches above the adjoining building, without what the district surveyor (Mr. Hesketh) thought the necessary additional preceditors precautions.

The matter was sent to the referees, and the award was, that the chimney-shafts were con trary to the Act, and that the same must be made conformable thereto. The expenses of the award and 2*i*. 2s. for the district-surveyor's time were charged to the builders.

EFFECT OF NEW RAILWAYS ON THE PRICE of COALS IN LONDON.-Mr. Mahon, in giv-ing his evidence before the committee on the Cambridge and Lincoln line of railway, stated that he had had the management of coal-mines in Derbyshire for twenty years past; that the coal fields of Clay Cross, Wingerfield, and coal-helds of Ulay Gross, Wingerneid, and Staley, were capable of unlimited supply, and he believed that the Clay Cross and Staley coals were quite equal to the Durham. By the proposed new lines of railway these coals could be delivered in London at 14s. 10d. per ton; Erewash coals as low as 10s. 6d.; while the Wingerworth, which were not so good in quality, could not be delivered in London under 14s. 6d. per ton,

HOWDEN CHURCH, YORKSHIRE. YORKSHIRE ARCHITECTURAL SOCIETY.

THE quarterly meeting of this society was held in its rooms, Minster-yard, York, on Thursday, July17th, the Venerable Archdeacon Wilberforce in the chair.

After the election of several new members, the presentation of works of archæological and architectural interest, and other business connected with the society, the following report of the restorations going on in the parish church, Howden, Yorkshire, was read :--

" Howden, July 16th, 1845.

To the Secretaries and Committee of the York-

GENTLEMEN,—We beg leave to lay before you an account of the progress of the work of restoration of the parish church of Howden, towards which your society liberally granted us the sum of 40%.

1. As to the tower, the upper story has had all its louvering (lately composed of wood) re-stored. The wood has been removed, and blue slate, of the best and strongest quality, intro-duced in its stead. The second story has been partially reglazed. The stone work has been completely repaired, and the glazing done in a most substantial and workmanlike manner. The architect superintending the work has expressed his entire satisfaction in this departpressed his entire satisfaction in this depart-ment of the restoration. The work now ef-fected only shews more fully the necessity of opening and glazing the whole of the windows in this story, which can only be effected at an additional cost of 60%. A floor which origin-ally divided these windows in half has been removed, and the effect is truly imposing. 2. The east window is now in the course of

2. The east window is now in the course of insertion over the screen, which originally separated the choir from the transcepts; the stained glass to fill it has been contracted for, and is in the course of execution by Mr. Wailes, of Newcastle, and in a short time this department of the work will be available

department of the work will be complete. The screens to separate the new chancel from the transepts are of carved oak, and will be ready for fixing as soon as the masonry is perfect. When this is done, the new church will be thrown open to the nave; the pulpit removed from the centre aisle to the first pier of the nave, on the south, and the reading pew to the south pier of the church arch.

Other restorations have been effected, which, in the opinion of our architects, Messrs. Weightman and Hadfield, add much to the

beauty and character of our church. Having completed these restorations at a cost of 400%, in addition to what your society so liberally granted, we hope there will be no hesitation in allowing the payment of 40% to be now made to us on behalf of the object for

which that sum was specially granted. Whilst we feel deeply indebted to the York-shire Architectural Society for its past libe-rality, we trust we shall not be thought too encroaching if we ask a further donation to help croaching if we ask a further donation to help us in carrying out to perfection the whole of the masonry and glazing of the tower, wa pledging ourselves to make up the remaining money, and complete the work to the satisfac-tion of the society.—We beg leave to remain, your obedient and faithful servants, T. Guy, Vicar, W. Sucher, Churchwarden,

W. SUGDEN, Churobwarden."

After the reading of this report, one of the secretaries of the society, who had previously visited Howden, made his official statement, which was as follows :--

"Howden, July 16, 1845. To the Committee of the Yorkshire Architec-

GENTLEMEN, — I have this day visited Howden, in order to inspect and report upon the restorations now going on in its parish church. I have carefully examined every part, and can most conscientiously state that the work so far accomplished has been of the work so far accomplished has been of the most satisfactory kind. The zeal and skill displayed by the vicar, churchwarden, and architects are beyond any praise of mine; and whilst the Yorkshire Architectural Society cannot but feel gratified in having been the means of encouraging such a restoration by a liberal grant of 40*l*., it will do well to meot any future appeal for further help by such assistance as may be in its power. In a few words, the work is most creditable to all parties concerned, and has excited in the

THE BUILDER.

breasts of the parishioners of Howden an honest pride and desire to see their church restored to something of its original integrity. I remain, yours truly, JOSHUA FAWORT." The committee felt so perfectly satisfied with the work of restoration thus far advanced, that notice of a motion for an additional grant of meany towards completing the clearing of of money towards completing the glazing of the tower was given by the venerable chairman. The antiquary and archæologist cannot better bestow his mite than by assisting the vicar and churchwardens in this spirited undertaking. We hope very shortly to see their most anxious wishes fully realized.

At a meeting of the society, subsequently held the same day, a paper was read on "The History and present Condition of the Churches of York."

GLASS, Farmar 1, 1, 1977 Ar a meeting of the Decorative Art Booisty, held July 9th, "a general view of the history and application of glass" was read by Mr. Cooper, and afforded considerable sinterest. He remarked on the 18th were of the 37th chapter of Job, the trabelation of which has been rendered differently in some recent editions of the Bible, -on the construction of the Portland vase, as of layers of glass of different colours, cut away by drills in the man-ner of cameos; he exhibited drawings of Roman glass from examples in the British Museum, found at Recuivers, Canterbury, Hemel Hempstead, and elsewhere, and observed that the Romans were the first to introduce glass into this kingdom. He con-tended that plate glass was first made by the Venetians, and that they supplied Europe till nearly the end of the seventeenth century : and he noticed the manner in which Colbert he noticed the manner in which Colbert assisted in establishing a manufactory for plate glass at Oherburg, is 1664, and that in 1668 the French produced plates 24 by 50 inches. In 1673, Villiers, Duke of Buckingham, established some Vangtians in the manufacture

of plate glass at Lambeth, and this afterwards led to the formation of the British Plate Glass and other Companies. The injurious effects of different restrictive duties and excise regulations at the respective periods of change there-in were also explained.

The process of mamoling was illustrated, also a peculiar property in the coarse bottle-glass, by which when brought a second time to a red heat it will bear to be thrown into cold water, without change of form; a knowledge of this fact may possibly lead to a method of soldering joints in its application as water-pipes, which has been recently spoken of.

Malleable glass and glass produced from the bones of skeletons and formed into a commemorative statue were incidentally noticed. Specimens of some continental glass, not at present equalled or produced by our manu-facturers, were shewn, and conjectures offered as to the processes adopted in their formation.

The Mercure Segusien speaks of a marvellous invention which has come to light within the walls of Saint-Etienne-the production of a sort of glass as maileable when cold as while red-hot. The Monitour des Arts says,

more value than gold, and which the inventor has called Silicon, is of a white colour, very sonorous, and as brilliant and transparent as crystal. It can be obtained, with equal case, opaque or coloured; combines with various substances, and some of these combinations produce shades of extraordinary beauty. It is without smell-very ductile, very malleable; and neither air nor acids affect it. It can be blown like glass, melted, or stretched out into long threads of perfect regularity. It is very hard, very tough, and possesses the qualities of molten steel in the very highest degree, without requiring to be tempered by the exist-ing process, which, as is well known, offers no The process, which as is well known, others no certainty—while the result of the new method is sure." • • A variety of objects have been manufactured with this silicon; which are about to be submitted to public exhibition on the Place of the Hotel de Ville, at Saint-Etienne.

DECORATION OF THE NEW HOUSES .-_Mr Herbert, A.R.A., has received a commission for the Hall of Poets. Mr. Dyce has been commissioned to execute a work for the House of Lords.

RESTORATION OF ETON COLLEGE CHAPEL.

WE mentioned some time since that a limited competition was going on for the commission to restore and decorate this chapel. The roof, amongst other things, is understood to be conamongst other things, is understood to be con-structively so defective, as to render alteration absolutely necessary. The competitors were five in number, and Mr. Shaw, Mr. Benjamia Ferrey, and Mr. Nesfield were appointed to select and recommend the best plan. They met on Monday last, and after due consideration pronounced unanimously in favour of the design submitted by Mr. Deason.

Mr. Ferrey was originally included in the list of competitors, but declined sending in.

A second portion of stained glass has just been placed in the large altar window. The whole of the three compartments are now filled with the Crucifixion and Resurrection; the twelve apostles are to occupy the remaining lights. Painted glass is in progress for the two side windows next the altar. The whole of the interior of the chapel will no doubt be highly decorated.

THE PILE DRIVING MACHINE.

The Devonport Telegraph has the following notice of the application at Morice Town of the invention which we described in a recent number.

The application of steam power to the pur-poses of pile driving, which the extremely in-genious, but at the same time simple invention of Mr. J. Nasmyth has secured, renders what was the most tedious and laborious portion of works on the sea-shore the most commonplace; and, in its application at the new works at Morice Town, we understand effects a saving of time equal to nearly two years, and in the smount of expense no less a sum than fifty thousand pounds. But for this invention the great sea wall would have had to be built in several compartments, as with the power before used it was found impossible to erect a coffer-dam of the required length strong enough to resist the force and immense weight of water without. The fears of the Admiralty and their engineers on this point were so strong, that they were with some difficulty overcome; hence the length of the delay in proceeding with the works, which at one time gave rise to reports of the site being abandoned by the Government; and not until the con-tractors offered bonds of indemnity, such as could not fail to convince Government of their great confidence in the plan proposed, was consent given to the required deviation from the specifications. The length of the great coffer-dam or sea-wall now forming will be upwards of 1,600 feet, and will be composed of a double row of piles, varying from 55 to 66 feet in length, and from 14 to 16 inches square, driven as closely together as possible, so as to form two vast impervious walls of timber, form two vast impervious walls of timber, which will effectually exclude the sea during the period occupied in the excavation of the soil within, and the formation of the granite walls of the great steam dock. The dimensions of this coffer-dam are quite unprecedented, and its gigantic proportions have re-sulted from the bigh opinion of the powers and capabilities which Messrs. Baker and Son, the contractors, had formed of Mr. Nasmyth's invention before it had been put to the test of actual trial; and to these gentlemen too much praise cannot be given for the enterprising spirit which they exhibited in this matter, and we sincerely trust they will reap the most substantial advantages as their reward, in being the first to introduce so important a machine to the notice of the world. There are two features which most remarkably distinguish this important invention from all pile-driving machines. These consist, in the first place, in the direct manner in which the elastic power of the steam is employed to lift up the mass of iron by whose fall on the head of the pile it is driven into the ground; and, secondly, in the peculiar manner in which the block of iron and its guide, case, and cylinder, are made to sit, as it were, on the shoulders of the pile, so as to predispose and assist it in its descent into the ground. In this manner the entire dead weight of this part of the apparatus is rendered available, and made to act in a most important degree as a portion of the pile-driving agency; and as the entire part of the

appparatus follows the pile down, it never ceases for one instant to yield a most im-portant assistance towards the attainment of the desired object. The energy and rapidity. of the blows, which are dealt out on the head of the pile at the rate of upwards of seventy per minute! is such that, assisted by the dead weight. of the apparatus sitting on the shoulders of the pile, it is seen to sink into the ground in steps, varying from 6 feet to 3 inches per stroke, the whole operation of driving the pile, 60 feet in. length, occupying little more than from two and a half to four minutes; in fact, such, is the ease and rapidity with which these enormous, piles are driven into the ground by this power-ful machine when compared with the old system, that the spectator is as much inclined to laugh at the ridiculous contrast, as to be astonished at its vast powers and the perfect control under which it is placed. The whole movements are governed by one handle, regulating the supply of steam from the boiler to the cylinder and piston, which yields the re-quisite rising and falling motion of the monkey or hammer that drives the pile. We were particularly attracted by the simple and effi-cient contrivance which Mr. Nasmyth has cient contrivance which hir. its myth man adopted for carrying the steam from the boiler to the cylinder on the head of the pile, namely, by wrought-iron jointed pipes, which fold up, in the most beautiful manner in a succession of joints or lengths, so as to accommodate the length of steam at all the various heights of the apparatus, which having to descend, through a perpendicular space of upwards of 50 feet, in following down the sinking pile, double up or fold together in the most perfect, yet simple manner. The same boiler which supplies steam to the actual pile-driving appe-ratus, likewise affords steam to a small engine which is employed to give the requisite loco-motive action to the whole apparatus is sittler direction, so as to cause it to move from pile to pile. This same small engine "hoists and to pile. This same small engine " hoists and pitches" the piles in the most perfect manner, also raises the pile-driving apparatus to the head of the highest pile, some of which are 66 feet in height, and places it on the shoulders of the pile with the utmost ease and exactness. Some idea of the performance of this machine may be formed, when we state that it drives a pile of 66 feet in length in four minutes, while with the ordinary machines upwards of fifteen or twenty hours would be occupied in doing or twenty hours would be occupied in doing the same work; to say nothing of the entire absence of all damage to the head of the pile, which, in the case of the employment of Mr. Nasmyth's machine, is not in the slightest de-gree injured, while driving such a pile by the ordinary machine the head of the pile is so thatteend and entit by the prostition of its do shattered and split by the repetition of its destructive and ineffective blows, as to require to be cut off and reheaded several times during be cut off and reheaded several times during the operation. Practical pile drivers will have some idea of the remarkable superiority in the action of Mr. Nasmyth's machine, when we inform them that the iron hoop, hitherto em-ployed to preserve the head of the pile from being split into matches, in the steam pile-driver is antirely discussed with end the driver is entirely dispensed with, and the heads of the piles, after driving, bear scarcely, any evidence of force having been applied to them. It is almost impossible to form a ne-tion of the vast and important results which will issue from this new and powerful agent in the construction of great marine works, harbours of refuge, piers, embankments for the recovering of land, timber embankments for railways, and a vast number of other important works, which will now be as easy of èrecution as the most ordinary of undertakings; and the most extensive and tedious of pro-cesses be reduced to one of the most simple and rapid of operations.

BURNING GLASSES EXTRAORDINARY .--0n arrived. The skylight of the room is com-posed of panes of glass, the centres of some of which present that protuberance, technically denominated "bull's eyes;" these forming a focus, concentrated the rays of the sun, and the consequence was, that a large and unseemly hole was burned through the pile of shawls, whereby considerable damage was sustained;" fortunately the goods were insured. — Merlin.

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EXAMINATION IN LINES AND CURVES.*

17. What is a parabola, and in what does it differ from the hyperbola? Give the descrip-tion of the difference in words that an artist can understand.

18. Point out examples of applications of the parabolic form in architecture. 19. How are the terms convex and concave

applied to lines ?
20. What is a point of contrary flexure in

a curve? and point out instances of different forms of inflected lines used in architecture.

21. What is a cusp of a curve or line, and what are their different varieties and modes of

what are their different varieties and modes of tracing them, or lines having them? 22. What is a node of a curve or line, and what are their different forms, and the simple means by which they may be traced? and shew also how parts or the whole of different nodes
may be applied in architecture.
23. What is a waved curve or line, and what

23. What is a waved curve or line, and what are their different varieties? Point out in-stances of their application in architecture. 24. Shew how by continuous motion a wave line may be drawn, having the quickest part of each convexity, and the quickest part of the concavity, of the same degree of curvature. 25. Shew how by continuous motion a gra-

dation of waved lines may be drawn between a given form of a deep wave and a shallow one, and shew when such means would be useful in architecture.

26. Shew another example of a wave line when the curvature of the quickest part of one convexity is large, the quickest part of the concavity is less, and the quickest part of the next convexity sill less. 27. What is a spiral line, and what are their different varieties? Jos. JOPLING.

STIMULANTS FOR ARCHITECTURAL STUDENTS.

THE Society of Arts offer their gold medallion for the best original design for a national edifice for the reception of monuments, statues, and busts of eminent public men deceased, with galleries to contain pictures commemora-tive of their deeds. The building to be de-signed in a classical style of architecture, and to be supposed to be placed on an eminence in the vicinity of London, as, for instance, Prim-rose Hill. The drawings to consist of a plan, elevation, and a transverse and longitudinal section to a scale of three-quarters of an inch to 10 feet, and a perspective view. Also a gold medallion for the best design for a hemis-pherical timber roof, circular base plan 100 feet diameter; framed to admit of an aperture for light, in the centre, of 25 feet diameter. The quantity of timber to be specified in cubic feet, and likewise the weight of wrought and cast iron respectively. The design to consist of a plan and section, with such parts shewn as large as may be necessary to fully explain the mode of construction, and to be accompanied by a model of one quarter of the roof to a scale of not less than three-eighths of an inch to a foot. The model and drawings to be sent in on or before the third Tuesday in January, 1846; and, if rewarded, to become the property of the society.

They further offer rewards for

1. Any improvement in the construction, drainage, or ventilation of barns, stables, and other farm-buildings, or in the arrangement of a farm-yard, or in the construction and hanging of gates. 2. For the best method of constructing

economical and durable fencing for agricultural paposes, particularly as relates to the preser-vation of posts and other timbers inserted in

the ground. 3. For any improvement in the method of building, heating, ventilating, and managing bot-houses, conservatories, or other construcions for similar purposes.

TENNIEL'S CARTOON. --- We are glad to learn that the coloured sketch exhibited by Mr. Tenniel in Westminster Hall, to which in our review of the cartoons much commendation was awarded, has been purchased for 100 guineas by Mr. Lewis Pocock, F.S.A., the able honorary secretary to the Art-Union of London.

DOMESTIC CHAPELS.

THE retention of domestic chapels was one THE retention of domestic chapters was one of the last vestiges of old piety to yield to mo-dern indifference. The custom of attaching chapels to mansions of commanding dignity survived even the shock of the outbreak of 1688: nay in the palaces of Blenheim and Chapter the bit her tree of the biof sature in Chatsworth, built by two of the chief actors in that scene, they are to be found; while, to quote a still later case, when during the last century a modern dwelling was reared within century a modern dwelling was reared within the walls of Warwick Castle, the chapel was not forgotten. Such chapels of course are quoted not as models, but as instances. It was reserved for another generation utterly to alienate private pomp from gratitude to The Giver of all good things. Now, as may be supposed, people are again beginning to require them, and we may be reasonably accused of neglect for not having sooner treated on the subject. subject.

Regarding the stile of the chapel, if the house be of any period of pointed architecture, or if it be of that no-stile so frequent in our rural abodes, there will, we trust, be little doubt that the only style in which it can pos-sibly be built is the middle pointed. If, how-ever, the chapel have to be attached to an Italian villa, there is less unreasonableness in questioning whether or not it should corre-spond with the style of the mansion to which it is to be adjoined. But we have no doubt as to what ought to be done. We should say to the proprietor: boldly acknowledge the former mistake, and let your chapel at least be in correct style, and the first fruits of your amended tasts. (?) It is no part of our office to recom-mend second-best courses, and therefore we shall say no more about style. Ancient canons forbid the placing of living apartments over a consecrated building, and reverence would equally counsel against their standing under them, when, as in the case of a country house, there is no lack of surrounding space to occupy. Therefore our chapel must be de-tached from the adjoining buildings, and if possible should be further separated from the rest of the house by a sort of cloister; and the chaplain's apartment too (which may be adapted to serve also as a sucristy) should rather range with the sacred building, than be merely one or two rooms of the secular portion of the house; if, that is, it be intended that he should not degenerate into a carpet-parson,— a risk very possible,—one which has innu-merable times occurred, and should in every legitimate way be avoided.

Domestic chapels form, just as much as cathedrais, parish cliurches, college chapels, cemetery chapels, a distinct genus of places of worship, and like other genera, have their own peculiar rules, to be deduced from the nature of the case, to govern their construction and arrangement. At first sight it might be imagined that the college chapels would be a safe guide to follow in their arrangement: there is, however, this cardinal difference between the two, that college chapels are for the use of a community in its nature religious, --domestic, for one in its nature lay. Thence it arises that the internal disposition of the one will be totally different from that of the other. College chapels, being for the sole use of a religious body, are all choir, the nave being reduced to the functions and dimensions of a mere ante-chapel. Domestic chapels, on the other hand, only require, as a general rule, the chancel of one priest, the congregation being disposed in the nave, and therefore the chancel should not bear a greater propor-tion to the nave than the one does to the other in a parish church. We do not here refer to episcopal chapels, which should be treated separately, but of which we may venture to assert that they bear, or should bear, considerable affinity to college chapels, and that there-fore while accommodation is provided for the lay members of the household in the nave, ample room should be afforded in the stalls for the bishop and his clerks. Again, from the limited dimensions of the domestic chapel, coupled with the privacy which invests it as a place of family worship, it is unnecessary for the distinction between the nave and the chancel to be indicated by any external difference of size.

must be especially careful not to make the building toy-like, and a Lilliputian imitation of more vast religious structures. The de-sire of giving the greatest satisfaction to his patron, may not improbably make him incur the risk of doing this. For instance, the roof need not always be groined. On the other hand, he should be still more careful to admit nothing that was not in proportion to other hand, he should be still more careful to admit nothing that was not, in proportion to the means of the householder, very costly. The chapel should always be the richest apart-ment in the house, and this in these days of exceeding luxury is not saying a little. The chancel, which should be raised at least a step, will of course be screened off from the nave, and contain all the requisite uranity in the for which should be raised at

furniture, including stalls for such clerks as may from time to time be inmates of the house.

The ancient distinction of the sexes should be invariably maintained in the arrangement of the nave, the men occupying the south, and the women the north side. The chapel and the women the north side. The chapel of Haddon Hall has aisles to the nave, of which the north is very parrow and unoc-cupied, but the south still retains its open seats. This chapel is in itself very picturesque, but we should not recommend it as a model; it is far too like a parish church in miniature. Aisles are both cumbersome and unnecessary in domestic chapels.

The nave will contain both lettern and litany-stool; on no account however a font. As an article of general use a font is unnecessary in a private chapel, as an ornament worse than meaningless, as a provision for cases of emergency a dangerous temptation.

The entrance, if possible, should be either on the north or south side, and as we have before said, from a sort of cloister. The arrangement of the belfry, and its nature, must depend upon circumstances. We need not say that orientation must be attended to Ecclesiologist, New Scries.

IRON AND THE IRON TRADE.

A VERY important improvement in the manufacture of iron has been made by a Mr. Green, of New Jersey, effecting a saving in labour and ma-terial of 33 per cent. The process is a modifica-tion of Mr. Clay's patent for the production of iron direct from the ore by the use of anthracite, and is as follows :- six tons of pulverised iron ore are mixed with two tons of anthracite coal dust, and the whole poured in at the top of a dust, and the whole pourse in at the top of a reverberatory furnace upon the slag bed-low; it is then to be worked into a loose granulated mass, and pushed to the furthest end of the hearth: four tons of cast pig-iron are then to be introduced, and, when at a white heat, it is to be heaped on the already half fused ore, and worked up into balls, to be treated in the same way as if the whole were pig metal. It is expected the process will en-able every furnace to double its make, and, of course to render the metal much cheaper.

At the late meeting of the British Asso-ciation, at Cambridge, Mr. Watt read a report on the Iron Trade in Scotland, from which it appears that at the present moment there are extensive new iron-works erecting in Scotland, especially in Ayrshire and in Renfrewshire. At several of the old works considerable addi-At several of the old works considerable addi-tions are being made to the number of fur-naces now at work. The increase in the annual quantity of pig iron smelted in that country in April, 1845, smounts to 37.4 per cent. And there is every appearance that before another year expires, a similar in-crease will be made in the amount of iron pro-duced in Socilard. duced in Scotland.

Sir J. Guest, of Dowlar's Works, in evidence before the Import Duties Committee, 1840, stated that-

The iron made at the beginning

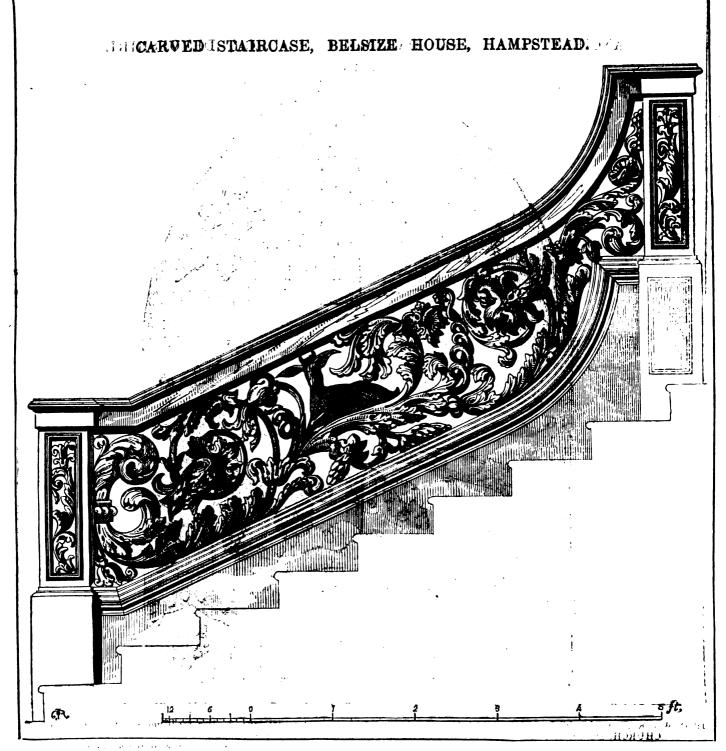
| of this century amounted to 150,000 | tons. |
|-------------------------------------|-------|
| In 1806 258,000 | ,, |
| In 1823 452,000 | ,, |

| In | 1825 | • • • • | | 581,000 | ,, |
|----|------|-------------|------|---------|----|
| | | | | | |

| In | 1828 | |
|----|------|--------|
| In | 1835 | ,, |
| | | |

| In | 1836 | •• | •• | •• | •• | •• | •• | •• | •• | • • | •• | 1,200,000 | ,, |
|----|------|----|----|----|----|----|-----|----|----|-----|----|-----------|----|
| In | 1840 | •• | •• | •• | •• | •• | ••• | •• | •• | •• | •• | 1,500,000 | " |

Mr. Jessop, of the Butterley Works, esti-mated the annual produce in Great Britain, ex-clusive of Ireland in 1840, at 1,396.400 tons, Externally the lofty roof should be crowned with a cross, and the whole architecture should be of an ornate cast. Internally the architect



CARVED STAIRCASE, BELSIZE HOUSE, HAMPSTEAD.

THE richly-carved staircase still remaining in the old portion of Belsize House, Hamp-stead, is well deserving a pareful inspection; it is a more elaborate, but certainly not so elegant a specimen us the one by Intgo Jones, given in a former number of the BUILDER; but this staircase is of late date, either that of the reign of James II. 'or the one following, when the architecture of the day was overflowing with heavy and senseless ornament. Belsize House heavy and senseless ornament. Belize House was at the time in the possession of the Earl of Ohesterfield,' and we can imagine that the greater portion of the old building having been pulled down, some new parts and rich deco-rations were added to it by that nobleman. The staircase is of crossiderable size; there are four large compartments, of which the print shows the first on the word of the size of four shews the first on the ground floor, and four smaller ones the whole of these are varied in design, and the carring perfect on both sides. The effect of it at present is rather injured by being painted to imitate bronze. Belsize House was, a century back, a cele-brated and rather depressed place of amuse-

brated and rather depraved place of amuse-ment; the accounts respecting it are very curious. It was necessary for the protection of its visitors, to have first twelve and afterwards twenty "stout fellows compleatly arm'd, to patrole betwixt London and Belsize, to pre-"stout fellows compleatly arm'd, to

vent the insults of highwaymen or footpads, which may infest the road." of the date 1722 declares-A comic poem

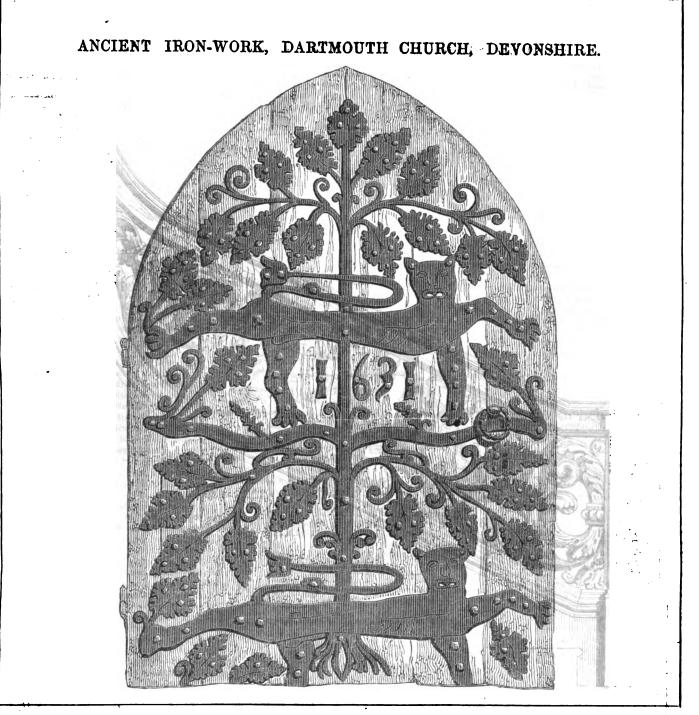
" that thirty men shall be Upon the road for their security : But whether one-half of this rabble-guard, (Whilst t'other half 's sales pon watch and ward,) Dont rob the people they pretend to save, I to the opinion of the reader leave."

Full accounts of this place will be found in Lyson's 4 Environs." second volume, in Park's "Topography of Hampstead," or in the fourth volume of the "Pictorial History of England;" the latter work gives a represen-tation of the front of the house, copied from a very rare print. C. J. RICHARDSON.

ornamental to the first city of the empire, worthy of the age in which we live, and suita-ble to the present and future wants of a Metropolitan University. The editor of the Morning Chronicle has recently peaned a few remarks on the subject. He says : "The present apartments ' have become ludierously insufficient for the purposes for which they are re-quired. What must be the impression on the mind of a stranger (drawing his idea of the ap-pearance of an English university from the noble piles of building which adorn our ancient sents of learning) when he asks for the University of London, and is directed to a staircase (which he of course takes for the porter's lodge)-and, on entering, sees written up in large characters, 'University of London on the A second floar l' The second floar might indeed do well enough for the really of the second floar l' The second floar might indeed do well enough for the creating of the University of Loodon of the great increase in the number of candidates for matriculation in the University of London this year, the chambers of the University at Somerset House not being sufficiently spacious to accommodate the whole of them, the principal of King's College, on being applied to, placed one of the lecture-rooms of that institution at the disposal of the senate during the examination. This want of room shews the necessity, and suggests the propriety, of erecting a structure, that shall be

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^{*} See Vol. II. p. 554.



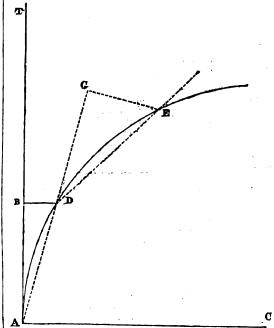
IRON-WORK TO DOOR OF DARTMOUTH CHURCH, DEVONSHIRE.

CONSIDERABLE taste and skill in ancient times were displayed in all kinds of iron-work ; times were displayed in all kinds of iron-work ; this has been already most efficiently pointed out in these pages. The subject represented above, is a striking example of the boldness of ancient designers and workmen, and such that is indeed calculated to make their modern representatives stare. The style of the iron-work on the door at Dartmouth Church, is that of the reign of Edward III. The date, which appears 1631, is a puzzle; it either proves that in some parts of the country the different styles lingered for a considerable period longer than we now please to allow, or it proves that the iron-work belonged to an older door, and was brought there in that year. This latter supposition is the more likely to be correct, as it appears imperfect towards the lower portion, as if it had been made for a tailer door; the style of the church is that of the reign of Edward III. C. J. RIGHABDSON.

SETTING OUT CURVES ON RAILWAYS.

Your correspondent, "Amateur," in a recent number (June 14) of THE BUILDER, requested number (June 14) of The BOILDER, requested to be furnished with a method for setting out curves on railways. In the absence of any answer being yet afforded to his inquiry, I venture to give the one I have usually adopted, and which in practice I have found to be simple and expeditious.

It is obvious that from the great radii of railway curves in general it would be impossible to strike them as in the usual manner, from a fixed centre. But the known relation between the sine and versed sine of an arc



affords a ready means of effecting the same

affords a ready means or energing and object. For instance, in the annexed diagram, let A be the point whence the curve is proposed to commence with a radius, A C, of 60 or 80 chains, as the case may be. From the point A set off on the ground any convenient distance A T, of say 10 chains, marking each chain in its length. Then at the point B, the end of the first chain, set off B D at right angles to A B. Now if the ordinate B D be taken equal to the versed sine of an are of a circle of the given radius, with a sine of one chain D, is the locus. of the curve to be described at that point. The formula for calculating the value of B D is of easy application, being always equal to radius - Vrad.º - sin.º; and the same process will spply to any other re-quired point in the curve, merely substituting the value of sin⁴ in the expression, as the distances in the expression, as the distances in the tangent, A.T, increase from the point A. It is advisable, more particu-larly in uneven ground or where the space is confined, to recommence the operation at about every 8 or 10 chains which is afforded by satiring chains, which is effected by setting out a new tangent to the curve. This may be done by joining the last ascertained point to the next but one from it in the curve, viz., that cor-

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responding to the ordinate on the tangent at two chains back. Then a line ranged forward parallel to this chord, and touching the curve at the middle point, will be the tangent required. The above method will be found convenient,

The above method will be found convenient, as it affords a facility for calculating tables for the versed sine of an arc of any radius from the one already obtained; for since the curvatures of circles vary inversely as their radii, a simple proportion will give the value of the versed sine of any other required. There is another method which is sometimes adopted by engineers, and recommended by its apparent simplicity, it is as follows: —Upon the tangent, A T, is taken any length, A D, as before; and from B is set off B D $\left(=\frac{AB^2}{diameter}\right)$ perpendicular to A T, then the chord A D is produced to G, making D G equal to A B; and from G is drawn the perpendicular G E equal to 2 B D, whence the points AD E are assumed to be in the circumference of the same circle, and other consecutive points are found by producing the chord D E as before, and setting off perpendiculars each equal to 2 B D.

It is scarcely necessary to observe that this method is not only erroneous in principle, but the curve so obtained is not a segment of a circular arc, but, on the contrary, one where the radius of curvature is continually increasing.

circular arc, but, on the contrary, one where the radius of cirvature is continually increasing. In the *Mechanics' Magazine*, No. 801, for December 15th, 1838, I gave an investigation of the principle, wherein it was shewn that in arcs of small radii the error would be serious. G. HAWEINS.

G. HAWKIN

IMPROVEMENT OF THE KING'S SCHOLARS' POND SEWER.

HAVING frequently observed considerable quantities of sewerage matter, as also silt, said, stones, and other substances, lying upon the channel of the King's Scholars' Pond Sewer, between the outlet next the Thames, and Elliott's Brewery, at Pimlico, and as this accumulation creates not only an abominable nuisance to this improving neighbourhood, but also cost a considerable sum of money during each year in removing it, I beg to suggest a simple method by which very much of the nuisance so frequently complained of may be obviated, and at the same time the great expense which now attends its removal may be entirely done away with. But in the first place I will explain how these deposits and accumulations are produced.

plained of may be obviated, and at the same time the great expense which now attends its removal may be entirely done away with. But in the first place I will explain how these deposits and accumulations are produced. There are two pairs of flood-gates at the outlet, which is 18 feet wide, one pair being scarcely or never used, but is intended to supply the place of the other should this ever get out of order. At every flux of the tide, and when it rises to the sill of the outlet, one pair of these gates is closed for the purpose of preventing the river-water from flowing into the sewer, which is by this means formed into a simple reservoir, and retains the whole of the sewerage matter, &c., that flows into it, from the time the gates are shut, till they are again opened, this being from four to five hours during every tide. Now as the sewerage-water accumulates or rises in the reservoir, the animal and vegetable refuse, and other substances, which are carried along in suspension by the velocity and action of the descending water, are thrown down, and thus become deposited and accumulated upon the channel; these substances being for the most part of greater specific gravity than that of the water; and, therefore, when it is still they settle and subside to the bottom. The gradient all along this portion of the sewer being very little, the water flowing down it here soon increases in height, and thus the action and force of the stream becomes very much expended at a considerable distance up the sewer; the lighter particles of matter being carried forward, while the more bulky and heavier, become deposited where the water loses its principal velocity.

Had scientific and proper principles of drainage been observed when this portion of the sewer was arranged and constructed, at least 5 feet more fall could have been given to it, so as to have brought the discharging sill of the outlet somewhat under low-water mark in the river, and which would not only have greatly improved the drainage of the lower portion of Westminster, by allowing the collateral sewers a greater gradient than they now have, but the increased fall would have

imparted such an amount of velocity and action to the descending stream at this part as would have prevented the deposition of matter, and consequently would have carried it direct into the Thames. The height of the water at each pent in the reservoir varies considerably, it rising higher on those days when the water companies' mains are charged for the service of the public, and also during rains and storms. But it scarcely or never rises so high as highwater mark outside the flood-gates, and when the tide recedes to, or a little below, the level of the accumulated water in the reservoir or sewer, the gates are forced open by the superior pressure inside, and thus the water gradually and slowly sinks and flows out with the ebb tide, leaving the deposited matter upon the bed of the sewer.

bed of the sever. Now what I propose in order to prevent these accumulations for the future is this : that the gates at the outlet be kept closed during each ebb tide, *until it leaves the sill* of the outlet. Then they should be opened and the descent of the current not having any thing opposed to it, such a high degree of velocity and scouring action would be by this means imparted to the stream, that it would raise up and carry along with it the substances which were deposited during the time the water was accumulating in the reservoir, and thus much of the stench which now infects this locality would be done away with, and great expense to the public saved also. An OBSERVER.

THE GILLESPIE MONUMENT IN COMBER.

On the 24th ultimo the monument recently erected to the memory of Major-General Sir Robert Gillespie, was publicly opened, up-wards of 25,000 persons being present, includ-ing the members of 119 masonic lodges, many of whom had travelled miles to attend the ceremony. The monument consists of a well-pro-portioned square pillar and pedestal 55 feet high, divided into compartments on the four faces, on each of which is sculptured a representation of one of the principal scenes of Gillespie's career; and it is terminated by a statue of the General himself, holding his sword in his right hand. Gillespie having been distinguished as a freemason, the south side of the pedestal is sculptured with masonic devices. "Brother" Johnston, the architect, received much praise for the manner in which he had carried out the intention of the committee. The proceedings took a masonic character, and one of the speakers, Alexander Grant, Esq., of Derry, made some lengthened observa-tions on the value and purpose of the institu-tion. He remarked especially on the manner in which it had withstood the destroying hand of time, and that its tendency was to effect good. "As Masons," said he, " we consider the entrance of a candidate into our order as typical of the entrance of all men on this their mortal existence. It inculcates the useful lesson of natural equality and mutual depen-dence—it instructs us in the universal principles of beneficence and charity, to seek solace of our own distress, by affording relief and consolatiou to our fellow-creatures in the hour of distress and affliction. Above all, it teaches us to bend with resignation and humility beneath the chastening hand of the Almighty, at the same time to engraft his law in our hearts. Further, it instructs us to cultivate the intellectual faculties, and to trace it through the paths of heavenly science, even to the throne of Omnipotence. To our minds, thus modelled by virtue and science, masonry, however, teaches one great and useful lesson more; she leads us, by contemplation, to the closing hour of our existence. Masonry has been not only mental wealth to the poor man, but softened the asperities of life and lightened the derive shalows of adversity with a smile." the dark shadows of adversity with a smile."

OLD GREYFRIARS' CHURCH, EDINBURGH. —On the 10th instant, the preliminary operations for the demolition of this church were undertaken in the presence of the lord provost, and several other of the city authorities. By means of a large beam which was employed as a battering-ram, the large pillars which separated the southern aisle from the main one were levelled with the ground, bringing with them the whole of the roof which they supported, and leaving only the small portion covering the northern aisle standing.

ST. WILFRID'S ROMAN CATHOLIC CHAPEL, HULME.

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A FORTNIGHT ago, the anniversary of St. Peter and St. Paul, the chancel of St. Wil-frid's, Bedford-street, Hulme-which had been for some time closed for decoration-was reopened. According to a local paper the eastern end of the church has a spacious chancel, and two lateral chapels, one dedicated to the Virgin, and the other to St. Thomas of Canterbury. The chancel is between these; Canterbury. The chancel is between these; and it is to the decoration of this portion of the church that the congregation has been directing its efforts; and to aid in defraying the expenses of which, the collections of the day were made. The chancel is divided from the nave and lateral chapels by open screenwork of oak, the cusps and mouldings gilded and picked out with crimson. The screen next the nave is surrounded with a large rood or crucifix, with figures of the Virgin-mother on one side, and St. John the Evangelist on the other, and on either side of these, three massive gilt standards bearing large wax lights. The chancel is of large dimensions, about 25 feet square, with an open tim-bered roof. To ensure the stability of the work, this, from rooftree to floor, has received five or six coats of oil-paint, upon which the decorative work has been done, forming one glowing mass of gold and colour; and in de-sign and execution it is described as being, for its extent, the richest specimen of polychromic painting in England. The eastern end is adorned with four windows of stained glass, and the south side with one, all exe-cuted by Mr. Wailes, of Newcastle-upon-Tyne. The roof of the chancel is of azure, thickly sprinkled with gold stars; the rafers of crimson and gold, with rosettes and scrolls. The walls are covered with a simple dispering of blue, white, and red, down to the level of the rere-dos (or screen at the back of the altar), when the pattern increases in intriacy of design, richness of colour, and the more profuse use of gold. At the extreme height of the eastern gable, on a gold groundenelosed in the mystical vesica piscis, is the figure of the Lamb, and below, in round medallions, are two angels in attitudes of adoration, clad in white angels in attitudes of adoration, clad in white robes, and hearing tapers. At the same level, along the side walls, are five other angels in-scribed with sentences from the bymn, "*Cloring* in *Excelsis Deo.*" On either side of the eastern window is a large full-length figure, one of St. Wilfrid, in whose honour the church is dedicated; and the other of St. Edward the Confessor. The upper part of the rere-dos has shields alternately bearing the fa-mily cognizance of St. Wilfrid, and the arms of mily cognizance of St. Wilfrid, and the arms of the diocese of York, of which he was bishop. Beneath these again are seven medallions containing the heads of as many Angle-Senoa bishops. The corbeils are of crimson, with the emblem of our Lord's passion and desth blazoned in gold; the reveals of the windows and arches are of a rich pattern; the moald-ings of the arches, piscina and sodilia, the piings of the arcnes, piscina and seemin, the pit-lars of the reredos, and of the altar; are of bur-nished gold, which, mingling with, beighten-ing, and relieving the rich profusion of colour with which the whole abounds, produces a gorwith which the whole abounds, produces a ger-geous coup d'æil. The design was furaished by Mr. Welby Pugin, and excouted by Mr. William Boardman, of Manchester; the heads and figures being painted by Mr. Keeling, of Manchester. No cost appears to have been energy upon the work spared upon the work.

ST. JAMES'S CHURCH, NOBLAND, NOT-TING-HILL.—This edifice was consecreted last week by the Bishop of London, but at present it is minue the steeple, a deficiency which necessarily detracts from inte appearance. A subscription is, howev er on foot, to enable the trustees to erect the steeple; and as the sum of only 2501. is wanting, it is expected that the object will be speedily accomplished. The seats, which are constructed very low, will accommodate 750 persons, and one half of them are free.

FINE ARTS IN EGYPT.—We learn from Paris, that the Pacha of Egypt proposes to establish an academy of the fine arts in Cairo, and that a number of young men have been sent at his cost to Rome to study painting and sculpture there, with the view of acting as the first professors.

HUDP LONDON STONE.

- "It is so sure a Stone that that is upon sette, For though some have it thrette (Wish Menaces grym and grette, Yet Hurte had it none: "That the Oitie is set uppon, Which from al his Foone Hath ever preserved yt."

So singeth Master Fabian, with more good will, belike, than harmony, and possibly among the several characters ascribed to this mysterious stone, whereof many have conjectured, but none professed to state precisely, the origin, that of a Christian monument, according to the old City chronicler, may have likewise appertained to it.

But it is to an earlier period that we are to carry our inquiries as to its original use and destination.

Wren, who had opportunities for practical investigation, which might have done much toward the knowledge of ancient London, in the hands of a better antiquary, found, in the immediate neighbourhood of this stone, such extensive remains of buildings, evidently Roman, as led him to assert, supposing it to be the milliarium or standard milestone, similar to that in the Forum at Rome, that it partook of a more extensive form, and appeared, in some degree, to have imitated the Milliarium Aurem, at Constantinople, which was not merely a pillar like that at Rome, but a roofed build-

ing. Now, granting the roof, which is, indeed, a thing quite probable, we may suppose an edigoodly stone, of which but a morsel now sur-vives, would form the central pillar; conceive this, surrounded by a platform with steps, and having a pent or roof, supported by a series of inferior columns, and you have a building of a Roman character, and withal the model, per-chance, of those central crosses which date from a period as early, for aught that is known, as that of the Saxons, who learned the forms of sreditesture from their Roman predecessors. And now, good reader, you may set up statues of Fortuge and Mercury, for we will conclude this not only to have been the point whence branched off the principal highways, but that it was likewise the place of eloquence, where proclamations were addressed to the populace. You may add, likewise, if it seemeth so to be-hore you, the statue of the Emperor Theodosius, in whose honour the name of the ancient city, Latinised into Longidinium, according to Autininous, or otherwise Londinum and Londinium, from the elements of its Celtic denomination, was for a time suspended, and that of Augusta bestowed upon it instead.

But m for we have begun somewhat before the beginning, so far as matter of surmise is concarned-let us now take an earlier view of this renewed city. Imagine we, then, a space cleared from the primeval forest. The various tribes of the early inhabitants living in a state of a predatory warfare, some natural defence was necessary to a people who had not learned the art of building walls, or constructing artificial bulwarks much more efficient than the stockade or fence of felled trees surrounding the village. The site of this primitive city is accordingly chosen so as to be protected on all sides: the Thames on the south, and on the north the manshes, afterwards known as Fensbury, were traversed by certain rivers running into the former, and forming the boundaries of the settlement.

A street of hovels runs east and west, leaving a space in the centre, and in this space stands a perpendicular mass of unhewn stone, even such as they of yore set up for worship and secrifice in the East, and similar to the grey and solitary pillars which appear inthose waste moors of Cumberland and other parts of England, and furnish the untaught peasant with the theme of many a wild tale and fabulous legend. This particular stone, standing in the midst of Lon-dun or Llwn-thun, the unhewn altar of the Druidic hierarch, was then, gentle reader, upon the authority of, "it has been supposed," no other than the identical London Stone.

And, verily, it is a pleasant supposition; and let us only adopt it as such, and belike it will soon amount to a belief; and why should not the judicious antiquary have his pet weakness to cherish like a founding, hugged all the more vlosely the more it is rejected of others? Marry, good friend, the thing is wholesome,

and in this shrine will we lock up all our credulity. The Romans took, then, this venerated monument, and dedicated it to those tutelary deities who presided over the destinies of way farers, and all such as would propitiate the goddess Fortune.

Having made this declaration of faith, it now behaves us to descend from our altitudes, and betake us to some inquiry concerning what history sayeth touching this, our subject, and eke what tradition, which latter is but an un-written history, and therefore unsophisticated, and off times mears to the naked truth Baand oft-times nearer to the naked truth. Before the time of the Conquest, then, and that is whereof one parcell is described to lye neere unto London Stone."

London Stone, be it said, stood not, of yore, in its present place, but on the other side of Watling-street, which was formerly one of the three great thoroughfares running east of Roman London. There was an open space where several streets met, and surrounding which were the markets which supplied the which were the markets which supplied the city with provision, such being the only legal markets according to a decree of Hammond Chickwell, in the reign of Edward II., which sets forth that "none should sell fish or flesh out of the following places, vis., Bridge-street, Eastcheap, Old Fish-street, St. Nicholas Shambles, and the Stocks-market," the latter so designated by virtue of the provision made there in order to chastise and expose all chesting huxters, and such cozening knaves as dealt not honestly in their wares, according to the law of the Pied Poudre Court. This was the region of good cheer, for here, said Lydgate,

"Pewter pots they clattered on a heap ; There was harp, pipe, and minstrelsy

There were ribbes of beef rosted, and pies well baked, and, while the substantial and strongflavoured meats were ever ready to appease the hunger of the churl, the more dainty and appetising vivers, such as spiced frumetye, carpe in foile, larks ingraylede, and many other toothsome refections, were forthcoming at the call of gallants from the patrician purlieus of St. Catherine's Tower Royal, and Baynard's Castle.

Nor was good sack lacking to boot, be thou Nor was good sack lacking to boot, be thou witness, shade of fat Jack 1 but thou never could'st become a shade. Here revelled, if Will Shakspere speaketh sooth, hotheaded Prince Hal and his frolicksome playfellows. The atmosphere is still redolent of canaries, and the nose of Bardolph sheds a fiery splendour over the spot like the livid efful-rence of a stormy supset gence of a stormy sunset.

But the glory of Eastcheap is departed, the Boar's Head is no more, and they who would behold its former site may seek it well nigh, even at the feet of King William's statue.

In the Saxon times and downwards, ere London had a Bourse, or Exchange, the font of St. Paul's and London Stone seem to have been resorted to for the ratification of various transactions; and a promise to pay a debt upon London Stone appears to have imparted an additional solemnity to the obligation, by the nomination of the locality where it was to be fulfilled, the shadow of its early canctity probably taking the colour of the successive religious changes it had witnessed, until it was finally invested with a degree of Christian reverence, according to the spirit of the times.

Moreover, its great antiquity, for few men are without something of the spirit of anti-quarian veneration, however little they may be conscious of it, may have given to it, in the minds of the citizens, something of that importance which is supported by an indefinite superstition.

It had thus become in the eyes of men, as it were, in some sort, the foundation-stone of the city, even as Fabian suggests, being the oldest visible object there existing—a thing by which the city and its greatness were to stand or fall, wherefore, as it hath been recited, treaties were there ratified in good faith between man and man, proclamations made, and all matters relating to boundaries begun and ended there.

In the same spirit, that arch rebel, Jack Cade, when he entered London at the head of the Kentish insurrection, marched to this place, and, in the presence of a great concourse of people, struck his staff on London Stone, exclaiming, "Now is Mortimer lord of this city !" "And here, sitting upon this stone," &c., adds Shakspere, who wist somewhat of the gnostic meanings of things, thereby implying, that, although a more dignified orator would have stood upon the stone or the platform thereof, if such existed, the would-be Mortimer, inspired, forsooth, with the putting down kings and princes, must loll at his ease, while he addresses a swaggering oration to his quaking worship, the mayor, and issues this lordly ordinance,

"I will make it felony to drink small beer."

The last notices of this ancient and solemn monument appear in this wise: — "On the south side of this high street, near unto the Channell, is pitched upright a great stone, called London Stone, fixed in the ground called London Stone, fixed in the ground very deepe, fastned with barres of iron, and otherwise so strongly set, that, if Cartea doe runne against it through negligence, the wheels be broken, and the stone itselfe un-shaken." This is its appearance according to Stowe.

And now the latter days fell heavily upon the venerable relique, which was at length overthrown, and in a dark age, and by the sentence of wicked men, without awe or veneration, doomed to destruction, as a nuisance !

But at this crisis there arose a bold and goodly hero (upon whose memory be every honest antiquary's benieon), by name Thomas honest antiquary Maiden, of Sherbourne-lane, printer. This worthy moved the authorities, even the parish officers, to its preservation, which act of P righteousness was fulfilled in the year 1798, whereby London may be said, in a figurative sense, to continue standing upon its ancient foundation.

And now, worthy reader, having detailed' for your instruction as much as is chronicled of London Stone, and, perchance, somewhat more, in the process of this discourse, behold it shifted, and degraded from its dignity and uses, even where it hides its diminished head, curiously enshrined in a case of freestone. It seemeth but a little bit of what would appear to have been of a goodly bulk formerly; but remember that the unsparing wheels of fifteen centuries, if not many more, wheels of inteen centuries, in hot many more, have passed over it, and even still it may be bigger than you wot of, for though we peep thus at its venerable crown, which is somewhat greater than your head though by no means as large as the dome of St. Paul's, yet may there be much more below ground, and enough, perchance, to serve as a goodly bulwark to that part of the church wall against which it standeth.

In curiously surveying the site there will, likewise, be seen another object which partaketh somewhat of the spirit of the earlier time, yea, the days when labouring men might rest awhile on their wayfaring, under heavy burdens, ere it had been ordained that all things had to be done in breathless speed and haste. This is a porter's shelf, many of which are now removed, but which presented formerly numerous invi-tations to the weary, accompanied by certain sage admonitions to boot, daintily imprinted to this effect, "Don't forget your parcels." Underneath we may find, lazily prolonging his rest even unto the pitch of snoring, an unthrifty member of the fraternity of London porters, who has, mayhap, essayed to carry too much of his namesake, over and above the sufficient load upon the shelf, and now wots but little of things ancient and modern, nor even of the preservation of his shins in a populous thoroughfare.— Illuminated Mayazine.

STIR IN THE SCHOOL OF DESIGN .papers which have appeared in our columns on the state of the School of Design have excited very lively interest, serving to shew that a large number of our readers consider it as it really is, a subject of considerable import-ance. We have now before us statements of an extraordinary character bearing upon it, but feeling the possibility of committing injustice, both correspondents and readers must pardon us for postponing the consideration of them for another week.

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THE BUILDER.

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INFLUENCE OF NEWLY-BUILT HOUSES ON THE HEALTH OF THEIR OCCUPIERS.

DR. SUTRO, in a recent number of the Medical Times, draws attention to the intimate connection kept up between the external air and the human organization, through the medium of theskin and lungs, and then he refers to experience to shew the slow and dangerous diseases to which inhabitants of newly-built houses are exposed, and he considers it, therefore, to be the duty of the sanatory police to remove or check these evils, by means of de-cisive prohibitory measures. The normal composition of the air is changed in newly-built houses, and thus diseases are created :--lst. by an increased proportion of water in the atmo-sphere; (a) from the wooden materials, which may be too new and damp, and which, there-pared from dried clay, most; (c) from the ma-terials used for cementing the stones, and for terials used for cementing the stones, and for colouring and varnishing the stones, and for mortar used for cementing the stones, consists of hydrate of lime, which gradually loses its water, and hardens by attracting carbonic acid from the atmosphere. "The walls of those houses remain damp longest which have been plastered immediately after their completion, because the dried lime forms an external layer very difficult of penetration. As accidental causes, which may render houses damp, it is necessary to mention wet weather when building, damp situations, large cellars, and enclo-isome by other high edifices, which prevent the free lagests of son and wind. Ind. The provoorsion of varbonio acid in the air is diminished by the mortar which attracts it from the air. as before mentioned ; it may also be attracted by: wilburs; containing scotate of copper, in which case the actic acid escapes. No direct injury would; however, be caused by the dimiweition of darbonic acid, as it belongs to the matheme encodeted by the skin and lungs. 3rd. The following foreign substances are miaed with the dr :--- (a) particles of line, which have been proved beyond doubt to exist in the atmosphere of new habitations, being suspelided by the susperation of the moisture ; (6) evaporation of oil and metallic colours. Combinetions of lead, copper, and arsenic are employed in the preparation of painter's colours. ead volatilizes at the increased temperature of the rooms, copper does not, but wherever assenical colours have been used, the air may absorb assenious acid, and asseniurettad hydrogen gas may be formed by combination (with hydrogen; (c) different chemical evapo-rations of damp new wood, mould, fungi, and rations of namp new wood, indud, langt, and grasses, which arise and putrify in damp habi-tations. P. Frank has already directed atten-tion to the mould with which the furniture of newly-built houses is covered, and to the constant moisture of the clothes and linen, from which circumstance alone influences injurious to the inhabitants may be expected; for on account of theinstrained indiate ity of the surrounding atmosphere, not only is the skin prevented from free transpiration ; but it is even induced to attract more moisture. This is also the case with the lungs, and thus the composition of the blood is rendered abnormal, , and hydræmia of the whole body is produced this is: shown by a pale anormic face, sweated muscles, decrease of strength, sluggishness of all the functions, difficult respiration, and soft nall pulse, which symptoms frequently termi-180 nate in external or internal dropsy. In other cases, protracted theumstisms, articular inflammations, contractions or paralyses, are produced. In addition, the sojourn in a damp atmosphere is a frequent cause of the develop-ment of supplie intermittent and the development of scrofuls, intermittent and typhoid fevers, scurvy, quinsy, croup, pulmonary gen-grene, puerperal fever, &c. Wounds and grene, puerperal fever, &c. ulcers easily assume an unhealthy appearance, and have a tendency to take on gangrenous inflammation. The evaporation from organic substances favours the production of miasmata and contagions, for in no situations did the cholera occur more frequently, than in new, damp habitations. The inspiration of lime damp habitations. The inspiration of fille particles may predispose to diseases of the chest, or apoplexy. There can be no doubt, that the lead employed in painting the walls, evaporating at a higher temperature, may pro-

duce in those who are constantly exposed to its injurious exhalations, symptoms of chronic poisoning, disturbed digestion, colic, or pa-ralysis, but this may be less feared from paints coloured by acetate of copper, inasmuch as it does not volatilize, and could, perhaps, at most by attracting carbonic acid, allow its acetic by Mitratung Carbonic Patro, and the action acid to escape. Chronic poisoning by arsenic may be produced by being exposed to the eva-poration of Scheele's or Schweinfurt's green, from which arseniuretted hydrogen and arsenious acid often escape for a long time. Lastly, the constant meisture of the clothes and beds, and the frequent effect on the food causes certain injurious consequences on the constitutions of the inhabitants. Since then the early occupation nof inawly-built houses and recently plastered mome cause as many discusses, and impart to oblide the series of prolonged soluces and minery, it becomes the duty of the state to prevent these evils by all possible means. In order to guard against the perils and injuries enumerated, the author considers the following measures to be necessary. Official examination of the materials before the commencement of the building, the enforcement of proper arrangements as regards the building itself. Thus, in public contracts for any building, to be erected in summer, the condition ought to be made, that the materials should be procured and dried during the preceding winter, and the term of completing any edifice should always be regulated according to the weather. Lead and arsenical colours for painting the walls should be entirely for-bidden. 2° A house should not be inhabited before a fixed time after its completion had elapsed. Some authors think a year should be the period fixed. Considering the different effects of different localities, a house in town should remain uninhabited for a year, and in the country, where sun and air have free access, for half a year, after it has been finished. Should any house be dried before the time appointed, the proprietor might re-quest the sanatory commission to examine it, when, if sufficiently dry, it might be inhabited. 3° A commission should be appointed for the purpose of examining every newly-built house, and testifying to its soundness before it is inhabited. Austria presents evidence of the feasibility of such an arrangement. 4º Instruction of the people as regards the injuries caused by inhabiting newly-built houses, &c., and as regards the means to be taken for the purpose of counteracting these injuries. The above commission not being generally intro-duced, wor put in force in cases of repairing, painting, &c., people ought to know to what diseases they are liable by exposing themselves to such injurious evaporation, and if compelled by circumstances to submit, they ought to use the following precautions : -- first, drying should not be confined to one room, but to all the adjoining rooms. Mould, fungi, &c., should be rubbed and washed off with the be frequently lighted, and the windows should be frequently lighted, and the windows should be opened. Muriate of lime or sulphuric acid be opened. Muriate of time of supports acid should be put in different places to attract the moisture. To parify the air from other inju-rious matters, the following substances are re-commended, chlorine, nitric acid vapours, furnes of sulphur, evaporation of vinegar, coarsely powdered and moistened charcoal put indifferent places, fumigations with the vapours of elder berries. For rooms already inhabited a solution of chloride of lime is the most proper substance. Drawers and other furniture ought not to be placed too near the damp walls, and if the latter should be covered with mould, they ought to be touched with a solu-tion of chloride of lime. In addition, warm and dry clothes must be provided, and the bed must not stand too near the walls. Straw or feather-beds must be changed frequently, or exposed to the sun.

BIRKENHEAD MARKET.-The new markethouse at Birkenhead was opened on Saturday week for the first time. The building is one of the largest in the kingdom, and is said to be superior to any thing in its admirable arrangements and accommodations. Large quantities of eatables of all sorts were displayed at the various stalls, and the purchases made were such as to ensure success to the renters of the shops and stalls. The entire cost of the build-ing is about 24,000/.

PURIFTING WELLS, &c.

SIR, - Seeing an extract from THE BUILDER respecting a suggestion of mine for purifying wells, cesspools, &c., I beg to state that the method communicated by me to the Society of Arts and Sciences, and rewarded by Society of Arts and Sciences, and rewarded by them by an honorary testimonial, was quite different to throwing a quantity of lime into the well. If there is a depth of water in the well the lime will be absorbed by it; if thrown into a dry well, it will be of no use whatever. The process is simply this :--On finding a well contaminated with carbonic acid gas (and no man ever ought to descend a well before this is ascertained, by lowering a lighted candle, which will be extinguished, if there be foul air, on coming in contact with the vapour), take on coming in contact with the vapour), take about half a bushel of fresh burnt lime, put it in a bucket or kettle, pour water on it sufficient to slake it, but no more. When the lime has steamed a short time, lower it down in a steaming state, so that the bottom of the bucket is close to or rests upon the surface of the water in the well. By lowering it to this depth, if the well is foul near the bottom, it will be the more effective. It is by the affinity existing between the lime and the carbonic acid gas that the vapour is destroyed; by that affinity the carbonic acid gas seizes upon the lime, and is incorporated with it, and forms a carbonste of lime, which is perfectly harmless. In minutes the well will be in a pare state. In ten J might add much more upon the effects of lime, used similarly, in vaults, graves, and vats, but, fearing to be too prolix, I conclude for the present. I am, Sir, &c., A. J. GREEN, Bricklayer.

Sudbury, July 19th, 1845.

SUSPENSION PIER AT WESTON-SUPER-MARE, BRISTOL.

It is proposed to annex the Island of Birabeck to the main land, by means of a suspension-bridge on the principle invented by Mr. Dredge, of Bath. In opposition to this, it has also been proposed to approach the island by means of a roadway, formed of loose stones at the base, with a crown on the top of solid ma-sonry; but as the difference in the cost will only be a few hundred pounds, it is not likely that the latter will find much favour.

Mr. Dredge has furnished the committee with several designs for the suspension-bridge. The whole length to be crossed is about 1,400 feet; of this he proposes that about 1,100 should be accomplished by means of the bridge to be composed of iron, the central span of which would be 545 feet, and the outside openings 272 feet. The remaining 300 feet he proposes should be solid masonry. The height of the towers above the vosdway is intended to be 42 feet. The platform is designed to be hung on two main suspending chains.

PRESIDENT OF THE ROYAL ACADEMY .-The academicians find the selection of a new president so difficult a task, that they are un-willing to accept Bir Martin Shee's resigna-tion, although it is certain that the state of his health even if he accede to their request that he should retain the office, will prevent him from performing its duties. An address was presented to Sir Martin a few days since, soliciting him to retain the presidentship, but we have not yet heard his reply. THE ASSOCIATION OF ABCHITEOTURAL

DRAUGHTSMEN,—This ussociation seems now to be very satisfactorily organized, and pro-mises to be useful amongst other ways, in faci-litating communication between its members and the profession generally. Architects may here at once learn the addresses of draughtsmen who are unemployed, and see their works. The place of meeting is 33, Southamptonstreet. Strand.

REDUCTION IN THE PRICE OF GAS. addition to the cases we gave last week of provincial companies having resolved to reduce the price of gas, we have heard that at Bristol both companies have lowered their prices to 7s. per 1,000 cubic feet; at Aberdeen 4s. satisfies the rival companies; and at Doncaster a reduction of 10d. on the same quantity has been effected during the past fortnight. With respect to the reduction at Aberdeen it is worthy of remark that the far more extensive companies of Edinburgh, Leith, and Glasgow, having the coal at their very doors, charge six shillings and sixpence.

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The Nutural System of Architecture, as opposed to the Artificial System of the present Day. By W. P. GRIFFITH, Architect, F.S.A. Published by the Author, 9, St. John's-Square.

The principal object of the ingenious work before us is to establish, or rather re-introduce, those laws relating to proportion which the author maintains were acted on by the early and middle-age architects. Ancient edi-fices, he asserts, were the result of pure geo-metry, and he gives the following table to shew that the most perfect examples of Greek art were produced at a time coeval with the most celebrated Greek geometricians :---

| Geometricians. | Eras. | Temples. 1920 | Bras. |
|----------------|-------|--------------------------|-------|
| | B. C. | | B. Ć. |
| Theles | 600 | Delphos-Apello | 600 |
| Pythagoras | 550 | (Thesewh | |
| Eutocius | 540 | Athens Parthenon | 448 |
| Hippocrates | | Athens Parthenon, | 435 |
| Procine | | Olympia-Jupiter Olympius | 436 |
| Propus | | Athens-Erectheum | 300 |
| Serenus | 390 | Priene-Minerva Polias | 840 |
| Aristonus | 350 | Ephesus-Diana | 840 |
| Plato | 810 | Elousis | .915 |

"To teach weak mortals properly to scan, Down came geometry and formed a plan."

Another portion of the work treats of the connection between architecture and music, and is to the effect that the laws which regulated a measured musical production regulated in like manner just proportion in architec-ture. On both these points much has been written and thought since Archimedes, who written and thought since Archimedes, who demonstrated that the proportions of certain solid hodies are the same as those of the musical consonances. René Ouvrard, a learned French ecclesiastic of the sevententh century, published a work entitled Architecture Har-monique, ou application de la doctrine des pro-portions de la Musique à l'architecture (Paris, 1679, 4to.), and afterwards a supplement (1682) called Calendarium novum perpatuum et irre-vocabile, but this he was prevailed on by M.

Argauld to suppress. Lyos the forms of the five platonic bodies, viz.:—the *Tetrahedron*, or regular pyramid, which has *four squal* triangular faces; the *Harahedron*, or cube, which has *six equal* square faces; the Octohedron, which has *eight* equal triangular faces; the Dodecahedron, which has locales equal pentagonal faces; the locade-dron, which has twenty equal triangular faces, Mr. Griffith endeavours to shew that the arand or inthe endewoors to snew that the ar-rangement of all the Grecian buildings was based; and some of the plans do certainly pre-sent very singular coincidences if nothing more. The subject however is still obscure to those who now give their attention to it for the first time, although we dare say to our author first time, although we dare say to our author, who has long <u>dwelt upon</u> it, the whole is so clear, that he will be surprised to hear us say so. We suggest that he should in the next edition of the book describe in words the construction of the various diagrams, step by step, and shew how the plan of the building is produced by them.

The Art of Land Surveying, explained by short and easy rules. By JOHN QUESTED, Sur-veyor. Relfe and Fletcher, Cornhill.

This little volume, the author modestly ays, is arranged for the use of schools, says, is arranged for the use of schools, farmers, stewards and others, who may want just such a knowledge of surveying as will enable them to do all that is needful in that art on the farm. There are many others, however, to whom it would be more useful than some larger and more pretending works; and werecommend it to all who wish to obtain a knowledge of surveying and plotting land with knowledge of surveying and plotting land with the chain or cross-staff. The language is plain, and the direct ions clear.

HUNT'S IMPROVED PATENT URINALS. — Mr. Hunt, of Qucern's-row, Pimlico, has in-vented a basin of h ighly vitrified porcelain, which is admirably adapted for its purpose, railway stations an d other public places. Water is admitted to cleanse it through a series of small holds will round the rim. It is superior to any thing soft the kind we have seen, and deserves to be germerally known. HUNT'S IMPROVED PATENT URINALS.

Correspondence.

THE BOUND TOWERS OF IRELAND.

Siz, --- In my observations on the round Siz,..... In my observations on the round towers the principal point aimed at was to assign the tower to the same date as the ad-joining church. In this opinion your corre-spondent, "Veritas," seems to agree, but states that "he found them near the castle quite as often as the church." This statement is correct, but "Veritas" ought to have men-tioned hose many he did find. Now out of 118 round towers upwards of 100 still exist: and this no proposition has

100 still exist; and it is no proof of the point be endeavours to establish; "that they are found near the castle quite as often as the church," because he happens to find a round tower and an old eastle adjoining, minas the church; such a fact at the present day is no proof, far from it, that there never was a church in the vicinity. Sugar int state ad

It so happens the old tower I particularly referred to (Aghadoe) stands within 57 feet of the dilapitated church, and at a distance of about 200 feet stands an old castle.

Again, we have Ferns, once an eculesisatical eity of great note, having at the present day the ruins of an ancient abbey, the remains of a fine cathedral, and the mouldering walls of the once proud castle of the Kings of Leinster, whilst not a vestige of its former lofty round whilst not a vestige of its former lofty round tower can be traced.

One thing I candidly admit, my powers of vision are not equal to that of "Veritas;" rocks, hills, or mountains, in nine cases out of ten, form a complete screen to their being "within sight of others." Parties taking a trip in an air balloon, or the "aerial machine," would at once contradict this assertion.

There are no examples of these towers in any part of Europe at the present day except one at Aix la Chapelle, close by the celebrated cathedral (built by an Irish architect at the close of the eighth century), and two in Scotland.—I am, Sir, &c., J. K. Gorey, July 16th, 1845.

THE COLOSSAL STATUE AND THE UN- COLOSSAL TRIUMPHAL ARCH.

Although we entertain for H. G. the Dake of Wellington every respect due to his bigh position, we cannot help remarking, that our forefathers hardly ever erected monuments to living men. Joseph II. and Goethe declined it most peremptorily. Besides, there is some anomalous inconsistency in placing the inunge of any one in the public streets, whom every one may see in propria persond. In fine, every monument implies something sepulchraf, as it were; viz. the preserving of some one's memory, which is incongruous with a person who does yet exist. However this may all be-monuments have been erected to the living now-a-days.

Turning our attention to the coloasal statue to be placed on the triumpbal arch in Hyde-park—we perfectly coincide with what has been said in the last number of this journal; intending merely to throw out another remark, which, we trust, will have some *weight*. The statue, namely, is colossal (15? tona), but the arch does not seem to us of a solidity to bear any thing colossal—in fact, the architect never intended it for such purpose. The consequence, therefore, may or will be, that the such will not be able to stand such a burthen. And then, somewhat in the year 1860 or 1870, the colossal statue will out-wear, the arch-and on some fine day this will give way, and the statue come down, and of course, break. to pieces. Then, both will have to be re-built and re-cast; in which way, however, this is to be done, will depend on the cast of character of the men of those latter days. . . i Ja Lammer, Ya

ARCHITECTURAL COMPETITIONS CHURCH AT CAMDEN TOWN.

SIR,—Knowing that the columns of your valuable journal are always open for advocat-ing the cause of justice, I take the liberty of troubling you with a few remarks respecting the late competition for the church at Camden Town. Some time since, a committee was formed who invited a limited number of architects to furnish designs for the church, the cost of which was not to exceed 6,000*l*. A design was at length fixed noon prepared with the usual showily-tinted foreground of com-

petition drawings; but on deliberation it was found that it would cost a very much larger sum to carry it out, and therefore I contend the decision should have been set aside, and

the decision should have been set aside, and the church submitted to a fresh competition, instead of which, the successful architects were desired to prepare a new design which could be executed for the stipulated amount. Now, as any of the other competitors could have prepared designs of much more magni-ficent appearance than those they sent in (sup-posing no regard were paid to the cost of erection), and could afterwards very easily have made another which could be carried out for 6,000L, I think it was giving the successful competitors a most undue advantage, and I truet you will consider the subject of sufficient impertance to occupy a corner of your journal.

trust you will consider the subject of sufficient impertance to occupy a corner of your journal. I am, Sir, &c. ONB OF THE COMPETITORS. London, July 19th, 1845. •• If, the fact, be, as stated by our cor-respondent, it was a fraud, and nothing better; a robbery of the time, skill, and money of those competitors, who adhered conscientiously to the anstructions of the committee. How long will architects, subject, themselves to these in-sults? Professor, Hosking, in a lecture deli-vered at King's. College some time ago, and afterwards, published, exposed, the degrading tendency of the system : we shall take an oppor-tunity to bring it again before our readers.

ANNUAL DINNER OF MESSBS. BUNNETT AND CORPE'S WORKMEN.

SIR,....Coinciding most entirely as I do with your correspondent J. O., in last week's BUILDER, as to the highly beneficial results of occasional social meetings of large numbers of occasional social meetings of inrge numbers of men engaged in the same occupation, if some the liberty of stating, that the same locality (the Greybound, Dulwich), was on Baterday last, the resort of the workmen in the samploy of Mesers. Bunnett and Gerpe, patentees of the revolving iron shutters, Sec. (1) he ment to the number of sider, and denot the new libert the revolving iron shutters, see (1) he men, to the number of eighty, as down to an excellent dinner at 2 o'check, Mir. Stuart, the dorsman, in the chair, several master its dean an doing business with the firm boing also of the own-pany. The afternoon, was speak in various muly sports; for which that place, in so, ad-mirably adapted, and in the evening, the com-pany were gladdened by the streadenees of their respected employersmer han the he week.

and Whose easy presence cheeked no Becent joy;14 and whose substantial addition 'to the nieaus

of convivial enjoyment was fluty appreciated. The respectable and intelligent appearance of the men, who started from the works at Deptford in four vans, the rational churacter of their recreations, and their orderly conduct of their recreations, and their ordering conduct throughout, impressed all who saw them with a very high opinion of their worth, and fur-nished incontestible evidence of the great moral improvement that has taken place in the habits and characters of this class of men. I am, Sir, &c.,

A VISITOR ON THE OCCASION.

= , , . ..

Miscellanea.

LEAMINGTON CEMETERY. - At a preliminary meeting held at the Regent's Hotel; Leamingmeeting held at the Regent's Hotel; Leaning-ton, last week, a resolution approving of the establishment of a public cemetery under the power and authority of a legislative enactment, with a chapel and all necessary vanits; enta-combis; &c., was unanimously adopted; and a committee formed. for requirement of the PREVENTION OF DAAP due in reply(d) some inquiries under this head; which have ap-peared in our pages, at correspondent has directed our attention to the appendix to the 2nd report of the commissioners on the fine-ents, containing evidence of the efficacy in

arts, containing evidence of the efficacy in keeping down damps, of a layer of Seyssel Asphalte spread on the horizontal surface of the walls above the ground level. PROPOSED CARLYON CLUB HOUSE.—There

is a strong party in the club opposed to build-ing, and they have succeeded in obtaining the postponement of the project till next year.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," S. York-street, Covent-garden.]

For Lighting the town of Woodbridge in Saffolk with Gas

For certain alterations of the premises (formerly the Post-Office), in Crown-street, Bury St. Edmunds, and for a New Building.

For supplying the Majesty's several Dockyards with Canada Red and Yellow Pine Timber, Rock Elm Timbers, Spruce Deals, and Ash Oar Rafters. For the restoration of the Norman Tower, Bury St. Edmunds.

For the erection of three additional wards at the Bedminster Union Workhouse, situate at Long Ashton.

For the executing the skeleton of Glenorthy Castle, County of Limerick, Ireland.

For building sewers in Gray's-Inn Lane, from the and of Elm-street to Liquorpond-street, and along Liquorpond-street to Crown-court, being about 800 fret in length : also, for a sewer in Red Lion-

Foret, Clerkenwell, being about 480 feet. For supplying her Majesty's several Dockyards rith Dantzic Oak, Thickstuff, and Plank.

For Building a Sewer in Fleet-street, from Temple-bar to Water-lane.

For Lighting the Parish of St. Mary, Rother-hithe, with the Essential Oil of Tar, for One Year,

from the 24th of August next. For Building a New Union Workhouse, to con-tain 1180 Persons, for the Guardians of the Clifton Union.

For supplying her Majesty's Dockyard with Honduras Mahogany Timber and Polish and Italian Larch.

For the complete restoration of two Windows on the south-side of St. Thomas's Church, Salisbury ; also, for Cleaning and Whitewashing the interior of the same Church. For certain alterations at the Workhouse of St.

Mary's Parish, Islington.

Thirak Railway. For Coupled Locomotive Engine and four-wheeled Tender, to contain 700 gallons, for the Manchéster and Birmingham Railway Company. For the execution of Works on the Newcastle and Berwick Railway.

• • , COMPETITIONS. < 'x

Plans are required for Laying out and covering with Vilarosidenous abent 90 Acres of land having a frontge of about helf a mile to the Queen's-road, Richmond, Surrey, extending from Spring-grove towards Bichmond-hill. Premiums will be given of 25 guineas for the most approved plan, and 15 guineas for the second.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

At the Crewn and Anchor Ian, Ipswich: the Martello Tower (V), situate on the point at Bawdry, Suffolk, near the ferry, and within 100 s of the sea.

yinds of the sea. At Ossington Woods, near Newark : a large quantity of superior Oak, Elm, Larch, Spruce, and Sootch Timber. At Messrs. Westlake's 'Timber 'Ponds Wharf, Southampton : the entire and selected cargo of Red and Yellow Pine Timber and Deals ; ex. '' William'' Hascroft, from Quebec.

At the Crown Inn, Frome: 307 Oak and Ash Timber Trees; the whole of large dimensions

and superior guality. At Little Bentley Hall, Essex: 200 particularly straight and good Larch Fir Trees.

BY TENDER.

In the Hantations of the Duke of Montrose, situate in the Parishes of Drymen and Buchanan, Stirlingshire: many Thousands of Larch Trees of some size, adapted for Railway Sleepers, Roof-ing and Joisting, and other purposes.

TO CORRESPONDENTS.

"St. Mary's Church, Nottingham." -- Havina little authorized information on the matter, we cannot insert the anonymous communications we have received. We shall be glad to see the account in the Nottingham Journal referred to by one of our correspondents. "Q. Q."— As the letter did not arrive in time

for us to reply as desired, it would probably be useless now to do so. "P. C. A." — We are obliged to our corre-spondent, but cannot promise at this moment to en-

grave the diagram.

"Amicus." — We are obliged by his communi-cation, and have availed ourselves of the informa-tion contained in it. Opinions, however, we do not insert but on good ground.

"Mr. B."- The cords for Mr. Fraser's enter-

"Mr. B."— The cords for Mr. Eraser's enter-tainment, at which the Spitalfields' School of Design attended, did not reach us in time. "W. B." (Guernsey.)— General Pasley's work on limes, &c., is out of print, but a new edition will be published shortly. Vicat's work on the same subject, translated by Captain Smith, may be

had at Weale's, High Holborn. "F. T." — We regret that we have not time to enter into the question asked. "B. Green." — The diagram is in the hands of

our engraver.

" Patent Glass Tiles." - We have had several inquiries as to where these are to be procured : can

infairries as to where these are to be procured : can any of our readers tell us? "J. G." (Oxford.) — Gwilt's Encyclopædia of Architecture, published by Longman. Nicholson's Architectural Dictionary, 2 vols., 4to. "Hoisting Building Material." — A builder wishes to know where the machine for hoisting materials by means of an endlase their may be ob

waterials by means of an endless chain may be ob-tained on hire. "W. S." — We regret we have not space for the letter. Our correspondent is hardly correct in his deter. kis dates. "B. B.,"-Next week. Received : "M. R." "P. A. T. H." "T."

"A constant contributor."

ADVERTISEMENTS.

PUBLICATIONS.

Just published, price 5s., neatly bound in roan, with tuck, gilt edges, and lettered, a Pocket Edition of A CYCLOPÆDIA of the 'NEW ME-TROPOLITAN BUILDINGS ACT, together with the Act itself, a Folio Table of the Metropolitan Districts (old and new), a List of the Surveyors, with their Residences and Offices, and a Table of Fees to be paid to the Registrar for services performed. In the Cyclopeedia all the details of the Statute are arranged Alphabetically, so as to be instantly found, and accompanied by extensive references and counter-references to the sections of the Act itself and its minute provisions. By the late A. BARTHOLOMEW, Esq., P.S.A., Architect, Surveyer of the Horasey District. Published at the Office of "The Builder," 2, York-treet, Covent-garden; and to be had of all Booksellers.

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SATURDAY, AUGUST 2, 1845.



HE importance of proper VENTILATION is more generally felt at this time than it was a dozen years ago; that is, larger numbers of persons have become con-

vinced that bad air will kill as certainly as prussic acid, though not so quickly. Individuals have always understood this, - have always laboured to convince the multitudes of the trath of the assertion, and to induce the adoption of means to obtain the fullest supply of pure air; but it is only recently that the massee have been impressed with the fact, and have thought it worth while to employ the means suggested. The evidence that has been brought forward is most conclusive, and abundant : books of all sizes have been written upon it; commissioners to inquire into the state of large towns have recommended " that measures be adopted for promoting a proper system of ventilation in all edifices for public assemblage and resort ;" and so, by repeated striking, the impression has been at last communicated to the general tympanum.

The great question now is, how can ventilation be best effected,-in what manner can the vitiated air be removed and fresh air supplied, without producing currents injurious or offensive to the human frame? And to tell the truth, notwithstanding the numerous experiments made within the last thirty or forty years, and the tomes that convey their results to the world, it is not easy to reply to the question. The same means cannot be uniformly adopted in all cases, but require to be adapted to varying circumstances. No exact rules can be laid down; much must depend on the intelligence of the persons to whom the structure is entrusted. A change in the temperature of the external atmosphere, or of the direction of the wind, may alter entirely the effect of a mechanical arrangement; and the presence of a larger or smaller number of persons than was expected, would require corresponding changes in the supply of air, and the temperature to be artificially given to it.

We have recently, on more than one occasion, directed attention to this subject, and our columns have been open for the particulars of every invention bearing on it, and for every suggestion likely to prove of value in the investigation of principles. We are forced, however, to recur to it by the letters of influential correspondents, pointing out the magnitude of the experiments which have been made, and are now being made, in the temporary Houses of Parliament, asserting the positive failure of them, and urging the necessity for other and totally different arrangements in the new Houses. Our inquiries amongst the members of the House confirm, we are sorry to say, these assertions, and lead us to regard with fear and trembling the extravagantly expensive, and architecturally destructive, preparations for ventilating, which have been made by Dr. Reid. According to the "Brief outlines illustrative of the alterations in the House of Commons, in reference to the acoustic and ventilating arrangements," which Dr. Reid presented to Mr. Hawes' committee in 1837,

BUILDER. THE

the principal object which he endeavoured to attain was,-" To introduce air equally over the whole floor, both in the galleries and in the body of the house; to sustain an equal flow at all times proportional to the number present, and to admit air either at natural temperatures or after passing through the heating apparatus, as might be required." This, one would suppose, with no limits as to expenditure, and no personal scruples about cutting and hacking a building whether old or new, was not a very difficult task; and when the enormous machinery by which it was to be effected was seen, including a huge shaft 120 feet high, the object was considered to be as good as effected. Alas! for the vanity of human expectations.

The present House of Commons, lobbies, committee-rooms, and galleries, with the three hundred thousand little holes in the floor, are no better than the old House,-rather worse, -the currents are most offensive and hurtful. and the escape of the vitisted air slow and uncertain. Members say their feet are in an icepail, and their heads in a vapour-bath, in direct contravention of the old advice, to keep the feet warm and the head cool. But so it is, and members get soon fatigued, and some fall ill; while in all, according to Mr. Wakley, the seeds of bronchial disorders are implanted. Things therefore look serious, and when we find the works at the new Houses stopped and interfered with, architect's plans altered, and supports cut away with the simple direction that some other means must be found (whether there be any or none) to carry superincumbent weight, it is surely time for the public, if not the members, to look about them. We have watched the mode of proceeding both at the Liverpool Hall and Assize Courts, where the architect's plans seemed to us sadly treated, and at the new Houses of Parliament, and to speak the truth, are satisfied at neither place.

A short time since a letter on this subject appeared in the Times reminding the honourable persons whose duty it is to superintend the arrangement of the new Houses, that a contrivance was in operation for many years by which the atmosphere of the House of Lords was kept in a pure state, and at an agreeable and uniform temperature. The writer said of the apparatus that "it was planned, without any charge, by the ingenious Adam Walker, the philosopher, and laid down by the late Mr. Moser, of Soho, and it was, and I believe still is, used in her Majesty's Theatre. Surely, Sir, it is the duty of hon. members at length to free themselves from the deluding trammels with which Dr. Reid finds it his interest to surround them. If a plan of known efficiency exists, is its adoption to be prevented because the pecuniary interests of a bungling experimentalist are in a different direction?'

In consequence of this letter, several requests were forwarded to us, that we should examine Her Majesty's Theatre, where lately great improvement in the state of the air had been found, and lay before the public some particulars of the mode of ventilation pursued there. We accordingly applied to Mr. Lumley, the present proprietor, and received from that gentleman every facility desired. We went over the building with Mr. Charles Marshall, in whose hands the arrangements for ventilating the theatre are placed, and were compelled to arrive at the conclusion that the improvements in the ventilation alluded to, were chiefly owing to the increased attention paid to the means under their control, whereby they are adapted hour by hour to the varying circumstances to which such a structure is liable.

Between the ceiling of the pit and the roof there is a very large space appropriated as the painting-room, and in the sides of the roof there are a dozen or more skylights, made to open, by means of which much of the heated air that accumulates in the roof, brought up amongst other causes by the chandelier, is got rid of. Now, as an instance of the necessity of constant attention, and of the difficulty of laying down rules to be followed without discretion, it may be mentioned that if when the wind is in a particular quarter some of these lights be opened, the hot air, instead of escaping, is kept down upon the audience.

Three or four years ago, the ventilation being considered defective, Dr. Reid was called in to improve it; which he attempted to do by forming a large louvre about 10 feet square, in the roof, with a cowl to close it at the side from which the wind blows; the object being, not to bring cold air in, but to allow the heated air to escape. The single advantage that could be expected of this over the windows already mentioned is, that it should be self-acting,that, instead of having on a change of wind to close the windows exposed to it and open those on the other side, the wind should itself effect the same operation. This, however, is not found always to be the case, and the cowl is not considered of great value by those who are engaged in the house. Another of Dr. Reid's operations was to convey fresh air to her Majesty's box. Here he employed a "blower," -ill-constructed as it seems to us,--in an aperture connected with the external atmosphere, and opening into the box behind the silk with which it is lined. This employed two men the whole evening, but so entirely failed to produce a good effect, that it is now no longer need.

With this exception, there is no mechanical arrangement throughout the house to bring in air, and of the system "invented by Mr. Adam Walker, and laid down by the late Mr. Moser, of Soho," there is no trace. Windows have been opened in every available position, and it is by constant attention to these, under the direction of the gentleman before named (Mr. Marshall), who has found pleasure in the subject, and is pursuing it oon amore, that the frequenters of the Opera House owe much of the comfort which has been found there, notwithstanding the unexampled crowds which fill it.

What is now wanted there, is a controllable arrangement to bring in air at the bottom, independently of the doors, the means of getting rid of it at the top being ample." To avoid unpleasant and dangerous drafts is of course the difficulty, as in all similar cases; but this would be lessened if it were oftener remembered that it is not so much cold air that is required as PURE AIR, and that by slightly raising the temperature of that which is introduced, even in summer, and bringing it in through numerous apertures, the chief end might be attained without the inconvenience described. In concluding this allusion to the Opera House, we cannot omit bearing testimony to the desire manifested by the present proprietor, Mr. Lumley, to increase the excellence of his theatre, as well in the particular to which our attention has been directed as in all others.[†] We shall return to the general question of ventilation before long.



^{*} Double doors might then be placed in the pit corridor, so as to lessen the dangerous draft now found by those who ait near the entrances.

⁺ Our thanks are further due to Mr. Marshall for the dness with which he assisted us in examining the building.

MR. CHADWICK ON WANT OF SCIENCE IN OUR PUBLIC WORKS.

The week before last we mentioned the annual meeting for the distribution of prizes at the College for Civil Engineers, Putney, but from pressure of matter, were unable to do more than allude to the address of the Principal. We now return to it, and have the pleasure of placing before our readers a correct and, we believe, exclusive report of a speech made by Mr. Edwin Chadwick on that occasion, touching many points of much interest. MR. CHADWICK said he had not been led to

expect that he should be more than a silent witness of their proceedings, yet he could not hesitate to offer testimony to the great public importance of the promotion of the studies in practical science, for which the college was specially instituted. This country was pre-eminant for its great expenditure in public works, for its stores of practical science avail-able for their direction, yet whenever a large proportion of those works were examined in their conception, their execution and the effects realised in comparison with the expenditure upon them, they too frequently failed to justify any claims to pre-eminence in the application of that science. In respect to one important class of works, the condition and effects of which it had been his duty to examine—the works for the sewerage and drainage of the metropolis and of other of our large towns, which had been frequently pointed out as a subject of public boast, but on irrefragable proof he had been compelled to pronounce them to be a vast monument of mal-administration, of lavish expenditure, and of defective execution, and this conclusion further inquiry had only served to confirm in every particular. That very form of sewers which had been presented to a com-mittee of the House of Commons by a gentlethis of high professional standing, as the most perfect in its form and connected arrange-ments that had been or could be attained in practice (the form with upright sides, nearly flat segmental bottoms, and spreading foot-ings), was found to accumulate deposits of decomposing matter, and pollute the air of their houses and the streets with offensive and pes-tilential emanations. That form he had adduced as an example of weak, unscientific, and most expensive construction. Line after line most expensive construction. Line after line of the sewers of this expensive construction had since fallen in in one large district, and its use was therefore silently abandoned. Now in the second volume of first report of the commissioners for inquiry into the health of large towns they would see in the admirably clear evidence of their professor of geodesy, Mr. Butler Williams (which he next red to com Butler Williams (which he ventured to commend as a most important subject of their profes-sional study), the demonstration that by a sewer of another and scientific construction, the egg shape, with precisely the same number of bricks three districts might have been sewered perfectly for the money lavished in sewering one, and that one imperfectly and injuriously. Their professor had demonstrated that all this waste of money, which though no less than 60,000/., was levied in excess during ten years on the retanagence in that one direct was of on the 'ratepayers in that one district, was of secondary importance to the noxious effects on the health of the population, must have been avoided had the works been planned and exe-cuted by persons who had gone through a proper course of study, and duly consulted such works as these of Young and Tredgold and others, con-taining the existing knowledge, to be found on taining the existing knowledge, to be found on the shelves of their college library. On inquiry into the history of a large proportion of these wasteful and deplorably inefficient works of our towns, it appeared that they had been superintended by ignorant authorities, and designed and executed piece-meal by common tradesmen, who did not understand the use of the anist level and not being more fully invested. the spirit-level, and nothing more fully proved the ignorant reckless temerity with which such works were conducted than the defective nature of their plans, and often the entire absence of any plans or survey whatever. In one dis-trict, where a commissioner happened to deem it a qualification for the office of surveyor and succeeded in getting it recognised, and where, as a consequence, a properly qualified person hap-pened to obtain the appointment, it was proved in a recent report of that same engineer that no less than one-quarter of a million of money must be expended for setting right the outfalls of the sewers of that one division (the Holborn

and Finsbury) of the several divisions into

which the general sewerage and drainage of

the metropolis had been capriciously, igno-rantly, and mischievously divided. Now he, Mr. Chadwick, ventured to assert without fear of disproof, that had the district which he had named or others, been originally placed under the guidance of any person who had gone through such a course of studies as the course provided in that college, with competent attention to their duties, it was impossible that such misery and waste could have been inflicted; a waste of capital in respect to levels only in that one district, which would, under proper direction, have sufficed for the complete drainage of upwards of 50,000 of the houses in the metropolis that are still left without any proper drainage. As a convincing proof in itself of the reckless or ignorant temerity with which such large expenditure in such important public works had been, and still continued to be made, it might suffice to state that neither in the metropolis, nor in any of the towns examined, was any accurate map with proper system of levels found to exist. Hence they saw large sewers which after all that had been expended on them were found with accumulations of stagnant refuse, acting as extended cesspools. To shew what might be done for amendment, he had asked and had obtained the aid of a detachment of the pupils of that col-lege, and under the superintendence of their professor of geodesy, they had executed as a specimen the first plan of the city of London, and he believed of any town in Great Britain in which contour lines of equal altitude were laid down. That map (which had been fol-lowed by another specimen map of Windsor, executed under the direction of the Board of Ordnance) he displayed before the noble chairman, and stated that he had been assured by competent engineers, that if similar maps ith contour lines had been executed for the whole country, that out of the two hundred and forty millions of probable expenditure for the railways to be constructed in this country, full twenty millions would be saved by the better direction which it must have given to the works. Lord Devon observed that he was fully impressed with the great importance of such well-constructed maps, with levels so ex-hibited, for the guidance of all such works, and he had used great exertions to obtain a map of Ireland with the contour lines, which would be found appended to the recent report of the commission of inquiry into the tenure of land in that country. With such a map, any one in that country. With such a map, any one sitting in his own room might see what would be the best lines of drainage. Whilst the sewers and the general drainage works of large districts were found to have been executed without the rudimentary knowledge available for the efficient construction of such works, large masses of capital were expended in works for the distribution of water into our towns without such a competent knowledge of hydraulics, and other branches of science ap-plicable to the collection, storage, purifica-tion and distribution of water, as a good scientific course of instruction must afford. Some of the consequences of this empiricism were, that after all the ill-advised and lavish expenditure of the companies' capital, the adoption and maintenance of intermittent supplies of water necessitating a double and treble expenditure on the part of tenants; the retention of water in butts and tanks in which it stagnates until it is wanted, and absorbs the dust and soot, and vitiated atmosphere, preventing improvements in the application of water to an effi-cient system of house drainage and cleansing, and the immediate extinction of fires, and The course of the sanatory inquiry, and the examination of schools, and workshops, and large public as well as private buildings, shewed that they had been constructed by professional mere who from the condition of professional men, who from the condition of those buildings when occupied, and the sufferings of those who were kept in them, were demonstratably ignorant of such a practical knowledge of the settled principles of pneumatics, and the existing practical science ap-plicable to warming and ventilation, as must have led to relief by arrangements for the properly regulated ingress of air, that was warmed as well as pure, and for its egress when vitiated. He might occupy the whole day, and fail to adduce all the proofs which

indeed filled the volumes of reports now before the legislature and the public. In them were to be seen the grounds on which the commissioners of inquiry, at the head of which was the noble duke, the president of the college, came to the concurrent and unanimous conclusion, in solemnly recommending to the legislature that securities should be taken for the public safety, that all such works should be superintended as well as planned by men of tried competency as engineers, from the possession of such science as the founders of that institution were anxious for the public educations to impact. But it was not in these advantage to impart. But it was not in those volumes that the public need seek proof, in waste of life and property, of the deplorable deficiences of practical science for which public provision and securities were requisite. public provision and securities were requisite. The proofs were displayed to them in spec-tacle after spectacle of the ruins of fallen bridges, factories, and large buildings, in horrible deaths, and shocking mutilations oc-curring again and again from the like pre-ventible causes. From the direct information of competent inquirers, as well as from the published evidence, he might confidently assert, that where full inquiry was made, assent, that where full inquiry was made, there was not one recent instance of such destruction in which the cause was not assign-able and distinctly assigned to a culpable omission of the application of existing knowledge or science. In the instance of the failure of one edifice, he was assured upon competent authority, that the cause of the de-struction, attended by loss of life, was occajust of the size at which the architect, if he had consulted the works of Tredgold, would have found it shewn on actual experiment that such a bar would break under such a weight such a bar would break under such a weight as had been ignorantly placed upon it. In another instance, of the destruction of life from the falling of a factory, the cause was clearly proved to be the unskilful disposition of some eleven tons of weight on iron beams, which evicting data with respect to the strength or some eleven tons of weight on iron beams, which existing data with respect to the strength of materials, imperfect as those data were acknowledged to be, if they had been duly consulted in the plans and in the construction of the works, would have shewn could only have been safely intrusted with a much less weight skilfully adjusted. Another instance of destruction was displayed in the brackers of a cast-iron beam, the crushing of brick, or a cast-mon beam, the crushing of brick, stone, and iron successively; in the order in which it was laid down in existing works, such materials of such dimensions must be crushed when charged with such weights. On the other hand, reckless empiricism and ignorance of the strength of materials found active the westful contents. materials found safety in the wasteful application of them and massive deformity, which was the subject of complaint as well as the consequent excessive expense of our public works. Again he ventured to repeat, that the task of re-trieving these and the like proved errors, the effectual drainage of towns, of habitations, and agricultural districts, the most effectual prevention of those atmospheric impurities, the CARAC of epidemics and of premature mortality, was only to be achieved when such practical science as it was the object of this institution to promote and diffuse, was duly appreciated and re-ceived by the public, and properly applied.---

(Applause.) DR. LYON PLAYFAIR stated from his own observations, as a commissioner of inquiry, he could corroborate the statements of Mr. Chadwick in respect to the deplorable absence of competent scientific knowledge displayed in our public works, especially in his observations on the want of knowledge of science displayed by builders and architects in their arrangements for ventilation. In the schools which he examined in Lancashire he found that from the space allowed for air to breathe (and the absence of any arrangements for changing it) was only one-balf that in which they could breathe it without change, and were compelled to breathe repeatedly the same vitiated air, and that hence arose various forms of disease, and that their constitutions were impaired for life.

MR. BABBAGE addressed to the students instances to shew that what was set down as intuitive genius was commonly the result of greater mental application, and that labour was the best foundation for professional eminence.

MR. BINNELL bore his testimony to the practical utility of such studies as those promoted, and that though they might put aside abstract formulæ in daily practice, yet mathe-matical studies would, in training the mind, be of very high value.

HEALTH OF TOWNS.

AMIDST much that is otherwise thoroughly inspiritual and self-seeking in the tendencies of the present day, there is this great and re-deeming feature, and one which every philan-thropist must hail as the certain advent of that wide and embracing sympathy which is the real and essential spirit of practical re-ligion,—we allude to the universal and gradually awakening interest now felt in the social condition of our poorer brethren. To the efforts of such men as Bentham, Charging Conductor and the lett Dr. Arable

Channing, Carlyle, and the late Dr. Arnold, the active apostles of a newer and more en-lightened philosophy, much of the better feeling of the day is perhaps to be attributed; and if late, not the less certain we feel will be and it late, not the less certain we feel will be the evolution of that great principle long since enunciated though ignorantly decried, that the only legitimate aim and object of govern-ment, and all social polity, is the greatest hap-piness of the greatest number. As evidence of this improved feeling, we need only point to the fact that now comparement are incuried. to the fact that now everywhere inquiries are set on foot, and information eagerly sought, as to the actual condition of the people. The press abounds with investigations of the cruses and suggestions for the remedy of our social evils. Recently in this country, what a vast mass of appalling facts has been brought to light by our factory commissions, our mines commissions, our sanatory reports, and in those details upon the state of our labouring population, urban and rural, so clearly eluci-dated in the valuable reports of Mr. Chadwick and the Poor Law Commissioners. All these have developed a fearful aggregation of evils, before undreamt of by the great mass of the community # community.#

To the zealous exertions of such men as Lord Ashley in the cause of active benevolence, we may trace the source of much of the recent we may trace the source of much of the recent public interest in the moral and physical state of the poorer classes, and it is indeed a sub-ject of sincere gratulation that, aided by a more enlightened policy among those in power, this mobleman's labours have tended already to effect much towards ameliorating the actual condition of our labouring population; but we must not disguise from ourselves the fact—a yeat deal yet remains to be done : and it is hy west deal yet remains to be done; and it is by constant and strenuous individual efforts alone that a total and permanent benefit is to be hoped for. The broad and full tide of human progression is but the aggregate of every scat-tered rill of individual endeavours. Each step is aignificant and conducive to the great end.

As bearing more immediately upon the above views, we would now call especial atten-tion to the late important and valuable report furnished by the royal commission on the health of towns, the result of two years arduous and unremitting investigation into the causes affecting the general sanatory condition of the community. It would be out of the of the community. It would be out of the question, within the limits of the present notice, question, within the limits of the present notice, attempting to offer any thing approaching to a detailed analysis of the accumulated mass of evidence (comprised in two thick folios), bearing upon a subject of so comprehensive a character as this must necessarily be, nor shall we attempt to follow the commissioners through the whole of the yeat and waried fold

shall we attempt to follow the commissioners through the whole of the vast and varied field included in their inquiry. Suffice it to observe, that to those who feel an interest in the subject these reports will amply repay perusal. Before adverting to the principal topics investigated by the commis-sioners, or to the general conclusions arrived at in the reports in connection with the recomat in the reports in connection with the recommendations for a more efficient system of sana-tory jurisprudence and police throughout the kingdom, we shall take the opportunity of briefly alluding to the history of these investi-gations, and recapitulate the circumstances which induced the present inquiry. which induced the present inquiry. It will perhaps be remembered that the pre-

⁹ The interest in such statistical inquiries is not confined to England. On the continent investigations on the social and paytical condition of the masses have been ably de-raloped in the researches of such men as Velliriné, Presier, De Gerando Arrivahene Mohl, and Parent du

dowed with an extreme power of vitality, or else some wonderful faculty of reproduction at all events, they certainly possess the happy method of just arriving at that incompletion of result, which entails the necessity for some farther investigation, making invariably, like jealousy, "The meat they feed on." That the physical condition of the poorer classes was most deplorable, that they were badly housed, with an insufficiency of every bodily aliment and comfort, were axioms which unbappily it did not require another royal commission under the sign manual, to demonstrate : mission under the sign manual, to demonstrate : these facts, which ever way we turn are pain-fully self-evident; but there was, we presume, no reason why commissionerships with their comfortable amenities, should be left entirely at the disposal of Whig governments; accord-ingly another including his Grace the Duke of Buccleugh, as chairman, was forthwith con-stituted for farther inquiry into the *state of large towns and* populous districts. The re-sult is that now before us, and however much we may feel onnosed to the period. we may feel opposed to the pernicious system of jobbing displayed in the perpetuation of these commissions, we are bound to concede all praise to the exertions and perseverance as well as to the full and comprehensive data furnished by this last inquiry. The chief causes proved by the concurrent testimony of medical men, and other intelligent witnesses examined, as more strongly affecting the phy-sical condition of our labouring population, are (what had been before stated), viz. defective drainage and bad ventilation; to these, therefore, the attention of the commissioners was more specially directed. But the general subject included in the inquiry may be reduced

of the inhabitants.

2. The paving of public streets, courts, and alley

3. Cleansing; comprising the removal of all refuse matter not carried off by drainage, and the removal of nuisances.

4. Supply of water for public purposes and private use.

5. The construction and ventilation of buildings for promoting and securing the health of the inhabitants.

The conclusions arrived at from an examination of the above important matters are embodied in thirty distinct recommendations, already given in THE BUILDER,* necessary, in the opinion of the commissioners, for the construction of whatever remedial measures may be subsequently adopted. These may be shortly summed up under the following general propositions

1. That the crown should have the control and supervision of all sanatory measures,

2. That the local authorities entrusted with the execution of such measures be armed with additional powers, and the districts placed under their jurisdiction should in many cases be enlarged, and made co-extensive with the natural areas for drainage.

3. That the necessary arrangements for drainage, paving, cleansing, and an ample supply of water, be placed under one adminis-

trative body. 4. That general sanatory regulations rela-tive to buildings and the width of streets; and that low lodging-houses be under the same in-

These it must be confessed are sufficiently comprehensive, and it only remains to be proved how far the wide field of operations here sugnow far the wide field of operations here sug-gested would under existing circumstances be compatible with the legitimate functions of any one public body, and whether such an ab-solute system of central control amid the variety of adverse interests—both local and private, at present existing, would be practi-cally attainable. In either case it behoves us to receive with extreme diffidence and existing to receive with extreme diffidence and cantion a scheme of centralization which would go to place in the hands of any home secretary for the time being, so direct and extensive a power over the executive administration of the whole country. We shall, however, defer to a future occasion our examination of the mode in which the above objects are proposed to be carried out, more particularly as a bill embodying the suggestions of the commissioners is now before Parliament; to a simple abstract of which we now ask the attention of our readers.

LORD LINCOLN'S BILL FOR THE IMPROVEMENT OF DRAINAGE AND SUPPLY OF WATER.

A copy of the Bill brought in by Lord Lin-coln, and printed for the consideration of the coln, and printed for the consideration of the members during the ensuing recess, is now before us. It has 325 clauses, occupies 118 pages, and contains many very important pro-visions. It extends to the whole of England and Wales, except the city of London and its libertics, and any place situate within a radius of five miles from Charing Cross, in the city of Westminster. The preamble is as follows: "Whereas it has of late been made appa-rent that the sewerage and drainage of the

rent, that the sewerage and drainage of the towns and populous districts of this realm, and the supply of water for the domestic use of the inhabitants, and for the due cleansing of drains, are extremely defective or utterly neglected, especially in the districts chiefly inha-bited by the poorer classes of her Majesty's subjects, whereby excessive disease and great mortality have been occasioned : And whereas mortality nave been occasioned : And whereas the general laws in force are wholly insufficient for the remedy of so great a mischief, and the like defects, for the most part, exist in the powers of trustees, acting under the authority of divers local Acts: And whereas it is expedient that remedy should be had therein, and that the arrangement of the supply of water for domestic use, and for the cleansing of scwers, drains, houses, courts, alleys, and streets, should be combined, as often as may be practicable, with the management of the paving and cleansing of the surface of courts, al-leys, and streets, and of the construction and maintenance of the drains and sewers, and other works subservient to the preservation of

> * See p. 118 ante, . . Digitized by Google

valence of severe fever in the poorer districts

of the metropolis, more particularly in Spital-fields, during the winter of 1837, having excited an alarm of a visitation of the cholera, induced

the Poor Law Commissioners to institute im-

mediate and strict inquiry into the sanatory condition of the districts affected; and espe-cially with reference to the removable causes

of disease. For these objects the able assist-

ance of Drs. Arnott, Southwood Smith, and Kay were called into requisition, and the

result of an investigation by these gentlemen was embodied in a valuable report dated May 12th, 1838. This report declared that the chief and constantly acting causes of destruc-

tion and death were comprised in the ex-istence of bad ventilation and defective drainage. These facts, without loss of time

were strongly represented by the commis-sioners to Lord John Russell, with urgent recommendations for the immediate adoption

of some legislative measures for their removal. Although much public discussion at the time took place on the subject, little was done re-lative to this important matter until the close

of the following session, when the Bishop of London, in his place in the House of Lords, called the attention of the Government to the

report, and moved an address to her Majesty, aying for an inquiry as to the extent to

which the causes of disease stated by the Poor

Law Commissioners, to prevail among the labouring classes of the metropolis, prevail

also among similar classes in other parts of the kingdom. This address being carried, Lord John Russell directed the Poor Law

Board to institute the inquiry; and the com-missioners having accordingly in the November following given the requisite instructions to their assistants, the results of the consequent

investigations were embodied in the lucid and voluminous report of Mr. Chadwick, presented in July, 1842. In the meantime, in 1840, also

in July, 1842. In the meantime, in 1840, also appeared the report of the select committee of the House of Commons "On the health of large towns and populous districts." From all these it would appear that there had been no lack of investigation into the sub-ject, and it might naturally be supposed that the result of these different inquiries, em-bodied in the published reports with folios of appended evidence from all imaginable quarters, would have been deemed sufficient to indicate would have been deemed sufficient to indicate the sources of the evils, and to have suggested a plain, straightforward course for some legislative remedy. It would seen, however, that these boards of inquiry are either en-

the streets and other public places, in a good and proper condition, and that further provision should be made for promoting the health and convenience of the inhabitants of towns and populous districts.

Inspectors are to be nominated by one of the Secretaries of State at salaries to be determined on, to assist in carrying the Act into execution; and commissioners are to be elected by the rate-payers for every town and district. That is to eay, "Nine commissioners for every town or district in which the number of inhabitants specified in such order in council shall not exceed ten thousand; twelve commissioners for every town or district in which the number of inhabitants so specified shall not exceed itenty thousand, and so on at the proportion of three additional commissioners for every additional ten thousand inhabitants specified in such order in Council: provided always, that in no case shall the number of commissioners elected by the occupiers and owners of property as aforesaid exceed twenty seven."

Gommissioners are to provide a map of the district within their jurisdiction. "And be it enacted, that the said commissioners shall cause to be inscribed on such map and plan a series of marks or figures denoting a complete system of levelling, exhibiting the true form or relief of the ground in the area or district, and shall also cause to be drawn, wherever practicable, lines of equal altitude, commonly called centour lines, at every four feet of elevation, or at such other intervals as may appear, upon due inquiry, to be the best adapted for the guidance of works of sewerage and drainage, for the collection and distribution of water, and for other public and private purposes within such district."

Clause 113 gives commissioners power to pave streets; 117, to fix levels of all new streets.

Then, as to the width of streets-"Be it enacted, That it shall not be lawful to form, lay out, or build any new street within any town or district, unless the same, being a car-riage-road, shall be at least thirty feet wide, or being a foot-way only, shall be at least twenty feet wide, but if the buildings, or any of them not being a public building fronting any street being a carriage-way be more than thirty feet high from the level of the street, or being a foot-way only, shall be more than twenty feet high from the level of the street, then such st must be of a width equal at the least to the height of such buildings above such level, and every such street being a foot-way only, shall have an entrance thereto, being at the least the full width of such street, and open from the ground upwards: Provided always, That these provisions shall not extend or apply to any street which shall be proved to the satisfaction of the commissioners to have been agreed to have been formed or set out in the disposition of any estate for sale in lots, and of which a sale plan shall have been so proved to have been prepared previous to the issuing of any Order in Council for enforcing the provisions of this Act within such town or dis-trict."

Commissioners are to provide for draining all towns not already sewered, and to build such main and other sewers as may be necessary.

sary. House drains are to be formed. —"And whereas numerous houses and buildings have from time to time been erected and built without having proper drains communicating therefrom with any sewer, which proceedings are highly prejudicial to the public good; Be it enacted, That in all cases where any house or building, situate within any town or distriet, shall at any time be found not to be drained by a sufficient drain or pipe communicating with some sewer, and emptying itself into the same, to the satisfaction of the said commissioners, and if a sewer of sufficient size, under the jurisdiction of the said commissioners, shall pass along any street, and within thirty feet of any part of such house or building on a lower level than such house or building, it shall be lawful for the said commissioners, by notice in writing, to require the owner of such house or building forthwith, or within such reasonable time as shall be appointed by the said commissioners, to construct and make from such house or building, into the nearest common sewer, a covered drain or pipe of such materials, of such size, at such level, and with such fall, as shall be adequate

for the drainage of such house or building, and also, if practicable, of its areas, water-closets, privies and offices, if any, and to carry and convey the soil, drain and wash therefrom into the said sewer; and if the owner of such house or building shall refuse or neglect, during *twenty-eight* days next after the said notice shall have been delivered to such owner, or left at such house or building, to begin to construct such drain, or shall thereafter fail to carry it on, and complete, it with all reasonable despatch, it shall be lawful for the said commissioners, and they are hereby required, to cause the same to be constructed and made, and to recover the expenses to be incurred thereby in the manner hereinafter provided."

Before erecting new buildings, or rebuilding old ones, levels are to be settled by the commissioners.

Gully holes are to be trapped, to prevent the escape of effluvia.

Persons allowing stagnant water to remain within any house, or the contents of any cesspool to overflow or soak to the annoyance of adjoining occupiers, may be fined. They may require owners to provide privies and ashpits.

No. 175 is an important clause :--- "And whereas the health of the population, especially of the porer classes, is frequently in-jured by the prevalence of epidemical and other disorders, and the virulence and extent of such disorders is frequently due and owing to the existence of local causes which are capa ble of removal, but which have hitherto fre-quently escaped detection from the want of some experienced person to examine into and report upon them, it is expedient that power should be given to appoint a duly qualified medical practitioner for that purpose; Be it therefore enacted, That it shall be lawful for therefore enacted, That it shall be lawful for the said commissioners to appoint, subject to the approval of one of her Majesty's principal secretaries of state, a legally-qualified medical practitioner, of skill and experience, to inspect and report periodically on the sanatory condi-tion of any town or district, to ascertain the existence of diseases, more especially epide-miss increasing the mits of mortality and to mics increasing the rates of mortality, and to point out the existence of any nuisances or other local causes which are likely to originate and maintain such diseases and injuriously affect the health of the inhabitants of such town or district, and to take cognizance of the fact of the existence of any contagious disease, and to point out the most efficacious modes for checking or preventing the spread of such dis-eases, and also to point out the most efficient means for the ventilation of churches, chapels, schools, registered lodging-houses, and other public edifices within the said town or district, and to perform any other duties of a like nature which may be required of him; and such person shall be called the medical officer of health for the town or district for which he shall be appointed; and it shall be lawful for the said commissioners to pay to such officer such salary as shall be approved of by one of ber Majesty's principal secretaries of state."

Commissioners may order owners and occupiers to cleanse, purify, and whitewash premises; and are to nominate inspectors of nuisances. Certain underground rooms are not to be let for dwellings.

Clause 191 directs commissioners to obtain reports on the best mode of supplying water; and to this part of the bill we shall return next week.

COST OF TIMBER VIADUCTS.

A CORRESPONDENT of the Railway Chronicle supplies the cost of the following timber viaducts on the Newcastle and Darlington railway.

Sherburn Viaduct.—Length 220 yards, breadth within railway 24 feet, average depth 45 feet: total cost $6,340\ell$.—220 yds. \times 45 ft. \times 26 ft. = 28,600 cubic yards; cost $6,340\ell$. or 4s. 5d. per cubic yard.

Cassop Viaduct.—Length 153 yards, breadth 24 feet, average depth 34 feet: cost 4,069/.— 153 yds. × 34 ft. × 26 ft. = 15,028 cubic yards; cost 4,069/. or 5s. 5d. per cubic yard. Shinchiffe Viaduct.—Length 220 yards,

Shincliffe Viaduct.—Length 220 yards, breadth 24 feet, average depth 48 feet: total cost 6,417*l*.—220 yds. × 48 ft. × 26 ft. = 30,507 cubic yards; cost 6,417*l*. or 4s. 3d. per cubic yard.

STIR IN THE SCHOOL OF DESIGN.

SINCE the appearance of the last communinication on this subject in our pages, the annual meeting to distribute prizes to the successful students in the school has been held, and the disorganized state of the establishment has been brought under the notice of the House of Commons. Before alluding to these events, however, we insert the following letter, which reached us previously.

Sin,—As a letter has appeared in your journal signed by twelve students of the School of Design, and in which they attempt to prove that those students suspended by the council have misrepresented the state of the school, I trust you will permit me to answer such letter on behalf of my fellow students. Whatever might be reported as the words of Mr. Ewart, I do not for a moment believe that the expression there complained of was over used by him. That the dispute had resulted in the withdrawal of the *senior* students or pupils almost without exception, was, I have no doubt, the term made use of; and which is the perfect truth.

The berfect truth. Whether a letter which appeared in your paper of the 5th inst., signed H. J. L., was or was not the production of one of the suspended students I cannot say, my opinion certainly is that such is not the case, I therefore expost feel that we are answerable for its assertions; but if your correspondent had written the following, he would certainly not have gives those twelve any right to dispute the truth of his statement. (I will underscore the three additional words which I have placed in his sentence.) "In fact, the only students of promise the school could boast of having educated have been expelled." With the so much boasted answer that they will give on the 24th instant, I will have to do presently.

I will have to do presently. The letter then goes on to say that our assertion of the general discontent in the school was a falsehood; now the fact is, that at one of the meetings held by the suspended students, twelve or fourteen of the senior students of the large room attended, and there discussed the propriety of joining with us in petitioning the council. Those students were then advised by me, a suspended student, not to join with us; for this reason, that by far the larger portion of that room being filled with elementary students, the council would not know whether they were boys or men, and consequently they would only share in the difficulties without benefiting the cause advocated by us. Now of all those so attending there was not one that denied the truth of our assertions, but on the contrary, approved of them.

That twelve students can be found in the school (immediately previous to the awarding of the prizes) willing to purchase the good will of the director ought not perhaps to be a matter of surprise; but that any number, however small, could have the hardihood to string together such a mass of misrepresentation, and print it, and, moreover, to boast (as by them is done) that the precious production is unanswerable, is certainly astonishing. Now to the proof; and I willingly accept the test (of the past exhibitions) which they so boldly offer.

I must first premise that the present director has been two years and two months in the school; and also that one rule (No. 7, page 10) of the school says, "students who do not attend constantly, and regularly not to be allowed to compete for any of the prizes." Speaking of the last exhibition, they say that "unless then it can be proved that they who were beaten are superior to those who beat them." &c., &c. Now the facts are these: five prizes were last year taken by exhibitioners; four by students who have signed the letter in your paper (one of whom had not been a student the twelve months previous, and another has never studied in the echool since till he came to compete for the present prizes), and thirteen by students signing the remonstrance.

Out of the twelve students signing the article in your paper eight have never before obtained a prize in the school, and therefore are strangers in it, or if they have before competed have been beaten, namely, Messrs. G. M'Kenzie, J. Woods, D. Pearse, R. Jefferson, C. Worrall, W. E. Cadman, C. Hairs, and P. Holland. W. C. Wild has not been a regular student in the school for two years (only com-

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ing to compete for the annual prizes, which, in direct contravention of the rule mentioned above, he is allowed to do), and therefore can owe but little to the present director. Mr. Strudwick has not been a student in the school for twelvemonths, and is, moreover, a designer regularly employed in the glass trade; leaving only Messrs. Walker and Wallace, who can be placed in competition with ourselves, or who have not been beaten by us.

In their postscript No. 1. they give the number of students in April, in the evening classes, as 189; in July, the present month, 111; thus evincing a falling off of 78, certainly not to be accounted for by the withdrawal of the complaining students, in number 37, still leaving 41, nor even by that bit of fiction con-tained in their note, as I think the following extract from the report of 1843 and 1844 will prove; and since which time it is wished to be thought the school has increased in numbers.

In April, 1844, the number attending the In April, 1844, the number attending the evening classes was 196; in July, 1843 (I have not the return of July, 1844, otherwise I doubt not that month would be more favourable), the number attending was 187, leaving only a difference is forty-one beside ourselves. Can those students have shared in our sentiments? The encuse which they make use of does not apply to April, but to the three or four winter months in 1843. The evening attendance in

noothe in 1845. Ine evening alleurance in November was 259; in December, 234; in January, 1844, 193; in February, 228. Ishahi now proceed to remark on the second postcript. In the spring of 1843, six exhi-bitioners were chosen from among the students; this was just at the time of the appointment of the present director, and they were of course stud ints who had been taught by the previous director; now what right have those twelve students to place the names of those exhibi-tioners is justaposition with ours, and what can they know (or what could be the weight if known) of the opinions of those who left the school twelve months ago? Or does it arghe for the competence of the director, that these who ought to have been taught by him have been beaten by those taught by his predecessor? That it is not our fault, is, I think, fully shewn by the fact, that under the That it is not our fault, is, I same teaching we have carried off every prize even from the exhibitioners themselves (I allude to class drawings). But there is another strange fact; there are at present in the school two exhibitioners, their names are not down amongst those signing the letter. How is this? they must know something of the state of the school.

As a proof of the spirit in which their letter was written, I will morely state, that a remark is made on a design executed by Mr. Philip, one of the suspended students. After stating that the prize was one of three guineas, they go on to say that "Two guineas only were given because the council did not consider the design deserving of more." Previous to this, there is a design for paper mentioned, the prize for which was taken by Mr. Walker, one who has signed their paper; now the prize is mentioned as two guineas, and no remarks made; the truth is, the prize offered was three guineas, but the council said they gave him two guineas as a reward for his industry, but as, but the council said they gave him considered his design as not at all applicable to the purpose for which it was designed.

And now, Sir, a few words on the so-muchvaunted coming exhibition, and the means that have been had recourse to in order to produce it. The three assistant masters have been employed to execute specimens of ornamental painting instead of teaching the junior stu-dents. By far the larger portion of the other principal competitors have not the slightest right to be considered as students who have been taught in, and by the school, being in fact practical designers (some of many years standing) who have been procured to make a show, and whose productions will be attempted to be passed off as those of students taught by Mr. Wilson. This is precisely the case with six out of the twelve signing the letter, half of them not having been in the school more than four months (though there is a rule which says that no one shall compete until he has been a student three months), when they almost immediately commenced competing.

In conclusion, I think I have proved that almost without exception the senior students have complained, and been suspended; that

the only students the school could boast of having educated have been expelled ; that eight out of the twelve signing the letter have no right to be considered as competitors with ourselves, or as the production of the school ; that two others have no right to be allowed to compete at all; and that the present show, whatever it may be, has been produced by unworthy means, and I shall conclude by asking in the words of your correspondents,-whether a cause requiring the use of such disreputable means can be a good one ?-I remain, Sir, &c., R. BURCHETT. 17, Bond-street, Cammercial-road, July 21, 1845.

The annual meeting was held on the 24th, when Lord Colborne presided. According to the report of the committee, the designs were more numerous, better executed, and displayed more knowledge of urnament, and greater range of taste and composition, than those exhibited on any similar occasion, holding out a cheering prospect of continued improvement on the part of the pupils. Unfortunately, however, for the present reputation of the school, it seems from verified documents sent to us, that several of those who were rewarded are practical designers, who have been in the school only a few months, while others are ex-hibitioners appointed in Mr. Dyce's time. Mr. W. Williams when he brought the matter before the House of Commons dwelt strongly on this point, and asserted that it proved that the expelled students were the most able young men in the school. Mr. W. moved for a select committee to inquire into the allegations contained in the petition of the senior students of the School of Design in Somerset House, and into the general management and present state of that school.

Sir G. Clerk, on the part of the Government. would not listen to the proposition, spoke highly of the qualifications of Mr. Wilson as director, and referred with sonfidence to the works last rewarded. He said, the attack on Mr. Wilson had been prompted "by a bad heart (whose, we did not learn), and trasted the House would refuse the committee.

Mr. Ewart thought very differently. The school was disorderly — thirty-seven of the pupils had seceded — it was, in fact, in a state of disorganization (vo, no). Manustate of disorganization (no, no). Manu-facturers were complaining that they could not obtain good designs from the school, and Mr. Pugin, the architect, stated that the condition of the school was highly unsatisfactory, and that he was obliged to have recourse to con-tinental workmen to execute his architectural He put it to the House, then, decorations.* whether they had not a right to ask for some inquiry (hear, hear). He found that the right honourable baronet opposite was inclined to put the school upon too mechanical a footing -to look upon the pupils rather as workmen than artists. Now, there lay the error which prevailed in the present system of management. Every eminent artist would tell them that the studies pursued at a School of Design should rest upon two main points-drawing from the human figure, and from na-ture. Upon these principles the most celeschools for design had brated continental been constructed (hear, hear). He agreed that the master should be an eminent artist. He also agreed with the opinion that this school should not be under the superintendence of a board. He should prefer to see some person out of that House at the head of it, who should still be responsible to the House for the manner in which the duties were per-But the board now consisted of a formed. number of persons, many of whom remained away from sheer idleness; and five or six converted the business into what (though it was considered a very unpleasant word in that House) he must then designate as a job. He was satisfied there ought, at all events, to be

inquiry. Mr. Wakley said, the report which had been made to the House was an attempt to deceive it. Mr. Herbert, the late master, was not even mentioned in it. He contended that Mr. Herbert was most unjustly treated—he was a man of great intellectual capabilities and great accomplishment in his art. It was acknowledged he was universally respected in the school. He was dismissed for some slight difference by a meeting of four councillors out

* The letter from which this is quoted will be found in our present number.

of twenty-four, one of whom said, "We must stop the reconciliation between Mr. Wilson and Mr. Herbert. It must not take place." Young men, such as these students, would not have ventured to have proclaimed the incom-petency of Mr. Wilson if it were not palpable.

Mr. Hawes defended the council, and said that Mr. Herbert's feelings had been studied, and every endeavour made to retain his ser-vices, but finding no hope of re-establish-ing harmony, they were compelled to discontinue the services either of that gentlemen or Mr. Wilson, and chose the former. Inquiry asked for on public grounds he should say by all means grant, but inquiry on the condition of being held up as jobbers he could not approve

Mr. Wyse said the defect of the present school was, that the whole system as at first laid down was not acted upon.

Mr. Hume thought there had been some suppression of important facts in the report, and that further representations should be laid on the table. The motion was then argatived without a division.

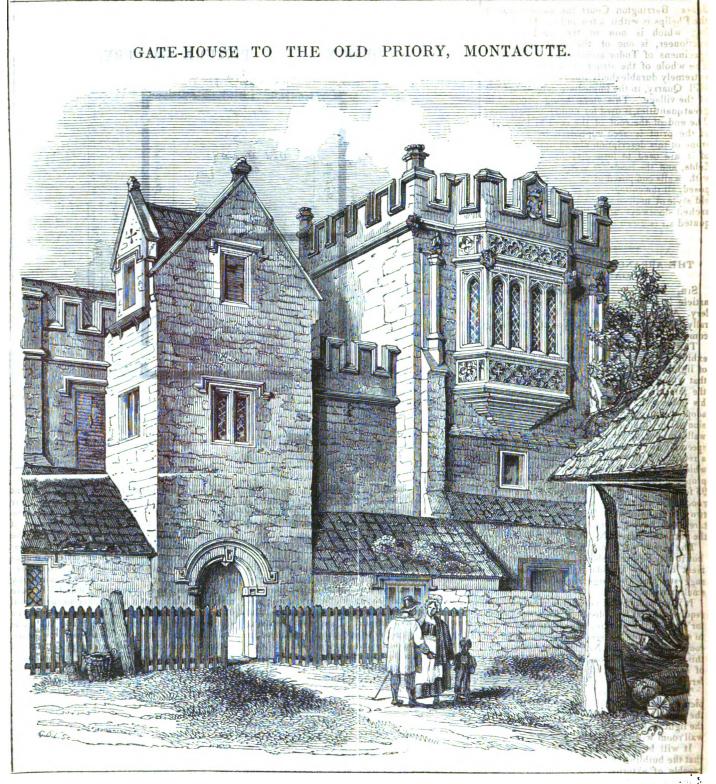
While we earnestly desire to see the school efficiently conducted, we are most anxious not to commit injustice towards the present director. Impelled, however, by sense of duty, we cannot avoid asking a question, to which we trust a satisfactory answer will be afforded. A large sum of money, some say 1,000*l*., has been expended in the production of a drawing-book; why is it that this work is withheld? and is it true that the 5,000 copies printed are consigned to the cellars of Somerest House ?

NEW CHURCH AT GRAVESEND.

A anunant is now in course of completion at Milton-next-Gravesend, which calls for favourable notice. It is a cross church, without aisles, and the tower stands at the south-west Unfortunately, it has not a favourable angle. situation, being built on ground below the level of the neighbouring roads. A church is one of those buildings, which should always stand in a prominent position, meeting the eye from many miles distant, but this is so hid at the bucks of houses, that its existence is not easily discovered. The erection of the spire will partly obviate the mistake: at present, only the tower is completed. It would not be right to cast any portion of blame upon the able architect, Mr. Wilson, of Bath, and the church is on the whole highly commendable. The omission of aisles, we are inclined to think an advantage in a modern church, but we do not think that the same number of people can be arranged with greater convenience in transepts, though these improve the external effect. The buttresses are set rather close, the roof is of good pitch, and the tracery of the windows well designed. The style is deco-rated. The church is built of rough stone with tooled dressings, and there is no want of ornament. The western door and window are set in a large arch. The pinnacles of the tower, which now appear too small, can hardly be judged of till the spire is completed. interior of the church is very effective from the good design of the roof, which is framed without a tie-beam, and stained a dark colour. without a tie-oeam, and stained a dark colour. We are sorry to say, that there are galleries in the transepts, and at the west end, but they have been well managed. The pews have low doors, so that they do not differ much from open benches. The arrangement of the roof timbers, at the intersection of the nave and transept is educively. The fort is a sum transepts, is admirable. The font is a very beautiful one — octagonal — on steps, with a kneeling stone. The pulpit is of stone. The reading desk and all the minor accessories shew much thoughtful consideration.

THE CHELSEA EMBANKMENT .--- The entire cost of the embankments about Cheyne-walk will be 75,4251. 4s. 11d.; of which Earl Cado-gan contributes 6,7451. 0s. 10d.; Lord Calthorpe, 1,706/. 15s. 41d.; her Majesty, 1,903/. 1s. 61d.; the Chelsea Water Company, 10,403/. 6s. 21d.; the Chelsea water Company, 10,403/. 6s. 21d.; the Marquis of Westmin-ster, 8,123/. 19s. 7d.; Mr. Sloane Stanley, 3,111/. 5s. 61d.; Miss Howe, 1,648/. 1s. 61d.; and Colonel Talbot, 545/. 18s. 11d. Some of these parties, however, have not yet given their consent to this allotment.—Globe.

THE BUILDER.



GATE-HOUSE TO THE OLD PRIORY, AT MONTACUTE, IN SOMERSETSHIRE.

MONTACUTE is one of the most picturesque villages in the county of Somerset ; and, in ad-dition to its natural beauties, it possesses those dition to its natural beauties, it possesses those of particular interest to the architect. It con-tains, and its immediate vicinity affords, several ancient edifices of great architectural merit. The building here represented, com-pared with some others, is perhaps of lesser in-terest, but still has much value both to the artist and to the antiquary. It is the gate-house of the old priory, whose history shall shortly be touched upon. The chief attraction of the village is the princely residence of the Phelips', Montacute House; but of this noble pile detailed represen-tations of every part have been published, ex-cept, strange to say, its finest portion, the north front, which originally belonged to Clifden-

cept, strange to say, its finest portion, the north front, which originally belonged to Clifden-hall, one of those fine old Tador gothic struc-tures, similar to Hengrave, in Suffolk, and to which it is nearly equal. Of the old priory at Montacute, the gate-house and a small building on each side are the only remains. The view represents the back-front end the prosphedded to it in the reign of

front and the porch added to it in the reign of Henry VIII. With the exception of this porch the building is of late perpendicular

character, in the same style as the noble vil-lage church, which immediately adjoins it,--so much alike are the details of these two struc tures that we may consider they were built about the same time. The entrance front of about the same time. The entrance front of the gate-house is very picturesque, and is greatly superior to the front represented in the print; it has at each angle two bold octa-gon towers, one of which reaches above the battlements. The bow-window in the first floor is repeated in both fronts, and under them are the arched entrances, the sides of which here eluments and the pointed which have clustered columns, and the pointed arches over them are richly moulded; they are hidden by the mean sheds erected before them. The centre battlement contains in one side, a bas-relief of the royal arms, and in the other are two letters (which appear to be \mathbb{C} . \mathbb{C} .) under a mitre; these probably were the initials of the abbot by whom the building was There is one room which still retains erected. its ancient appearance internally; the ceiling is formed of the open joists and girders of the

the rormed of the open joists and griders of the floor above: they are in oak, richly moulded. In the *Gentleman's Magazine* of May 1817, there is an account of the priory; it was founded about the year 1091, by William, Earl of Morton, as a priory for black cluniac monks, it was surrendered to Henry VIII: in 1520 the law in surrendered to Henry VIII: in Earl of Morton, so a priory for black cluniac monks, it was surrendered to Henry VIII: in 1539, the site was granted to Sir William Petre, garden front of great size, built by Inige

and sold by him to Mr. Robert Freke; it was soon after purchased by the family of Phelips, in whose possession it still remains.

Ъ.

I cannot quit the description of the building without pointing out a barbarous tree which threatens its destruction. This tree, suffered threatens its destruction. This tree, suffered to take root within the gateway, has mounted up, till having combinato contact with the stone-work of the valt, it has forced its way through the walt at the angle, and appears on the outside. As its bulk increases year by year, it threatens to upheave the arch-stond, and, if so, the whole waulting will fall in, and probably bring the beautiful fabric in one ple of ruin to the ground. Now, on a former occasion, Mr. Editor, the insertion in your valuable paper of a view of the turret of Leigh de h. Mere Church, in Wilts, and of an account pointing out the insecure state of that inter-esting structure, caused immediate attention to esting structure, caused immediate attention to be paid to it, and the restoration of the entire building under experienced hands is soon to take place. I do hope that this number will be equally efficacious in saving from destruc-tion by such values, the alugnate stem. tion by such valgar means, the elegant struc-ture at Montacute.

In the vicinity of the village is Brympton

Jones; Barrington Court the ancient seat of Jones; Barrington Court the ancient seat of the Phelips is within a few miles. This build-ing, which is now in the hands of the adcioneer, is one of the most interesting specimens of Tudor architecture in England. The whole of the structures are built with an extremely durable shelly lime-stone from Ham Hill Quarry, in the immediate neighbourhood of the village. This stone being obtained in great quantities, is used for numerous purposes. The end of the roof of the shed to the right of the print is seen supported by one large The end of the roof of the shed to the right of the print is seen supported by one large stone of this description placed upright; slabs of it are used to form divisions between the fields, and the roads for many miles are lined, with walls composed of it. As may be sup-posed, all the cottages are of stone, and as the old style of mullioned windows, and flat tudor arched doorways are still in use, a very anti-constat doir is given to the village. quated air is given to the village. C. J. RICHARDSON.

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THE ARRANGEMENT OF PICTURE GALLERIES.

SIR, — HAVING read with some attention the article in your work "On the National Gal-lery. Arrangement of Picture Galleries gene-rally," I beg leave to offer to you the following companiestion: —

The scompanying sketch is intended to exhibit a gallery for pictures upon a principle of lighting the walls in a similar manner to that which I had the honour of suggesting to the late. Mr. President West when he altered his gallery in Newman-street, and which be adopted with great success. It was the admis-sion of the light perpendicularly, close to the walls, producing from them no reflection to the spectator's eye, that by lighting the floor gave a returned light to the pictures on the walls, which was, way beneficial. It is by this plan proposed that a boilding should be constructed 95 fort by 90 feet, without fire-places in the room, having two divisions for large pictures, two side divisions for Dutch and cabinet pic-

A BULLIN

TOPSERSERVER STRATE

95 feat by 90 feet, without fire-places in the room, having two divisions for large pictures, two nide divisions for Dutch and cubinet pictures, and having a staircase in the middle of the entrance room. No. 1. The lower part may be used for statues, but it may be preferable to have a low basement only for attendants, &c. The height suggested for the large room is 24 feet, the smaller room 12 feet. It is presumed that very large paintings will require, full 30 feet distance from the spectator's size the woole design of the master at one coup of and. Room No. 1. will not admit of much an inferval, as the stairs will interfere.
The side galleries are adapted for small pictures, will be near enough; and by having the light as described, almost the whole of the works will be near enough; and by having the light as described, almost the whole of the wall room will be occupiable.

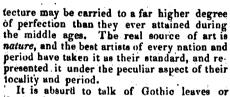
wall room will be occupiable. It will be evident from inspecting the plan

that the building will be very economical, and capable of external embellishment. If iron doors are placed at the openings, only one divi-sion meed be burned from one accident: the streams of people can flow without much in-terruption, which must ensue where the aper-surces are in the middle of the apartments. Judy 18, 1845. JOHN WHITE.

MR. PUGIN ON CHRISTIAN ART.

Tux following is the communication ad-arcseed by Mr. Welby Pugin to Mr. Herbert, which was referred to in the recent debate mcerning the School of Design.

My DEAR HERBERT,-I have almost given which (I feel assured) might be made the most powerful and effective means of creating a school of network and the a school of *mational artists*, not mere imitators of any style, but mea imbued with a thorough knowledge of the history, wants, climate, and customs of our country; who would combine all the spirit of the medieval architects and the beauties of the old Christian artists, with the Practical improvements of our times and our practical improvements of our times and our increased anatomical knowledge; we should then create a school founded on the old prin-These and yet a trace expression of our period. must own I have long entertained a most sugaine hope that Christian art and archi-



Gothic figures; the types of the foliage introduced in the decoration of the foliage miro-duced in the decoration of the first medieval buildings are all to be found in nature; and any garden and field can supply beautiful models for the sculptor. I am now preparing a work on vegetable and floral ornament, in which, by disposing nutural leaves and flowers in geométrical forms, the most exquisite combinations are produced, and of precisely the same character as those found in the illuminations-stained glass, incised plates, &c., of the thirteenth and fourteenth centuries. As regards images, no reasonable man would think of altering the proportions of the human frame, so beautifully and wisely ordaned by the Creator; but it is by the disposition and drap-ing of the figure that the Christian artist ob-tains his effect. The sublime repose of the ancient statues, and the majestic simplicity of the folds of their drapery, are the true cha-racteristics of the old sculptors, and not any affected quaintness of outline. By draping a lay figure of natural proportions in stuff and vestments which were in use during the middle vestments which were in use during the middle ages, the identical folds and forms are pro-duced in reality which we see represented in a greater or less degree of perfection in the ancient works. The first productions of Christian art are the closest approximations to nature, and when they failed in proportion and anatomy, it was not a defect of principle, but of execution. If the students of the School of Design were trained in this manner, we should Design were trained in this manner, we should Design were trained in this manner, we should get splendid designers for stained glass, frescos, and brassee; and sculptors who would not represent departed Christians under the guise of dying gladiators, nor statesmen and ecclesiastics as half depuded maniacs.

and ecclesiastics as half denuded maniacs., But the school should be also a place for the formation of operative as well as designing artists: we want artist smiths in silver and iron, artist chasers in metals, artist glass painters, artist engravers for enriched plates, artists for the manufacture of stuffs and the production of embroidery; and these should be well grounded in the fundamental principle of adapting the style and working of its orna-ment, not only to the purpose, but the material in which it is to be produced. Wood, stone,

glass, silk, and metal, require totally different treatment in their enrichment, suited to their, separate properties : the sime, losf woold be produced in a totally different manner if wrought in metal or carved in wood, and the practical knowledge of these matters is indis-pensable for the revival of true taste in manu-factures. Now the School of Design in its pre-sent form, so far from tending to promote any of the ends and principles which I have mentioned, is in fact a hinderance to the revival of true taste and feeling, for the minds of the students are perverted, by copying the same stale models that have been used for years. stale models that have been used for years, without producing a single artist capable of designing any thing original or appropriate. I see nothing but Pompeian arabesques, Greek friezes, and capitals—works certainly good in their kind—excellent illustrations of the opinions and principles of the nation which produced them, but more than useless when employed to form a school of English artists; they lead to a miserable system of adaptation of obsolete aymbols and designs, appropriate only they lead to a miserable system of adaptation of obsolete symbols and designs, appropriate only to times and people from whom they origi-nated; and while this system is pursued, the school cannot produce one man fit to be em-ployed in our national works, and at the present time I am actually driven to seek efficient assistance from the Flemish and German operatives.

ratives. It is misnamed a School of Design; it is a mere drawing school, and a drawing school for bad models; that is to say, models which must fail in generating original artists, and which can only form bad copyists and adapters. Now, I do feel anxious that this period and this country should be distinguished by a new achool of art, which should combine all the axcellencies of the old men with the greatest purity of drawing and proportion, and the ad-mirable execution of the ancient operatives, with any improvement of science and mecha-sical skill; then, indeed, we might produce a class of artists that would be capable of deco-rating our churches and public buildings, and rating our churches and public buildings, and skilful operatives for manufactures. England might then be distinguished by a national school of art, which would illustrate its bistory, school of art, which would Hustrate it bistory, and produce objects suited to our present wants and circumstances. This is merely a rough ontline of my views on the subject, but it is one of such importance, and things are going on so badly, that I could no longer refrain from sending them to you even in this crude and im-perfect state.—My dear Herbert, yours, &c., A. WELBY PUGIN,

DESIGN FOR A PICTURE GALLERY.

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INFLUENCE OF NEWLY-BUILT HOUSES ON THE HEALTH OF THEIR OCCUPIERS.

-In your journal of to-day, I find an Sin.article headed as above. Respecting science as I do, I fear we are upon the eve of running riot upon theory, in lieu of attaching due value to the importance of experience. I beg to differ from the propositions of Dr. Sutro, and also not only from these propositions, but from the propriety of the frightful outlay consequent upon the experiments of another doctor touching the ventilation of public buildings. Is the profession to be silent, and trust to mere theorists to alarm the public as to the occupation of newly-erected residences? From twenty-five years' experience in my profession, I will endeavour to grapple with the doctor's objections, without harassing the minds of your readers with the scientific terms used in his argument, never having met with the "pale anœmic face, wasted muscles, decrease of strength, sluggishness of small pulse, which symptoms frequently terminate in external or internal dropsy." And then follows a vo-cabulary of nearly all the ills that human nature is heir to; of course, intended as con-sequent upon inhabiting a newly-erected re-sidence. Without attempting to controvert sidence. the learned doctor's scientific terms, I will appeal to the experience of your practical readers whether I have upon me the charge of homicide, for having constantly placed parties in the occupation of their dwellings within six months from the commencement thereof? Admitting the doctor's correctness as to the me-dium of exhalation, evaporation, &c., the practicalquestion will be, what is the result in newly-erected dwellings ? My test, without any scientific reasoning is this, pass the nail of digit over the plastering, if not the dightest impression remains, proceed topaper-ing; which involves the fact, that you are about b append an article partaking so much in its construction and in that by which you attach it of the medium for exhibition, that the evidence would be immediate. I do not deny the doctor's proposition that dampness may exist, doctor's proposition that dampness may exist, but assert from practical experience, that ex-heilation goes on (if at all) in connection with the external fighter atmosphere. I challenge the doctor to hang up a blanket or woollen cloth in a room so circumstanced. Then as to the effects of evaporation from the accredited baneful influences of the component parts used in painting; by the common practice of the painter to put a pail of water in a room newly painted (the colour not being hardened) a de-posit is the result; try it again when the paint is hardened, and no smell remains to offend the olfactory nerves, --- no deposit is the result. I would refer the doctor to the evidence we

I would refer the doctor to the evidence we all have of the operation of nature upon freestone—which, in the quarry may be cut with a knife—exposed to the atmosphere becomes hardened; so I hold it with plastering or paint; offensive and deleterious in their component parts, when amalgamated and with this operation of nature's incrustation who will limit its commencement of resistance to exhalations? In a well-cleansed house (before occupation) I am at a loss to imagine where the baneful influence can arise from *floating* particles of lime.

With respect to ventilation, it has been my privilege very recently to discuss the question with two members of our profession, one of accredited, high, and long standing, who tells me some twenty years since he was called in to ventilate a large public building, that the system he adopted had been most successful, and I only waited (and still only wait) his offer to take me over the building to trouble your readers with the mode. The same modesty that has prevented him intruding on the public, induced the remark in our discussion, that having no title (doctor or otherwise), as an humble individual he was passed over. My younger friend has a scheme for ventilating houses in their construction, nolens volens, as to the occupier. I trust his modesty will not interfere with giving the result (through your columns) of his inquiry to the public.

Other personal occupations have prevented my intention of sending you counsel's opinion upon the construction to be put upon the clause in the new Buildings Act, touching "finishing fit for occupation" houses "already built," which the dictum of the referees in their circular rendered imperative; suffice it

for the moment to state that counsel's opinion is thoroughly with my case, viz. the clause is permissive without penalty, ergo, "cover in, finish when you please," as in respect of works commenced since 1st January last there is no controlment of period for finishing, the contrary in respect of works commenced previously (intended as of benefit) would be an absurdity. I am, Sir, &c.

GREENWAY ROBINS. Peckham, 26th July, 1845.

IMPROVEMENT OF DWELLING-HOUSES.

SIR. -In the hundredth number of your journal you state that one great object of "THE BUILDER" is to disseminate practical "THE BUILDER" is to disseminate practical knowledge, and to introduce sound principles in building. "The improvement of dwelling-places is a subject of national importance." Every one must admit the necessity of the former remark, which stands in need of your powerful aid, and with the latter I perfectly coincide. I had hoped that during the present session of Parliament some general measure would have been introduced by the Government for the purpose of improving the con-struction of buildings, and the general sanatory condition of towns. Although notice has been given of some such a measure by Lord Lincoln,* I fear the bill will have to be delayed another session, as the early part of the present has been lost in fruitless discussion, and now important measures that effect the vital energies and well being of every member of the com-munity are postponed in consequence, forsooth, of that great pressure of business which ought to have been transacted in the early part of the session. With such a mass of strong and unconfutable evidence before them, collected by the useful and laudable exertions of that eminent body of men, the Health of Towns' Commissioners, containing such startling and astounding facts, our legislators, with all due deference, I conceive are not discharging their duty either to themselves or to the country, by allowing a session to pass without an effort to remedy the evil which undoubtedly presses equally on all, both high and low, rich and poor. As the lives of many thousands of our fellow-creatures are annually sacrificed from the unhealthiness of our towns, and as the average duration of life of many thousands more is materially shortened from the same cause, which is capable of remedial measures, surely we have as great a right to expect the attention of the legislature drawn to the subject as to that of the protec-tion of dogs, and others of the brute creation. A general building and improvement act for towns is much required, as the want of it must be evident to every one at all acquainted with the state of the towns of this country. In most of them you find the streets nar-row, crooked, and inconvenient; the houses shops inefficiently and irregularly built, and without taste or architectural pretensions, or the slightest attempt at uniformity in design. A building and improvement act would enable us to lay out and improve our streets with science, taste, and convenience, our dwellings might be constructed substantially, and with some degree of architectural style and embellishment, and so arranged and classified, as to suit every grade of the community. The buildings ought to be erected under the supervision of a qualified architect, who should be appointed for that purpose (similar to your district surveyors); they would then be well and substantially constructed, and present a striking con-trast to the faulty, cracked, and distorted appearance of many of our modern buildings, that are erected to suit the whim or caprice of some speculative individual or adventurous Much difference of opinion appears builder. to exist relative to the nature and operations of the Metropolitan Buildings Act, but I think every right-minded and unprejudiced person must acknowledge that it is an exceedingly useful measure, and one that is calculated to effect great public benefit. An extension of its principles throughout the country is ardenly to be hoped for. At present, little attention is paid to the ventilation and drainage of houses; these are most essential elements in the salubrity of a town, and the preservation of health. There are but few towns that have any system of drainage; some are drained partially and

* A notice of this bill, since brought in, will be found the another page.

imperfectly, and others not at all: this arises in consequence of having no general measure for that purpose; and if it is to be left to the wish of the inhabitants at large, it would never be carried into effect at all, because the great majority of persons are unwilling to add to their local burdens; and as a town caunot be healthy without an efficient system of sewerage, constructed on correct and scientific principles, the expense, I consider, should be borne by the owners of the property, as they should be required to render their houses not only habitable, but healthy also.

habitable, but healthy also. A good supply of water to towns is of the utmost importance; for next to the air we breathe, water is the most indispensable agent in vital economy. There are but few towns in this country that have water-works established, and many have to depend upon the precarious supply to be obtained from rivers, brooks, or wells; the former being surface water, is rendered unfit for consumption by the impure matter it contains in solution, the latter from pernicious matter that percolates through the earth, more particularly if the system of drainage is bad. The expense of water-works even to small towns, in the shape of rates, would fall comparatively light upon the inha-bitants, and the sums annually paid in sickness for medicine, &c., required in consequence of the impure and deficient state of the supply of this necessary of life, would amply compensate for the first cost of the works and the supply, as well as filter the water, and rendering it pure and fit for human consumption. More diseases are engendered from this cause than we are generally disposed to admit of, or than we dream of in our philosophy. In the event of fire, water-works are essential, as the means of checking the ravages of that devouring element, as it is rarely convenient to obtain an immediate and sufficient supply from any other source; and when we contemplate the awfal destruction of property that has taken place lately both in this country and abroad, I think every precantion should be used, and every effort made, if not to remove the cause, at least to lessen the disastrous effect. Too much timber is used in our modern buildings. I think the day is not far distant, when the nature and properties of iron will be better understood, and it will, in a great measure, supersede the only perishable material used in building construc-Much of the unhealthiness of towns tions. arises from the dirty and filthy habits of the lower orders of the inhabitants, who are allowed either to accumulate their filth and refuse matter on their own confined premises, or to deposit it in the streets, to the great annoyance of their neighbours, and to the unhealthiness of the district they reside in.

In every town, provision should be made for the collection and deposition of this refase matter, and every means should be taken to instil into the minds of the lower orders babits of order, cleanliness, and decency I think health officers, or inspectors of nuisances, should be appointed in every town for the purpose of aiding in the suppression of these abominable practices, and power should be given by the Legislature to inflict penalties on all who do not conform to regulations of cleanliness and decency. Slaughter-houses are oftentimes great nuisances in towns, the stench arising from them being intolerable. These I think should be built on a plan and site favourable for drainage, and detached from dwelling-houses, which is very rarely the case.

Macadamized roads in towns I think are not desirable on the score of health, because in dry seasons every one must have suffered from the inconvenience arising from the dust, and in wet weather mud and dirt predominate. The same objection applies as to dust, to road surfaces formed of broken stone, profusely intermixed with asphaltum, alluded to in your journal (p. 263, ante), which has been extensively used at Nottingham. This material, moreover, is readily operated on by the rays of the sun, which render it soft and elastic, and thereby increase the force of traction, and consequently the labour of horses in draught.

Streets cannot be too frequently swept, and I think Whitworth's machine is a decided improvement on the old system, inasmuch as the dust is swept up and carted away immediately, whereas formerly the dust and filth was allowed to remain in the streets a considerable time, giving off offensive and noxious gases. In dry seasons the streets should be invariably

watered before they are swept, whether the surface is macadamized or paved, because the dust is not only detrimental to health, but injurious to the goods of tradesmen and the furniture in houses.

I could extend these remarks to an almost indefinite length, so numerous and so crying are the evils and abuses we are suffering under; but I fear even now I have trespassed too much or your valuable space, which might have been occupied by an abler pen than mine, and must plead for your kind indulgence. I am, Sir, &c. B. B. Brecon, South Wales, July 21, 1845.

GONTHE ON ARCHITECTURE AND ART.

TRANSLATED BY J. LHOTSKY. "Genius-is universally genial."

ALTHOUGH the great German poet extended his research and activity over almost every branch of human ken—it was to art, after all, to which his external position, as well as in-ternal vocation pointed most prominently. As the adviser of the great building operations carried on at Weimar; the creator and arranger of the well-selected grand ducal collec-tions, and the companion of the duchess dowager in her peregrinations in Italy-art was his constant occupation; and when, ultimately, he lived two years in Italy, ancient and modern architecture attracted much of his attention. While, however, so much of the most futile While, however, so much of the most futile and unmeaning trash of German novels and goblin stories have been reverentially trans-lated into English —, Goethe's "Auch ich in Arkadien" has not participated in the same distinction. Besides these two volumes of Italian travels, the German poet has scattered a variety of the most vivid and pregnant obser-vations on architecture and art over his autovations on architecture and art, over his auto-biography, his papers "Für Kunst und Alter-thum;" all which has been laid aside by our translators as no good. We therefore intend, as space and occasion may allow, to supply this desideratum by presenting our readers with the first translation of Goethe's architec-tural and artistic remarks, ever made —which, after all, may have that additional merit of fix-ing public attention to the ensemble of the e works.

We have, however, still to remark, that we feel no inclination for acting the part of a censor with Goethe's writings. This great man knew full well, that nothing whatever has gray values but in relation to, and in connection with the social condition, and the consider with, the social condition, and the social im-provement of men. He knew full well, that men may amuse themselves (waste time) with counting the hairs on the body of spiders, or discuss whether Cæsar had any corns or not, and the like - but he knew full well, we say, and the like — but he knew run wen, we say, that this, really, was no good. Hence his con-stant and deep allusions, to the bearing of ar-chitecture and art on the *total* condition of men. Such remarks, if interwoven with our topics, we shall not curtail-as they give zest and pregnancy to his beautiful sayings. We know, in fine, that Goethe's writings will not instruct our readers in the materiale of building (the theory of beams, &c.); for this, other space is extant. They will, however, afford ample scope for thinking and feeling-and from this to reasonable and seasonable action, is but one step.

THEORY OF AMPHITHBATBES (THEATERS). Verona, Sept. 16, 1786.*

The amphitheatre is, then, the first important monument of ancient times, which I was destined to see; and how well is it pre-served! When I went in, still more when I walked around on the brin of the building, it appeared strange to me, that I saw something grand, and still *nothing* in reality. Because, it is not intended to be seen empty, but quite filled is not intended to be seen empty, but quite filled with people, as it has been shewn of late to emperors and popes. Joseph I., accustomed as he was to see masses of people, is said to have been seized with astonishment. It was, however, but in the earliest period, that it produced its full effect, when the people were yet more really "the people," than they are now (!) Because such an amphitheatre is indeed made for the sake of imposing upon the people with their own importance—to gammon people with their own importance-to gammon the people with the presumed idea of themselves.

* Italienische Reise, vol. 1.

If any thing see-worthy occurs on even ground, and every one runs to it, the backstanders endeavour, by every possible means, to raise themselves above the foremost : some step on benches, casks are rolled hither, carts dragged to, boards are laid to and fro, neighbouring heights are occupied-and a sort of living crater is quickly formed. If the spectacle occurs oftener at the same

place, slight scaffolding is erected for those who can pay, and the other mass shift for themselves as they best may. To satisfy that general want, is here the architect's task. He constructs a similar crater by art-as simple as constructs a similar crater by art—as simple as possible, for the people themselves becoming the ornament thereof. If they thus saw themselves together, they must needs have wondered— because, being merely accustomed to see themselves, hitherto, running about promis-cuously, to find themselves crowded together without order and rule; this many-headed, many-minded, tossed-about animal, erring to and fro—sees itself then united into a noble whole, combined into a unity, congregated and whole, combined into a unity, congregated and fixed into one mass, as one body, ruled by one mind. The simplicity of the oval is visible to every eye in the most pleasing way, and every head serves as a scale, indicating how immense the whole be. Now, as we see it empty, we are left without a standard of comparison, and cannot judge whether it be large or small.

The Veronese deserve much credit for the way in which they preserve this monu-ment. It is built of a reddish sort of marble, ment. which is affected by the air and rain : on which account the corroded steps are replaced by others, and they appear almost all new. An inscription records the name of one Hieronymus Maurigenus, and the nearly incredible pains he has taken with this monument. Of the outer wall there is but a part remaining, and I doubt whether it has been ever wholly finished. The lower vaults, which are situated towards the great square called *il Bra*, are let to artisans, and it looks funny to see these dens again tenanted. (Verona 16 Sept. 1786.) The finest arch

gate which, however, is constantly shut—is called *Porta stupa* or *dell Pallio*. Considering it as an arch, and the great distance from

It as an arch, and the great distance from which it is seen, it is not a well-conceived work; as it is only in nearing it that the merits of the building are appreciated. They state different reasons, why it is shut. Still, I have my own conjecture. The in-tention of the artists went, undoubtedly, towards causing by it a new laying out of the Corso, because it does not correspond at all with the line of the actual street. The left with the line of the actual street. The left side consists of low tenements, and the rectangular line of the middle of the arch points towards a convent of nuns, which would have been to be laid down, as a matter of necessity. This all was evident; besides the rich did not like to establish themselves in this distant quarter. The artist died, perhaps, in the mean time, and the arch was shut, by which, matters

were brought to an issue at once. The portal of the theatre, consisting of six large Doric columns, is respectable enough. The meaner, nevertheless, appears over the two Corinthian columns, the life-size bust of Marchese *Maffei* in a large wig. The place is honourable, but for the sake of being somewhat at a par with the size and sterlingness of the columns, the bust ought to have been colos-sal. Now, it appears puny, on a miserable pedestal, unharmonical with the whole. The gallery also, which surrounds the vestibule, is mean sud the fluid Dorig dwarfs appear poor mean, and the fluted Doric dwarfs appear poor aside the smooth Ionic giants. Still, we shall pardon this, in consideration of the fine collection which is placed under these arcades. Here, the antiquities, mostly dug up in, and near Verona are jointedly exhibited. Some near verons are jointedly exhibited.[•] Some are said to have been found even in the am-phitheatre. They are Etruscan, Greek, and Roman, down to the later periods, and also some of modern times. The basso-relievos are encased in the walls, and bear the numbers given to them by Maffei in his work: Verona Illustrata. Altare frequencies of column Illustratia. Altars, fragments of columns and such like; also a most exquisite triped of white marble, on which genii are represented playing with the attributes of gods. Ra-

* Thus the commonwealth of Verona possessed a museum of national antiquities in 1796—denied to this country in 1845,

phael has imitated and idealized such in the

The breeze blowing from the graves of an tiquity, replete with fragrancy, is, as if it came over a bosquet of roses. These sepalchraf monuments are hearty, sentimental, and repre-sent always life. There is a man, who, in \leq niche, aside his wife, looks as if out of awindow. There stand father and mother, their son between them, looking at each other with un-speakable simplicity. Here again, a couple seize each other's hand. A father, reclining on speakauto since is hand. A father, recturing on his sofa, seems to be amused by his family. I, indeed, was very much moved by the deep I, indeed, was very much moved by the deep meaning of actuality in these stones. They are of a later period of art, but are simple, natural, and speaking to every one. The artists have (with more or less skill), placed merely the simple existence of man before us, but by so doing here presented is not make it but by so doing, have preserved it and made it something stable. They do not fold their hands, do not look to heaven, but they are here what they have been and still are. They stand aside each other, take interest in each other, love each other—and this is most lovely, albeit somewhat unworkmanlike, represented in these stones. A very ornamented marble pil-

lar afforded me also some new ideas. However praiseworthy this institution be, still, it is apparent, that the noble spirit of conservatism, which caused its foundation, has outlived itself. The splendid tripod will soon be injured, because it stands unprotected exposed to the weather on the west side.

Provided with a wooden case, this treasure might be easily preserved. The new palace of the Proveditore, if finished, would have been a fine piece of archi-tecture. Besides, the Nobile still build a great tecture. Besides, the Nobile suit build a great deal, but it is a pity, everyone at the place where his former dwelling stood—consequently, aften in narrow streets. Thus a splendid front of a seminary is erected in a small street of the most distant part of the fauxbourgs.

RESTORATION OF NETHER WALLOF CHURCH.

THE church of St. Andrew, Nether Wallop, like too many of the Hampshire churches, was formerly remarkable for little beyond a " sing formerly remarkable for little beyond a " sing-ing gallery " of goodly proportions and an no-sightly array of pews of every size, shape, and height. It has lately undergone a thorough restoration, the gallery having been removed, a beautiful belfry arch having been opened to view and a two light window with stand view, and a two-light window with stained glass having been inserted at the west end. The centre of the nave has been repewed with seats of a uniform height of two feet eleven inches, corresponding with the original oaken seats in the north and south aisles; the whole of the nave has been refloored and repewed throughout, the windows reglazed, and a space enclosed by an oaken parclose at the east end of the south aisle, to serve as a vestry. A per-pendicular font, from a design by Mr. Os-mond, of Salisbury, has been likwise substi-tuted for the old broken one, which was ingeniously hidden in one of the high pews

ingeniously hidden in one of the night power under the gallery. The chancel has been wholly rebuilt, at the expense of the impropriator, the Rev. Walter Blunt, who has retained its original propor-tions, viz., 38 feet in length, by 15 feet in breadth. On taking it down, the remains of a beautiful old oak roof were discovered, which was adopted as an exact model for the new one, It is of a good pitch, and is remarkable for the peculiar curves of the tie-beams, and prin-cipals, and the lateral brackets for the support of the purlins. The seats, extending longitu-dinally and alternatic are of foreign and the dinally, and altar-rails, are of foreign oak; and dinally, and altar-rails, are of foreign oak; and the space within the altar-rails is paved with encaustic tiles, interspersed with medallions; containing emblems of the Evangelists, the Queen's and Prince Albert's arms, and a mitre. The whole is surrounded with a figured border. A new perpendicular window has been placed in the east end, and there are two two-light windows of rather earlier data on the porth and south aides: the whole of on the north and south sides; the whole of which have been filled with stained glass, the former from a design by Mr. Fisher, of Salis-bury, and the latter with quarries of tinted glass (covered with oak and ivy leaves), which were made after the pattern of an original quarry found in the old chancel.

The restorations of the nave have been ef-fected by a voluntary subscription.

EXAMINATION IN LINES AND CURVES.*

28. Describe the different characters of spiral lines used in architecture, and shew how they can be traced by continuous motion.

spiral times used in architecture, and shew how they can be traced by continuous motion. 29. Is there any example of the logarithmic spiral being applied in ancient architecture? If so, state where and when, and how it is proved to be such.

30. What are the characters of the curves forming the vertical contour of Egyptian, Greek, or other columns? and shew how they can be described full size by the workmen. 31. Shew how the various characters of

31. Shew how the various characters of Gothic arches, from the most pointed lancet to the flattest Tudor, may be traced by continuous motion by a workman, to the full size required.

32. Point out the difference in the characters of lines applicable, or supposed to be applicable for these purposes, and why one description is preferable to another.

33. What is a cardioid, what are its different characters, and by what means can the whole, or any part of such lines be drawn?

34. Shew any instance of the application of a part or the whole of any description of cardioid in architecture.

35. Shew how a varying curyed line can be traced (always concave on the same side) commencing at a point at any gives distance from one side of a right line, then crossing the right line at a point at any distance from the first point, then returning on the other side of the right line to the same distance from it as from the first point on the other side; and, if necessary, produce both the right line and both branches of the curve to any extent, continually receding from the given right line on both sides, but never to exceed a given distance from each other. 36. Draw a portion of another line with two

36. Draw a portion of another line with two infinite branches — both branches continually approaching a right line on the same side and in the same direction.

37. Draw Hogarth's line of beauty by simple continuous motion, of several different dimensions, but exactly in the same proportions, a subject of the JOSEPH JOPLING.

NEW HALL OF COMMERCE, IPSWICH.

On Monday, the Stat ult., the new building at Ipswich, appropriated to the customs and excise, was publicly opened. It is said to be a good instance of what may be done with small funds by clever distribution and just proportion of parts. A local paper says :--"The Hall of Commerce occupies the centre of the building on the principal floor, the same width as the portion, being about 35 feet square, and 18 feet high; some little decora-tion has been given to this room, the walls being surrounded with an order of the Corinthian proportion, the capitals of which are of original design and display considerable merit-from the cornice springs a cove abutting against an enriched guilloche flatband which surrounds the ceiling, and groined on the south and west sides. This portion of the building, together with two private offices in the rear, is to be devoted to the convenience of merchants, ship owners, &c., for business purposes. The department of the customs is he west side of the building, and that of the excise on the east, each consisting of a long room or public office, with private apartments for the collector and controller of each establishment, together with rooms for samples and stores. A separate entrance and staircase is provided for each department, communicat-ing with the arcades at each end of the building; while there is another staircase at the back for the Hall of Commerce, and the offices on the Mercantile Floor, which are occupied by the Dock and River Commissioners and private merchants. Extensive corn cham-bers are obtained over the whole of the building, and the lower story throughout is appropriated to stores and warehouses. The con-tract for the whole of the works was completed at 4,250% and the work has been executed in a sound and substantial manner-no settlement

in any part having occurred. The length of the building from west to east is 125 feet, and the depth from north to south 44 feet—the portico and staircase projecting

* See page 853 mic.

about 23 feet. The height to the apex of the pediment is 55 feet, and to the cornice, 45 feet; and the tower, 76 feet." At the north-west corner of the building,

At the north-west corner of the building, there is a campanile. An entertainment was afterwards given in the ball, and the health of the architect, Mr. Clark, was proposed amongst others by the mayor in flattering terms. It is so much the custom to forget the architect altogether at these ceremonies, and still more so in any account of them afterwards given by the press, that we cannot omit mentioning the circumstance.

Mr. Pettit, the contractor, was also complimented, and said in reply what it is always most satisfactory for an architect and employer to hear, "That while he had endeavoured to do justice to others he had paid himself."

MONUMENTS TO EMINENT MEN.

Our readers are probably aware that steps were taken some little time ago to obtain a monument to our illustrious countryman, Flaxman. The committee rightly remark in their appeal on the subject, " It has long been a subject of general regret and national reproach that in this country so little has as yet been done to testify a nation's gratitude to the great masters in British art. The persevering exertions of private individuals erected a monument in St. Paul's to the memory of Sir Joshua Reynolds, and the admiration of friends and countrymen a statue in the National Gallery to the memory of Sir David Wilkie. But the history of British gratitude to British art begins and ends with these two statues. While public memorials to our warriors and statesmen are of common occurrence, Sir Christopher Wren has only a slab, Hogarth is with-out a bust, and Flaxman without a statue." We are glad to find that the latter stigma will be removed; a sum of money has been already subscribed, and Mr. M. L. Watson has com-pleted the clay-model of the statue to the perfect satisfaction of the committee: further subscriptions, however, are required, and we gladly make known the want in the hope of inducing assistance. Mr. Peter Cunningham is acting as honorary secretary. The subscriptions in aid of the memorial to the memory of his late Royal Highness the

Duke of Sussex are to be appropriated to the building another wing to the Royal Free Hospital, with the addition of a marble statue and a suitable inscription, to be erected at a cost exceeding 1,000 guineas. The new wing not will be called the Sussex wing, and is to be large enough to contain 100 beds.—A statue of the late Lord Rolle, in the robes worn by him at the coronation, executed in white Carrara marble, at a cost of one thousand guineas, is being erected at Buton, the seat of Lady Rolle.——We understand that Mr. Butler, the sculptor, has been selected by the committee to execute the bust of the late Professor Daniel. of King's College, London. — The Queen has subscribed 200 guineas to the fund for the erection of a monument to the late General Sir William Nott. — Gibson's statue of Mr. Huskisson, for the town of Liverpool, is casting in bronze, at the royal foundry of Munich. ——The Picton Monument in Wales is about to undergo the work of restoration. It is gra-tifying to learn that public sympathy has not been permitted to flag on this subject, and that subscriptions are daily increasing. — The statue of Beethoven, modelled by the Dresden statue of Beethoven, mourieu of the Director sculptor Hähnel, for the town of Bonn, has just been cast in bronze at Nuremberg. — The site for the Weber monument, to be erected in Dresden, has been selected by the king of Saxony, in front of the theatre royal of that city. The committee have decided that the monument in question shall be the counterpart of that about to be erected to the memory of Beethoven,-that is, that it shall con-sist of a colossal statue, in bronze, of the illustrious deceased, on a quadrangular pedestal enriched with bas-reliefs on the four sides. The cost of the work is more than covered by the performances given in its behalf at the several theatres of Dresden, Berlin, Munich, Vienna and Hamburg. — A monument in the shape of a mausoleum was inaugurated at Leipsic on the 5th instant in one of the principal squares, in commemoration of the great battle of Leipsic.

SMOKE PROHIBITION BILL.

THIS Bill to which, in its progress through the House of Commons, we have more than once directed attention, was lost last week on Mr. Mackinnon moving that the report of the Committee be received. In the debate it was the general opinion that the Bill since its introduction had undergone so many and such extensive modifications, to suit the views and interests of certain classes of manufactures, that it would be partial and unjust in its operation. Upon these grounds Lord John Russell declined giving his support to its farther progress, and thought it would be advisable that some further inquiry should take place in order to accertain what branches of manufactures could be fairly brought within its provisions.

its provisions. Sir James Graham expressed himself as being most anxious to adopt this suggestion, and thought it might be advisable to have some scientific inquivy instituted during the recess, as to how far the provisions of the Bill might be applied to stationary engines employed in manufactures. He further stated that the labours of Mr. Mackimaon would not be lost, as his measure might be incorporated in Lord Lincoln's Bill affecting the Sewerage and Drainage of towns, ar introduced in a separate and more satisfactory form next session. In dismissing this subject for the present we cannot refrain from noticing the ill-success that attends Mr. Mackimnon's attempts at legislation. His powers, or his influence to grapple with subjects of so much importance as the health of towns, whether in getting rid of the smoke nuisance or of intramural interments, are no longer questionable. He has in both instances prevented more efficient members from taking in hand remedial measures and advocating them with decision and firmnees, without which success is impossible.

ST. AUGUSTINE'S ABBEY AT CANTERBURY.

ABOUT twelve months sgo, Mr. A. B. Hope, finding that the ancient abbey of St. Augustine, at Canterbury, was fast disappearing, purchased the rains with a view to their restoration, and proceeded to excavate the foundations. The munificent proprietor has since determined to devote the site to the establishment of a missionary college for the Church of England, the object of which will be to provide an education to qualify yoong men for the service of the church in foreign settlements, with such strict regard to economy and frugality of habits, as may fit them for the special duties to be discharged, the difficulties to be encomtered, and the hardships to be endured. Al considerable sum, nearly 40,000*l*, has been subscribed already, chiefly through the exertions of Mr. Hope, who has himself contributed a large proportion of it. - It is proposed, therefore, to commence immediately the principal quadrangle of the college, which includes the chapel, hall, library, and apartments for 50 students, with the requisite accommodation for the officers and servants of the establishment. The arrangments of the building will be so constructed, as to admit of subsequent enlargement.

We shall seek an opportunity to examine the works, and shall hope to find that the old buildings are to be restored.

YARMOUTH BRIDGE.—A further delay has occurred in the erection of the new bridge over the Haven at Great Yarmouth. It appears from the proceedings of a meeting of the commissioners, held last week, that tenders, for building an iron bridge were obtained from the Birtley Iron Company, at the sum of 32,000*l.*, and from Mr. W. Smith Simpson, of Tower Park, near Ely, at the sum of 18,479*L*, subject to conditions. A second tender was made by Mr. Simpson, at 19,070*l.*, subject to conditions. The conditions have reference to the amount of responsibility, and the commissioners not being disposed to agree with them, they have postponed further consideration of the subject for the present.

PARIS. — The eight magnificent blocks of Italian marble recently arrived at the Port d'Orsay, and intended for the construction of the tomb of the Emperor, have been safely removed to the Invalides. — Galignani.

LORD BROUGHAM AND THE NEW HOUSES OF PARLIAMENT.

LORD BROUGHAN, a few nights since, in moving an humble address to her Majesty praying thet she might be graciously pleased to give the necessary directions for preparing accommodation for their lordships in the new Houses, of Parliament by the beginning of next session, complained bitterly of the sufferings which the law lords at present had to endure in their morning sittings, sometimes from beat, and sometimes from cold. His lordship also took occasion to say that he *feared* there was a project a foot for making the new houses not only subservient to legislative pur-poses but also to pictorial ones; he had heard that the walls were to be decorated with frescos; and that statuary was also to be called in to aid in ornamenting them.

The motion was strongly opposed by the Duke of Wellington, Lord Wharncliffe, and Lord Sudely, the latter nobleman observing that he thought it would be more advisable and safer to wait for another year than to go into a new building before it could be sufficiently dry. Lord Brougham pressed his motion to a division, and it was lost by a majority of 24, there being 16 for and 40 sgainst it.

Correspondence.

FIRE-PROOF ROOPS.

1

Sig.-Some second and third-rate dwellinguses now in progress have been covered with fire-proof roofs, constructed of wroughtireo joints and plain tiles in cement, laid to a sufficient fall to carry off the rain. The adsufficient fall to carry off the rain. The ad-vantage of this mode of roofing, when com-pared with that of slates and lead gutters is pared with that of slates and lead gutters is obvious. It is stronger, more durable, less liable to repairs, more convenient in many situations, for views, &c., more adapted to ar-chitectural beauty, and, being fire-proof and flat, affords an easy escape from one house to the other. The size of the joists varies ac-cording to the width of the houses, but where the frontage is about 19 feet, the iron has been used 41 inches hy 14 inches, and placed from used 4, inches by 11 inches, and placed from centre to centre of party-walls, 4 feet apart, with structing of smaller-sized iron. The tiled work of three or four courses (executed by competent bricklayers) in fresh cement, well grouted, forms a flat all over, and is finished with a skirting all round the walls, which an-swers as flashing. It is plain these roofs have an equal bearing throughout the walls, without the utility in any direction or cruching in any thrusting in one direction, or crushing in anothrusting in one direction, or crushing in ano-ther, as is the case with timber roofs, an illus-tration of which was given in Vol. II. p. 344. The damage done so readily to slates by sweeps or other persons, and the constant an-noyance of repairing, as well as being robbed of lead gutters, &c. are entirely avoided.

CANDEN TOWN NEW CHURCH AND THE NEW HOLLOWAY INDEPENDENT CHAPEL.

Sin,-" One of the competitors" for Camden Town new church, in his letter inserted in your last number, has either omitted, or is ignorant of a glaring peculiarity in the late transactions, viz., that the selected design consisted only of two drawings, an exterior and interior perspective view, unaccompanied by geometrical draw-ings; so that the managing parties must either have shewn themselves unusually sagacious in making up for the necessary defectiveness of the drawings, or, which is more probable, judging by analogy, set to work in the first instance determined to push forward a favourite individual, regardless alike of honour or even justice. Now, Sir, if this be the case, it is really too bad, and seems to be a kind of second edition of the jobbing proceedings of a neigh-bouring "independent" committee, whose doings were so unmistakably shewn up in your journal some months since, and who, after having had the benefit of discussing some thirty sets of drawings sent in compeafter baving had the benefit of discussing some thirty sets of drawings sent in compe-tition, at last selected one of their own number, and are now (after five months' consultation) preparing to carry out a design unwarrantably at variance with the original drawings and esti-mate ;—an example which I am sorry the Camden Town people seem inclined to follow. I am glad to find you purpose keeping your eye upon them :—the persevering efforts of Tws BUILDER in the cause of competition de-serve the warmest thanks of the profession :

and it is hoped they will not be fruitless, but prove to have aided in establishing a system more in accordance with the undoubted rights of integrity and fair dealing .- I am, Sir, &c., London, July 29th, 1845. VIGILANS.

MOSAIC PAVEMENTS.

S18,-In the last number of your excellent paper, there is a good account of the above; but no notice is taken of the following, which if you think it useful to your readers, perhaps you can find a spare corner for. There are you can find a spare corner for. There are manufactured at Naples thick glazed tiles, upon which are figured fac-similes of many beautiful patterns, which together form the ce-lebrated mosaic pavements of Pompeii and Herculaneum. For instance, there is the, whole pavement which was found in the house of the tragic poet, the dog with cave canem; and besides, there are a host of borders of all patterns. As far as I remember, these tiles are very cheap, and their effect is very good; and at a little distance they look better than the originals. The shops in which they are to be bought are situated on the Mole, close to the sea, and I should wish very much to see them introduced into England, as they are well adapted for the floors and sides of halls, baths, dairies, &c.—I am, Sir, &c., London, July 23rd, 1845.

P. A. T. H.

Miscellanea.

NEW CHURCHES. — At a meeting of the Society for promoting the enlargement, build-ing, and repairing of Churches and Chapels, held last week, grants were voted towards the erection of new churches at Beggin, near Ash-bourne; Tetbury; Moxley, near Wednes-bury; Hereford, the parish of St. John the Baptist, in which there is no church; Clandown, a district near Bath; Cantley, in the parish of Sedburgh, York; Kingsholm, a district ad-joining Gloucester; Pembroke Dock; St. Paul's, a new district in Hull; West-street, Oxford-street, London; and Brighton. Grants were also voted towards the rebuilding of the churches at Eye, near Peterborough; Hinton, near Blandford; Standford near Hythe; St. Thomas, Winchester; Branston, near Cold-stream; Ripley, in Surrey; Badderley Ensor, near Atherstone; and towards the enlarging of the following churches, viz., Cilcain, near Mold; Wallingford, St. Leonard's; Hook Norton, near Chipping Norton; Wymerwold, near Loughborough; Shatton, near Swindon; Whitchurch, near Stratford-on-Avon; Upton, near Horsham; St. Philip, Birmingham; Crendall, near Farnham; Brightwell, near Woodbridge; and Llancynfelin, near Aberyst-with. Cost of GLASS FOR HORTICULTURE — NEW CHURCHES. — At a meeting of the

COST OF GLASS FOR HORTICULTURE COST OF GLASS FOR HORTICULTURE — Belgian glass is advertised, in lengths of 40 inches, at the price of something less than 14d. per foot, at Antwerp. At that price we ought to buy it, and eventually shall buy it, at home; for the English glass-makers can sell it as cheap as any body if they think proper to do so. Now, the cost of glass at 2d. a foot, to cover a bed 6 feet wide and 100 feet long, would be just five nounds and 100 feet long, would be just five pounds, and the squares might be long enough to render all laps unnecessary in a bed which shall be 6 feet wide. The English glass-dealers, in that modest tariff with which they favoured their countrymen immediately after the repeal of the glass duties, only demanded seventy-five pounds for the same quantity; or, supposing that the squares were not more than 40 inches long, they would then have vouchsafed to accept the small sum of thirty pounds. We do not say that a fall in the price of glass to 2d. per foot is to be expected immediately, or that a reduction of prices to such an amount could at present be accomplished by the English glass-trade; but would be just five pounds, and the squares might accomplished by the English glass trade; but the difference between what they have done, and could have done, and must do, is suffi-ciently significant of the course which those who have money to spend on glass should steadily pursue.—Gardeners' Chronicle.

who have money to spend on glass should steadily pursue.—Gardeners' Chronicle. WALLASEY DOCKS.—On Saturday last, about half-past five o'clock, the first stone of the Wallasey Docks, on the uorth side of the pool, was laid by Mr. Rendall, the en-gineer of the docks, on the Seacombe beach, and within about 20 yards of the Seacombe ferry. Between 200 and 300 of the inha-bitants of Seacombe were present. serve the warmest thanks of the profession; bitants of Seacombe were present.

For three third-rate houses to be erected for the Corporation of the Philanthropic Society, South-work : Messrs. Jarland and Christopher, architects.

| M. Heyson£1,942 | |
|---------------------|---------|
| W Nicholson 1.850 | 11 |
| Evans and Son 1,829 | -101 al |
| | 100 144 |

For building eight houses and hotel in the new line of Oxford-street : Edward Gotto, Esq., architect.

| Howard | £ 30.220 |
|------------------|----------|
| Burtenshaw | 30.216 |
| Cooper and Davis | 29,980 |
| J. and T. Ward | 29,885 |
| Trego | 29,540 |
| Dean | 29,327 |
| Burton and Sons | 26,673 |
| | |

For building eight houses, Lewisham-road ; Mr. W Smith a

| Manaham | DEDIR |
|--|----------------|
| Marsham | F 3,247 |
| Wade | 4,909 |
| Wade R. and D. Young | 4,795 |
| Howard | 4,777 |
| Goodwin | 4,580 |
| нш | 4,474 |
| Rider and Son | 4.344 |
| Taylor | 4,245 |
| and a second | |

21

For building two villes at Highbury, under John Barnett, Esq., architect and surveyor, of 68, Chancery-la

| Lock and Nesham | £4,588 | |
|--------------------|-----------|---|
| Piper | 4,488 | |
| Pierce and Co. | 4,488 | |
| Ashley | 4,199 | |
| Haines and Co. | | · |
| King and Co | .,. 3,912 | |
| Glenn | | |
| Grimsdell | 3,873 | |
| Grimsdell Trego | 3,800 | • |
| | | |

NOTICES OF CONTRACTS.

We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the semanishes of out readers, however, they are entered in a book, and may be acen on application at the office of "The Builder," S, York, street, Coventgarden.]

For Lighting the town of Woodbridge in Suffilk with Gas.

For the erection of three additional wards at the Bedminster Union Workhouse statusts at Agog Ashton

For the executing the skeleton of Glenorthy Castle,

For the excenting the skeleton of Giemorthy Cartie, County of Limerick, Ireland, J. Steveral Dockyarda, For supplying her Majesty's several Dockyarda, with Danizic Oak, Thickstuff, and Plank. For Building a Sewer in Fleet-street, from Temple-bar to Water-lane. For Lighting the Parish of St. Mary, Bother-hithe, with the Essential Oil of Tar, for One Year, from the 24th of August next. For Building a New Union Workhouse, to con-tain 1180 Persons, for the Guardians of the Clifton Union.

Union.

For the complete restoration of two Windows on the south-side of St. Thomas's Church, Salis-bury; also, for Cleaning and Whitewashing the interior of the same Church.

interior of the same Church. For certain alterations at the Workhouse of St. Mary's Parish, Islington. For the execution of Works on the Leeds and Thirsk Railway. For Coupled Locomotive Engine and four-wheeled Tander, to contain 700 gallons, for the Manchester and Birmingham Railway Company. For the execution of that portion of the Newcastle of Remiet Railway extending from the Newcastle and Berwick Railway, extending from the Newcas-tle and North Shields Railway to Netherton, be-

ing a distance of about 124 miles. For the execution of several lengths of Earthwork on the Aberdeen Railway. There are 5 separate Contracts, varying in lengths from 34 miles to 44

miles. For the execution of the works on the Nottingham and Lincoln Railway, in two parts; 1 from Nottingham to Newark, being a distance of 172 miles. 2 from Newark to Lincola, being a dis-

miles. 2 from Newark to Lincolá, being a dia-tance of 15³/₂ miles. For the erection of Stone Booking-Offices for the Sheffield and Manchester Railway Company. For Lighting with Gas part of the Parish of 58^c. Mary, Whitechapel, and also for the repair, 54^c, of the Service Pipes, Lamps, and Fittings. For the execution of certain Repairs, &c., pro-posed to be done at the Parish Chapel of St. Luke's, Chapter

Chelsea.

For the construction of the entire Line of Rail-For the construction of the entire line of Name way through the County of Anglesca, for the Ches-ter and Holyhead Railway Company. It is divided into four separate Contracts, being respectively in length 5 miles and 28 chains, 5 miles and 26 chains, 7 miles and 55 chains, and 8 miles and 60 chains. For supplying the Midland Railway Company

For supplying the Midland Railway Company with about 2,400 tons of new Chains. For the Construction of Four divisions of the Chester and Holyhead Railway, comprising the entire line through the County of Anglesey. For subsiding three Buttresses, and repairing a portion of the Roof of St. Michael's Church,

Có entry

Coventry For supplying the Leeds and Bradford Railway Company with 1,200 tons of Cast-iron Chairs. For the execution of the several works required in the Tynemouth Extension Railway, comprising about 740 yards of Tunnelling, with Earthwork, &c. The length of the extension is one mile.

For painting and repairing the Church of St. Anne, Westminster, both externally and internally.

COMPETITIONS.

Plans are required for Laying out and covering with Villa residences about 20 Acres of land having stage of about half-a-mile to the Queen's-road Richmond, Surrey, extending from Spring-grove towards Richmond-hill. Premiums will be given of 25 guineas for the most approved plan, and 15 eas for the second.

guments for the second. A premium of 101. is offered for the best plan and design of a Monument to be erected in the Highgate Cennetary. One side of the monument to represent, in intaglio, the various instruments employed in the different branches of science, and the reverse, a female figure breaking a flower from a branch, in basso relievo.

APPROACHING SALES OF WOOD, &c.

BY AUCTION. At St. Osyth Priory, Essex, 700 Oak Timber Trees; 200 Elm ditto; and a large quantity of Poplar and Birch Seconds.

At the Port of Cowes, a cargo of American Red and Yellow Pine Timber, Elm, Birch, Lathwood, Deals, and Deal Ends, ex. Grenville Bay, Robson, from Quebec.

BY TENDER.

In the Plantations of the Duke of Montrose, Situate in the Parishes of Drymen and Buchanan, Stirlingshire : many Thousands of Larch Trees of some size, adapted for Railway Sleepers, Roofing and Joisting, and other purposes.

TO CORRESPONDENTS.

"The Earl of Haddington."-The letter contowing the request accidentally second our atten-tion last week. The inscription sent may be rendered into Latin thus :--

IN MEMORIAM CABOLI

COMITUM DE HADDINGTONIA OCTAVI :

or,

IN MEMORIAM CABOLI

OUTAVI INTER COMITES DE HADDINGTONIA. "Enquirer."-Although few, if any, font covers

of an earlier period than the perpendicular remain, we should be disposed under the circumstances to design it in accordance with the style of the church, early English. We shall be glad to see the sketches.

"Steel and Brass." - A correspondent will be gled to be told of a preparation to weld cast steel, or of a cement to join it : also the best way to

brase brase. "Wood Pavements."—A country subscriber in wooden pavements suggests that the grooves in wooden pavements should be renewed with a V shaped adze as they become obliterated.

John Strudwick," "M. P.," and "Artist." We regret that we have not space for many of the communications on the School of Design which We have received.
"G. R. Lavis " shall appear.
"A Constant Subscriber."— The Fitzwilliam

Museum at Cambridge. "James Dean" (Tottenham.)-

-We cannot coin cide in the advice given by Mr. D. to his clients in either case. The shed in the paddock cannot be an insulated building, according to the meaning of the Act, if it adjoin a public foolpath : and even if it were an insulated building, it would be subject to supervision, except as to certain points. As re-gards the second case, the official referees have decided that "vineries and such like buildings" are subject to supervision; and that the exemption to which he refers extends only to settlement of rate. (See p. 279 ante). "T."—Notice must be given to the district sur-

(See p. 279 and). "T."-Notice must be given to the district sur-veyor : the structure must be of fire-proof mate-rials. As to the shed ; it must not be of wood, un-less if is "insulated " according to the meaning of the Act.

A correspondent asks for some ac-Curves count of Mr. Buchforth's engine for tracing a va-riety of curves, exhibited at the last meeting of the British Association.

"A Student" may obtain any additional infor-nation he requires from Mr. Whishaw, the secre-

the erections mentioned are "insulated" they are liable to supervision. Notice must be given before any chimney stack or fine shall be begun to be built, pulled down, rebuilt, cut into, or altered. "W. H."—His request for a view of Nasmyth's steam pile-driver shall be remembered.

"I. L."—We have not yet been able to read the article on the National Gallery. "Railway Company's Books."—A corre-spondent asks for some published work shewing the method by which the accounts of the various departments are kept to produce a quarterly balance.

We don't know of such. "G. H., "" R. C.," "J. S. Jr."-Next week. Received: "Constant Reader" (N.B.); "B. B.;" "W. G.;" "A. B.;" "Mr. Angall," and "Journal of the British Archeological Association. No. 2."

ADVERTISEMENT

HYDALEUM TEMPERANCE тне

THE HYDALEUM TEMPERANCE BUILDING ASSOCIATION. - Shares, 120.; Monthly Subscriptions, 10s.; present Entrance Fee, Ss. 6d.; held at the Temperance Hall, 9, Church-road, St. George's East. In this society the sums to be advanced on each share are fixed and certain; those shareholders who require an ad-vance will rescive it in rotation. 60. will be advanced on each share in the first year, and this sum will be increased or each share in the first year, and this sum will be increased or each share in the first year. No redemption fee. No bidding for shares. No deducting on discount from the advances. No fine on transfers. No fine on withdrawal. But every thing on a liberal, plain and intelligible, safe and certain plan. This is the society for the industrious classes to join ; the prospectus will well repsy perusal, and may be had gratis of the Manager, WM. WITCOMB, 11, New Rutland-street, Mile-End; Scretarr, HENRY LEECH, 9, Church-road, St. George's East. Applications by letter to be post-paid, with stamp for reply. Persons having house property to dispose of may always hear of a purchaser by forwarding full particulars, with the lowest price, to Mr. WITCOMB, a above. Optimize of the Press.

Opinions of the Press

Oprimons of sac froming building socie- "We hold Macarthur's plan for forming building socie-ties to be a decided improvement."—Weekly Dispatch.
 "We cordially recommend Mr. Macarthur's pamphlet.
 He has really simplified and improved the plan on which building societies are conducted."—Temperance Intelligence.

building societies are conducted."-Temperance Intelligence. PRIZES IMPORTANT TO INVENTORS AND PATENTEES. A GOLD MEDAL, value 1007. and a SILVER MEDAL, value 501., will be given by Mr. M. JOSCELIN COOKE. The Gold medal for the best Patent, and the Silver medal for the best Design taken out or Registered at the OFFICE for PATENTS and DE-SIGNS, 30, Half-Moon-street, between the last of Novem-ber, 1844, and the 1st of June, 1846. The Prizes will be awarded by competent judges on the 10th June, 1846. The conditions to be observed, together with instructions, charges, and every information for obtaining Patents in England or Poreign Countries, or Registering Designs, will be forwarded gratis, on application to Mr. M. JOSCELIN COOKE, at the Office for Patents and Registration of Designs, 20, Half-Moon-street, Piceadilly, London.

PAINTING BRUSHES OF SUPERIOR QUALITY. TO PAINTERS, BUILDERS, &c. J. J. KENT AND CO.,

J. J. KENT AND CO., MARUPACTURES, 11, GREAT MARLBOROUGH.STREET, LONDON, Offer to Painters, Builders, &c., Painting Brushes of a quality far superior to those generally offered for sale, to which they beg to call the attention of all who prefer quality and durability to apparent cheapness. 000000.-7 in. Dusters. 000000.-7 in. Dusters. 00000.-7 cound Brushes. Distemper ditto. Ground and Unground. Bash Tools, and Common Tools. Tar Brushes and Masons' Brushes, and all other Brushes used by Painters and Artists. Lists of Prices of Painting Brushes, and of all other kinds of Brushes, forwardsd on application. Established 1777.

WARNISH.—It has long been a desideratum amongst the consumers of Varnish to obtain a good and genuine article ; brilliancy, facility of drying, hardness, and durability are the qualifications necessary, but these are seldom if ever found united. The experience of a life-time devoted exclusively to the manufacture of this article, the great and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled Mesara. George and Thomas Wallis to produce Varnishes (both oil and apirit) unrivalled in every respect, and they confidently recommend them to the track, as deserving of notice both in price and quality.

recommend them to the trade, as deserving of notice both in price and quality. Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unadulterated article. Fine Oil Varnish, from 10s. per gallon; best White Spirit Varnish, 21s. ditto; Best Spirit French Polish, 20s. ditto; White Lend, Oil, Turps, and Colours of every description at the very lowest prices.-WALLIS'S Varnish, Japan, and Colour Manufactory, 64, Long-acre, one door from Bow-street. Established 1780.

WALLIS'S PATENT LIQUID WOOD KNOTTING - This newly discovered limit WALLIS'S PATENT LIQUID WOOD KNOTTING. — This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the im-portant qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and dis-figuring the paint above. Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much plea-sure in offering to the public an article so long and anxiously called for. In the application, skill is not required ; a boy can use it as well and effectually as the best workmen : it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat. Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No, 66, Long Acre, Price 28s, per gallon.

G,'s TRACING-PAPER.—It is warranted to take Ink, Oil, or Water colour, and sold by MESSRS. ROBERSON AND CO., SOLE AGENTS, SI, LONG-ACRE, at the following eash pricesp-THIN TRACING-FAPER. 60 by 40, at 141. Os. per Learn, or 18s. ed. per Quire. 40 by 30, at 71. Os. "7s. 6d." 30 by 20, at 31. 15s. "4s. od. " THICK TRACING-PAPER. 40 by 30, at 71. Iss. "6s. ed. per Quire. 30 by 30, at 71. Iss. "6s. ed. " Manufacturer. This beautiful and unequalled article is allowed to be the cheapest and most useful Paper hitherto introduced to the public, as will be best proved by a trial.

TO RAILWAY SURVEYORS AND ENGINEERS.

TO RAILWAY SURVEYORS AND ENGINEERS. TRACING PAPER. — SAMPLES for-warded by Post, free. — WATERLOW and SONS, having devoted much attention to the manufacturing of the above article, have succeeded in producing a Paper superior to any yet introduced, combining the great requisits of elearness and a surface, warranted to work well with panell, ink, and colour.

and Lithographers, 66 and 67, London-wall. MONS, BOUTIGNY'S EXPERI-MENTS on the FREEZING of WATER in RED. HOT CRUCIBLES, &.c., will be separated by Dr. Byan. in his Lectures on the CAUSES of EXPLOSIONS in STEAM. BOILERS, daily at half-past Three, and in the Evenings of Mondays, Wednesdays, and Fridays, at Nina, at the ROYAL POLYTECHNIC INSTITUTION. The AT-MOSPHERIC BAILWAY, carrying from Six to Eight and exhibited daily, and in the Brenings. The art of SWIMING and DIVING illustrated by a Youth Eight and exhibited daily, and on the Brenings. The art of SWIMING and DIVING illustrated by a Youth Eight and Fridays at Two o'Clock, and on the Brenings of Tese-days and Thursdays, at half-past Eight. All the other popular Exhibitions and interesting Works as usual.—Ad-mission, One Shilling' Schools, half-price.

HOT WATER APPARATUS. -- The HOT WATER APPARATUS. — The attention of architecta, builders, and ethers, is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, stair-case, conservatories, forcing and green-houses, unautifacturies, and warehouses, kilms, rooms for drying timber, de., and eway variety of purpose for which artificial heat is required. Withis the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they wer executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improve wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Doract-street, Fleet-street.

HOLBORN AND FINSBURY SEWERS, MIDDLESEE.

THE COMMISSIONERS of SEWERS THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persens about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. By the Court, STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Some

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SATURDAY, AUGUST 9, 1845.



HE architectural embellishment of a city is of much greater consequence in forming the character of the people than some hasty thinkers now-a-days recognize. The

constant contemplation of fine forms, or the reverse, has a powerful effect upon the mind; and it should be the duty of governments to aid in obtaining for the multitudes the advantages of the former to the extent of their power.

Plato says, in one of his Dialogues, "The plan we have been laying down for the education of youth was known long ago to the Egyptians, that nothing but beautiful forms and fine music should be permitted to enter into the assemblies of young people."

In England, this has been little thought of; the people have been rigorously excluded from the contemplation of works of art, although the enjoyment of it would have cost the nation nothing; and many of our public buildings, instead of advancing the standard of taste, have tended to lower it. That an anxious desire exists at this moment to remedy the mistake as quickly as possible is certain. And this no one will doubt who has watched the proceedings in Parliament during the present session. Although it is unfortunately too much the eustom of the daily press to omit reporting much of what is said in the House about art and monuments, it is obvious that these subjects have occupied more attention there than usual. In the debate as to whether the tax of ld. per ton on coals should be continued, and the money devoted to the purpose of improving the town, all agreed is the second ty for metropolitan improvement, however much they differed as to the propriety of raising money by that particular tax." The vote of money for the repair of St. Margaret's church, Westminster, led on another occasion to a long conversation on Gothic buildings and taste; and Mr. Hume's annual motion for opening St. Paul's and Westminster Abbey, when brought forward on Monday night last, was received in a very different manner From What used to be the case, and fed to a more satisfactory result.

When the vote for St. Margaret's was proposed, Mr. P. Borthwick objected, on the ground that the money hitherto granted had been expended in the worst possible taste. He though the church ought to be pulled down and rebuilt, rather than to undergo the Georgian-Gothic alterations with which it was proposed to deface the building. He also objected to Westminster Abbey, as not fulfilling the perpose for which it was intended. It was neither a cathedral nor a place of public exhibition, hat rather a gross between both. (Latghter.) The monuments were a disgrace to the age and to the edifice. The Chancellor of the Exchequer said that archi-

tectural amateurs were quite insatiable in their demands for public money to be spent in carrying out their ideas. As to St. Margaret's church, as the House of Commons occupied it in some sort, it was but proper that some part of the public money should be appropriated to its expenses. If the church were pulled down, as wished by Mr. Borthwick, an expense of not less than 50,000% would be incurred. Mr. Osborne wished to know what was the use of the commission having brought in a report that the church ought to be pulled down, if parliament were to be required to vote 1,200% for repairs? He was satisfied if Government came forward boldly, and preposed a vote of 40,000/. for a new church, that it would not be disapproved of. Viscount Sandon said, he should regret to see 40,000/. granted for merely replacing the same aburch. It would be much better to expend the money in pulling down the two towers of Westminster Abbey, which were alike deficient in taste and architectural beauty. Mr. Sheil would ask hon. members if the Abbey was turned to as much account as it ought to be? (Hear, hear.) It was a noble building, and might be made much more available for religious worship. Let the House consider the immense difference between the use made of that church and the churches on the Continent. The congregation was crowded into a small space; but that portion of the edifice might be enlarged by the expenditure of a few hundred pounds, and sufficient accommodation would thus be afforded, in a most economical manner. He never beheld a more beautiful atructure than that now erecting by Mr. Barry. When the building should be completed, and the new street constructed, St. Margaret's church would be a complete eye-sore, although so much public money would have been laid out in improvements. Mr. Prothero was of opinion that St. Margaret's church was a very fair specimen of undecorated Gothic architecture (?) The only pure of the Abbey which was concealed by the church was the ugly portion between the north entrance and Henry the Seventh's chapel; and St. Margaret's church was far more sightly. Mr. Escott felt somewhat alarmed at the tone of the right hon. baronet the Secretary of State for the Home Department, who evidently intended that St. Margaret's church should remain permanently. If they consented to vote hundreds of thousands every year for the new palace at Westminster, and could not afford 20,000%, or 30,0007. for the removal of that church, it would be better to put a stop to the improvements altogether. He considered the church to be a complete disgrace to the neighbourhood. The money for the repairs was, however, ultimately voted.

The terms of Mr. Hume's motion were:-" That in the opinion of this House, the practice of exacting fees from the public, as the condition of their admittance to cathedrals, is highly improper, and ought to be discontinued."-Sir R. Peel said he had always expressed his opinion that there was great public advantage in giving as free and unrestrained admission to those noble edifices as could be, consistently with securing those works of art which they contained. He could not conceive any thing that would exercise a better influence on the public mind than free admissions of the kind. At the same time he thought they should be subjected to one restriction,namely, that precaution should be taken for the security of the monuments and other works of art erected in those edifices. Speaking generally, he believed nothing could be more ex-

emplary than the conduct of the great body of people when thus admitted. He spoke now of the working class, for their conduct had been quite as exemplary as that of persons in a higher condition of life. When a distinguished divine, the late Dean of Westminster, was appointed to another sacred office, he (Sir R. Peel) had an interview with him, and spoke to him on the subject, and he believed it was not only his wish but that of the whole chapter, to give the liberty of free admittance as far as was consistent with the security of the works of art. He was certain the present Bishop of Ely, in pursuance of the promise he had made, had given the fullest consideration to the subject, and that his exertions had been most constantly directed towards the object which the right hon. gentleman had in view. He (Sir R. Peel) had now the satisfaction of stating that, in consequence of a communication he had made 'to the present Dean of Westminster, Df. Wilberforce, when he took the opportunity of stating to him the opinions he had expressed to Dr. Turton, he mentioned how freely the public had been admitted to the exhibition of works of art, and how exemplary their conduct there had been; that there had been no instance of misconduct, and that they all retired with expressions of grateful acknowledgment for the opportunity that had been given them of inspecting those works, and that they felt an interest in them which it was most desirable to encourage; in consequence of that communication, he had, a few days since, received the following letter from the Very Reverend Dean of Westminster :-

"As I know your wishes respecting the admission of strangers, I trouble you with a few lines to say that I have just issued some new directions on that subject. Strangers are henceforth to be admitted into the south transept, the naves, and the north transept, that is, into the great body of the church. The only portion from which they will be excluded is from the choir, except at time of service, for obvious reasons, and the chapel behind the choir. These will be shewn to them at a charge of 6d. apiece, and this will be the only payment allowed in the abbey. Such a payment is universal on the continent. "S. WILBEBFORCE."

The admission then to the body of the abbey would be free, as was the practice in foreign countries; and if the parties visiting wished to see the choir and the chapel, he believed a small fee would be required.

On the occasion of taking the vote for 2,000/. towards the expense of statues of Hampden, Lord Falkland, and Lord Clarendon, the execution of which works is recommended by the Commissioners of Fine Arts to be given to William Galder Marshall, John Bell, and John Henry Foley, whose works in the last exhibition in Westminster Hall were considered by the commissioners to be entitled to special commendation, -- Mr. Williams expressed a hope that when monuments were being built to commemorate the achievements of the former monarchs and rulers of this country, the claims of the Protector Cromwell would not be overlooked. Not one of those rulers had been more distinguished as a soldier and a statesman; and he was as much entitled to a monument to be raised by the people of this country as Napoleon was to one from the people of France. He hoped that Cromwell would not be denied a niche in the palace of Westminster .- Mr. Hutt believed that the protector would not be excluded. He had seen a list in which his claims to a niche were sub-

[•] In the course of the discussion on this measure in the Honse of Lords, the Marquis of Loadondary who has perasycringly exposed it, said, the tax would produce 300,000. For annum. This tax, he said, did not full on the consumer, but on the coal-owner. On the same occasion, the Marquis of Westminster called the attention of the Government to the way in which the communication from Oxford-street to Holborn had been carried ont; the opening had been made awarrow, that he found it would sume greater will than their vange circuitous route,

mitted to the Committee of Taste, who would no doubt duly consider them. What we wish to show by these memoranda is simply, that a desire for the improvement and adorament of the metropolis is manifesting itself extensively. A good spirit has been awakened, and we hope, will not be allowed to sleep again.

What may be achieved in a short time may be strikingly illustrated by reference to the extraordinary works executed in Munich through the genius, liberality, and energy of the present King of Bavaria, Within the last thirty years the aspect of the city has been changed; a crowd of wonderful buildings has been raised, and a new school of artists created. The Glyptotheca, commenced in 1816, and finished in 1830, is 220 feet square. The Pinacothecs, completed six years later, is above 500 feet long; and (not to speak of the Basilica of St. Bonifson, the church of All-Saints, and numerous other monuments), the Walhalla, near Ratisbon, just now finished, has sprung, "like an exhibition," from the rock on which it is reared, to immortalize its projector. Munich has become one of the most extraordinary capitals in Europe, and strangers from all countries annually flock there to admire its beauties, and wonder at the effect which may be produced by one powerful mind. Not satisfied with merely raising fine buildings, Lawis of Bavaria has sought to pationalize the fine arts, and bring them into the houses of his people for their enjoyment. Museums have been arranged to convey clearly a history of the arts, and each of his buildings is intended to illustrate some particular epoch. The means of education in art are afforded to all, and every endeavour is being made to develop to the utmost the national resources in this respect. The success with which the king's endeavours have been crowned is to be attributed greatly to the position which he has given to artists in his dominion, and the elevation of character, which it has caused, He has conferred prerogatives on genius; he has admitted that the man who is capable of affording instruction or wholesome delight to a nation, who expresses noble thoughts whether with the pen, the pencil, or the chisel, is fit society for the highest, and deserves all the rewards a country can bestow. This artist-king has shewn there is another road to the Temple of Fame besides that over dying bodies in the field of battle, and has earned for himself a niche in it next to those occupied by Pericles and Augustus.

THE BUILDER.

ASSERTED ABUSES IN THE WESTMIN-STEB SEWERS' COMMISSION.

MR. JOHN LESLIE, one of the Commis-sioners of Sewers for Westminster, has just now published a pamphlet in the shape of a letter to the representative vestries under Sir John Hobhouse's vestry Act, charging the commission of which he is a member with extravagant expenditure and misconduct. When it is remembered that the taxation of nearly three millions of property rests in the hands of the Westminster commissioners,* and further that public health is involved, the question is seen to be one of considerable importance.

The writer sets out with the assertion that "The active members comprehend a very considerable number of surveyors, district surveyors, and others engaged in building operations; and very frequently the painful exhi-bition is witnessed, of parties directly interested in the expenditure voting as commissioners on the questions."

Heremarks that the contracts for the works in Westminster have been in the hands of two families since the year 1810, namely, the Messrs. Bird and the Messrs. Bennett (both highly respectable parties be it observed), and asserts that others had offered, in reply to public advertisements, to do the work at considerably lower prices, but had not been permitted to do so.

The sewers of the Holborn and Fins-bury divisions the writer considers are under superior and more economical manage-

"About thirty years ago, a double rate was The present Mr. Sergeant Wilde and Mr. John Wilks of Finsbury headed the opposition to the then irresponsible commissioners, and certain clauses were framed in an Act of Parliament applicable to the Holborn and Finsbury commissioners, and of vast importance to the inhabitants. Similar clauses would save the rate-payers under the Westminster com-

missions thousands of pounds per annum. The Act is the 54 Geo. 3, c. 219, passed the 25th July, 1814; and the advantageous clauses for the rate-payers to which I allude are as follows:-

The 18th section provides, that every commissioner interested either as principal, trustee, steward, agent, attorney, or solicitor, shall withdraw from the court, under a penalty not

exceeding 100%. The 23rd section requires that before the commissioners come to any determination as to the making any new sewer, the clerk must give twenty-one days' notice to the vestryclerk of each parish, stating the place where it is intended to commence, pass, and terminate, and the time and place for holding the court, so that any party objecting may have the op-portunity either personally or by his solicitor or counsel of doing so.

Section 24 provides that all work amounting to more than 50*l*., including all materials used therein, shall be done by contract.

Section 26 requires fourteen days' notice of the meeting to make such contracts, to be twice inserted in three or more of the public newspapers, expressing the nature, objects, and

conditions of such contracts. Section 30 provides that the parochial au-thorities may peruse, make all extracts without fee or reward, from all books, papers, writings in the custody of the commissioners, or any person or persons holding office under them.

Section 31 requires the commissioners to make an annual account, to print the same, and send a copy, gratis, to every vestry-clerk; and every rate-payer to have a copy on pay-

ment of one shilling. Mr. Leslie then goes on to shew the fruits of these checks on public expenditure.

 St. Mary, Padding. ton
 Garden
 40,842

 ton
 196,324
 St. John, Hamp-stead
 41,834

 John, Westmin-ster
 All Saints, Fulbarn
 16,730

 St. Mary Abbot,
 174,512
 St. Mary Abbot,
 12,467

29.017.044

| In the | first | return .] | l find | 19 | large works |
|-----------|----------------|-----------|--------|---------------|-------------|
| (" Holbou | ni a ng | d Finsba | ry") (| 00 m i | rehending |

12,185 feet First-class sewers . Second-class sewers 12 1 1 1 1 Fotal - 27,716: 1.01-3

ามเวลีย์สี หมุ่ม Including the following, a run

31 Side entrances, and the generation of the second states of the second

181 Gullies. The private drains. Repaying all the displaced carriage and footways.

And the total cost to the ratepayers was 21,224L 6s, 9d.; now, dividing this sum by the 27,716 feet of sewer, including all artras, about

15s. 3id. per foot. Some of these works were of great importance. In the first class.

2,750 feet were 24 feet deep.

3,440 feet were 18 feet de 3,465 feet were tunnelled 26 feet deep.

This tunnelled work, including 5 side en-trances, 12 junctions with other sewers, and 20 gullies, cost the rate-payers of the Holborn and Finsbury divisions of the metrapelis, in-cluding every extra, 16s. 74d. per foot. I have a subsequent return, bringing down the works in the Holborn and Finsbury divi-ions to Midsummer 1845, which choice that

sions to Midsummer, 1845, which shews that additional lengths of second sized sewers were put in to the extent of 4,915 feet, including.

90 Private drains, 1 and 1 and 12 at

8 Side entrances, and _____

27 Guillies, 29 Junctions with other sewers

Repaying carriage and footways.

cost 3,681*l*. 3s. 5d., which divided by 4,915 feet of sewer gives 14s. 11d. per foot, including all the extras.

In the year ending Midsummer, 1845, there are two works of unusual expense. One is the main outlet of the drainage of 4,400 acres of surface, and which has been effected thus: at a depth of 23 feet 9 inches by a circle sewer 10 feet 3 inches in diameter in the clear, one and a half brick thick in blue has mortar, the inner invert in malm paviors in cement blocks, 570 feet in length, and 30 feet similarly done, 8 feet in diameter. The expense of this to the rate-payers of the Holborn and Finsbury divi-sions was 1,667*l*., or about 2*l*. 15s. 6d. per foot.

The other is a work of very great magni-tude, being 4,350 of the first-class sewer, 27 feet deep, passing under the Regent's Canal, the traffic on which was not allowed to be the traffic on which was not allowed to be stopped: there are 5 side entrances, 17 junc-tions to other sewers, 4,270 feet of private drains, 1,344 feet of gully drains, and the cost is 6,250!, about 28s. 9d. per foot. There will be a few extras of timber to be added, as the work is not finally closed. I have now, my Lowes and and the set

I have now, my Lords and gentlemen, placed before you the details of an expenditure in the Holborn and Finsbury sewers of upwards of 33,000/., under the very able management of that commission, and the economical checks which the rate-payers bave effected in the Act of Parliament, to which I have called your attention ; and now for the reverse of the picture, where no control has been obtained by the rate payers in Westminster.

In the Westminster commission in 1844, the abstract of sewers and drains built, and of bills for works done in the same year, shew the following lengths of sewer built :-

feet wide 152 feet 3 inches in length. 2 feet 6 inches wide . 1,792 feet 1 inches in length. 3 feet wide . 1,792 feet 2 inches in length. 4 feet 6 inches wide . 730 feet 5 inches in length.

Total . 5,359 11

The cost of which, as stated, was 7,718/. 10s. 8ad., equal to within a more fraction of a farthing of 29s, per foot; but there are no man-holes, or side-entrances, or repaying the carriage ways, and other items, in this large sum, equal at the most moderate calcalation to 3s. per foot lineal in addition, making the total expense more than double the rate of expenditure per foot lineal in the Holborn and Finsbury commission.

Now, my Lords and Gentlemen, I will cite a few cases in your respective parishes. In George-court, St. James's, Piccadilly, 171 feet of second-size sewer, 13 feet 9 inches deep,

^{1.} THE CORPORATION OF THE CITY OF LONpon---- The annual accounts of the Chamberhin of the city of London have been presented to Parliament, and ordered to be printed for the information of the public. It appears that the intotal amount of monies received by the chamberlain of the city between the 6th of January, 1844, and the 25th of January, 1845 (being the produce and application of the several duties and payments constituting the fund called the "London-bridge Approaches Improvement Fund," for effecting public works and improvements in the metropolis), was 104,073., and the total concurrent payments, 36,2791.; leaving a surplus balance of 67,7931. Of the sums received, 88,8171. were derived from the duty of 8d. per ton on coals brought into the Port of London for one year, pursuant to the Acts of the 10th of George IV. and the 1st and 2nd of William IV.; 3,824*l*. from the duty on wine; 11,500% from the annual charge on the revenue of the corporation; 219/. from the duties on admission to the freedom of the eity; 821. from the duties on the binding of apprentices; 190% from the profits of aqueducts; and 68% from a moiety of the profits of Far-ringdon-market for the year 1842.

cast 5194. 12s. 51d., equal to 31. 0s. 91d. per foot lineal, the whole court contributing 50s. every rate made on the division. In the greater portion of this property, the family of a deceased architect commissioner are interested; the late chairman at the time was surveyor ested; the take charman at the time was surveyor to the property: this fact I ascertained from an inquiry into the whole circumstances of this transaction, and from a comparison with the surveyor's original report, and the alterations and erasures I discovered had been made in it, compared with the entered copy on the records of the court. For this second-size sewer down a small paved court in your parish, the rate-payers of Westminster paid 5s. 3id. per foot more than the rate-pavers of the Holborn and Finsbury divisions have to pay for the 10 feet 3 inches circle-sewer, forming the main outlet of the drainage of 4,400 acres of surface.

My Lords and Gentlemen, in the represen-tative vestry of St. George, Hanover-square, a second-class sewer has been put in in your

a second-class sewer has been put in in your parish in Albemarle-street; it was, according to the accounts, 687 feet 2 inches long, 17 feet 4 inches deep, and the cost 1;2607. 4s. 41d., about 17. 16s. 8d. per foot. The Holborn and Finsbury commissioners put in 1,840 feet of their second-sized sewer in Collier-street, Pentonville, 17 feet deep, will two side entrances for 1,0237. 18s. 3d., or 13s. 10d. per foot lineal, the excess of expense being in St. George's under the Westminster irresponsible commission of sewers, 165 per cent. per foot lineal. cent. per foot lineal. In St. Martin's-in-the-Fields, in Castle-street

and Hemming's-row, the Westminster commission put in of their second-sized sewer 728 feet 5 inches, 14 feet 8 inches deep, the cost of which, as stated by the surveyors, was 1,1051. 16s. 5d., or 11. 10s. 44d. per foot lineal. 1,1057. 105. 5d., or 17. 105. 44d. per foot lineal. The Holborn and Finsbury commissioners put in in Parkfield-street, Islington, Battle-bridge, and Holloway-road, 870 feet of their second-size sewer, 15 feet deep, for, including two side entrances, 5967. 15s., or 12s. 2d. per foot lineal; the unfortunate rate-payers in St. Martin's in the Fields having to pay an excess

of 150 per cent, per foot. My Lords and Gentlemen, another case in St. Paul's Covent-garden, is worthy of your notice.

An estimate having been presented of the expense of making a new sewer along Wel-lington-street, Wellington-street North, and expense of manager, relington-street North, and lington-street, Wellington-street North, and Bow-street, 985 feet long first class, at a cost of 1,4004, 9s., it, was ultimately carried to do the work in July 1844, by the votes of the commissioners.

commissioners. Now, my Lords and Gentlemen, I bring this matter before you, because of the result. In-stead of .985 feet-of sewer being built, only 959 2 wars, executed, but the expense to the rate payers was 2.0121. 3s. 5d., exceeding the yole of the court above 40 per cent.; this sewer was at the depth of 24 feet, and the cost war was 2 1 a 1144. Let me submit a per foot was 21, 1s. 114d. Let me submit a work of the same depth of the first class in the Holborn and Finsbury commission, done in the New-road, St. Pancras, 2,750 feet of the first class; 600 of the second class, 3 side entrances, 8 junctions, 22 gullies, depth 24 feet, total 3,292%, equal to 193. 72d.; the excess in the Westminster division at the same depth

being 1/3 per cent. per foot lineal. Recently, in the Westminster Court of Sewers, the old form of sewer has been altered. The successful example of the Holborn and Finsbury divisions for efficiency and economy was lost sight of, The principle of the Hol-born divisions as to form of sewer is the egg-shape with the narrow end downwards, whereby the smallest quantity of water passing is operative in deansing that sewer: the shape requires a very small quantity of digging, and, when placed in the earth, forms a wedge not easily distorted by either lateral or vertical pressure.

Instead of adopting this simple, economical and efficient form, the Westminster Court of Sewers, after floundering about with various pluns, subpted one which turned the reverse end of the egg downwards, put a couple of wings to the sides, which in building requires, in every foot in length, that sixteen bricks shall

In every foot in length, that sixteen bricks shall be cut to particular shapes, to form the figure. The first work under this now form, and under a now contractor, Mr. Jay of London Wall (for the wedge is so far got in as to break up the forty years' monopoly), was done this present year, in the parish of St. Maryle-

bone, in Berners Street, and cost, as finally stated by the surveyors and the committee of accounts, for 1,125 feet 2 inches of second-size sewer, 16 feet 4 inches deep, 1,288/. 0s. 5d., about 14. 2s. 101d. per foot.

In the Holborn and Finsbury divisions, at Battle Bridge and the Holloway Road, I find 2,500 feet, viz. 300 feet of first, 2,200 feet of second class sowers, were put in 16 feet deep, including two side entrances, for 1,2461. 12s. 6d. equal to 9s. 11 d. per foot lineal, the excess in the Westminster commission against the ratepayers of Marylebone being above 152 per cent. per foot lineal. I will cite another comparison in a place of

equal importance to Berners-street, viz. Bedford-square, where the Holborn commission tord-square, where the Holborn commission put in 1,380 feet of second-size sewer, 16 feet 6 inches deep, with two side entrances, and every expense, for 8021, 19s. 2d.; rather less than 11s. 73d. per foot; the excess against the rate-payers under the Westminster comalthough the Holborn sewer was mission, deeper, and the two side entrances, not in the Berners-street sewer, nearly 97 per cent."

We are not to be understood as pledging ourselves to Mr. Leslie's charges, or admitting any want of confidence in the commissioners e insert them simply with a view to inquiry, and reserve to ourselves the right of investigating them hereafter. Since writing the above, we have received

the following communication from one who is well acquainted with the subject.

The conduct and proceedings of the West-minster Court of Sewers for some considerable time past have afforded fruitful subjects for grave and serious charges; those charges appear to amount to the following :--That the public money under this commission has been both uselessly, wantonly, and extravagantly squandered away; that it has ex-pended scores of thousands of pounds ob-tained by sewers rates, in the diversion and re-pair of old, and in the construction of new ewers, which, after all, are now found to have been formed and pat in upon improper, un-scientific, and entirely erroneous principles; that had recognized scientific principles been adopted in the construction of these sewers, the cost would not have been anything like what has been paid for them, and, therefore, con-siderable lengths of good and efficient sewers could have been carried up at the same time and with the surplus money, in very many filthy places where none now exist; and also of the old ones could have been repaired and highly improved ; that instead of affording facilities for carrying off the sewerage, the majority of these sewers are nothing better than elongated reservoirs, being more or less filled up with accumulations of decomposing filth, which choke up the house drains instead of accelerating the discharge of the refuse from them; that these sewers are, in consequence, ill-adapted and inefficient for affording good and proper facilities for rapidly carrying away to the Thames the refuse vegetable or animal matters which are discharged into them from the various dwelling houses and premises along which they pass. It would appear, therefore, that the enormous sums of money which have been expended in the erection of these abominable constructions have been almost entirely wasted; and that the whole, or nearly the whole of them, require to be recon-structed and re-arranged. Now, if the above charges be true, and we see no reason at present to doubt them; the sconer some legis-lative ensetment is unal the other to relieve lative enactment is made in order to relieve the present irresponsible and inefficient authority, and also the sooner the arrangement and construction of these sewers are based upon proper scientific principles and placed under some scientific and and placed under some scientific and properly qualified board, the better. Public economy, and above all, public health, cries loudly and earnestly for some extensive and heneficial character this important matter.

NEW CHURCH AT BYER'S GREEN, NEAR NEW CHURCH AT BYER'S GREEN, MEAR DURHAM.—A new district has lately been separated from the parish of Bishop Auck-land, including the villages of Byer's green and Kewfield, and a church, in the early English style, has been erected at the expense of the Bishop of Durham. The ceremony of consecration was performed by the bishop last week last week.

THE ARCHITECTURE OF GENOL' ILLUSTBATED'IN THE WORK OF GAUTHIER.

THE architecture of Italy, viewed in connection with political history, would afford a large field for inquity, into the causes of that, brilliant state in which the arts existed in every city of the country. Torn by civil strife, and its governments subverted by democratic insurrections, the penhaula yet con-tains an immense number of works of art, of which the most elaborate publications can give very partial illustration. Alike in the brightest days of a republic, in the most tyrannical government of a despote ruler, in the subversion of a so-called republican government, and the sway of a demagogue, whose power was more absolute and pernicious than the oligarchy he succeeded, in every variety of position, smid turmoil and contention, which the rest of Europe has not known, art continued to advance, as it were in spite of these antagonistic circumstances, in spite of these antagonistic circumstances, and to attain a position of splendour, which more consolidated government, and longer continuance of peace in other countries failed to acquire. We are not able, in this place, to do more than suggest a small amount of the matter of such an inquiry, but the work of Simonde de Sismondi, will give many im-portant materials in the historical part, and the architectural obaracteristics of the states cannot be better illustrated than in the works before us. The work of Cicognara on Venice has been previously noticed (vide ente, p. has been previously noticed (vide ante, p. 326), and it will be interesting to compare that city with its rival republic, Genca, the architecture of which is admirably illus-trated by Gauthier. This author remarks, that in Italy there is no town, no village, which does not possess models of architecture, yet all differing from each other in tasta and, manner of execution. Venice, Genoa, Flo, rence, and Rome, have each edifices of sin-gular beauty, yet having certain peculiarities: Circumstances of locality and convenience often suggested the most striking effects, and often suggested the most striking effects, and, in that day, even the irregularities of the ground could be turned to the advantage of the art. This observation is particularly applicable to the city of Genos, whose positions seems to bave called forth those fiber 904 ceptions, which strike every one who ap-proaches it. Situated on the shores of the Mediterranean, it forms is semicircle rising with the slope of the mountains, which sur round it, and has a magnificent appearahoed The palaces are an unerguing that one might The palaces are so numerous, that one might believe, that Genos had only princes for inha-bitants, and it was this that made Madame de Stall exclaim, when she visited the place, that the grand street seemed to have been built for a congress of kings. The vestibules, the courts, the porticos, and especially the staircases, are hardly to be equalled. The terraces and gardens are laid out with remarkable skill, and no better materials, than are ia this city, could be found for the study of the art of landscape gardening, and of other accessories, which the architects of Italy were well conversant with, but which those of our own country are accustomed to neglect. The arrangement of the steps at the entrance door, the grottos and fountains, are some of the points which attention may be profitably directed to: "It is evident; that effects the most remarkable are often obtained by means the most ingenious, yet the most simple. ... Each town of Italy has its particular description of architectural beauty, and Genes is most re-markable for the disposition of its plans. Consequently the icnographic form of illostration occupies a considerable part of the work, which will rendor it especially valuable to architects. It has also sections, and perspective views admirably drawn and engraved in outline. The views show the vestibule from which the staircase ascends to the loggis, on the first floor of the open court, various other portions of the building, and the ex-ternal appearance of the house and gardens. The first part of the work contains general views of the city, and plans, elevations, sec-tions, and views of the palace, with the walls, and the second part is devoted to the villas and palaces of the environs.

* "Les plus beaux édifices de la ville de Génes, et de ses environs ; recueil publié par M. P. Gauthier, Architecte du Gouvernement.—Paris, 1830-32," in two parts. † "Histoire des Républiques Italiennes du Moyen Age, par J. C. L. Simonde de Sismondi.—Paris, 1826."

The elevated position, which the artist held in Italy, was no where more apparent than in Genoa. By a special decree it was made known, that the pursuit of art did not exclude the professor from the rank and privileges of nobility, and no art had greater opportunities for display than that of architecture. Within the short period of a century arose churches and palaces, not inferior to any in Italy; in which the skill of the best artists of the time was exerted, and in which the most expensive materials were lavishly employed. The difficulties of the site were the origin of the most happy ideas. The declivity of the ground rendered an ascent from the vestibule necessary in most of the palaces; and this is often the most effective part of the building. The same circumstance was availed of in the construction of grottos and fountains, and of terraces at different heights, communicating with each other and the respective floors of the building. The perfect adaptation of the dwel-lings to the climate, shewn in the courts open to the sky, and in the staircases and loggias, in which we protection from the weather was which no protection from the weather was necessary, the admirable use made of running water, the treatment of breaks and coins, often varied in the different stories, and above all, the arrangement of entrances and approaches, are evidences of the skill and artistic feeling of the evidences of the skill and artistic feeling of the Genoese architects. Many of their names have not been preserved, but those of Galeasso Alessi, Bartolomeo Bianco, and Andrea Tag-liafico, were the most famous. It is worthy of notice, that in Genoa, as in greater degree at Venice, windows often bear a great proportion to the front, and in some cases they are placed so near to the angle as to leave what in the so near to the angle, as to leave what, in the absence of coins, might appear to be a very small pier for support. This extent of opening was probably for the same object, as we ob-served might have influenced the like pecu-liarity in the other city, for with so beautiful a prospect, as the Genoese palaces possessed, it is likely that its advantages were considered, and in the Church of the Assumption we find, that a balustraded way was carried along the ridge of each roof, with the purpose of obtaining

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several points of view. The palace of the University consists of a vestibule next the street, a court open to the sky, arcaded in two stages, a staircase at the end furthest from the street, and rooms on each side the court and next the street. The ascent from the vestibule to the first arcade, is by a magnificent staircase. The balustrade commagnificent staircase. The balustrade com-mences nine or ten steps from the first ascent, and the space is here occupied by lions, which seem ready to spring upon the passer. The view from this point is equal to any thing in The the city; in front is the staircase ascending to the court, which is in two stages, with coupled columns and arches, and at the extremity is seen the open staircase to the upper floors. Single columns corresponding with the rest, are continued round the vestibule on the level of the court, the intercolumns being balus-traded. The ceiling of the vestibule is plain, as in most of the other buildings : it is arched as in most of the other buildings: it is arcnea over, the smaller arches groining into the larger. The numerous apertures in the cor-nices for the escape of the water, have a singular effect, and in many other buildings it is not pleasing. The façade has a low base-ment, in which are square windows and coins in excellent taste; above this are three heights of windows, the lower range being of singular design, and the two upper having singular design, and the two upper having alternately curved and pointed pediments. The front is divided into three parts, the centre compartment being set back about six inches by coins, which are varied in the different stories, and the whole is crowned by a bold cornice. The building was erected in 1642, and the architect was Bartolomeo Bianco. 1042, and the architect was Bartolomeo Bianco. The Ducal palace was originally built by Andrea Vannone, but having been in great part burnt, the façade was rebuilt in 1778 by Simone Cantone. At the same time were pro-duced the magnificent hall on the first floor, and the upper story of the building. The plan is of great extent, and has many points well worthy of notice. well worthy of notice, as in the arrangement of the columns, and the ascent to the door within the entrance court. The columns are placed four together, engaged in projecting piers, supporting the entablature, and similar ar-rangement of the order above. The ascent to the entrance might often be adopted with great convenience, and addition to the beauty, of

buildings in England; the steps in front afford a ready access to pedestrians, and by the inclined roads, carriages can reach the same level—the whole, though simple in itself, being highly conducive to the effect of the edifice In no particular can an imposing effect be aided by such small means, as in the arrangement of entrance-steps, and even of the flagging in front of a building; yet, to no other resources are we so wilfully blind. Such of our edifices as have a massive basement, or a fine ascent of steps, are so railled round, that the most important part of the structure is almost hid from view, whilst the National Gallery has for its basement a blank wall. Galeasso Alessi, also, would not have placed his ascent in the cor ners of the square, where for any purpose of effect they are useless, but by arranging staireffect they are useless, but by arranging stair-cases in the centre, would have made the build-ing tower above the spectator. To such an architect, the declivity of the ground would have been an advantage; but we have really "thrown away the most magnificent site in Europe." The palace above mentioned is richly decorated, and may be referred to, as affording valuable hints in fire-proof construc-tion. The Durazzo (Philippo) palace was built by Bianco, but enlarged by Tagliafico, who added the staircase, which is of great beauty. The court is square in plan, and the staircase is placed by the side of it. The ele-vation is of good proportions, though plain. The Durazzo (Marcello) palace is one of the few, in which there was no ascent from the vesfew, in which there was no ascent from the ves tibule; consequently, the court can be entered by carriages. It has two staircases of white marble, one on each side the corridor; they marble, one on each side the corridor; they were added to the building by Carlo Fontana. The architects of the original building were Pietro Francesco Cantone, and Giovann' An-giole Falcone. The Balbi palace, by Bartolo-meo Bianco, is one of the smallest in Genoa; but a striking instance of the ability to produce a fine work with small means. The plan is well errored though of an irregular plan is well arranged, though of an irregular shape, and the staircase admirably contrived: there is a descent, as well as ascent, from the vestibule. The façade is well designed. The Balbi (Piovera) palace is remarkable for its fine colonnades, and the beautiful grotto. This palace is a good example of the usual arrangement, where there was a garden. It is im mediately beyond the court. The staircase is ascended from the right hand side of the court. There being no ascent from the vestibule, the grotto in the garden could at every time be seen from the street-door. Bianco was the architect. The Mari palace is also small in size, but the plan and arrangement worthy of care-ful examination. The portions of the ground-floor, and entresol, on each side the entrance, project in front of the main building, having balustrade and terrace on the top; the vesti-bule, which also projects, is lower than these, o that there is more place of list and abad. In the upper story of the front, the interfenes-tral spaces are hardly the width of the open-ing, but the effect of the front is still pleasing. Above the windows are bas-reliefs, as at pre-sent in the Oxford and Cambridge Club-house, Pall-mall. The apertures for the rain-water in the parapet are here very unsightly.

THE - BUILDER.

The Tursi-Doria palace, built in 1551 by Rocco Luzago, is much to be admired for the general disposition of its plan, for its elegant outline, and the character of solidity observable in it. The gardens are arranged on each side, and the balustrades and loggias, which separate them from the street, are good features in the elevation. The Hall of the Bankers was commenced in 1570 and completed in 1596, and is a building of great beauty, and of singular construction. It is a hall, oblong in plan, inclosed on two sides by columns, coupled and supporting arches, and on the opposite sides respectively by a blank wall, and by door and windows. The coins at the angles, and the trophies on the front are very effective. The roof displays great boldness of construction—the small amount of the support being considered; it is framed without a tiebeam, to get height.* The Cambiaso palace has a front, rusticated horizontally the whole height, but the windows of the different floors are so united to each other, that the perpendicular line predominates. The Church of the Assumption is a magnificent edifice; it is square in plan, the dome occupying the centre, there-

* This roof is given in the supplement to the last edition of "Tregold's Carpentry," Edited by Barlow,

fore the nave and transept in plan are in the form of a Greek cross. There are two towars besides the main dome, and four small cupe it was intended to erect two other towers. The large dome is of great beauty. Abesi was the architect of the bailding which was commenced in 1552. The public granaries are welladapted to the object; they consist of four building united by a common vestibule. They are valled up to the top; and it is observable, that shert walls are built to keep the grain free from the humidity of the larger wall. The date is the number of the larger wall. The calls is 1625. The poor-house is said to be the largest in Italy; it is well planned, and the imposing effect of its façade hardly to be surpassed. The church occupies the centre of the building. It was built in 1654. It is well approached through a series client by a well and a set and and and and and a set of the building. an avenue of trees, lined by a wall and pedes-tals. The ascent to the entrance is here a feature worthy of notice. The Hall of St. Georges is only inferior in size to that of the Georges is only inferior in size to that or the Bankers, and is devoted to similar objects. The roof and ceiling are remarkable, but have hardly sufficient explanation in the work. In the Hospital for Incurable Patients we again see, that the art of architecture was not confined to private residences, but was equally exercised in charitable institutions. This building was commenced in 1420 by Andrea Oraslino; it has a fine vestibule and staircase, and a court surrounded by portices of white marble. In-stead of opening the windows for ventilation, apertures were left in the wall, and other openings made in the ceiling; the current from the lower story was carried up in the thickness of the wall. In the small Brignole palace, by Alessi, there is a staircase which deserves very attentive examination, and the facads is designed with skill. The Raggio palace has an excellent plan, and an entrance of great beauty. designed with SKIII. a ne reaggio parts are excellent plan, and an entrance of great beauty. The Caréga palace, by Alexsi, contains some ceil-ings splendidly decorated by Taddeo Carlone. The Serra palace is equally remarkable for the beauty of its decorations, which were exe-cuted by Carlone, and by a French artist named Callet. Andrea Tagliafico was the architect. The Lercari palace has a base-ment admirably designed, and adorned with rustice, and a loggis on the first floor. The architect was Alessi. The vault of the stair-case is beautifully decorated with arabesques. The Sauli palace is one of the most imag-nificent of Italy. In plan it consists of a court in front of the muin building; one order in height, and the building itself. The ele-vation towards the street has rusticated in height, and the building itself. A be ex-vation towards the street has rusticated doors and windows, and has in all respects greater originality of 'treatment than any before acticed; it is connected' by the co-lonnades of the court with the main building, which has a magnificent loggia on the first floor. The garden front is a fine fivede with coupled columns in two orders, and has beautiful friezes. Alessi was the architect. The Negroni palace is most remarkable for its beautiful grotto, which is of large size. The Church della S. S. Nunziata, by the architects Domenico Scorticone and Giacomo Porta, has a noble interior most richly decorated. It consists of nave, sisles, and side chapels, and the plan is oblong in form. The ceiling is semicircular, springing from an entablature-below which are arches springing from columns of the Corinthian order. The two Spinola palaces are remarkable for their decorations, one of them has paintings of portions in perspective, and contains a statue of Columbus. The gate of the old Mole, of which Alessi was the architect, has a good plan, and a fine fortress-like character in the front towards the sea. The Grimaldi palace has a façade, much resembling one of Venetian

has a lackde, inter resembling one of vescuan production; the different floors communicate with the adjoining terraces of the gardes. If the talents of the architects of Genon are evinced in the buildings of the city, they are probably shewn in a greater degree in those of the environs. The plans being less restricted by site, are arranged in the most admirable manner, and the gardens are so laid out, as to give within a small space much variety and picturesque effect. The Pallavieini palace, which was built in 1537 by Alessi, is one of the most celebrated; it has a good plan, and there is a beautiful grotto. The yilla Pallavicina hastwo orders of pilasters enriched with ornament, a style of decoration more suited to interiors. The villa Spinola,

are arranged in sinuous forms, which was not usual. There are many other villas, which we have not had space to notice, but which are well filustrated in sections and perspective views. But smongst the most magnificent, we should not omit to mention the imperial villa, in which the fountains and gardens are arranged in the best manner. Alessi was the architect. The palace of the Prince Doris, slao, was of wast extent, and though its exterior was comparatively plain, internally it was embellished in the most lavish degree. The foustains, the long vineries in which the trellis was supported by elegant fluted columns; its great extent, and the splendour of its decorations, must have rendered it a fit abode for the most influential family of the Republic. The volume before us is wound up with illustrations of the theatre built at Genoa, between the years 1826 and 1828, and betrays a immetable failing off from that high and palmy state, which earned for the maritime city the distinctive title of Genoa. "the Superb." E. H.

LORD LINCOLN'S BILL

FOR THE IMPROVEMENT OF DRAINAGE AND SUPPLY OF WATER.

Ws closed our notice of this bill last week (p. 363) at clause 191, which directs commissioners to obtain reports on the supply of water. The following are the words of the clause :---

"And whereas it is of essential importance that all the inhahitants of every town and dis-triet made subject to this Act should be supplied with good and wholesome water for do-mestic purposes, to the utmost extent that the local and other circumstances of such town or district will permit, and especially that the poorer inhabitants thereof should be so supplied with water; and whereas supplies of water are also required for the efficient and wholesome cleansing of the streets, and main and other sewers and drains which may be constructed or maintained under the provisions of this Act; be it enacted, That when any town or district shall be made subject to this Act, it shall be the duty of the inspector to make diligent inquiries, and report upon the sufficiency or insufficiency of the then existing ropplies of water, and, if necessary, he shall state his opinion as to the best mode or plan which can be adopted for increasing the supplies of water for the purposes aforesaid; and he shall in every such case state in such re-port how far any existing companies are able and willing to extend their supplies of water, or upon what terms they are willing to con-tract with the commissioners for supplies of water, and also the ability of such companies to supply such water; and, if necessary, he shall also state in such report what streams of water, or other water in the vicinity of such town or district, can be made available for supplying water by the construction of proper works, or by improving and enlarging the works of existing water companies, or any other water-works; and the inspector, after having drawn up such report, shall send a copy thereof to the commissioners, and also to the proprietors of any such existing water-works aforesaid as he shall see fit.'

The cammissioners may make contracts with existing water companies, purchase their works, or construct works themselves for the supply of water. But "whereas it is expedient that existing water companies and other persons affording a sufficient supply of water to the inhabitants of any town or

district should be protected in the enjoyment of the profit and advantages which may accrue to them by the sale of such water; be it enacted, that it shall not be lawful for the commissioners to lay down any pipes for the purpose of distributing water in any street within any town or district in which street or place any such water company or other person shall have previously to the day when this Act came into operation within such town or district, or within Six calendar months afterwards, laid down a main or pipe throughout such street in such manner as to enable all the inhabitants of such street to obtain a good supply of water, and so long as such water sompany or other person shall continue in manner aforesaid to supply the inhabitants of say street with water, it shall not be lawful for the commissioners to distribute water in such street or place."

Inasmuch as the houses of the poor are in many cases not supplied with water, on account of the inability of the owners and occupiers to lay down the communication-pipes, &c. " It shall be lawful for the said commissioners, " it shall be lawful for the said commissioners, and they are hereby required, upon the re-quest of the owner of any dwelling-house of an annual value not exceeding *Tew Pounds*, or upon the request of the occupier, with the consent in writing of the owner of any such house, to lay down communication-pipes, together with a cistern and other apparatus required for the supply of such house with required for the supply of such house with water for domestic purposes, and to keep the same in repair, and to charge for the same such reasonable annual rent or remuneration in money as shall be agreed upon, or, in case of any disagreement, as shall be settled by the said inspector; and such rent or remuneration shall thereafter be recoverable from the owner of such house at the same times and in the same manner as any water-rate due from such owner in respect of such premises may be recovered under the provisions of this Act; and such pipes and other apparatus shall not be subject to any distress for rent, nor to be taken in execution on any judgment of a court of law, or under any fiat in bankruptcy, any law or practice to the contrary notwithstand-ing."

Public baths, washhouses, &c. are to be supplied gratuitously:—" And be it enacted, that all existing public cisterns, pumps, conduits and other water-works used for the gratuitous supply of water to the inhabitants of any town or district, shall be continued, maintained and supplied with water by the said commissioners, and shall be vested in them and be under their management and control; and it shall be lawful for the said commissioners to erect and place any number of new cisterns, pumps, conduits or other water-works for the supply of water to the inhabitants of any street, court or alley, or of any number of houses as they shall see fit, or to erect the same in any public situation, for the gratuitous use of any persons who may choose to carry the same away for their own private use, but not for sale, and to supply with water any public baths or washhouses that may be established for the use of the poorer classes."

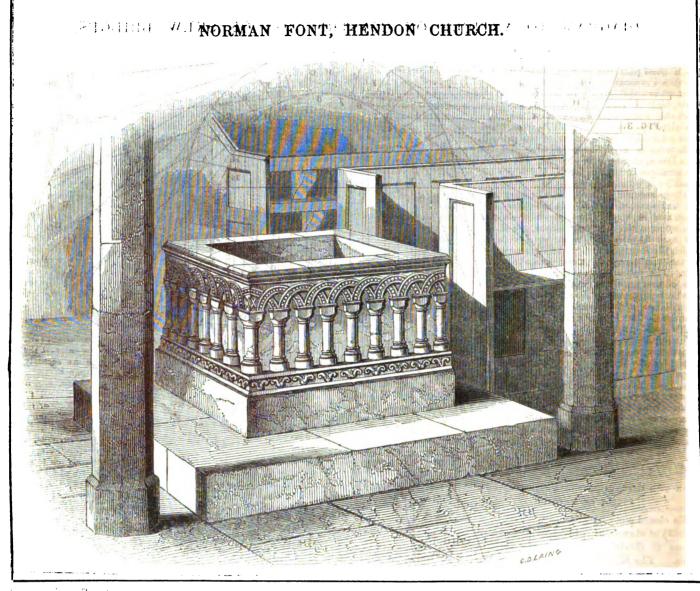
Commissioners are to provide engines for extinguishing fire, buckets, and fire-escapes. Proper fire-plugs are to be fixed into the main : and "all the main pipes to be laid down by the said commissioners, or used under and by virtue of the provisions of this Act, for supplying any town or district with water, or any part thereof, and all main pipes used for such purpose belonging to any water company or other person, shall at all times be kept charged to the full with water under pressure."

to the full with water under pressure." A penalty of five pounds is laid on—"1. Every person who shall bathe in any reservoir, aqueduct, or other water-works belonging to the said commissioners, or their lessees or contractors, or shall wash or cause to enter therein any dog or other animal. 2. Every person who shall throw, put or cast any gravel, stone, rubbish, dirt, filth, or other noisome or offensive matter or thing into any such reservoir, aqueduct, or other waterworks as aforesaid, or who shall wash or cleanse therein any cloth, wool, leather, or skin of any animal or other thing. 3. Every person who shall cause or permit the water of any sink, sewer or drain, or any other offensive liquid, matter or thing belonging to him, to run, drain or be conveyed into any of the springs, rivulets, reservoirs, aqueducts, pipes, or

other-water-works belonging to the said commissioners, or who shall commit or cause any other act whereby the water of the said commissioners shall be fouled or corrupted. And be it enacted, that if any person making or supplying any gas within any town or district shall at any time cause or suffer to be conveyed or to flow into any stream, reservoir, aqueduct, pond or place for water within such town or district, or belonging to the said commissioners, or into any drain, sewer, or ditch communicating therewith, any gas or any washing substance or thing which shall be produced in making or supplying gas, or shall do any act to the water contained in any such stream, reservoir, aqueduct, pond or place for water, whereby the water therein shall be fouled or corrupted, then such person shall forfeit and pay for every such offence any such acceeding *fifty rounds.*"

shall forfeit and pay for every such offence any sum not exceeding *fifty pounds.*" Then as to obtaining money to carry the several purposes of this Act into execution— "Be it enacted, that it shall be lawful for the commissioners for every town or district made subject to this Act, once in every year, or oftener if they shall think it necessary, to make one or more rate or rates, to be called the sewer rate, for the purpose of purchasing, constructing, and repairing sewers, for such town or dis-trict, and for otherwise maintaining effectually the wholesome sewerage and drainage of such town or district, and also for securing, raising, and paying any monies, and the interest there of, which may be borrowed on the security of the said sewer rate, in pursuance of the pro-visions of this Act; and in like manner, once in every year, or oftener if they shall think it necessary, to make one or more rate or rates, to be called the paving rate, for the purpose of forming, making, maintaining, and kceping in repair the carriage-ways and roads, and forming, making, paving, sweeping, cleansing and watering the streets, within such town or district, and for securing, raising and paying any monies, and the interest thereof, which may be borrowed on the security of the said paving rate, in pursuance of the provisions of this Act; and, in like manner, once in every year, or oftener if they shall think it necessary, to make one or more rate or rates, to be called the general rate, for defraying all sums specially made payable by this Act out of such rate, together with the salaries of all officers acting in the execution of this Act, unless otherwise provided, and all other incidental costs, payments, charges, and expenses attending the ecution of the powers, duties, and authorities hereby imposed and given to the commis-sioners, and which are not herein otherwise specially provided for. "And in order to raise a sum of money suf-

ficient to defray the costs, charges, and ex-penses of the water department; be it enacted, that it shall be lawful for the said commissioners, once in every year, to make a rate, to be called "the Water-rate," to be made and levied on every person who shall hold, use or occupy any dwelling-house situate within the limits of such portion or portions of any town district as shall be marked out in the plan or of the said inspector, to be supplied by the said commissioners, or by their lessees or con-tractors, with water, or by any other person on their account, according to the full net annual value thereof, and in like manner upon every warehouse, counting house, coach house, stable, cellar, vault, workshop, manufactory or other building, and all yards and all other places where goods or other property are deposited, or business carried on, except as hereinafter is excepted, according to one fourth part only of such net annual value thereof respectively; and the said rate shall from time to time be collected and paid by yearly, halfyearly or quarterly payments, or at shorter periods, as the said commissioners shall think proper, and shall commence from such time after this Act shall come into full force and operation in such town or district as shall be fixed by the said inspector : provided always, that no person who shall hold, use or occupy any dwelling-house, shall be liable to be rated in a greater proportion than according to one-fourth part only of such net annual value thereof, unless the mains or other pipes of the said commissioners, or their lesses or con-tractors, shall be laid down and properly supplied with water within thirty feet from the outer wall of such premises."



NORMAN FONT, HENDON CHURCH.

Тна above engraving, from a drawing by Mr. Francis T. Dollman, represents a very interesting stone font of the Norman period, in Hendon Church, Middlesex. It stands at the west end of the nave, under the organ gallery, and is 2ft. Ilin. square on plan, and 2ft. Sin. high, including the bottom step, 64in. high, which is modern. The bowl, lft. deep, is lined with lead, and has a water drain. The font was repaired about a year and a half

ago. We have in preparation a valuable collection of Norman fonts, which we shall give shortly.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

ASSOCIATION. THAT division of the association which have Lord Albert Conyngham for president, Mr. Pettigrew for treasurer, and Mr. Crofton 'Croker and Mr. C. R. Smith for secretaries, assembled in Winchester on Monday last, to hold their annual congress. The first meeting was held at three o'clock, when the president an able paper, explaining the objects of the association, and urging the importance of anti-quarian pursuits: it gave a history of the Society of Antiquaries and traced the Archæo-logical Association from its commencement in 1843. In the evening a conversazione was held, and Mr. Thomas Wright, the Rev. S. Isaacson, and others, read interesting papers. Since then, various excursions have been made. barrows opened, and a large number of papers read to very numerous audiences. The weather has not been propitions, but the meeting has nevertheless passed off well. Sir James Annesley, Mr. East, one of the members for the city, Sir W. Betham, Sir Francis Myers, Mr. Planché, are amongst

called away to Ireland by the death of a rela-

tive. The elucidation of the cathedral devolved on Mr. Creey; and the hospital of St. Cross was illustrated by the Rev. S. Jackson.

We shall probably give more particular information next week. We cannot avoid renewing our expressions of regret that no satisfactory arrangement has been made between the two committees, but that, on the contrary, unwise supporters of either side are seeking to make religious feelings fresh elements in the quarrel. Some admirers of the objects both societies have in view, consider that the dissensions will put both parties on their metal, and induce,

That hence the common object of both will be prosecuted with a keener spirit, and with greater industry; and that when the time arrives, each party will acknowledge its own errors, and a generous smile of satisfaction will welcome the harvest of good things their dif-ferences have partially been the means of bringing to light. For our own part, however, we cannot but consider the division an occur-rence of unmixed evil, and beseech all who ave any influence, to use it in calming the ill-feelings that have been engendered.

THE CONSTRUCTION OF SKEW BRIDGES.

Sin,-From the many catastrophes which have occurred by the tumbling down of railway and other bridges, particularly those that so recently have taken place on the Ashton railway near Manchester, and the two instances at Derby, I have been repeatedly requested and importuned by gentlemen of high scientific

the works in which I have been many years engaged. Those principles, I feel persuaded, are known to few, with the exception of those whom I have instructed. Under this impre-sion I beg leave to submit to you a plan and the description of a mode of obtaining the bevels of a bridge on the Grand Junction Railway, immediately adjoining Vauxbal Station, Birmingham. This bridge was con-tracted for by Mr. Brandson, builder, now of the firm of Brandson and Gwysher, the well-known railway contractors, who have been pre-eminently successful in all their undertakings. The workmanship of the bridge referred to was entirely left to my care. I have been much engaged in many extensive railway the works in which I have been many years much engaged in many extensive railway works, such as tunnels, bridges, viaducts, &c., and I never met with any difficulty but what I vas able to overcome.

If you should think my endeavours worthy of being laid before your readers, particularly those who are intrusted with extensive works, it is my intention to follow up the present with a series of drawings (accompanying them with working instructions) of difficult work, laying down a sure and certain method to construct such work with ease and safety. It is deeply to be regretted that much work on railways has been erected under such circumstances as it has been, namely, that of giving contracts to such an extent, that it was absolutely impossible for those individuals to complete the work under their own eye, however talented they might be; they were necessarily compelled to re-let part of it, and in many instances the second con-tract has been given to individuals totally in-competent for such responsible work, and hence the many fatal catastrophes which are continually taking place. It is with a view to give instruction to such individuals that I have been induced to lay my system before the public in your valuable paper. I could name bridges to an innumerable extent on railways those who have interested themselves in the attainments to lay down the theoretical prin-proceedings. Mr. C. Croker was unfortunately ciples on which I have uniformly acted in all those bridges having been constructed without

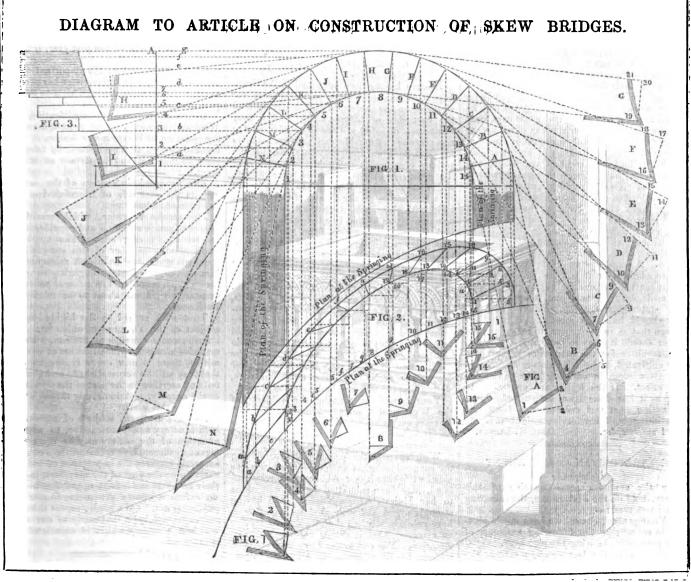
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being laid down upon true theoretical and

In describing the plan on which the above arch was constructed, it will be necessary in the first place to shew the manner of drawing the first place to shew the manner of drawing the figures represented. Fig. 1 is a section cut square to the abutment of the arch; fig. 2 is the plan of the batter line; fig. 3 gives the intrados and extrados of the arch. From figure 2 are got all the bevels required for working the arch represented by the letters A, B, C, &c., and 1, 2, 3, &c. To draw figure 2, take each distance from the perpendicular line A, in figure 3, and set them from the plan line, 1, 2, 3, 4, &c., those distances set at 12, 13, 14, and 15 in figure 2, then trace those points from one to the other, it will complete the plan of the intrados; proceed in the same manner with the lines dotted from the extrados to the battering line in figure 2. Set those distances also from the other side of the arch, to the battering line in figure 2. Set those distances also from the other side of the arch, which will complete the plan the extrados gives. From these two plan lines are got the bevels, A, B, C, D, &c., on the right-hand side. The bevels at the bottom, 1, 2, 3, 4, &c., are got in the following manner: the angle 1, 2, 3, on figure 2 is equal to the angle 1, 2, 3, on figure 2 is equal to the angle 1, 2, 3, in figure 3; the dotted line from the point A, on the section figure 1, to the bevil figure A, represents the bed of the arch stone brought out, and the stock of the boxel angle angle and the stock of the boxel angle angle and the stock of the boxel angle angle and the stock of the boxel angle an presents the bed of the arch stone brought out, and the stock of the bevel applied on the soffit line of the arch stone, and lying on the line A or bed of the stone, will give one draft for making the face of the springer. The plan of the springer will give the draft of the face at the bottom bed, but before the bevel A is ap-plied, it will be necessary to apply the bevel 15 from the bottom bed of the springer, up the line of the intrados, and it will be seen that the three bevels will give the twist of the face of the springer required to get the bevel 15; it the period of the twist of the face of the springer required to get the bevel 15; it will be observed also that the line 15 is in the same parallel as line 15 on the section, figure 1. The stock of the bevel is drawn at right angles to the line 15. The angle 15 in figure 2 is

equal to the angle 15 on the bevel of figure 1 on the intrados of the plan line; all the other bevels are got in the same way. To work the second stone on the right hand side of the arch, second stone on the right hand side of the arch, after the beds and soffits are worked, to the section mould A on the arch, take the bevel A, and apply it from the soffit along the bottom bed, which will give the first draft for making the face; then take the bevel 14, and apply the stock to the bottom bed up the line of the in-trados, and it will give the second draft re-quired; then take the bevel B and it will give the twist required for working the face of the second stone. All the other bevels are to be found in the same manner. By a strict exami-nation of the figures and the dotted lines the system will be sufficiently clear to most pracsystem will be sufficiently clear to most prac-tical men.—I am, Sir, &c., BRN. GHEBN. Birmingham, 23rd June, 1845.

THE SCHOOL OF DESIGN.

MR. EDITOR,-Seeing in a late number MR. EDITOR, --- Seeing in a late number of THE BOILDER, that it was your intention to consider the matter you had before you re-specting the School of Design, and to lay it before your readers, I beg to make a few remarks upon the great importance of design. remarks upon the great importance of design. If I recollect right, one of your corres-pondents states, that the School of Design is a school for drawing, and not for learn-ing to design. There is no doubt about the truth of that statement. I have been much surprised from its commencement, that design should not have been taught, and I have stated this over and over again, but the anthorities have been satisfied with but the authorities have been satisfied with the name they have given their school, and that the students would, by studying there, become designers. In this point they have deceived themselves, and the students have been the sufferers to the extent of designing. It appears that teachers of design have not been appointed, but teachers of draw-

ing, and, so far so good. But they must go further, and carry out the full intention of their name, — The School of Design. And why should not this nation have a School of Design, requiring it so much as it does? That a school of drawing must be authlished monostituter to of drawing must be established preparatory to design is true enough; but we must not de-ceive ourselves upon that which is only preparatory. To learn our language, is only pre-paratory to our becoming poets. By reading Shakespear our minds will be improved, but we must not expect to become dramatic poets. we must not expect to become dramatic poeta. By copying the Parthenon, our minds will be improved on Grecian architecture, but by doing so, we must not expect to become designers of architecture for English people; the climate, the Tand, the convenience, the comfort, the peculiar wishes of the indi-viduals, must he first consulted before we venture to force a style of architecture upon viduals, must he first consulted before we venture to force a style of architecture upon the employer; the design must be made to con-form to the wants of the party, and to ac-complish which, a vast deal of philosophy will be required. A designer must be taught to become an active observer, and after that, as active a reasoner. But his observations must be made upon the wide field of Nature— throughout the works of creation, in order to fill his mind with the true materials, and with which design is only to be effected. The works of the great designers sufficiently testify this by their close imitation of the beauties of nature. The designers of our cathedrals, like great me, stuck to the subject for which they nature. The designers of our cathedrals, like great men, stuck to the subject for which they designed. They did not, like slavish copyists, go to the Parthenon, and make studies of that temple (which was designed for pagan pur-poses), to assist them in designing a temple for Christian worship! No, they invented such forms as would be in accordance with the Christian religion, and thus make an ap-peal to the flock that it was the house of prayer for all who wished to worship the living God. To design, is to invent such form as will tell its own tale, and apeak as it were to The designers of our cathedrals, like God. To design, is to invent such form as will tell its own tale, and speak as it were to

THE BUILDER.

the subject for which it was designed. Are the students then of the School of Design thus taught? It appears not. They are taught to draw, but then what are they taught to draw? Are their faculties for the arts legitimately exercised, and rightly directed for the purposes of design P If their faculties are exercised upon att only, they are not. They must have their faculties exercised first upon the works of creation, and then a due studying of the works of the great designers may be turned to good account. But great care must be taken in placing such works of art before the students that are not incongruous—such as those senseless productions of half man and half beast, balf man and half vegetables, and half man and half stone, with wooden cases to keep from view their lower extremities; all such deplorable absurdities should be turned to the right about, for they have outlived sensible people's likings. In point of true de-sign, every thing is yet to be done. The authorities have been changing their masters, but the students feel they are not at all nearer design. A sound system of instruction most be propounded, or it will be vain to expect the students to become designers; in fact, they are made draughtsmen, and, it appears from their statements, nothing further. This na-tion should have the most perfect School of Design that is in its power to make, and no longer should it delay so important a subject. The faculties for the arts were given to be duly cultivated, and the legislature should em-ploy its wisdom in carrying such cultivation into effect. If the legislature continues to sleep as it has done upon artistic education, this nation must rest content with being the mere imitators of her foreign neighbours.

I am, Sir, &c. GEO. R. LEWIS.

; ._j. . METROPOLITAN IMPROVEMENT SOCIETY.

Ar the annual general meeting of this society, held on the 31st ultimo, the following report was read :---

Your general committee have much pleasure in submitting the following summary of their proceedings during the past year.

Shortly after the last annual meeting, the committee addressed a letter to Sir Robert Peel, requesting to know if any progress had been made in the preparation of a map of the metropolis, founded on an ordnance survey, which had been promised to a deputation of this society in 1842, and arging the importance of such a map on various public grounds.

The committee also took that opportunity of expressing a hope that the important question of an embankment of the Thames, with a view both to the improved facilities of communication, as well as public health and recreation, would not be lost sight of during the then en-suing sessions of Parliament.

letter was also addressed to the Secretary of her Majesty's Commissioners for Metropolitan Improvements, on the subject of the proposed line of thoroughfares, connecting the Belgrave square district with Westminster Abbey and the New Houses of Parliament, strongly urging that good taste and public con-venience should not be sacrified to a narrow economy; but that by some modification, a view of Westminster Abbey as one of the moblest monuments of antiquity might be preserved, and an approach to that, and the seat of the legislature, rendered worthy of the metro-polis of the British pation.

In their last report the committee stated the steps which had been taken with regard to a modification of the window duties, or as they have been justly designated, taxes upon light and ventilation, in their effects, excluding mul-titudes of human beings from the light of the sun during a large portion of their existence, and compelling them to breathe pestilence. Your committee continuing to feel a revision of this tax essential to the sanatory existence and comfort of the community, as necessary also to avoid its resulting and injurious consequences in defective construction and architectural deformity; and, moreover, satisfied that an alteration might be effected with little or no sacrifice of revenue, resolved to persevere in such object. Mr. Hickson (who on this and many other occasions as the society have witnessed, has been most strenuous in his exertions), having prepared a paper on the subject, your committee resolved that a thousand copies of the same should be printed and circulated. Several petitions to Parliament on the same subject were also prepared and adopted, public meetings were promoted, and the committee have had much pleasure in recording their sense of the exertions of Viscount Dancan in this benevolent cause.

Notices having been published in the newspapers of an application to Parliament for stopping up the thoroughfare for carriages on the east side of Lincoln's-Inn Fields, your committee directed a letter to be addressed to the secretary of her Majesty's Commissioners for Metropolitan Improvements, urging the serious obstruction and public inconvenience that must ensue if such a project were effected, and referring the commissioners to the report of a committee of the House of Commons in 1838, with plans, approving of a direct carriage communication by that line between the Strand and Holborn; and which, from the evidence then submitted, it appeared would be effected at the inconsiderable outlay of 18,000%.

The committee represented, that there is at present no approach from the north of London to the Strand, between Endell-street, St. Giles's, and Holborn-bridge, except by courts, or narrow winding lanes; and that if the exist-ing obstructions could not immediately be removed, at least any increase of them should be prevented by the influence of the honourable commissioners. Your committee have the gratification to state, that they shortly after received a reply from the commissioners, stating that the measure had been abandoned.

Your committee, viewing the subjects of Westminster improvements and of the the Thames embankment as of great national importance, have devoted much time and anxious consideration thereto.

With regard to the former, plans, embodying With regard to the former, plans, embodying the suggestions of the society, with a bird's-eye view of Westminster Abbey as thereby iso-lated, have been submitted by the committee to her Majesty's commissioners, and having strongly urged and reiterated its importance, have subsequently had the pleasure to receive an assurance that it should receive their best attention. The committee have been enabled, through the liberality of Mr. Hickson, to prepare copies of the plan and view of Westminster Abbey, which will shortly be forwarded to every member of the society.

Modified plans of the Thumes embankment, embracing the suggestions of various members of the society, have also been prepared with the view of being submitted to the commis-sioners. Subsequently, your honorary sccretary, Mr. Henry Austin, has suggested a plan of a railway street, in continuation of the embank-ment, and by which a junction may be formed with the Blackwall railway, and by which means the improvement long since urged by the society to her Majesty's commissioners, may be effected; namely, that of a spacious street or roadway, adequate to the increased and increasing traffic between the western and eastern parts of the metropolis.

Your committee have the pleasure to state, that on these plans having been submitted to the directors of the Blackwall railway, they were highly approved, and readily adopted by them. A company is in course of formation to carry the same into effect; and with the fur-ther view of connecting the same with other railways, by which the present obstruction of the principal public streets will doubtless be much relieved.

The committee cannot but congratulate the members on the signal success which has hitherto attended the efforts of the society. Although their power is not great, and their means at present are small, it has become manifest that they may be rendered the nucleus of important benefits. The Government having so readily yielded to the re-presentations and suggestions of the society in advising her Majesty to appoint a com-mission for metropolitan improvements, this society for a time remained passive, consi-dering its province rather to watch the proceedings of that body, and to render from time to time such assistance in the way of suggestions, or otherwise, as might be their power; but observing how little has hitherto been effected, and satisfied by a review of the past year how much may be done by zealous and persevering efforts, and encou-raged by success, your committee would call on votes to 7.

the society, jointly and individually, to future exertion; and to devise some efficient steps to render its existence more generally known, and extend its sphere of influence and use fulness.

As to the results of the past year, it may be stated-

That with regard to the important subject of the window duties, the minister has promised. to consider the subject with a view to their reor modification. peal

That with respect to the modification of the Westminister new line or thoroughfare, and the isolation of Westminster Abbey, it is now earnestly hoped that means will be adopted to effect so manifest and important an improvement.

The proposed obstruction of the carriage-way on the east side of Lincoln's-Inn Fields has been abandoned.

The emoke nuisance, which was long a source of much attention and consideration the society, having been taken up by Mr. Mackinnon, a member of this society and of the legislature, hus only been relinquished by him on the Government engaging to provide for its suppression in the general measure of sanatory regulations about to be submitted to Parliament

That with regard to the highly impertant subject of the Thames embankment, and the improvements consequent thereon, which has occupied so much of the attention of your committee, there is now every reason to expect that they will be accomplished, and that without any sacrifice on the part of the Government or the country, and indirectly through the exertions of this society. As there are many subjects of improvement,

both sanatory and constructive, to which the attention of the society may be most advantageously directed, your committee would again earnestly impress the importance of individual exertion on the part of the members, to extend their numbers and influence, and thus to render their future efforts yet more conducive to public benefit." We gladly repeat this appeal, and express a hope that many of our re will join a society which is calculated to do much good.

ART-UNION OF LONDON.

THE annual exhibition of the works of art purchased by the prizeholders will be opened to the subscribers and their friends, at the Suffolk-street Gallery, on Monday, the 18th inst. The Art-Union indemnity bill has received the royal assent. We are glad to learn that the committee of the House of Commons, who were appointed to take evidence on the subject of art-unions last session, are about to publish their report and the minutes of evidence. The committee of the Art-Union of London have commissioned Mr. Calder Marshall to execute in marble his group, "the first whis-per of love," lately exhibited in the Royal Academy, for a prizeholder who had de-puted the committee to select a work of art for him.

| HOLBORN | AND | FINSBURY | SEWBDS |
|---------|-----|----------|---------|
| nondown | AND | FINODURI | OLVERO. |

TENDERS recently delivered for construc-ing a main line of sewer in Charlette-street, Bedford-square, 3,573 feet in length :

| Digge | £5,500 |
|-----------------------|--------|
| Cooper | 4,505 |
| Ward and Son | |
| Johnson | 4,190 |
| Bethick, and R. Davis | 3,876 |

For the branch drains and gullies :

| Digge | £1,200 |
|----------------------|--------|
| Cooper | 850 |
| Ward and Son | 810 |
| Johnson | 800 |
| Bethick and R. Davis | 771 |

The mode of estimating which produces such results as this must be defective in the extreme.

OPERATIVES IN PARIS .- The journeymen A meeting carpenters of Paris still hold out. of the master builders has been held to receive delegates from the men, but the terms prop

ON THE PRINCIPLES OF GREEK ARCHITECTURE.*

Mr. WILKING has remarked, "that the Greeks adhered to established rules for determining the proportions of the several divisions of the naos, cannot be doubted. The great similarity which is discernable in the plans of mest of the temples with which we are acquainted, warrants the conclusion that they studiously followed some one great model, and deviated from it as little as circumstances would allow them. In order to ascertain the accuracy of this conclusion, we must have recourse to some of the earliest temples of which there is any authentic account, and consider what resemblance can be traced in the plans of such as were erected at periods not very distant, in countries remote from each other."

countries remote from each other." Our author, then, compares the plan and proportions of the temple at Jerusalem with the imple at Pæstum; those who may wish to secretain how far he has succeeded, must refer to his "Antiquities of Magna Græcia." If we were to admit that Mr. Wilkins had shewn that the temple at Pæstum was exactly the same as the temple at Jerusalem, and that the latter was a model from which emanated the temples of Greece, we should even then be very little bacefied, not more so than if it were to be proved that the form of one of our cathedrals ind been selected from one on the continent. We differ from Mr. Wilkins in endeavouring to find a model from which the temples were sopied :---our inquiry is ---What were the primciples which guided the formation of the Grecian temples? This is the very error of the followers of Mr. Wilkins's school, which has retarded the progress of architecture as an art of design for years; their aim being to imitate by copying, and continually discoursing of effects, instead of developing causes. Therefore, however correctly Messrs. Stunt and Revett, or Mr. Wilkins, may have delineated the existing remains of Grecian buildings, important as the acquisition may be---unless we can obtain the key by which we can detect the original source of their creation, we must never aspect to understand Grecian architecture, but continue to copy only the models, to be satisfied with their acknowledged beauty, and remain ignorant of the cause of that beauty. The deficiency of a correct knowledge of proportion is one of the reasons why architecture in modern times has seldom been successfully treated. Each part of a Greek temple was so regulated as to bear a just proportion to the whole : in this alone how deficient are our edifices !

"Though we excel in every separate part, Yet fail of just proportion in our art, In one grand whole unknowing to unite Those different parts."—Horace.

We have copied a portico, placed it against a house, a church, or a theatre; and however perfectly we have imitated it, and beautiful as it may be *per se*, it never has been adjusted to bear any proportion to the building to which it has been affixed.

Before, therefore, an architect can design an edifice in any style of architecture, he must become acquainted with that style which he proposes to adopt; and if he wishes to raise himself above the plagiarist, and add new features to existing styles, it is absolutely necessary he should first possess a knowledge of the principles which guided our ancestors; unless this be done, however cleverly he may imitate, it will be impossible for him to strike out new ideas with any certainty of success.

That the principles by which Grecian architecture has been moulded into beautiful forms have never been discovered is perfectly apparent, if we quote only a few remarks offered on this subject.

Mr. Gwilt observes, it may be objected to, that fitness alone will not account for the pleasure which arises in the contemplation of what are called the orders of architecture; and Alison seems very much "to doubt whether there be not some other cause of beauty." "If admiration of Grecian architecture," says Mr. Wilkins, "result from intellectual association it will be found to mirtellectual

"If admiration of Grecian architecture," says Mr. Wilkins, "result from intellectual association, it will be found to exist only among men of knowledge; and its just proportion will be determined by those whose taste is the most cultivated, and whose science is the most ex-

• From "The Natural System of Architecture," by W. P. Griffith, Esq., F.S.A.

tensive; but if there be some intrinsic charm, some peculiar grace, which is necessarily acknowledged and felt by all mankind, we then must look for some more general principle, which will accommodate itself to this more general feeling." "We can scarcely deny, then, that the pleasure which is derived from surveying the ancient models of Grecian architecture is heightened by ideas connected with learning, with science, and with art; accompanied, as they still must be, by all the nameless charms which imagination combines with the history of the Greeks, and which it throws over all their productions. It is probable, nevertheless, that their buildings possess certain qualities which affect us independently of all these associations, and which, even without them, fail not to produce sentiments of admiration, and feelings of delight." The same cause which operated so power-

The same cause which operated so powerfully during the middle ages, and to which we and our continental neighbours are alike indebted for our beautiful cathedrals, viz., religion,—influenced in like manner the contemplation and erection of the Grecian temples; in the ancient, as well as in the modern world, —in savage, as well as in civilized nations, we find that religious edifices are the largest in extent, the most elaborate in execution, and likewise the most costly of all the works of men.

If, therefore, we desire to seek the causes which operated so powerfully and so successfully in rearing edifices, acknowledged by all to be beautiful, our merely possessing accurate representations of those buildings is not sufficient for us to determine the reason of their being beautiful; to gain this desideratum, we must carefully inquire into, and examine the celebrated matured scientific systems of the earliest philosophers of Greece, and see if they will assist us by shedding any light upon so important and interesting a subject. To accomplish this, we will at once transport ourselves to Greece and the age of Thales and Pythagoras, who foun led the earliest schools of geometry; the latter of whom, according to Proclus, was the first who gave geometry the form of a science.

Thales was born at Miletus, a Greek colony in Asia Minor, in the first year of the thirtyfifth Olympiad. After receiving the usual learning of his own country, he travelled into Egypt, where he became eminent in astronomy, geometry, philosophy, &c. From him astronomy made a very considerable advance, and he is generally reputed to be the father of the Greek philosophy, being the first that made any researches into natural knowledge. IIe founded the Ionian school 600 years u.c.

From Thales we pass on to Pythagoras, a philosopher no less distinguished than the former for the variety and extent of his discoveries. The information which he derived from his countrymen not satisfying his inquiring mind, he travelled into various countries. He first visited Egypt, from which country he went to Asia, where he is said to have made himself acquainted with the science of the Chaldæans and the Magi. Although these traditions may have some historical foundation, it is considered that his philosophical system was not derived from any foreign source, or even materially influenced by any thing that he saw and learned in the countries which he visited ; his whole philosophy bears the impress of genuine Greek growth, and there is scarcely any thing in it which may not be traced to some native source.

Pythagoras finally settled at Crotona, in Southern Italy, and established a philosophical institution about B.C. 500, which in many repects hore great analogy to the Doric institutions which he had seen in Crete and Sparta. He instituted among his disciples a secret worship, or mysteries, which are sometimes called Pythagorean orgies; and the science of numbers, geometry, and music, were closely connected with the sacred rites.

The main purpose of philosophy, according to the system of Pythagoras, is to free the mind from incumbrances, and to raise it to the contemplation of immutable truth, and the knowledge of divine and spiritual objects. Mathematical science was with him the first step to wisdom, because it inures the mind to contemplation, and takes a middle course between corporeal and incorporeal beings. The whole science he divided into two parts, numbers and magnitude; and each of these he subdivided into two others; the former into arithmetic and music, and the latter into magnitude at rest, and magnitude in motion; the one comprehending geometry, and the other astronomy. Arithmetic he regarded as the noblest science, and an acquaintance with numbers as the highest good. He considered numbers as the principles of every thing, and divided them into scientific and intelligible. Scientific number is the production of the powers involved in unity, and its return to the same. Number is not infinite, but it is the source of that infinite divisibility into equal parts which is the property of all bodies.

In other, and its recent to the source of that infinite divisibility into equal parts which is the property of all bodies. Not any exposition having been handed down to us by Pythagoras of his scientific labours, it is undoubtedly no easy matter to separate, in the later traditions, what belongs to the old system, and what to the new. In modern times, great light has been thrown upon the subject by the careful examination and analysis of the fragments of Philolaus by Boeckh. Philollaus of Tarentum, a disciple of Pythagoras himself, was in all probability the first Pythagorean who wrote an exposition of the system of his master; and his fragments must therefore be considered as the most genuine source of information. The results at which Boeckh arrived are, on the whole, the same as those which Ritter subsequently reached, though by a different mode of inquiry.

IRON AND THE IRON TRADE.

SINOB the last quarterly meeting of ironmasters, the trade has acquired much firmness, and may be regarded as in a more fixed and healthy state than for many months pat. There is no disposition to form prices above their natural level, and the late rates agreed upon will we have no doubt be fully maintained. The tendency in the market is rather to advance than to recede. At a meeting of the masters at Glasgow, on the 30th utiling, prices were reduced from 80s. to 65s. net, four months, or 24 per cent. for prompt delivery. In rails, some large transactions have taken place during the past fortnight, at prices varying from 94. to 94. 10s. per ton.

It is well known, that iron made from one in France is of an inferior quality, and unfit for railway and other engineering works. This fact, in connection with the fears of the French government, of the entire disforesting of the kingdom if charcoal iron-works are carried on to any extent, has suggested the idea of forming an establishment at Boulogne-surmer for the make of iron and the manufacture of fire-brick and pottery, from ores, coal, and clay, to be imported from Walse. Mr. R. Hopkins, with whom the idea originated, and who possesses several mines of the necessary materials, proposes to raise a capital of 100,000/., to carry into execution his project. The following is a statement of the imports

The following is a statement of the imports and exports relating to iron, for the past year, 1844. Our imports of foreign iron-ware--chromate of iron, 2,355 tons; bloom iron, 524 tons; old broken and cast-iron, 97 tons; unwrought steel, 2,717 tons; wrought steel and iron, entered by weight, 153 tons---ditto, entered by value, 11,9054. Of foreign iron in bars, 21,598 tons were retained for home consumption, and 5,876 tone exported, of which 3,371 tone went to India, and 1,013 to our North American colonies.---Of British irofa we exported that year 99,960 tons of pig-iron; 230,835 tons bar-iron; 18,980 tons boli and rod-iron; 18,969 tons cast-iron; 1,963 tone iron wire; 2,490 tone of anchors, grapnels, &c.; 15,654 tons in hoops, &c.; 7,226 tone naile, &c.; and of all other sorts (except ordnance) 48,170 tons; of old iron, for re-manufacture, 9,271 tone; end of unwrought steel, 5,121 tone.

NEW CHURCHES AND SCHOOLS IN THE DIOCESE OF DURHAM.—The dean and chapter of Durham have recently voted the following donations for buildings connected with religion and education : — 300/. towards a new church in the parish of Berwick-upon-Tweed ; 25/. towards a school at Castlesides, near Lanchester ; 20/. towards a school at Ellerker ; 10/. towards a school at Coundon ; 20/. towards a school, and 200/. towards a new church, at Ferryhill.

OPENING OF THE RAILWAY FROM LONDON TO CAMBRIDGE.

THE continuation of the Eastern Countiesline to Cambridge, Ely, Norwich, and Yarmouth, was opened on the 29th ult. A large number of persons attended at Cambridge, and the whole of the proceedings passed off very satisfactorily.

tisfactorily. The most important station on the line is at Cambridge. It is a long, and handsome brick building, with stone dressings, consisting of a double series of arcades; one extending over the siding of the railway, and the other serving as a portico for the carriages arriving at the station. It was designed by Mr. Thompson, and erected by Messra. Jackson, of Pimlico; as were also the stations at Chesterford and Wenden. Mr. Robert Stevenson was the engineer, and Messra. Peto and Grissell the general contractors. The stations are all laid down with Seyssell asphalte, and afford a good example of the material.

There was a dinner at Cambridge on the occasion, and our chief inducement to notice the proceedings was, that we might record some remarks then made on the conduct of the workmen employed on the line, and the character of the contractors.

character of the contractors. The Dean of Ely adverted in the highest terms to the unremitting excellent conduct of the operatives throughout the line. As a magistrate of Bly, he had had every opportunity of witnessing their demeanour, and it afforded him unspeakable satisfaction to bear the most unqualified testimony to the bear the most unqualified testimony to the peaceable, orderly, and sober manner in which they had uniformly conducted them-selves. (Cheers.) With three exceptions only, throughout the whole of the period the works had been carried on, not the shadow of a complaint had been made against them, and those exceptions were of the most trifling character; it was due to the labourers to bear this testimony in their favour (cheers), but a still higher measure of justice was due to Messrs. Grissell and Peto, whose judicious and liberal arand Peto, whose judicious and liberal ar-rangements for the instruction and moral and religious welfare of the numerous band of workmen in their employment, were worthy of all praise, and had been productive of the greatest advantages. (Cheers.) He rejoiced at the accomplishment of the mighty work which had been achieved, and which they were that day met to commemorate. Not only would the material interests of the important districts by which the railway would be trapersed beimproved to an incalculable extent, but, which was far more important — the moral and intellectual interests of the community would be advanced and improved in a degree which perhaps it was impossible for human ingenuity to estimate. (Cheers.) Greatly as we were indebted to the piety of our ancestors for the stupendous institutions they had founded for the religious advancement of our race wet were they infinitely surpassed by the mighty efforts which were now in progress, and the union of all that science and art odald effect with all the elevation of purpose which characterized the present operations of the present age and controlled their influ-

or the present age and controlled their innuences, would produce results of the loftiest and most gratifying description. ²⁰ The Bishop of Norwich was obliged to repleat the sentiments uttered by his friend the Dean of Ely. But if it were a repetition, it was not as tedious as a twice-told tale—for it deserved to be told three times three and "with one cheer more," (cheers) and the tale was the good and exemplary conduct of the railway labourers. (Cheers.) The dean said that, as a magistrate only three cases of misbehaviour had come before him. In Norwich they could surpass the enlogy of the dean, for there they had not one. (Loud cheers.) Not one man throughout the line (loud cheering), but the men were everywhere described as doing their duty like Englishmen, and none ever did it better (cheers), and here he would give credit and honour to whom credit and honour were due. He was himself a churchman, and holding high office in the church, and believed that in that church was the purest faith, but he was still a Catholic Christian (loud cheers), and as such would hold it as a dereliction of his duty if he did not express his approbation, respect, and regard for the exertions used for the moral benefit of the railway labourers by Mr. Peto. All down the line he had met with his agents, and had found them not merely giving directions and instructions, but also giving to the men religious books, and schools for the education of themselves and their children (loud cheers), and thus shewing them that education can civilize the mind, reform the habits, and elevate the understanding. The gin shops were left deserted, and the schools were full. (Cheers.) Who was there who would throw a damp upon the means even the humblest of education, come whence it may. Mr. Peto was a dissenter, and he (his lordsbip) envied the sect to which he belonged, the possession of such a man; he would gladly purchase him at his own price, and heartily he prayed that he would ere long become a member of the Church of England. The Vice-Chancellor said, "The world of

The Vice Ohancellor said, "The world of science had been employed in the accomplishment of the stapendous operations which railway proceeding had developed, but with him it was a source of inexpressible gratitude that not only had the regions of science been resorted to by the men who had created new and vast fields of enterprise, but that they had taken the opportunity which the concentration of the powerful body of artisans and labourers under their direction, and in their employment afforded them of diffusing amongst them the precepts of religion and morality. He bore just testimony to the excellent conduct of the labourers throughout the whole period of the formation of the line, and stated that their attendance at the Norman church, in the neighbourhood of Cambridge, which had been conceded to them at the earnest request of Messrs. Grissell and Peto, had been uniformly marked by diligent attention and reverent devotion.

INSULATED BUILDINGS: ACCORDING TO THE BUILDINGS ACT.

S1R,—A point that would appear to be one of general interest having arisen between a district surveyor and myself, the following letter, addressed to the district surveyor, which will perhaps suffice to explain the subject, may not be uscless :—

"My dear Sir,—I am leaving town to-morrow morning, but hear (even after your assent on Saturday to the proceedings) that you demur to the two houses in Lyndhurst-square, of which you have notice as 'insulated buildings,' upon the ground that they are not twice 30 feet, or in the whole 60 feet apart. I was quite prepared (sanctioned by counsel's opinion), to have proceeded with any additions I chose to make to any "commencement," not offensively setting up my opinion against the referees. My point is, they have no power to limit or control the express words of a public Act; more especially relating to matters clearly not within their province. There can be no question of my perfect right of trying the extent or limitation of the word 'commencement' in a court of law, which I was quite prepared to do, and am still prepared, if any question is raised—but prefer paying your fee as of "insulated buildings," my abject being not collision with authorities, but permission to carry out my barge-boarded pediments, &c., in conformity with the houses already erected.

The objection taken I was quite alive to, and that induced me so cautiously to word my notice.

I had intended some months since to address a letter to. THE BULDER upon the subject; as I do not disguise my intention of so carrying out my operations to some considerable extent in this neighbourhood, as availing myself of a rational permission in this suburban district, believing as I do, that additional ground adds value to the outlay.

I had, however, hoped that no attempt would have been made to pervert the clear and singularly (for this Act) intelligible clause under which I presume you ground your objection.

which I presume you ground your objection. I cannot avoid remarking, I think it would be but an act of courtesy if district surveyors were to supply the architect concerned in the building with the ground of their objections in writing, when most frequently a dispassionate discussion would settle all points in difference.

The course, however, taken is an appeal to the referees; the first step being, that the district surveyor is called upon formally to state the grounds of his allegations or irregularity; the party, by a transmission of a copy from the referees, obtains the information by a costly mode of proceeding. I have also been told by a district surveyor,

I have also been told by a district surveyor, in the presence of the referees, that a party producing a plan of intended operations and seeking advice as to its conformity with the provisions of the Act, the district surveyor is not bound to assent or dissent from its accuracy.

I believe a party serving the district surveyor with a copy of a plan of intended ope-rations, and seeking his advice, which being refused, and for the sake of the argument assuming non-conformity to the provisions of the Act to exist in some parts,—I think, I say (if permitted to proceed, and the errors are eventually complained of), the district sur-veyor would be told in a common law court that he was not merely ministerially act-ing, but in respect of the prescribed fee for superintending this particular work, he would be held liable for his wrong doing. If my arguments fail to convince your judgment, I would request, as a preliminary step, the grounds, in writing, of your objections. Should you withdraw your objections, I shall then feel obliged by your so informing me, that my works may proceed without the suspense and doubt of their conformity, which brings me to what I presume to be your grounds of objec-tion, viz., under schedule C, second paragraph, part 7, which, describing what are to be deemed 'insulated buildings,' states :- 'And with regard to such building, so far as relates to the distance thereof from any other building, or from ground not in the same occupation therewith, or connected therewith only by a fence or fence wall, it must be distant from such other building, or such other ground, at the least 30 feet.

We will first try the question by the actual position of my houses. They stand on my freehold, 50 feet from each other; and you have admitted, by measurement with my builder, that no portion of the ground surrounding the houses is within 30 feet 'from ground not in the same occupation;' as no fence or apparent division exists as dividing this 50 feet, I would challenge your authority to call upon me to state to which I meant to attach at least 30 feet.

We will now try the question upon a broad principle. Since hearing of your objection, I have consulted two intelligent legal friends, who not only fully confirmed my views, but expressed surprise how such plain language could be attempted to be perverted—with the permission to creet with any 'dimensions and materials' such buildings. To prevent accidents by fire the controlment is enacted and if a number of houses were in crection together, 30 feet apart controls the matter; but it clearly was evident to the minds of those who framed the clause that one house only might be built: and then comes the restriction (and which be it borne in mind is in the disjunctive), 'or from ground,' that is to say, you shall not avail yourself of this permission unless you have in the same occupation at least 30 feet of ground, so that any future erection cannot possibly be nearer than 30 feet. Hypothetical cases might be multiplied, but I will not further entangle the discussion thus, or by shewing how readily the cleause may be evaded altogether.—Yours faithfully,

GREENWAY ROBINS."

EMPLOYERS AND WORKMEN.—Our notice of entertainments given by employers to the men in their service, and the view we took of the advantages likely to result from such a course, have led correspondents to send us accounts of various similar meetings. Last week more than 200 persons connected with the brewery of Messrei Hanbury and Co. dined and supped at Rosherville Gardens, near Gravesend, at the expense of the firm, Mr. Davison, engineer, in the chair. A local paper says, "At 8 o'clock the whole party embarked in the most orderly manner on board the Vesper, Star Boat; and it is but an act of justice to add; that if partics holding higher birthe, and assuming greater rights of civilization, were to conduct themselves throughout a festival of this kind with as much propriety, it would go far to establish a better order of 'things."

Correspondence.

GLASS PIPES.

Sis,—At the late meeting of the English Agricultural Bocisty at Shrewsbury, I noticed with interest some specimens of glass pipes, introduced there by Mr. Freeman Roe, of London. This invention strongly recommends itself to notice and approbation, by its securing the cleandiness and salubrity of the water in its conveyance from its source, whilst the cost of manufacture will not be much, and its durability will be lasting. It is well known that all matural waters contain in solution bicerbonate of lime, in greater or less propor tions, which act in two manners injuriously The evaporation of a in the ordinary pipes. portien of carbonic acid will precipitate the in-soluble carbonate of lime or chalk, well known as a deposit in pipes and the far in tea-kestles, which obstructs and finally closes up the passage, whether in lead or iron. The carbonates of lead and iron are also formed at the expense of the metals, the former of which has proved to be highly injurious to health, whilst thelatter, though less so, produced, by its astringency, bad effects upon the burnan consti-tution, and at the same time from the formation of these soluble salts, the metals rapidly corrode and wear away. Where water is recorrole and wear away. Where water is re-quired for vegetation, the presence of the smallest quantity of iron is injurious, whilst its brack ish taste renders it unfit for domestic appliances. Now, as points are necessary for the first crystallization, from the uniformity the first crystallization, from the uniformity of surface in glass, no deposition can take place in pipes formed of this material as in those of lead or iron; nor can the material be acted upon chemically, so that whilst the pipes are kept clean, the water is insured in the same condition of purity as at its source. The abolition of the duty on glass will doubtestly lead to its intraduction at its source. The abolition of the duty on glass will doubtlessly lead to its introduction gass will doubtlessly lead to its introduction to many other purposes useful and ornamental, as vases, basins, and other parts of decora-tive fountains, where the transparency of the material would have an interesting effect, much above that produced by the opacity of the matter at means considered the matter at present employed.

A. BOOTH. L. Finsbury-equare.

BUILDERS' ESTIMATES.

SIR,-Knowing you to be an advocate for correcting abuses, I trust you will excuse the liberty I take in addressing you relative to certain works which were to be executed and are now in progress at an institution belonging to the united parishes of St. Giles and Bloomsbury; and for which I, among others, was requested to estimate, and received a letter stating ""the trustees hoped to be favoured with a tender from me for the works, which were to be divided into two classes, one constrict to be divided into two exists, one con-taining brickluyer, plasterer, cal penter, smith, &c.; the other the plumber, glazier, and painter, so as to form *two estimates*, distinct and separate" (these are their own words).

I accordingly sent my estimates at the time and place appointed, where four of the trustees met the surveyor for the purpose of opening and deciding on the tenders which were to be adopted. My tender for the principal of the works, vis., the bricklayer, plasterer, carpenter, and smith's work, &c., was the lowest of any, and another tradesman was lowest in the painting, &c.; which estimates, had they been accepted, would have been "a saving to the institution of 37, 106.," and honourable and straightforward on the part of those assembled. But no, the surveyor advises the trustees to accept the tender of another party (one of his own neighbours). "because," as he says "he was lowest on the gross amount;" and en being asked for an explanation, said the trus-tees did not hind themselves to divide the works. Then why have requested two "dis-tinct and senarate columnets of

tinct and separate estimates? Here I beg to state that there were similar works executed last year at the same institution, and under the same surveyor, on which occasion they divided eres the plumbing from the painting, which invariably go together as a matter of course. Thinking I was dealing with honourable men, I did not make a ques-tion about the division of the works previous to forwarding my tender, which perhaps I to state, ought to have dong, but shall be more cautious for the future, and hope my brother builders society.

will be on their guard also against such injustice Hoping you will find space in your valuable journal for this,—I am, Sir, &c., J. S., Junr.

Tottenham Court-road, 28th July, 1845.

FIRE-PROOF CEILINGS.

SIR,--- My attention being directed by a letter in THE BUILDHE to a project for diminishing the combustibility of houses by the substitution of iron for wooden lathing, the idea of substiof iron for wooden lathing, the idea or substi-tuting elates "for partitions, ceilings," &ce., instead of laths of any description, presented itself to my mind. I accordingly tried the ex-periment on a small scale, and found; it to answer exceeding well. I fixed some spantlings together, and mailed the slates to them, allowing a proper space between each slate., I like-wise cut slits in each slate about three inches long, and three-eighths of an inch wide, thus;

each row being about four inches apart. I, by this means, secured the perfect keying of the lime. I then laid on two thin coats of



plaster, both of them not being more than half an inch thick. After allowing the plaster to dry properly, I applied a fire of dry fir shavings directly below it, for the space of a quarter of an hour, the heat and flame from which were exceedingly intense; some of the slates were merely a little cracked at the edges, where they were not well covered with lime. The difference of expense between slates and wood latha would not be considerable, and buildings might by this simple and cheap means be rendered almost fire-proof. I perceive a similar idea has struck the mind of your Kensington cor-respondent.—I am, Sir, &c., J. R. Hartlencol Aug 2nd Hartlepool, Aug. 2nd.

Miscellanea.

DECORATIVE ART SOCIETY.—On Wednes-day, the 30th ult., "the consideration of Geo-metrical figures in the foundation of graceful outline" was resumed. The elements of spiral, waved, and scrpentine lines, were discussed with the usual methods of pro-ducing them, and as these lines are, in practice, generally adjusted and regulated by the haud and eye of the artist and work-man, it was felt that a mechanical system mend he of gract utility and importance prowould be of great utility and importance, pro-vided simplicity could be combined with the process. After some remarks on the properties of the Greek spiral, such as admitting a tangent to be drawn at right angles to a ra dial perpendicular, and having the convolu-tions at a certain uniform ratio (as evidenced by examples in the British Museum and in Stuart's works), distinctly different in principle from the logarithmic or any other spiral, attention was devoted to Mr. Jopling's explanations of his septenary system of generating curves by continued motion. This system had been brought before the society at a previous meeting, and was received with some attention by the members, but as only one of the seven divisions had been published by the author in an extended form, its application to the lines under consideration was novel and strikingly illustrative of its merits; and from the courteous and liberal manner in which Mr. Jopling gave his valuable information, it was agreed by several of the members to endeavour to apply it experimentally in their respective occuply it experimentally in their respective occa-pations, as far as their limited acquaintance with it would enable them to do so; and to re-port the results to a future meeting. The drawings of serial conchoid, cardioid, and other curves produced by the above system, led to the supposition that new combinations of pleasing character (varied as in diapering, engine-turning, &c.) might be derived and ap-plied economically to decorative purposes in munufactures. This being the last meeting of this season, the chairman congratulated munufactures. This being the last meeting of this season, the chairman congratulated the members on the very satisfactory nature of the past meetings, as yielding to those of few (if any) other societies in interest; and in adjourning the meetings for two months, he felt much pleasure in being able to state that sworth purpose were in prepara to state, that several papers were in prepara-tion likely to sustain the reputation of the

EXTENSION OF THE RECENT'S PARK. EXTENSION OF THE RECENT'S PARK.— During the past week, workmen have been employed, by order of the Commissioners of Woods and Torrests, in erecting a fence round the fand (including Primfose-hill) on the north side of the Regent's Park, recently be-longing to the Easton estate, but exchanged with the commissioners for other lands, for the purpose of increasing the Regent's Park, and sectoring a public through fare to the top of Primrose-bilk. The hill, and land adjoining if, from the suspension-bridge over the Regent's Canal, comprising 150 acres, will be converted into plantations, serpentine, and other gravel walks, and small pieces of ornamental waters, the whole of which when completed will be thrown open to the public. ART-UNION PRIZE ANNULL. We have

before us the first volume of this work, published by Sprigg, of Great 'Rüssell-street, and intended to present each year engraved repre-sentations of every work of art purchased by the prizeholders in the 'London Art-Union.

the prizebotters in the London Art-Union. We shall notice it at greater length next week; and in the meantime recommend it to the sub-scribers and all interested in art. New Powhen Madazinte—The purchase of the Kinterbury estate by the Government, as the site of the new powder magizine, has been completed for 23,0002. The works will be commenced for the new powder magizine in the formation of the second be commenced forthwith.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom teader, &c., are to be addressed. For the convenience of our readers, bowever, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York street, Covent-garden.]

For the executing the skeleton of Glenorthy Castle, County of Limerick, Ireland.

ounty of Limerick, Ireland, tain 1180 Persons, for the Guardians of the Clifton Union.

For the complete restoration of two. Windows on the south-side of St. Thomas's Church, Salis-bury ; also, for Cleaning and Whitewashing the interior of the same Church-

For the execution of Works on the Levils and Thirsk Reilway.

For Coupled Locomotive Engine and Sour-wheeled Tender, to contain 700 gallons, for the Mandaceter and Bigningdiam Railway Company.

For the electron of that portion of the Newcastle and Berwick Raitway, extending from the Newcast the and North Shields Reilway to Netherton, be-ing a distance of about 123 miles.

For the execution of several lengths of Earthwork on the Aberdeen Railway. There are 5 separate Contracts, varying in lengths from 3.1 miles to 42 miles.

For the erection of a Wesleyan Proprietary College at Taunton.

For the supply of 70,000 Larch, Oak, or Fr Sleepers, and Fencing for 504 miles, or any part thereof, for the Ipswich and Bury St. Edmund's Railway Company.

For the erection of a new Village Infirma Brampton, near Huntingdon, for the Lady Olivia

Sparrow. For execting a Convalescent Ward, Nurse's Rosan, and a Wash-house, adjoining the Infirmery of the Sudbury Union. For Building 700 feet of Sawer in Lower Ga

len-street, Westminster, for the Trustees of Tothill Fields.

For the Construction of the Gas Works at Wells, in the county of Norfolk, with all necessary apparatus

For a supply of eighty fathoms of Yellow Deal Ends and Boards, in equal proportions, of the best description, to the Trustees of the Parish of Islington, Middlesex.

For a supply of fifty fathons of the best Yellow Deal Ends, to be worked direct from the ship, to the Directors and Gaardians of the Poor in the Parish of St. Marylebone. The works on the Notting: For the execution of the works on the Notting:

barn eod Linosh Bailway, in two parts; 1 from Nottingham to Newark, being a distance of 174 miles; 2 from Newark to Lincoln, being a dismiles, 2 from N tance of 15⁴ miles.

For the construction of the entire Line of Railway through the County of Anglesca, for the Ches-ter and Holyhead Bailway Company. It is divided into four separate Contracts, being respectively in length 5 miles and 28 chains, 5 miles and 26 chains, 7 miles and 55 chains, and 3 miles and 60 chains.

For the execution of the several works required in the Tynemouth Extension Railway, comprising about 740 yards of Tunnelling, with Earthwork, &c. The length of the extension is one mile.

For supplying her Majesty's several Dockyards

ds of African Timber. with 11,000 For the Buildings intended to be erected at King's Langley, for the Committee of the Booksellers' Provident Institution.

COMPETITIONS.

Plans are required for Laying out and covering with Villa residences about 20 Acres of land having a frontage of about half-a-mile to the Queen's-road Richmond, Surrey, extending from Spring-grove towards Richmond-hill. Premiums will be given of 25 guineas for the most approved plan, and 15 guir for the second.

guiness for the second. The Committee for the establishment of Pablic Parks, Walks, &c., at Manchester, offer two prizes, one of 50 guiness and the other of 25 guiness, for the best and second best set of Plans (with esti-mates), for the laying out, &c., of the sites already manchest by them inchased by them. The Board of Guardians of the Bridlington Union purch

offer a premium of 10% for a Plan and Specification of a Workhouse, the expense of which is not to exceed 2,000%, and to accommodate 150 inmates.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

At Little Bentley Hall, Essex, 2,000 straight and good Larch Firs.

BY TENDER.

In the Plantations of the Duke of Montrose, situate in the Pariates of the Date of Minister, Stirlingshire : many Thousands of Larch Trees of some size, adapted for Railway Sleepers, Roof-ing and Joisting, and other purposes.

TO CORRESPONDENTS.

"A. A."—Thanks. "A. J. G." (Sudbury).—Inquiries into private character are beyond our province. Even asking the question might injure the party named. "Stone groins."—A subscriber asks for an ac-count of the construction of stone groins "begin-ning with the common four-ribbed, with the means of setting out the same for workmen, and the jointing of the masonry." We shall be glad to receive communications on the subject. ing of the masonry." We shall be glad to be communications on the subject. Wood Models to draw from."—A corresponreceive com

dent wishes to know if any person in London makes such, or of paper ; plaster of Paris being so britile

"Stir in the School of Design."--Mr. J. Strudwich Tentes the statement that he has not been a student in the School for twelve months. We have "A Student," should have sent us a shelch;

"A Stadent," should have sent us a shelch; without it we cannot judge. "X, X. Z."-If the house be rebuilt under the provisions of the Buildings Act, our correspondent is not bound to provide a spout : if otherwise, we apprechend he cannot legally stop an ancient water-or without permiting a substitute.

appresend he cannot legally stop an ancient water-way without providing a substitute. "W. G."—The height of a building, to settle the rate, is to be ascertained by measuring from the surface of the lowest floor in the building. Not knowing the rate of the addition about to be made, we cannot tell if the wall in question would be sufficient. Buildings or offices, whether at-tached to or detached from the buildings to which then being are to be deemed as buildings of the sacrea to or actuarted from the emilangle to which they belong, are to be deemed as buildings of the rate to which they would belong if they had been built separately. Schedule C., part VII. "P. T. D."—We shall be glad to hear from him actual.

him again. "Duty on Bricks." — A correspondent asks whether a drawback is allowed on bricks made by a proprietor on his own estate for his own use. We believe there is not, excepting when used for drainage, when they must be marked "drain?" and not used for any other purpose under heavy penalty.

New Subscriber."-The Independent Chapel at Holloway is mentioned in p. 142 and p. 166, ante. St. Peter's Church, Islington, has not been

ante. St. Peter's Church, Islington, has not been spoken of in THE BUILDER. "W. J. W."—The vase shall be engraved. "Kite's System of Ventilation," "N.," and "B. B.," next week. Received :—" Friend to the Builder," (Wis-beach). "Plan of Buildings for Working Classes; J. Boult, Architect," "Dolman's Magazine" No. VI. (commencing a new Volume); "Quarterly Jour-nal of the Geological Society, No. III." (Long-man); "Old England, Part XX." (Knight); "Pictorial Gallery of Arts, Part VII." (Knight); "Medical Times" for July; "A Peep into Architecture," by Eliza Chalk (Bell, Fleet-street). "An Old Subscriber."

BRRATUM. — The quotation by Mr. Angell in his paper read at Institute of Architects, reported at p. 351, ante, was from Empedocles (the Agri-gentine philosopher) and not from Pericles, as stated.

*** Correspondents who threaten to cause to be subscribers because we differ in opinion from minications which them or refuse to insert comm would really injure to inters communications which would really injure them in public opinion, must think meanly of us if they consider the threat likely to alter our course of proceeding. Our duty is to give sound information and honest opinions, and we will perform this to the extent of our childs and we will perform this to the extent of our ability without respect to persons.

ADVERTISEMENTS.

SASHES Frimed and Glazed at 7d. per foot.—CROWN-GLASS, 6d. per foot.—WHITE LEAD, 26s. per cwt.— PIPE and SHEET LEAD (cut) 21s. 6d. per cwt.

WINCH, late Foreman to R. Cogan, WINCH, late Foreman to K. Cogan, the base to acquain the Trade that he can supply them with WINDOW GLASS, SHEET LEAD, PIPE, CO-LOURS, WHITE LEAD, &c., of the best quality at the lowest prices. CABVERS and GILDERS, CABINET MAKERS, and others are respectfully informed that their glass is looked out with pseuliar care.—Every inquiry im-mediately answered, and equal attention paid to small or large orders. LAMP SHADES and GAS GLASSES at wholesale terms.—Address, 15, High-row, Knightshridge.

MOREALE CERMI. -AUDICES, 15, HIGHTOW, REIGHTANGCI MONS. BOUTIGNY'S EXPERI-HOT CRUCIBLES, &c., will be repeated by Dr. Ryan. in his Lectures on the CAUSES of EXPLOSIONS in STEAM-BOILERS, daily at half-past Three, and in the Evenings of Mondays, Wednesdays, and Fridays. at Nine, at the ROYAL POLYTECHNIC INSTITUTION. The AT-MOSPHERIC RAILWAY, carrying from Six to Eight Visitors at once, is lectured upon by Professor Bachhoffner, and exhibited daily, and in the Evenings. The art of SWIMMING and DIVING illustrated by a Youth Eight and a half years of age, the Son of Capt. Stevens, the celebrated teacher of Swimming, on Mondays, Wednesdays, and Fridays at Two o'Clock, and on the Evenings of Tus-days and Thursdays, at half-past Eight. All the other popular Exhibitions and interesting Works as usual.--Ad-mission, One Shilling's Schools, half-price.

PRIZES IMPORTANT TO INVENTORS AND PATENTEES.

PATENTEES. GOLD MEDAL, value 1007. and a SILVER MEDAL, value 507., will be given by Mr. M. JOSCELIN COOKE. The Gold medal for the beat Patent, and the Silver medal for the beat Design taken out or Registered at the OFFICE for PATENTS and DE-SIGNS, 30, Haif Moon-street, between the 1st of Novem-ber, 1844, and the 1st of June, 1866. The Prizes will be awarded by competent judges on the 10th June, 1846. The conditions to be observed, together with instructions, charges, and every information for obtaining Patents in England or Foreign Countries, or Registering Designa, will be forwarded gratis, on application to Mr. M. JOSCELIN COOKE, at the Office for Patents and Registration of Designs, 20, Half-Moon-street, Piccadilly, London.

FAINTING BRUSHES OF SUPEBIOR QUALITY. TO PAINTERS, BUILDERS, &c.

J. J. KENT AND CO.,

MANUFACTURERS, 11, GREAT MARLBOROUGH-STREET, LONDON, 11, GREAT MARLBOROUGH-STREET, LONDON, Offer to Painters, Builders, &c., Painting Brushes of a quality far superior to those generally offered for sale, to which they beg to call the attention of all who prefer quality and durability to apparent cheapness. ocooco.--7 in. Justers. ocooco.--7 in. ditto, extra. ocooc--Ground Brushes. Plasterers' Brushes. Distemper ditto. Ground and Unground. Sash Tools, and Common Tools. The Brushes and Masoar's Brushes, and all other Brushes used by Painters and Artists. Lists of Prices of Painting Brushes, and of all other kinds of Brushes, forwarded on application. Established 1777.

VENTILATION.

VENTILATION. "A most ingenious, simple, and effective plan." Mr. Reid's Lecture on Ventilation, delivered, June 7, 1845, before the Mechanics' Institute, Liverpool. BAILLIE'S PATENT TRANSPARENT VENTILATOR, tentilates rooms or public buildings without causing unpleasant draughts of air-may be fixed as easily as a pane of glass, whose place it supplies-does not derange blinds, shutters, or other fixtures belonging to windows-most methal to public places of every descrip-tion, especially anoking and eaffer rooms, and moreover a simple remedy for smoky chimmeys. This article may be ob-tained from all respectiable glass dealers in London; Mr. Edgar Parks, ironmonger, 140, Fieet-street; Measrs. Stock and Halland Sons, and Measzs. Dixis and Williams, Bristol; Measrs. Thos. and Will. Stock, Liverpool; Measrs. John Hall and Sons, and Measze. Dixis and will be glad to give any further information; also to be seen in use at Mr. Fred. Smith's, the Albion, 250, Blackfriars-road; Mr. Edgar Mr. Seaton's, Dublin Castle, Park-treet, Canadea Town; a, Coleman-street-buildings, Moorgate-street, and at the office of this Paper.

THE PROJECTED BAILWAYS.

NALYSIS of the PATENT METALLIC

TO ENGINEERS, ABCHITECTS, AND CON-TRACTORS.

THACTURS, CREAVES'S LIAS CEMENT and GROUND BLUE LIAS LIME, at 3, South Whar, Paddington, London, and Works, Southum, Warvickshins. Agent for Liverpool, Mr. WYLIE, 56, Glosier-streets; Agent for Liverpool, Mr. WYLIE, 56, Glosier-streets; ditto for Chester, Mr. J. THOM PSON, Back King-street; ditto for Chester, Mr. J. HARBISON, Linea Hall-street.

A TKINSON'S CEMENT.—The public is respectfully informed, that the price of this very ex-collent Coment, which has now been in use for Architecture and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity as Wystt, Parker, and Co.'s Wharf, Helland-street, Samey side of Blachfrigm-bridge.

2s. Sa. per Dustici, and may be used for stucce with Blackfrian-bridge. N.B. — This Cement being of a light colour, requires no arti-ficial colouring or painting, and they be used for stucce with three parts its own quantity of sand.

MARTIN'S PATENT CEMENT. TO ABCHITECTS, BUILDERS, AND PAINTERS IN FRESCO.

TEVENS and SON, PATENTEES and SOLE MANUPACTURERS, beg respectfully to announce that this bouutiful Consent has now arrived at a degree of excellence far supposing their most sanguine expectations. For all internal work it possesses a great superiority over every article hitherto in use; it is new bring used extensively by Government in the British Masseum and other public buildings. It DOES NOT THINOW OUT ANY SALT, but prevents a beautifully publicable far walks for days without peeing. It is equally applicable far walks for admitted to form the best ground for fiesco publicing, having been used for many of the prise freeson subty enhibiting in Mestiminater Hall. It will bear an intense beas without reaching, and for hardness, durability, and economy, cannot be equalied. 196, DRURY-LANE, LONDON.

196, DRURY-LANE, LONDON.

Agent for Liverpool and Manchester, Mr. R. Part, 13, Atherton's buildings, Dale-street, Liverpool.

KEENE'S PATENT MARBLE CEMENT.-The Patentees of this composition beg to refer to the British Museum, the Royal Exchange, the new works at Bethlem Hospital, Grosswich Hasspital, and the Co-liseum in the Regent's-park, as beildings finished or in pro-gress, in which Kenne's Cement has been used as an internal stacco. Its superiority to common plastering consists in its extreme hardness, and the rapidity with which it dries, which qualities fit it to receive paint or other finishing sconar than other water Cement. When employed for divinings, architrave, and other mouldings, in place of wood, it checks dry-rot, is impervious to vermin, prevents the spread of firs, and is more eco-nomical in its application than the material for which it thus becomes the substitute. Confirmation of these statements is to be found in the almost universal adoption of Ksene's Cement for Stirting and Hall flooring in the new housees on the Hyde Park Estate, where its application is to be seen to the fulles advan-tage. In Livernool and Manchester, Ksene's Comment has he

where its application is to be taken to be the tage. In Liverpool and Manchester, Keene's Cement has in several cases been used for the covering of the fire-proof warchouse floors, where its lightness and hardness give it that prefarence over tiles and flagging, which are much beavier, and necessarily leave the floor intersected with numerous joints, whilst Keene's Cement is laid down in one unbroken surface.

Joints, which accure a concept is and cover in our ended aurises. The high polish and marblé-like hardness of which this Coment is susceptible render it the most suitable metanic for the manufacture of Scargliola, Patentees, J. B. WHITE & SONS, Millbank-street, Westminster, Manufacturers of Roman and Parland

Depót in Liverpool, 36, Scel-street ; James Woods, Agent.

O ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MER-CHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

CHANTS, SHIPPERS, AND THE FUBLAC IN GENERAL. JOHNS and CO.'S PATENT STUCCO CEMEENT.-The following are the positive advantages possessed by this Invention over every Cament hisherto in-troduced:--It will effectually resist Damp. It will server vegetate not turn green, nor otherwise discolour. It will never erack, blister, ner peel off. It will form a complete Stone cealing to any Building covered with it. It so clearly resembles Stone that is impossible to datest it. It are requires either to be painted at coloured. It will keep from and good in the cask in any Climate for any number of years. It is the only Cement that an be used with eenfodence by the Sca-side. It may be used in the bettest or coldest Climates at any scasen. It will aftere to any anbatance, even to Wood, Iree, er Glass. If will every a lagrar Proparities of Sand than any other Cement. It may be used with eenfodence by the Sca-side. It may be used in the bettest or coldest Climates at any scasen. It will aftere to any anbatance, even to Sand than any other Cement. It may be worked through the Winter, as front has an best for any lower, and he ormes perfect when other Cements begin to perial. It may be worked through the Winter, as front has an effect mpon id. It may be used on the Inner Wall can an advanaged by the severest Storms. Any Flasters may apply it, the Instruc-tions for use being very clear and distinct. The first cout of this material does not exceed that of the cheepest Cement row in use; but with all the above-lamed distinct. The first coust of this material does not exceed that of the cheepest Cement row in use; but with all the above-lamed distinct. The first coust of this material does not exceed that of the cheepest Cement row in use; but with all the above-lamed distinct. The first coust of this material does not exceed that of the cheepest Cement row in use; but with all the above-lamed distinct. The first coust of this material does not exceed that of the cheepest Cement

deconomy. Architects and Builders who have used this Canasa declared that it requires only to be known, to be univ

Architects and Bunners who nove used this Cantes and y declared that it requires only to be known, so be assummaly speciences may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Eingdom, may be obtained on application to MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-knos, Queen-sizes, Cheapside, London: of whom also may be bad, JOHNS and CO.'S PATENT STOME.-COLOUR STUCCO PAINT, expressly intended for Painting over ex-terior Walls of Houses that have been covered with Rouses or other Cements, and which have become dirive and disco-loured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in fikkes, being in direct chemical opposition with Cement : whereas MESSRS, JOHNS and CO.'S PATENT PAINT baving as affinity for Stucco, binds itself with it, stopping the emerica, thereby rendering the wall proof against wather, and in the finish producing a pure stone-like effect, producemblas by mo other Paint whaterer. It is application, with a subset, inter by any Painter, in any clinate, wear in the mass may be used by any Painter, in any clinate, wear in the mass exposed Mather structions.

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SATURDAY, AUGUST 16, 1845.



ER Majesty's visit to Ger-many will probable even s even a greater number of our countrymen to travel to the banks of the swift Rhine in the present year than

usual, large as that number always is. To those who know any thing of architectural history, and have sufficient knowledge of styles and dates to read and enjoy old buildings, Belgium, the Netherlands, and Germany, offer extraordinary attractions. It is greatly to be regretted, that comparatively few of our tourists know any thing about the matter, notwithstanding the subject now occupies much more attention in England than was the case a dozen years ago. They visit the cathedrals, and churches, and castles, both at home and abroad -they are amused and interested ; but the instruction which these buildings offer, the information that they silently convey, is in a cipher to which they have not the key, and so is lost to them.

The delight of travel is increased four-fold by a knowledge of architectural history,-we speak for a few minutes to such of our nonprofessional readers only as may not have this knowledge,-and we advise all who would derive the fullest advantage from their summer rambles, and the greatest amount of pleasure, to apply themselves to acquire it. Every old building is an open book, which may be understood without difficulty by those who know the language: it tells you when it was erected, very often the state of society at that period; at which end it was begun, at what time alterations were made. You find it to be a stage in a progress,-a part of a whole, and can see clearly what preceded it and what it led to. Architecture, as a fine-art, should form part of general education; and, indeed, probably will before long. We once heard an educated friend, who had made the grand tour, inquire the difference between classic and Gothic architecture, and have often found men who have stood in the Athenian Acropolis and wintered in Rome, who yet did not know the Doric order from the Corinthian, and had not the most remote idea that a connection exists between the structures of Greece and Rome, and the cathedrals of the middle ages on this side of the Alps; still less, that the differences between them, now so strikingly apparent, can be traced step by step, and explained.

Such ignorance in other branches of knowledge would be considered disgraceful; but in this it is not so, being almost universal : further, these very men, with others equally well informed, and not better, will never scruple to sit in committees, to decide on the merit of designs submitted to them in competition by foolishly confiding architects and speculating charlatans. Let this pass, however, being simply a parenthesis, and return to our tourists.

Antwerp, where the Queen landed, is full of interesting matter. The wood-carving in some of the churches is admirable; the ironwork over the well near the cathedral will give a lesson as to the modern working in metal, not to maention the cathedral and other buildings (duly set forth in the guide-books), which furnish a rich treat.

BUILDER. THE

Bruges and Malines afford many remarkable specimens of domestic architecture of various periods, besides churches curiously illustrative of architectural history. An air of stateliness and by-gone consequence, tinged with the melancholy traces of modern decay, characterizes these and other of the Flemish towns, and gives rise to peculiar emotions and instructive musings. The change from buildings intended for defence to those wherein convenience and comfort were alone studied, may be every where traced; while the growth of the third estate is brought to mind by the belfry and hotel de ville, found in each town. A bell to call the people together, and a place for them to meet in, were amongst the earlier requirements when they first discovered that union was strength, and began to feel their own importance. Ghent, Louvain, and Brussels give fine examples of these town halls. In the first-named town there are further illustrations of the progress of domestic architecture for those who have "eyes to see."

Germany, especially the southern parts of it, contains a large number of early and interesting specimens of what has been called the Romanesque architecture, as well as many noble and well-known examples of the pointed style. We should ourselves rather coin a word, and call the former Byzantinesque, if not Byzantine: their resemblance to the buildings of the lower Greek empire being strikingly apparent. No one can visit Santa Maria of the Capitol, the Church of the Apostles, or St. Gereon's, all in Cologne, without this conviction.

The first-named church is one of the most ancient in the city. It consists of nave and side aisles (separated by rectangular piers and plain semicircular arches)," transept terminated north and south by a semicircular absis, crowned by a hemispherical dome, and a choir with similar absis at east end. An aisle is formed around the absides by columns and semicircular arches. These columns have enormous cushion capitals, and diminish in diameter from the bottom towards the top. They would seem originally to have been rectangular piers, and afterwards worked into their present form.

Externally, St. Mary's is a rude type of most of the ehurches to be found in Cologne. It is, unfortunately, so far decayed and otherwise injured, as to be literally bound together, in parts, by iron bars introduced for that purpose.

Hope remarks of the Apostles' Church, begun in 1021, that on beholding the east end of it, immediately after entering the ancient gates of Cologne, he almost thought himself at Constantinople.

St. Martin's Church has internally the Greek distribution. Externally it has a fine square tower with four lesser towers at the angles. Of the Cathedral, a construction of a later date than those last named, we must not The circumstances which atnow speak. tended the discovery of the original drawings, the restorations which have been effected, the way in which the works are done, may afford us matter for some observations hereafter. Cologne has been called the Rome of this side of the Alps, and deserves the title. At Bonn, the cathedral is exceedingly interesting: part of it perhaps belongs to the time of the Empress Helens.

The castles on the banks of the Rhine would well pay for investigation, analysis, and classification; at present we know little of them.

• The archways are 9 feet wide, and about 22 feet high to the springing of the arch, Kach pier is 5 feet 5 inches wide on the face.

At Aix-la-Chapelle, where the queen stopped the great church has many peculiarities. The church originally built by Charlemagne was destroyed, but was rebuilt in the tenth century. The æra of Charlemsgne (in the eighth and ninth centuries), produced many fine buildings, and materially influenced the progress of architesture and the other arts; he drew from the Grecian empire artificers and artists of all kinds, and brought wholesale from Italy materials to decorate his new buildings, Our object, however, when we began this notice was simply to urge on tourists the advantage of obtaining a knowledge of architectural history and the characteristics of style. We must leave for some other opportunity the pleasant task of discussing the progress of the art in Germany.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

HAVING briefly mentioned the proceedings at Windhester in our last number, we now place before our readers notes of some of the papers which are more immediately connected with our subject. We would premise, how-ever, that the president's address was exceed-

"All party-feeling," said his lordship, ought to fade away before true archeologists. Thescience we profess ought to shew to man the vanity of his position. The knowledge of the vanity of his position. existence of many a prince and king, on whose word the lives of thousands depended, has only been brought to us by the researches of some student in charters, or the decipherer of in-scriptions upon coins. I may quote the poet in illustration-

Ambition sigh'd, she found it vain to trust The faithless column and the crumbling bust; Huge males, whose shadows stretch'd from shore to share. Their ruins perish'd and their place no more ! Convinced, she now contrasts her vast design, And all her triumphs shrink into a coin !

Nay more, ladies and gentlemen, when we look at the record of past ages, ought we not to recollect that their virtues or their errors have only been gathered from their tombs? Antiquarianism is not then the narrow pursuit its detractors would imply; the true antiquary marks the progress of races and institutions, and draws a lesson from the past. Is it not worthy of us to reflect on the history of our nation, and of mankind? It will not have been in vain, then, that the Archæological Association has been established, as affording matter for the graver studies, and giving food for superior minds."

called for the shafts of ridicule ;-attempts to illustrate an ancient inscription, decipher a charter, or explore a ruin, were treated with indifference, if not contempt. Poets lent their aid to this effect :-

'With sharpen'd sight pals Antiquarians pore, Th' inscription value, but the rust adore,'-Pops.

"Curiosities now," says Feltham, "ought "Curiosities now," says Feltham, "ought not to be neglected, especially antiquities; for these shew us the ingenuity of past ages, and include in them both example and precept. By comparing these with modern inventions we may see how the world improves in know-ledge." Shakspere, that great master of the human heart and mind, was sensibly alive to the value of antiquities of all kinds. How beautifully in his Twelfth Night he makes the Duke to easy to Viola as Casario in disquise...... Duke to say to Viola as Casario in disguise-

' No, good Cæsario, but that piece of song, That old and antique song we heard last night.'

And again-

O, fellow ! come ; the song we heard last night ; Mark it, Cesario ; it is old and plain : The spinsters and the knitters in the sun,

he free maids that weave their thread with And t bones, Do use to chaunt it : it is silly, sooth,

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And dallies with the innocence of love; Like the old age.'

It is easy to throw ridicule upon any science; and antiquities have received their full share and antiquities have received their full share-perhaps not altogether unjustly bestowed. The time for poring over old grave-stones has, however, gone by; antiquarian researches have taken a bigher stand, and the ardour. with which ancient MSS. have been sought out, perused, and submitted to the public of late, promises most favourably for the develop-ment of the habits and customs of past ages. When we consider the mutual relations which connect all departments of learning, and the variety of knowledge requisite to form the true variety of knowledge requisite to form the true antiquary, the acquaintance necessary with heraldry, genealogies, inscriptions, monaments, numismatics, languages, etymologies, history, &c., we immediately see the importance of an association of many individuals, who by their joint labour are able to illustrate the progress of art, display the habits and custom 18, and elucidate the events and things of past

ages." The early history of the Society of Anti-quaries as sketched by Mr. Pettigrew, may interest some of oar readers. The Society of interest some of oar readers. Antiquaries of London was incorporated in 1751, but there was a society of gentlemen in 1751, but there was a accrety of gentiemen in London, as early as 1572, who were in the habit of meeting to pursue the study of an-tiquities. The society was under the petron-age of Archbishop Parker, and the meetings were held at the house of Sir Robert Cotton. Archbishop Whitgift became the president, and from 1572 to 1604 the society numbered Archoisnop whitght became the president, and from 1572, to 1604, the society numbered forty members. After treating of this society at length, he said the meetings of this society fell into abeyance in the time of James I.; and the latest date of its meeting is 1604. James I. was petitioned to establish an academy royal, or college, to meet at Westminster or Windsor, to have a general chapter in a year, and four quarterly dinners. In Ash-mole's Diary an entry occurs of the anti-quaries' feast, held July 2, 1659. All subsequent antiquarian labours, up to the eighteenth century, seemed to have been confined to in-dividual exertion and pursuit. Weekly meet-ings were held at the "Bear Tavern," in the Strand : there assembled Humphrey Wanley, Peter Le Neve, Mr. Maddox, Mr. Elstot, and other names well known to antiquaries and other names well known to antiquaries; and after a time they removed to the "Young Devil" tavern, in Fleet-street, and afterwards to the "Fountain" tavern, in the same street. The association was continued to the latter part of the reign of George I., and in the commencement of that of George II., at apartments in Gray's-Inn, then at the "Mitre," in Fleet-street; and other meetings were held on the evenings after the Royal Society broke p. The admission fee was a guinea. In 722, the number of members was limited to up. 100. In 1751, an Act of Incorporation was obtained, and the Society of Antiquaries was permanently established, the king naming himself founder and patron, and the admission fee raised to 51. 5s.

Mr. Edward Cresy read a very interesting paper on

WINCHESTER CATHEDRAL.

The number of the cathedrals and churches built of stone throughout England, from the period of St. Augustine to the Norman Con-quest, is so well attested, that it cannot be believed that the whole of them were swept away before the eleventh century, and that v have not a vestige remaining. That style which had for its peculiar character simplicity, and the Roman construction for its model cannot wholly have disappeared while so many buildings which served the Saxons for imitation remain scattered over the greater part of Europe. The fantastic character found in the sculpture, and sparingly introduced in the capital, and over the entrances of their buildings, and which materially differs from the Norman, agrees precisely with the embellish-ments met with in the Saxon manuscripts which have come down to us. An eastern or Byzantine invention pervades the design, as well as the execution of the works of art at this period. There is not good ground for supposing they did not accompany St. Augustine. It has become a very general opinion that we can shew no remains of Saxon architecture, and that the sumptuous churches and cathedrals erected by the Saxons, in the most solid and perfect manner, only a century before the Conquest, were destroyed by the Normans,

that others, on a grander scale, might be con-structed on their sites by that enterprising The manner of building intr people. oduced by the Romans, the cutting and hatching of stone, the forming of mortar, and more particularly a concrete with or out of flint, gravel, and chalk, was not only adopted by the Saxons, but continued in use for many centuries after but continued in use for many centuries enter they were subdued by the Normans. Both churches and castles have been found with their walls formed of these materials. cathedral of Winchester exhibits much of this construction, the oldest part of which may be attributed to the time of St. Ethelwold, who flourished about the year 980. The crypt, which has three separate divisions, is all east of the transpt; the ground at present has ac-cumulated nearly to a level with the capitals of the columns from which the vaults spring, but enough of them is to be seen to prove two of them, at least, to be the work of a time prior to the construction of the great central Norman tower. The first division is under the present choir, and has a row of five round columns up the centre, with four piers on each side, and four others which sweep round in a half circle, and form the aisle to the eastern termination of the first crypt. Masses of masonry have subsequently been introduced to accommodate Masses of masonry have the changes which have been made above, as well as to support some of the chapelries on either side of the choir. The masonry at the termination of the two aisles seems also to termination of the two alses seems also to have undergone a change, and at the present day it is difficult to say whether the exterior followed the sweep of the interior; but in all probability it did. Where the great Norman central tower has its foundation, it is evident that the crypts have been cut away for its introduction, and afterwards made good, which is proof of their construction anterior to the igs, and vaulted in a simple manner but solidly. Beyond this, and under the nave of De Lucy's building, is a smaller crypt ; its termination is also circular, and its vaulting resembling the great crypt. This was the termination of the Saxon church. The smaller crypt beyond is of much later date, and belongs to the time when the present Lady Chapel was erected. In the western aisle of the north transept the junction of the Norman and Saxon work is very evident, as is the difference in the character of the masonry of the two periods. The transepts, where attached to the tower, shew in part that they have been reconstructed, and that additional strength was given to the piers when that was done. Mr. Cresy alluded to when the twas done. Mr. Cresy alluded to the symmetry and order of setting out of these piers, and to the thorough knowledge of the most extraordinary kind for that period. When it is supposed that science was nearly forgotten. In that adopted by Bishop Ethel-wold, we have the genius of those principles wold, we have the genius of those principles will is construction that can be demanded by management was required (and is taken the work of walkelys. This prese, and its very position. Mr. Cresy pro-sected to state that the entire cathedral was entirely rebuilt by Bishop Ethelwold, in a substantial manner, towards the close of the substantial manner, towards the close of the substantial manner, towards the science the will an of Wykeham. The difference between the Saxon and Norman workmanship is clearly discorrise to the foreme. The tower is and in a styli-far superior to the foremer. The tower is and in a styli-far superior to the foremer. The tower is and will Norman buildings, but no particle of while in the present instance. If this difference periods of the supposed by Dr. Miller, the twas event and the the support to the supposed by Dr. Miller, the terms was even used that form the different periods of the supposed by Dr. Miller, the terms was even and the the different periods of the supposed by Dr. Miller, the the fore the supposed by Dr. Miller, the here the cater, the great than period of Gothic archite-ture, and Mr. Britton—authorities to whose the symmetry and order of setting out of these piers, and to the thorough knowledge of geometry shewn to have been possessed by

opinions he paid due deference-that the transepts were erected by Walkelyn; but after studying the subject for more than 30 years, and thoroughly investigating the point, he could entertain no doubt that the transepts were of Saxon erection, in which belief he . 7 24 supported by Sir Christopher Wren, Dr. Nott, and Mr. Garbett.[•] The parts of the transcets immediately connected with the tower would shew, by the superior masonry, how far the Norman workmanship extended into them. Another specimen of Norman workmanship was the ancient font, which illustrated by its sculpture various legends of St. Nicholas, a saint in high repute with the Normans. The able author proceeded next to notice the portion of the cathedral erected by Bisbop De Lucy at the close of the twelfth century, and which exhibited the first specimen to be found in any cathedral of the style known as the in any cathedral of the style known as the early English, and some of its purest and best workmanship. He then directed the attention of his auditors to the alterations effected in the nave and sisles by Bishops Edyngton and Wykeham, and pointed out how the latter ef-fected the difference now visible between the aisles of the transepts and the nave, the upper windows of the latter filling the same situation occupied by those inserted in the original building by Ethelwold. Wykebam retained the original arch of these windows and inserted within them a pointed arch, hence their peculiar form, as may be distinguished by all careful observers. The magnificent altar screen, the peculiar glory of Winchester cathedral, was next touched upon by Mr. Cresy. It was commenced by Cardinal Beaufort and finished by Bishop Fox. During the episco-pacy of the former the vaulting of the nave pacy of the former the valifing of the nave and its aisles was completed, as commenced by Wykeham. Bishop Waynfleet does not appear to have made any alterations in the building, several of which were effected by Bishop Langton near its eastern extremity To Bishop Fox the church is indebted for that portion which surrounds the altar; and to his friand Prior Silkestead for the chard his friend Prior Silkestead for the chapel bearing his name, and for the extension of the Lady Chapel, the last work effected previous to the Reformation. Mr. Cresy illustrated his paper by numerous diagrams, plans, and drawings, shewing the principle upon which the whole church and all its parts and portions were set out; and after a very curious illustration on the subject of the rose windows (one of which it appears is to be seen in the northern transept of this cathedral), with all their curious yet scientific details, Mr. Cresy concluded amidst great applause.

The Rev. S. Isaacson read a paper on

. THE ANCIENT TEMPLE AT ARBORLOWE, DERBY

The paper commenced by stating that the circular temples of the ancient Druids are universally allowed to be the most important of all the monuments having reference to the early history of our country; and, conse-quently, any researches calculated to throw light upon their origin or character, or which may bring them more prominently before the public, and thus lead the inquiring mind to a minuter investigation, cannot fail to be inter-esting to the Archeeological world. Though Though Arborlowe does not pretend to the magnifi-cence of Abury or Stonehenge, it is still far incidental and scanty notices which it has hitherto received. With the assistance of a friend, Mr. Bateman, the author had succeeded in discovering the original deposit in the great barrow immediately adjoining the circle, which had hitherto defied the scrutiny of all previous excavators. The reverend author proceeded to give a history of circular temples, oasidered without reference to the British lake, deducing their origin from the very earliest agree, and throughout all parts of the world. The altar under the hill, with the twelve pillars under the hill, erected by Moses, the twelve stones set up in the midst of Jordan by Joshus, and the twelve stones taken out of the Jordan and pitched in Gilgal, are striking illustrations of these temples of unhewn stone among the Israelites. The great stones or temples of the Druids in Britain, were as temples of the Druids in Britain, were as little worked as possible, and it is at least possible that the form was borrowed from the Phonicians or Tyrians, who preserved it in their religious structures wherever they went. In Greece and Rome circular temples were erected, and open at the top. Homer describes them; in Baruch we read of their construction in Assyria. It was not, there-fore, for ignorance of the fine arts that Druidi-real temples were erected without pillars. cci temples were erected without pillars; regular architecture and sculpture were sedulously avoided in these erections. Magnificence was sought for in vastness and large masses of stone : in Abury and Stonehenge specimens of this Cyclopsen architecture ap-pear in all their colossal grandeur. Nor will the smaller temple of Arborlowe be found unworthy of attention, placed as it is at a remote distance from the eve of the ordinary traveller : and seldom witnessed except by those whose researches more immediately embrace such objects. The temple is surrounded by a large rampart, measuring 7 yards in height inter-nally, and 6 externally; the fosse, which is nally, and 6 externally; the 10556, which is on the inside, being 5 yards over at the bottom. The form is not strictly circular, but rather elliptical, or similar to a flattened sphere, the diameter heing 100 yards. The extreme diameter being 100 yards. The enclosed area is 60 yards in diameter, and the author had no doubt the number of stones originally amounted to thirty, which would harmonise with the ancient cycles. It is quite clear that these stones were never placed in an erect position, but laid on the bare surface of the rock at regular intervals. Probably the area was divided into twelve equal parts representing the divided into twelve equal parts representing months, so that the whole structure would con-stitute a calendar, consisting of 360 days, into which the year was originally divided. The two entrances to the temple were north and south, consisting of benches of earth across the fosse, on each side of which orginally stood a large stone. In the centre is one very large mass of rock, 15 feet by 8, and nearly 3 feet thick, weighing probably 5 tons, and called the sacrificial stone, from a large basin, caused perhaps by exposure to the weather, in which the blood of the victim was poured. Near this are two other stones much broken; and pro-bably a fourth existed. The idea of this being a Roman work is described by the reverend author as altogether preposterous, as it agrees with no known specimen of their erections; and the Danes and Saxons have still less claims to its paternity. In fact, the contents of the cist lately found will place its construction at least 500 years before the invasion of Cæsar. We must conclude our notice with the following remark: --- The position of the largest state, immediately facing the east, renders it highly probable that the founders were sun worshipers; and the two other stones exhibit-

ing indisputable marks of having undergone the action of intense heat, it is not at all unlikely that on these were kindled the great fires with which the earliest inhabitants of the British Islands were accustomed, at the return of the equinoxes and solstices, to worship their god Belus or Baal, the Grecian Apollo." Mr. Planché read a valuable paper "On the arms of Saer de Quincy, first Earl of Win-

chester, and on early armorial bearings, espe-cially those termed 'honourable ordinaries.'" The excellent author considered the heraldic figures, entitled the ordinaries, had their origin ngures, entitled the ordinaries, and their origin in the necessity for strengthening the long kite-shaped shield, in use during the 11th cen-tury, and exhibited drawings of a variety of shields of that period, in which the forms of all but "the pile" were to be traced in the metal or wooden clamps or fastenings and de-fences of the shield. To the same origin he traced several other charges. Mr. Planché argued, that the symbolical characters at tached to them were the inventions of later hands, and could not be traced higher than the 15th century.

INFLUENCE OF NEWLY-BUILT HOUSES ON THE HEALTH OF THEIR OCCUPIERS. DR. SUTRO'S REPLY.

-Having seen the two last numbers of SIR,your valuable journal, I feel called upon to con-sider, dispassionately, the objections raised by Mr. G. Robins against the article extracted from a medical journal under the above title. Of course the article was only intended for the course the article was only intended for the medical public, but since you chose to insert it in your journal, and thus occasioned the reply (if I may so call it), I think it my duty to enter fully into the writer's arguments, urged, I must say, in a most professional and gentlemanly manner, in which I should rejoice to see all scientific discussions carried on, though interest or fame may be affected. affected.

I perfectly concur with the writer, that experience deserves greater appreciation in such cases than theory, and that nothing would be more dangerous than to sacrifice facts to speculation. But the question is, how far do theory and practice agree with each other in this point? If your correspondent never met with the pale anœmic face, wasted muscles, this point? with the pale anœmic face, wasted muscles, decrease of strength, sluggishness of all the functions (not sluggishness of the pulse), all consequent upon inhabiting a newly-eracted residence, this only proves that he never placed persons in the early occupation of such dwellings, as are described as peculiarly inju-rious in the above article. Mr. Robins asks, "whether he has the charge of homicide upon "whether he has the ensities of a second parties in himself for having constantly placed parties in the occupation of their dwellings within six months from the commencement thereof ? ask, whether any charge of that kind can be inferred from the quoted article? Its whole purpose consists in warning against the too early inhabiting newly-built houses without properly testing their fitness for occupation. sanatory commissioners to examine it, when, if sufficiently dry, it might be inhabited." Your correspondent shews himself by the

careful tests he employs, that he must be satisfied of the dryness of a house before he places the occupier into it; and it can but be beneficial to point out and explain the in-juries arising either from bad material of the house, or from exposure to its dampness, and to recommend the proper remedies sgainst such evils. I must certainly admit, that new houses may be earlier occupied in this country than on the continent, inasmuch as the houses are mostly built here of burnt bricks, which contain and attract the smallest proportion of humidity, and thus occasion the least damp-ness. This may account for the less frequent maladies caused in this country by the above influences. I need not enter into the practical points mentioned, and the theoretical points doubted (but not disproved). By-the-bye, I could not find the expression, "*floating* par-ticles of lime." The phrase referred to, runs thus: the following foreign substances are

mixed with the air (speaking of newly built and not yet dried houses, as particles of time which have been proved beyond doubt to exist in the atmosphere of new habitations, being suspended by the evaporation of the moisture. As regards the injury of fresh paint (for the question only turns upon undried paint), I have unfortunately had myself an opportunity very lately of witnessing serious consequences. A taleated young friend of mine, to please an acquaintance, took a newly-painted room in house; when I saw him after three weeks, bis I found him suffering with a severe and most obstinate cough. His removal was ordered, but the cough having resisted the most ener-getic remedies, he was advised by his medical attendants to try the effects of the bath. Without much pain, and without great fever, his lange are so intensely irritated, that it would be sanguine to expect his complete reines on your valuable space, I am, Sir, &c., Sisismund Surro, M.D.

3, Great Marlborough-street, Ang. 7th, 1845.

SUSPENSION BRIDGES.

Sra,....I am not disposed to enter into a con-troversy with Mr. Dredge upon the subject of suspension bridges, even if I had the leisure and ability so to do; but still I cannot refrain from offering a few more remarks on the sub-ient. I feel narticularly obliged (as I am sure from offering a few more remarks on the sub-ject. I feel particularly obliged (as I am sure the rest of your readers must do) for the dia-grams and explanatory matter contained in your 128th number; the principles of which are so clearly set forth and exemplified in a supplement to "Hosking's Treatise on Bridge Bailding " that the matter is not abcord Building," that the matter is not altogether new to me.

Mr. Dredge, in reply to your remarks with reference to suspension and compression bridges, was peculiarly unfortunate in his choice of a subject for illustration, because the works that failed at Derby and Ashton were in course of construction, and incomplete, therefore it was anfair to take advantage of such a circumstance, and arrive at such conclu-sion; but Mr. Dredge having a principle and theory of his own, does not rest his argument on such futile ground, but rather, as I before understood, against the principle of compres-sion bridges generally. Suspension and comunderstood, against the principle of compres-sion bridges generally. Suspension and com-pression bridges are totally different in princi-ples, in their mode of construction and composition; and I should be sorry if an remark of mine should have a tendency ty injure an invention that may be said to be "io its infrare." But whatever ominion may bu its infancy." But whatever opinion may bu entertained of its usefulness and general applie cability, I do not think sufficient evidence been produced in its favour for us totally to abandon a principle which is generally acknowledged to be, and has proved itself effi-cient; and which has received the impress of time and experience, and been sanctioned and adopted by every professional man of eminence in this and other countries, both in the past and present age. As we very rarely hear of bridges of fixed principles falling after they have once been completed, the accidents above alluded to came very opportunely to fill up the vacuum there would otherwise have been in Mr. Dredge's argument. As so much has been said upon the subject, we may as well in-quire if ho failure has attended suspension bridges? I think I can enumerate many in-stances; one in India, the Broughton, the Montrose bridge, occasioned by the passage of troops; one at Morpeth, Northumberland, from a crowd of persons returning from a fair; the Yurmouth bridge, and others (which shew the effect produced by percussion, &c., on iron), and generally attended with a serious loss of life. The Menai and Montrose bridges, the Brighton chain pier, &c., have also been partially destroyed by the violent action of the elements or other causes.

A Madras paper, which seems to be well informed upon the subject, observed with reference to the fall of the bridge in India, "that the severe strain or vibration, occasioned by the measured tread of a body of military is indeed so trying to these structures, that it is considered by engineers that they will in Is considered by engineers that they will in this case bear but one-eighth part of the weight they might otherwise be safely loaded with. We have numerous examples of bridges of masonry, many of which have withstood the

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For supplying her Majesty's several Dockyards

with 11,000 loads of African Timber. For the Buildings intended to be erected at King's Langley, for the Committee of the Booksellers' Provident Institution.

COMPETITIONS.

Plans are required for Laying out and covering with Villa residences about 20 Acres of land having a frontage of about half-a-mile to the Queen's-road Richmond, Surrey, extending from Spring-grove towards Richmond-bill. Premiums will be given of 25 guineas for the most approved plan, and 15 guiness for the second.

guineas for the second. The Committee for the establishment of Public Parks, Walks, &c., at Manchester, offer two prizes, one of 50 guineas and the other of 25 guineas, for the best and second best set of Plans (with estimates), for the laying out, &c., of the sites already inchased by them. The Board of Guardians of the Bridlington Union purch

offer a premium of 10!. for a Plan and Specification of a Workhouse, the expense of which is not to exceed 2,000%, and to accommodate 150 inmates,

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TO CORRESPONDENTS.

"A. A."—Thanks. "A. J. G." (Sudbury).—Inquiries into private character are beyond our province. Even asking the question might injure the party named.

"Stone groins."—A subscriber asks for an ac-count of the construction of stone groins " begin-ning with the common four-ribbed, with the

ning with the common four-ribbed, with the means of setting out the same for workmen, and the jointing of the masonry." We shall be glad to receive communications on the subject. "Wood Models to draw from."—A correspon-dent wishes to know if any person in London makes such, or of paper ; plaster of Paris being so beittle brittle.

"Stir in the School of Design."-Mr. J. Strud-wich denies the statement that he has not been a studies in the School for twelve months. We have not space for his letter. "A Student," should have sent us a shelch ;

without it we cannot judge. "X, Y. Z."-If the house be rebuilt under the

provisions of the Buildings Act, our correspondent is not hound to provide a spout : if otherwise, we apprehend he cannot legally stop an ancient water-

apprendiate a curner regard evolution and the way without providing a substitute. "W. G."—The height of a building, to settle the rate, is to be ascertained by measuring from the surface of the lowest floor in the building. the surface of the lowest noor in the building. Not knowing the rate of the addition about to be made, we cannot tell if the wall in question would be sufficient. Buildings or offices, whether at-tacked to or detached from the buildings to which tached to or assocned from the outlangs to which they belong, are to be deemed as buildings of the rate to which they would belong if they had been built separately. Schedule C., part VII. "F. T. D."—We shall be glad to hear from

kim again. "Duty on Brioks." — A correspondent asks whether a drawback is allowed on dricks made by a proprietor on his own estate for his own use. We bekete there is not, excepting when weed for drainage, when they must be marked "drain?" and not used for any other purpose under heavy penalty. "A New Subscriber."-The Independent Ch

at Holloway is mentioned in p. 142 and p. 166, ante. St. Peter's Church, Islington, has not been

spoken of in The BUILDER.
"W. J. W."—The vase shall be engraved.
"Kite's System of Ventilation," "N.," and

"Kitz's System of Ventilation," "N," and "B.B.," next week. Received :---" Friend to the Builder," (Wis-beach). "Plan of Buildings for Working Classes; J. Boult, Architect," "Dolman's Magazine" No. VI. (commencing a new Volume); "Quarterly Jour-nal of the Geological Society, No. III." (Long-man); "Old England, Part XX." (Knight); "Pictorial Gallery of Arts, Part VII." (Knight); "Medical Times" for July; "A Peep into Architecture," by Eliza Chalk (Bell, Fleet-street). "An Old Subscriber." "Engarum.-The quotation by Mr. Angell in

"An Old Subscriber." ERRATUM. — The quotation by Mr. Angell in his paper read at Institute of Architects, reported at p. 351, ante, was from Empedocles (the Agri-gentine philosopher) and not from Pericles, as stated.

*** Correspondents who threaten to cease to be subscribers because we differ in opinion from them or refuse to insert communications which would really injure them in public opinion, must think meanly of us if they consider the threat likely to alter our course of proceeding. Our duty is to give sound information and honest opinions, and we will perform this to the extent of our ability without respect to persons.

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VENTILATION.

A most ingenious, simple, and effective plan." Mr. Reid's Lecture on Ventilation, delivered, June 7, 1845, before the Mechanics' Institute, Liverpool.

Lecture on Ventilation, delivered, June 7, 1848, before the Mechanics' Institute, Liverpool. **B**AILLIE'S PATENT'TRANSPARENT VENTILATOR, tentilates rooms or public buildings without causing unpleasant draughts of air-may be fixed as easily as a pane of glass, whose place it supplica-dees not derange blinds, shutters, or other fixtures belonging to windows-most useful to public places of every descrip-tion, sepcetable glass dealers in London; Mr. Edgar Parks, ironmonger, 140, Fleet-street; Mesars. Stock and Sharp, and Mr. Sambel Bedle, Birningham; Mesars. John Hall and Sous, and Mesars. Diris and Willams, Briatol; Mesars. Thoe, and Mesars. Diris and Willams, Briatol; Mesars. Thoe, and Mesars. John Areadow, Acc.; who have models to explain its action, and will be glad to fired. Smith's, the Albion, 289, Blackfiras-road; Mr. Ed-ward Baillie's, 19 B, Cumberland-market, Regent's Park-Mr. Seator's, Dubhin Castle, Park-street, Camden Town; \$, Coleman-street-buildings, Moorgate-street, and at the effice of this Paper.

THE PROJECTED BAILWAYS

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TO ENGINEERS, ABCHITECTS, AND CON-TRACTORS.

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REAVES'S LIAS CEMENT and GROUND BLUE LIAS LIME, at 3, South What, Paddington, London, and Works, Southman, Warwichshin, Agent for Liverpool, Mr. WYLIE, 64, Glonter-stress, Sito for Manchester, Mr. J. THOMPSON, Back King-street, ditto for Chester, Mr. J. HARBISON, Linest Hail-street,

A TKINSON'S CEMENT.—The public is respectfully informed, that the price of this way ex-cellent Cement, which has now been in use for Arabitrum and Engineering works upwards of thirty years, included is 28. 3d. per bushel, and may be had in any quantity at Wing Parker, and Co.'s Wharf, Helland-street, Surny ais a Blackfriars-bridge. N.B.—This Cement being of a fight colour, requires neuti-ficial colouring or painting, and may be used for staces whi three parts its own quantity of sand.

MARTIN'S PATENT CEMENT. TO ABCHITECTS, BUILDERS, AND PAINTERS IN FRESCO.

THESOU. STEVENS and SON, PATENTEES and SOLF MANUPACTURERS, beg respectively of annowince that this beautiful Comman has now arrived at a degree of excellence far surpassing their most margins at a degree of excellence far surpassing their most margins at a degree of excellence far surpassing their most margins at a degree of excellence far surpassing their most margins at a degree of excellence far surpassing their most margins supertority over every article hitherto in use; it is now bing used extensively by Government in the British Massar and other public buildings. IT DOES NOT THROW OUT ANY SALT, but presents a beautifully plain and patient surface, which may be painted upon dry work within five days without peeting. It is equally applicable for values admitted to form the best ground for faceoo painting, having been used for many of the prise freesce lately eshibiting to equalled. It will beer an intenses has without cracking, and for hardness, durability, and economy, cansot be equalled. 16, DRURY-LANE. LONDON STEVENS and SON, PATENTEES and SOLE MANUFACTURES

196, DRURY-LANE, LONDON.

Agent for Liverpool and Manchester, Mr. E. Pari, II, Atherion's-buildings, Dale-street, Liverpool.

KEENE'S PATENT MARBLE KEENE'S PATENT MARBLE CEMENT.-The Patentees of this composition beg for refer to the British Museum, the Royal Exchange, there works at Bethlem Hoopital, Greeswich Hespital, md the Co-liseum in the Regent's-park, as belikings finished at in pro-greas, in which Keene's Cement has been used as an internal stucco. Itr superiority to common plastering consists init extreme hardness, and the rapidity with which it dries, which qualities fit it to receive paint or other finishing coast than other water Cement. When employed for akirings, architrave, and other mouldings, in place of wood, it checks dry-rot, is imperious to vermin, prevents the spread of fire, and is more co-nomical in its application than the material for which it hus becomes the substitute. Confirmation of these statements is to be found in the almost universal adoption of Keene's Cement for Shiring and Hall flooring in the new house on the Hyde Park Exits, where its application and Munchester. Keene's Compute his in tage.

tage. In Liverpool and Manchester, Keene's Cement has in several cases been used for the covering of the fre-prof warchouse floors, where its lightness and hardness give ithe preference over tiles and flagging, which are much heriter, and necessarily leave the floor intersected with numerous joints, whilst Keene's Cement is laid down in one unbroken

joints, while access a concept is that own in our methods surface. The high polish and marble-like hardness of which this for the manufacture of Scarjiola, Patentees, J. B. WHITE & SONS, Milliant street, Westminster, Manufacturess of Roman and Pertlend

Depot in Liverpool, 36, Seel-street ; James Woods, Agent-

O ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTEBERS, MEE-CHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO JCATERAL, JOHNS and CO.'S PATENT' STUCCO JCEMENT.-The following are the positive advantages possessed by this Invention over every Cament hishero in-troduced --It will effectually resist Damp. It will aver regetate nor tarm green, nor notherwise discolour. It will never erack, bilater, nor pool off. It will form a complete Stone casing to any Puilding covered with it. It so cicely resembles Stone that is is impossible to datest it. It are requires either to be pained or coleaned. It will keep freih and good in the cask in any Climate for any number of year. It is the only Coment that can be used with confidence by the Sca-side. It may be used in the bettest or soldest Climate at any cases. It will adhere to any annher of year, it is the only Coment that can be used with confidence by the Sca-side. It may be used in the bettest or soldest Climate others, or Gliass. It will acknew to period. It may be worked through the Winter, as front has an effect upon in the cask to be Inner Walls of new Houses, which it may be assed on the Inner Walls of new Houses, which it may be papered over or painted directly. How have a larger pointed with this Cement will remain undimanged by fur-serverst Storms. Any Plantsers may apply it, the instruc-tions for use being very clear and distinct. The finate of this material does not exceed that of the chespest Coment ow in use; but with all the above-mained extensions are and valuable advantages, nothing can approach is in any of acconony. Architects and Builders who have used this Cament have here the the internet of the town in the barrent is an of decoment. The finate is the town is not be unready and the the the internet of the town is the unready and the the town is the town is the part of the the town is the unready and the set of the town is the town is the town is the town is the unready and the the town is the town is the town is the unready of the decoments of the town is the unready and t

Architects and Builders who have used this Cament have belared that it requires only to be known, to be university de

Architects and Builders who have used time termination of the summary series and builders only to be known, to be intermalify preferred. Specimens may be seen, and a Prospectus fully describing the Cement and its mode of sphileaction, together with the Cement and its mode of sphileaction, together with a solution of Testimonials from every part of the European and be obtained on application to MANN M and CO, 9014 AGENTS for the Patentees, 5, Maideen Junne, Gesensent, Cheapalde, London: of whom also many the bad. JOHNS and CO'S PATENT STORE, OLUX STUCCO PAINT, expressly intended for paining over a bad. STUCCO PAINT, expressly intended for Paining over a bad. In the Comment, and which have been covered with Rome being in direct chemical opposition with Come of in fain loured. It is in every way better suited for the purpose has a difficult which will frequently come of in fain loured. It is an every way better suited for the purpose has a finity for Stucco binds itself with it, a come of in the series, similar to stuce on the series and thereby rendering the wall proof agains for wreaters and the profession, and other Paint whatever. It is cheap in frequent with the main and there been and be and the series, series in the mode agains for the series application.

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SATURDAY, AUGUST 16, 1845.



ER Majesty's visit to Germany will probably lead even a greater number of our countrymen to travel to the banks of the swift Rhine in the present year than

usual, large as that number always is. To those who know any thing of architectural history, and have sufficient knowledge of styles and dates to read and enjoy old buildings, Belgium, the Netherlands, and Germany, offer extraordinary attractions. It is greatly to be regretted, that comparatively few of our tourists know any thing about the matter, notwithstanding the subject now occupies much more attention in England than was the case a dozen years ago. They visit the cathedrals, and churches, and castles, both at home and abroad -they are amused and interested ; but the instruction which these buildings offer, the information that they silently convey, is in a cipher to which they have not the key, and so is lost to them.

The delight of travel is increased four-fold by a knowledge of architectural history,-we speak for a few minutes to such of our nonprofessional readers only as may not have this knowledge,-and we advise all who would derive the fullest advantage from their summer rambles, and the greatest amount of pleasure, to apply themselves to acquire it. Every old building is an open book, which may be understood without difficulty by those who know the language: it tells you when it was erected, very often the state of society at that period ; at which end it was begun, at what time alterations were made. You find it to be a stage in a progress,--a part of a whole, and can see clearly what preceded it and what it led to, Architecture, as a fine-art, should form part of general education; and, indeed, probably will before long. We once heard an educated friend, who had made the grand tour, inquire the difference between classic and Gothic architecture, and have often found men who have stood in the Athenian Acropolis and wintered in Rome, who yet did not know the Doric order from the Corinthian, and had not the most remote idea that a connection exists between the structures of Greece and Rome, and the cathedrals of the middle ages on this side of the Alps; still less, that the differences between them, now so strikingly apparent, can be traced step by step, and explained.

Such ignorance in other branches of knowledge would be considered disgraceful; but in this it is not so, being almost universal: further, these very men, with others equally well informed, and not better, will never scruple to sit in committees, to decide on the merit of designs submitted to them in competition by foolishly confiding architects and speculating charlatans. Let this pass, however, being simply a parenthemis, and return to our tourists.

Antwerp, where the Queen landed, is full of interesting matter. The wood-carving in some of the churches is admirable; the ironwork over the well near the cathedral will give a lesson as to the modern working in metal, not to mention the cathedral and other buildings (duly act forth in the guide-books), which furnish a rich treat.

Bruges and Malines afford many remarkable specimens of domestic architecture of various periods, besides churches curiously illustrative of architectural history. An air of stateliness and by-gone consequence, tinged with the melancholy traces of modern decay, characterizes these and other of the Flemish towns, and gives rise to peculiar emotions and instructive musings. The change from buildings intended for defence to those wherein convenience and comfort were alone studied, may be every where traced ; while the growth of the third estate is brought to mind by the belfry and hotel de ville, found in each town. A bell to call the people together, and a place for them to meet in, were amongst the earlier requirements when they first discovered that union was strength, and began to feel their own importance. Ghent, Louvain, and Brussels give fine examples of these town halls. In the first-named town there are further illustrations of the progress of domestic architecture for those who have "eyes to see."

Germany, especially the southern parts of it, contains a large number of early and interesting specimens of what has been called the Romanesque architecture, as well as many noble and well-known examples of the pointed style. We should ourselves rather coin a word, and call the former Byzantinesque, if mot Byzantine; their resemblance to the buildings of the lower Greek empire being strikingly apparent. No one can visit Santa Maria of the Capitol, the Church of the Apostles, or St. Gereon's, all in Cologne, without this conviction.

The first-named church is one of the most ancient in the city. It consists of nave and side aisles (separated by rectangular piers and plain semicircular arches),* transept terminated north and south by a semicircular absis, crowned by a hemispherical dome, and a choir with similar absis at east end. An aisle is formed around the absides by columns and semicircular arches. These columns have enormous cushion capitals, and diminish in diameter from the bottom towards the top. They would seem originally to have been rectangular piers, and afterwards worked into their present form.

Externally, St. Mary's is a rude type of most of the ehurches to be found in Gologne. It is, unfortunately, so far decayed and otherwise injured, as to be literally bound together, in parts, by iron bars introduced for that purpose.

Hope remarks of the Apostles' Ohurch, begun in 1021, that on beholding the east end of it, immediately after entering the ancient gates of Cologne, he almost thought himself at Constantinople.

St. Martin's Church has internally the Greek distribution. Externally it has a fine square tower with four lesser towers at the angles. Of the Cathedral, a construction of a later date than those last named, we must not now speak. The circumstances which attended the discovery of the original drawings, the restorations which have been effected, the way in which the works are done, may afford us matter for some observations hereafter. Cologne has been called the Rome of this side of the Alps, and deserves the title. At Bonn, the cathedral is exceedingly interesting: part of it perhaps belongs to the time of the Empress Helena.

The castles on the banks of the Bhine would well pay for investigation, analysis, and classification; at present we know little of them.

• The archways are 9 feet wide, and about 32 feet high to the springing of the arch. Each pier is 6 feet 3 inches wide on the face.

At Aix-la-Chapelle, where the queen stopped the great church has many peculiarities. The church originally built by Charlemagne was destroyed, but was rebuilt in the tenth century. The æra of Charlemagne (in the eighth and ninth centuries), produced many fine buildings, and materially influenced the progress of architecture and the other arts; he drew from the Grecian empire artificers and artists of all kinds, and brought wholesale from Italy materials to decorate his new buildings, Our object, however, when we began this notice was simply to urge on tourists the advantage of obtaining a knowledge of architectural history and the characteristics of style. We must leave for some other opportunity the pleasant task of discussing the progress of the art in Germany.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

HAVING briefly mentioned the proceedings at Winchester in our last number, we now place before our readers notes of some of the papers which are more immediately connected with our subject. We would premise, however, that the president's address was exceedingly judicious.

ever, that the pressure ingly judicious. "All party-feeling," said his lordship, "ought to fade away before true archeologists. The science we profess ought to shew to man the vanity of his position. The knowledge of the existence of many a prince and king, on whose word the lives of thousands depended, has only been brought to us by the researches of some student in charters, or the decipherer of inscriptions upon coins. I may quote the poet in illustration—

Ambition sigh'd, she found it vain to trust The faithless column and the srambling bust; Huge moles, whose shadows stretch'd from shore to shore.

shore to shore, Their ruins perish'd and their place no more ! Convinced, she now contracts her vast design, And all her triumphs shrink into a coin !

Nay more, ladies and gentlemen, when we look at the record of past ages, ought we not to recollect that their virtues or their errors have only been gathered from their tombs? Antiquarianism is not then the narrow pursuit its detractors would imply; the true antiquary marks the progress of races and institutions, and draws a lesson from the past. Is it not worthy of us to reflect on the history of our nation, and of mankind? It will not have been in vain, then, that the Archæological Association has been established, as affording matter for the graver studies, and giving food for superior minds."

'With sharpen'd sight pals Antiquarians pore, Th' inscription value, but the rust adorp,'-Pors.

"Curiositide now," says Feltham, "ought not to be neglected, especially antiquities; for these shew us the ingenuity of past ages, and include in them both example and precept. By comparing these with modern inventions we may see how the world improves in knowledge." Shakspere, that great master of the human heart and mind, was sensibly alive to the value of antiquities of all kinds. How beautifully in his Twelfth Night he makes the Duke to say to Viola as Cæsario in disguise—

' No, good Cæsario, but that piece of song, That old and antique song we heard last night.'

And again-

'O, fellow ! come; the song we heard last night; Mark it, Cæsario; it is old and plain : The spinsters and the knitters in the sun,

And the free maids that weave their thread with bones,

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Do use to chaunt it : it is silly, sooth, And dallies with the innocence of love; Like the old age.

It is easy to throw ridicule upon any science; and antiquities have received their full share perhaps not altogether unjustly bestowed. perhaps not allogether injustly bestowed. The time for poring over old grave-stones has, however, gone by; antiquarian researches have taken a higher stand, and the ardour with which ancient MSS. have been sought out, perused, and submitted to the public of late, promises most favourably for the develop ment of the habits and customs of past ages. When we consider the mutual relations which connect all departments of learning, and the variety of knowledge requisite to form the true antiquary, the acquaintance necessary with heraldry, genealogies, inscriptions, monements, numismatics, languages, etymologies, history, &c., we immediately see the importance of an ments, association of many individuals, who by their joint labour are able to illustrate the progress of art, display the habits and customs, and elucidate the events and things of past

ages." The early history of the Society of Anti-quaries as sketched by Mr. Pettigrew, may interest some of our readers. The Society of Antiquaries of London was incorporated in 1751, but there was a society of gentlemen in London, as early as 1572, who were in the habit of meeting to pursue the study of antiquities. The society was under the patron-age of Archbishop Parker, and the meetings were held at the house of Sir Robert Cotton. Archbishop Whitgift became the president, and from 1572, to 1604, the society numbered forty members. After treating of this society at length, he said the meetings of this society fell into abeyance in the time of James I.; and the latest date of its meeting is 1604. James I. was petitioned to establish an academy royal, or college, to meet at Westminster Windsor, to have a general chapter in a or year, and four quarterly dinners. In Ash-mole's Diary an entry occurs of the anti-quaries' feast, held July 2, 1659. All subsequent antiquarian labours, up to the eighteenth century, seemed to have been confined to in-dividual exertion and pursuit. Weekly meet-ings were held at the "Bear Tavern," in the Strand: there assembled Humphrey Wenley, Peter Le Neve, Mr. Maddox, Mr. Elstot, and other names well known to antiquaries; and after a time they removed to the "Young Devil" tavern, in Fleet-street, and afterwards to the "Fountain" tavern, in the same street. The association was continued to the latter part of the reign of George I., and in the commencement of that of George II., at apartments in Gray's-Inn, then at the "Mitre," leet-street; and other meetings were held on the evenings after the Royal Society broke up. The admission fee was a guinea. In 1722, the number of members was limited to 100. In 1751, an Act of Incorporation was obtained, and the Society of Antiquaries was permanently established, the king naming himself founder and patron, and the admission king naming fee raised to 51. 5s.

Mr. Edward Cresy read a very interesting paper on

WINCHESTER CATHEDRAL

The number of the cathedrals and churches built of stone throughout England, from the period of St. Augustine to the Norman Con-quest, is so well attested, that it cannot be believed that the whole of them were swept away before the eleventh century, and that we have not a vestige remaining. That style which had for its peculiar character simplicity, and the Roman construction for its model. cannot wholly have disappeared while so many buildings which served the Saxons for imitation remain scattered over the greater part of Europe. The fantastic character found in the sculpture, and sparingly introduced in the capital, and over the entrances of their build-ings, and which materially differs from the Norman, agrees precisely with the embellish-ments met with in the Saxon manuscripts which have come down to us. An eastern or Byzantine invention pervades the design, as well as the execution of the works of art at this period. There is not good ground for supposing they did not accompany St. Augustine. It has become a very general opinion that we can shew no remains of Saxon architecture, and that the sumptuous churches and cathedrals erected by the Saxons, in the most solid and perfect manner, only a century before the Conquest, were destroyed by the Normans,

that others, on a grander scale, might be con-structed on their sites by that enterprising people. The manner of building introduced people. The manner of building introduced by the Romans, the cotting and hatching of stone, the forming of mortar, and more particularly a concrete with or out of flint, gravel, and chalk, was not only adopted by the Saxons, but continued in use for many centuries after they were subdued by the Normans. Both churches and castles have been found with their walls formed of these materials. The cathedral of Winchester exhibits much of this construction, the oldest part of which may be attributed to the time of St. Ethelwold, who flourished about the year 980. The crypt, which has three separate divisions, is all east of the transept; the ground at present has ac-cumulated nearly to a level with the capitals of the columns from which the vaults spring, but enough of them is to be seen to prove two of them, at least, to be the work of a time prior to the construction of the great central Norman tower. The first division is under the present choir, and has a row of five round columns up the centre, with four piers on each side, and four others which sweep round in a half circle, and form the sisle to the eastern termination of the first crypt. Masses of masonry have subsequently been introduced to accommodate the changes which have been made above, as well as to support some of the chapelries on either side of the choir. The masonry at the termination of the two aisles seems also to have undergone a change, and at the present day it is difficult to say whether the exterior followed the sweep of the interior; but in all probability it did. Where the great Norman entral tower has its foundation, it is evident that the crypts have been cut away for its introduction, and afterwards made good, which is proof of their construction anterior to the tower. The crypt is lighted byrounded open-igs, and vaulted in a simple manner but solidly. Beyond this, and under the nave of De Lucy building, is a smaller crypt; its termination is also circular, and its vaulting resembling the great crypt. This was the termination of the Saxon church. The smaller crypt beyond is of much later date, and belongs to the time when the present Lady Chapel was erected. In the western aisle of the north transept the junction of the Norman and Saxon work is very evident, as is the difference in the character of the masonry of the two periods. The transepts, where attached to the tower, shew in part that they have been reconstructed, and that additional strength was given to the piers when that was done. Mr. Cresy alluded to when unt was done. Mr. Cresy alluded to the symmetry and order of setting out of the symmetry and to the thorough knowledge of the symmetry and to have been possessed by bishop Ethelwold, and that its application was nearly forgotter. In that adopted by Bishop Ethelwold, and that its application was nearly for determined which we admire in the skill is construction that can be demanded of an architect for any age, and more than is used to the second the transcept more norther of the size of the size of the second the transcept more norther of the size of the second the size of the second the size of the second the transcept more norther of the second the size of the second the second the size of the second the size of the second the the symmetry and order of setting out of these piers, and to the thorough knowledge of geometry shewn to have been possessed by

opinions he paid due deference-that the transepts were erected by Walkelyn; but after studying the subject for more than 30 yean, and thoroughly investigating the point, he could entertain no doubt that the transpu were of Saxon erection, in which belief he wa supported by Sir Christopher Wren, Dr. Nott, and Mr. Garbett. The parts of the transpu immediately connected with the tower would Shew, by the superior masonry, how far the Norman workmanship extended into them. Another specimen of Norman workmanship was the ancient font, which illustrated by it sculpture various legends of St. Nicholas, a saint in high repute with the Normans. The able author proceeded next to notice the portion of the cathedral erected by Bishop De Lucy at the close of the twelfth century, and which exhibited the first specimen to be found in any cathedral of the style known as the early English, and some of its purest and best workmanship. He then directed the attention of his auditors to the alterations effected in the nave and aisles by Bishops Edyngton and Wykeham, and pointed out how the latter effected the difference now visible between the aisles of the transepts and the nave, the upper windows of the latter filling the same situstion occupied by those inserted in the original building by Ethelwold. Wyketiam retained the original arch of these windows and inserted within them a pointed arch, hence their peculiar form, as may be distinguished by all careful observers. The magnificent altar dral, was next touched upon by Mr. Crey. It was commenced by Cardinal Beaufort and finished by Bishop Fox. During the episcopacy of the former the vaulting of the nave and its aisles was completed, as commenced by Wykeham. Bishop Waynfleet does not appear to have made any alterations in the building, several of which were effected by Bishop Langton near its eastern extremity To Bishop Fox the church is indebted for that portion which surrounds the altar; and to his friend Prior Silkestead for the chapel bearing his name, and for the extension of the Lady Chapel, the last work effected previous to Lady Chapel, the last work enected previous of the Reformation. Mr. Cresy illustrated his paper by numerous diagrams, plans, and drawings, shewing the principle upon which the whole church and all its parts and por-tions were set out; and after a very curious illustration on the subject of the rose window illustration on the subject of the rose windows (one of which it appears is to be seen in the northern transept of this cathedral), with all their curious yet scientific details, Mr. Cresy concluded amidst great applause.

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The Rev. S. Isaacson read a paper on

. THE ANCIENT TEMPLE AT ARBORLOWE, DERBY.

The paper commenced by stating that the circular temples of the ancient Druids are universally allowed to be the most important of all the monuments having reference to the early history of our country; and, conse-quently, any researches calculated to throw light upon their origin or character, or which may bring them more prominently before the public, and thus lead the inquiring mind to a minuter investigation, cannot fail to be inter-esting to the Archeological world. Though Though Arbarlowe does not pretend to the magnifi-cence of Abary or Stonehenge, it is still far to important to be allowed to repose under the incidental and scanty notices which it has hitherto received. With the assistance of a friend, Mr. Bateman, the author had succeeded in discovering the original deposit in the great barrow immediately adjoining the circle, which had hitherto defied the scrutiny of all previous excavators. The reversed author proceeded to give a history of circular temples, considered without reference to the British lake, deducing their origin from the very earliest ages, and throughout all parts of the world. The altar under the hill, with the twelve pillars under the hill, erected by Moses, the twelve stones set up in the midst of Jordan by Lebbar and the trajlar stores theore out of by Joshna, and the twelve stones taken out of the Jordan and pitched in Gilgal, are striking illustrations of these temples of unbewn stone among the Israelites. The great stones or temples of the Druids in Britain, were as intile worked as possible, and it is at least possible that the form was borrowed from the Phonicians or Tyrians, who preserved it in their religious atructures wherever they went. In Greece and Rome circular temples were erected, and open at the top. Homer describes them; in Baruch we read of their construction in Assyria. It was not, there-fore, for ignorance of the fine arts that Druidical temples were erected without pillars; regular architecture and sculpture were sedulously avoided in these erections. Magnificence was sought for in vastness and large masses of stone: in Abury and Stonehenge specimens of this Cyclopæn architecture ap-pear in all their colossal grandeur. Nor will the smaller temple of Arborlowe be found unworthy of attention, placed as it is at a remote distance from the eye of the ordinary traveller; and seldom witnessed except by those whose and seldom witnessed except by those whose researches more immediately embrace such objects. The temple is surrounded by a large rampart, measuring 7 yards in height inter-nelly, and 6 externally; the fosse, which is on the inside, being 5 yards over at the bottom. The form is not strictly circular, but rather elliptical, or similar to a flattened sphere, the extreme diameter being 100 yards. The eaclosed area is 60 yards in diameter, and the author had no doubt the number of stones originally amounted to thirty. of stones originally amounted to thirty, which would harmonise with the ancient cycles. It is quite clear that these stones were never placed in an erect position, bat laid on the bare surface of the rock at regular intervals. Probably the area was divided into twelve equal parts representing the months, so that the whole structure would con-stitute a calendar, consisting of 360 days, into which the year was originally divided. The two entrances to the temple were north and south, consisting of benches of earth across the fosse, on each side of which orginally stood a large stone. In the centre is one very large mass of rock, 15 feet by 8, and nearly 3 feet thick, weighing probably 5 tons, and called the scrificial stone, from a large basin, caused perhaps by exposure to the weather, in which the blood of the victim was poured. Near this are two other stones much broken; and pro-bably a fourth existed. The idea of this being a Roman work is described by the reverend author as altogether preposterous, as it agrees with no known specimen of their erections; and the Danes and Saxons have still less claims to its praternity. In fact, the contents of the cist lately found will place its construction at least 500 years before the invasion of Cæsar. We must conclused our notice with the following remark: -- "The position of the largest stone, immediately facing the east, renders it highly probable that the founders were sun worshipers; and the two other stones exhibit-

ing indisputable marks of having undergone he action of intense heat, it is not at all unlikely that on these were kindled the great fires with which the earliest inhabitants of the British Islands were accustomed, at the return

of the equinoxes and solatices, to worship their god Belus or Baal, the Grecian Apollo." Mr. Planché read a valuable paper "On the arms of Saer de Quincy, first Earl of Win-chester, and on early armorial bearings, espe-cially those termed 'honourable ordinaries.'" The excellent author considered the heraldic figures, entitled the ordinaries, had their origin figures, entitled the ordinaries, had their origin in the necessity for strengthening the long kite-shaped shield, in use during the 11th cen-tury, and exhibited drawings of a variety of shields of that period, in which the forms of all but "the pile" were to be traced in the metal or wooden elamps or fastenings and de-fences of the shield. To the same origin he traced several other charges. Mr. Flanché argued, that the symbolical characters at-tached to them were the inventions of later hands, and could not be traced higher than the 15th century. 15th century.

INFLUENCE OF NEWLY-BUILT HOUSES ON THE HEALTH OF THEIR OCCUPIERS.

DR. SUTRO'S REPLY.

-Having seen the two last numbers of SIR.your valuable journal, I feel called upon to con-sider, dispassionately, the objections raised by Mr. G. Robins against the article extracted from a medical journal under the above title. Of course the article was only intended for the course the article was only intended for the medical public, but since you chose to insert it in your journal, and thus occasioned the reply (if I may so call it), I think it my duty to enter fully into the writer's arguments, urged, I must say, in a most professional and gentlemanly manner, in which I should rejoice to see all acientific discussions carried on, though interest or fame may be effected affected.

I perfectly concur with the writer, that experience deserves greater appreciation in such cases than theory, and that nothing would be more dangarous than to sacrifice facts to speculation. But the question is, how far do theory and practice agree with each other in theory and practice agree with each other in this point? If your correspondent never met with the pale anœmic face, wasted muscles, decrease of strength, aluggishness of all the functions (not sluggishness of the pulse), all consequent upon inhabiting a newly-erected residence, this only proves that he never placed persons in the early occupation of such available of the pulse of such a provide the pulse. dwellings, as are described as peculiarly inju-rious in the above article. Mr. Robins asks, " whether he has the charge of homicide upon himself for having constantly placed parties in the occupation of their dwellings within six months from the commencement thereof?" I ask, whether any charge of that kind can be inferred from the queted article? Its whole purpose consists in warning against the too early inhabiting newly-built houses without properly testing their fitness for occupation. As a proof of this I beg to refer to the follow-ing phrase, occurring before the proposal that a sanatary commission should be appointed to sanatory commissioners to exa nine it, when, if sufficiently dry, it might be inhabited." Your correspondent shews himself by the

careful tests he employs, that he must be satisfied of the dryness of a house before he places the occupier into it; and it can but be beneficial to point out and explain the injuries arising either from bad material of the house, or from exposure to its dampness, and to recommend the proper remedies against such evils. I must certainly admit, that new houses may be earlier occupied in this country than on the continent, inasmuch as the houses are mostly built here of burnt bricks, which contain and attract the smallest proportion of humidity, and thus occasion the least damp-ness. This may account for the less frequent maladies caused in this country by the above influences. I need not enter into the practical points mentioned, and the theoretical points doubted (but not disproved). By-the-bye, I could not find the expression, "*floating* par-ticles of lime." The phrase referred to, runs thus: the following foreign substances are

mixed with the air (speaking of newly built and not yet dried houses, as particles of time which have been proved beyond doubt to exist in the atmosphere of new habitations, being suspended by the evaporation of the moisture. As regards the injury of fresh paint (for the question only turns upon undried paint), I have unfortunately had myself an opportunity very lately of witnessing serious consequences. A talented young friend of mine, to please an scquaintance, took a newly-painted room in his house; when I saw him after three weeks, I found him suffering with a severe and most obstinate cough. His removal was ordered, getic remedies, he was advised by his medical attendants to try the effects of the bath. attendants to try the effects of the bath. Without much pain, and without great fever, his larges are so intensely irritated, that it would be sanguins to expect his complete re-covery. Apologizing for intruding these hasty lines on your valuable space, I am, Sir, &c., Signs wurn Surno, M.D.

3, Great Marlborough-street, Ang: 7th, 1845.

SUSPENSION BRIDGES.

Siz,....I am not disposed to enter into a con-troversy with Mr. Dredge upon the subject of suspension bridges, even if I had the leisure suspension bridges, even if I had the leisure and ability so to do; but still I cannot refrain from offering a few more remarks on the subfrom offering a few more remarks on the sub-ject. I feel particularly obliged (as I am sure the rest of your readers must do) for the dia-grams and explanatory matter contained in your 128th number; the principles of which are so clearly set forth and exemplified in a supplement to "Hosking's Treatise on Bridge Building," that the matter is not altogether Bailding," new to me.

new to me. Mr. Dredge, in reply to your remarks with reference to suspension and compression bridges, was peculiarly unfortunate in his choice of a subject for illustration, because the works that failed at Derby and Ashton were in course of construction; and incomplete, therefore it was unfair to take advantage of such a director active at each or only. such a circumstance, and arrive at such conclusuch a circumstance, and arrive at such conclu-sion; but Mr. Dredge having a principle and theory of his own, does not rest his argument on such futile ground, but rather, as I before understood, against the principle of compres-sion bridges generally. Suspension and com-pression bridges are totally different in princi-ples, in their mode of construction and composition; and I should be sorry if an remark of mine should have a tendency. remark of mine should have a tendency ty injure an invention that may be said to be "io its infancy." But whatever opinion may be entertained of its usefulness and general applie cability, I do not think sufficient evidence has-been produced in its favour for us totally to abaudon a principle which is generally acknowledged to be, and has proved itself effi-cient; and which has received the impress of time and experience, and been sanctioned and adopted by every professional man of eminence in this and other countries, both in the past and present age. As we very rarely hear of bridges of fixed principles falling after they have once been completed, the accidents above alluded to came very opportunely to fill up the vacuum there would otherwise have been in Mr. Dredge's argument. As so much has been said upon the subject, we may as well inquire if no failure has attended suspension bridges? I think I can enumerate many in-stances; one in India, the Broughton, the Montrose bridge, occasioned by the passage of troops; one at Morpeth, Northumberland, from a crowd of persons returning from a fair; the Yurmouth bridge, and others (which shew the effect produced by percussion, &c., on iron), and generally attended with a serious loss of life. The Menai and Montrose bridges, the Brighton chain pier, &c., have also been partially destroyed by the violent action of the

elements or other causes. A Madras paper, which seems to be well informed upon the subject, observed with reference to the fall of the bridge in India, "that the severe strain or vibration, occasioned by the measured tread of a body of military is indeed so trying to these structures, that it is considered by engineers that they will in Is considered by engineers that they will in this case bear but one-eighth part of the weight they might otherwise be safely loaded with. We have numerous examples of bridges of masonry, many of which have withstood the test of conturies, and will no doubt continue to resist the injaries of time for scatteries yet to coups, afforcing striking proof of the dumbility of stone constructions; and as iron as amaterial for bridges (more particularly as applied in suspension bridges) is comparativaly of modern introduction, and as its properties are but imperfectly developed and understood. I think it would be premature in us to pronounce an opinion upon its merits and fitness for such structures in the present state of the question, or until time and experience have more fully tested its qualities."

Professor Hosking says, "Stons is, however, pro-eminently the bridge builder's material. The carpenter can supply the want of a bridge in a comparatively short time, and in most cases at a small cost. The smith and franker will, with moderate assistance from the mason and bricklayer, effect what cannot be done with stone, and will in cases supply the place of stone with iron when stone might be used, but grandeur of effect, pewer of resistance and elernity of endurance, are to be mason's material !! We know of and posses nothing as a material for massive, permanent construction, and fitted for bridge building particularly, so free from liability to change in bulk from any satural iafluence as stone : and nothing, therefore, some sidering its other qualities as essential, so well adapted for the main constituent of a bridge." It is well known that iron is injuriously

It is well known that iron is injuriously affected by many squees that produce little or no impression on stone; viz., by atmospheric changes, electricity, continual percussion, vibration, galvanic action, &c.; it is light to oxidation (a suspension bridge being composed of a series of small bars of iron presents a great surface to the corroding powers of the atmosphere), which in a series of years seriously impeirs its strength, notwithstanding the precautions taken to preserve it; and percussion and vibration operate so injuriously upon it, as altogether to alter its internal structure and destroy its tenacity; in proof of which sge the accounts of the numerous secidents that have occurred on the various lines of railway carriages, &c., and the discussions that have taken place on the subject at our scientific institutions.

scientific institutions. I have observed in the fractures of iron axles that the internal character of the iron was completely changed, having formed into large crystals, while the external parts of the fracture presented a discoloursed and smooth surface, as if it had commenced there, and gradually extended itself to the centre, until the axle was unable to bear the weight imposed upon it. Mr. Glyan, civil engineer, in shewing the effect of perpussion upon iron, observes, "that the breaking action of railway axles commences with the first journey, and that they continually receive such injury as they would if they were laid over the edge of an anvil and received a constant succession of smart blows from a hammer.

"I consider the chains, or rather the bar, of a suspension bridge would be similarly operated on by the passing traffic, and this would readily account for the failure of the Yarmonth Bridge, as it was distinctly stated in evidence that more than double the number of persons had been upon the bridge at one time since it was widened than were upon it at the time of the accident; under these eircumstances we should naturally have supposed that the failure would have taken place then when the grantest weight was upon it; and the inference I draw from this is, that some other cause than the one attributed occasioned that sad catastrophe. I am quite aware that smiths, in welding bars of iron, do not always bestow that attention to it they ought to do; and this shews the necessity of having iron properly tested; that is likely to be subject to much strain; and as it is the usual practice to prove it to a much greater weight than it is intended to support, the iron even in that operation may sustain an imperceptible injury, and fail under much less weight than it was calculated to bear when applied in its proper place."

To obviate the danger arising from the breaking of the axles of railway carriages, it has been recommended to change them frequently; but to change the bars, plates, bolts, &c. of a suspension bridge would be rather an inconvenient and expensive operation. There is another subject to which I wish to draw your attention, and that is, the undulating and oscillating motion of suspension bridges; it is this circumstance that precludes the possibility of railway companies adopting them, in consequence of the great danger attending the passage of a heavy weight, concentrated to one point, and the sudden percussive action of a railway train.

The tremulous motion upon the Hungerford and other foot bridges is unpleasant to foot passengers, and the passage of the or-dinary traffic over the Menai and other bridges opened for general purposes is particularly disagreeable; and I am informed that, during a heavy gale of wind, it is almost impossible to pass over the Menai and other bridges similarly exposed. This is occasioned by the want of rigidity or stiffness, which has not yet been attained in suspension bridges, and which it seems almost impossible to attain, in consequence of the effect variations in tempermitte produce upon iron chains of great length. This to a bridge of large span ex-posed to gales of wind, operating both sideways and underneath the roadway, must be ruinous in the extreme; in confirmation of which I may instance the injuries sustained some time ago by the Menai, Montrose, and other bridges, the chain-pier, Brighton, &c. Mr. Dredge's bridges have hitherto been constructed on a small scale, and in favourable situations. I am apprehensive, if the principle was carried out on a large scale, and in similar trying situations to those alluded to, it would be attended with no better result. Mr. Dredge, I hope, will have the opportunity of trying his suspension bridge at Weston-super-Mare, where its advantages and powers may be fully proved; sithough I consider such a situation the least suitable for iron structures, from the injurious effects of salt water upon iron.

On the correctness of Mr. Dredge's system or theory, I shall not attempt to enter, my object being to shew the superiority of bridges of fixed, to those of iron on the suspension principle, wherever it is possible to introduce them, " for heavy general traffic, and where great strength and durablity are required."

Suspension bridges, as beautiful picturesque objects, are certainly great embellishments to a landscape, but I think in our public works in this country other points ought to be kept in view; namely, usefulness and durability, combined with economy.—I am, Sir, &c., Brecon, July 29, 1845. B. B.

NOTES IN THE PROVINCES.

WITHIN the last few months some rather extensive alterations have been effected in the Interior of Durham Cathedral, under the direction of the dean and chapter. The old pulpit has been removed, and one of stone erected in its stead ; the pews appropriated to the ladies on the north side of the choir have made way for carved oak benches with backs and cushions. A new font, more in keeping with the general architecture of the church than the present one, will shortly be erected, and the screens which inclosed the side chapels on either side of the organ have been taken down, producing, it is said, a remarkably good and striking effect.----The Earl of Carlisle is making great improvements and additions to his ancient baronial castle, Naworth. Fifty workmen are employed at present, and the interior of the roof of the hall is just completed. It is formed of oak, richly panelled; the height is 30 feet. The dining-room which, before the fire, was separated by a wooden partition from the hall, is now added tolit, which makes the entire length 96 feet. The noble proprietor has now decided upon building a new tower, and restoring the ancient entrance on the west side of the castle, which was discovered after the fire, and which is said to have been walled up by Lord Wil-liam Howard, "Belted Bill," in the reign of -A memorial, numerously signed by James I.the residents of Broad-street. Bristol, was lately presented to the Governor and Directors of the Bank of England, in London, soliciting that the new building, intended as their branch might be forthwith commenced, so as to be finished at the same time as the new Guildhall. The directors, in compliance with the re-quisition, have commenced taking down the old buildings for that purpose.

The commissioners of the port and harbour of Whitby having adopted the plans of Mr. Pickernell, their engineer, for the improvement of the harbour, operations for extending the east pier into deep water ware commenced on the 7th instant. Forty feet of foundations in ten atones, 6 feet wide by 3 feat thick, were laid; the bed in the rock so correctly levelled that no part of the superficies varied 1 inch; and the vertical notches filled with broken whinstone and cement in seventy-seven minutes. From the beginning to pump the water out of the dam, to the foundation stones being covered by the flowing tide, two hours only in-tervened. — On the 17th ultimo, the coremony of opening the chancel of Leamington church took place in the presence of fifty clergymen. The church is being reconstructed in a style of cathedral grandeur, the chancel end only being as yet completed. Its new nave is so lofty, that it covered in the tower of the eld parish church, which was left to stand for some time within the building, as it afforded the workmen the means of elevating their scaffolding upon it, while they carried up the works to at least 25 feet above the altitude of the once mach thought of tower ! After this tower had been thus useful, as a mere scaffold pole to the in-side of a new and spacious structure which was raised above it, the semoval of it as an obstruction then commenced, and now there exists not a single vestige of the ascient village church of Learnington. — Lady Bassett, daughter of the Earl de Dunstanville, has subscribed 1,000/. towards the fund for the erection of a new church at Illegan. Nearly four acres of the space here-tofore known as the New Buildings, Portsea, have been purchased by Government, at a cost of little less than 60,000%, for the forent. at mation of a basin for steam-vessels. One hundred and thirty persons have been ejected and the ground is already cleared.---- A proect is being entertained at Sunderland fer the construction of docks on an extensive scale. During the last two or three weeks, persons have been employed in surveying, taking levels, and drawing out plans of the moor, as it is called, and the bed of the sea adjoining it, on the west of the town. The line selected is from near behind the present south pier to Hendon, the whole length of the moor, an extent of nearly 3,000 feet, and from the bank of the moor extending into the bed of the sea about 400 feet; the dock is proposed to be 2,500 feet in length and 350 or 360 in breadth, with entrance from both north and south.——Plans are being prepared in ac-cordance with instructions gives by the Dake of Sutherland for a new church, which his The grace purposes erecting near Longdon. church is to hold 460 persone, and will be commenced forthwith.---- The Town Council their intention of applying to the Lords Com-missioners of her Majesty's Treasury for their approval and permission to erect and build markets for the sale of meat, fish, poultry, &c., and for that purpose to raise a sum of money not exceeding 16,000/......Very extensive im-provements have been made during the last two or three years in St. Mary's Church, Truro. Recently two stained-glass windows have been erected at the entrance end. The altar window consists of five compartments; each of which comprises a niche and lofty canopy, in the perpendicular style. In these five principal niches, on rich damascene grounde, are represented full size figures of the Saviour, St. John the Evangelist, St. James the Less, St. Philip and St. Simon. The Saviour holds in his right hand a globe, on which are depicted emblematical represent tations of the three great eras of the Church ; while depending from his serm is a scroll, bear-ing the inscription, "Surgite, eamus." The four Apostles named bear emblems significant of the mode in which they severally suffered martrydom; they also bear scrolls with their names inscribed thereon. Above these five principal figures are smaller representations of St. John the Baptist, St. Peter, and St. Paul, with Angels, in attitudes of prayer and praise, and various other appropriate figures and emblems. The south window is mostly em-blematical. The body of the window is composed of *quarrels*, interspersed with labels and texts, presenting a quaintly antique appearance, and inclosed by a rich bordering which re-

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solves itself into luxuriant headings of foliage. Inwrought with these are medallions, containing the Christian monogram, and the erangelical emblems, and pendant from the foliated arches are escutcheons, on which are depicted symbols of our Lord's passion. The depicted symbols of our Lord's passion. The tracery of the window is chiefly occupied by angels bearing scrolls inscribed with Scriptural texts. The artist who designed and executed these windows, and who superintended the other improvemnts is Mr. Warrington, of London. — The exten-sive river-side property of Messrs. Cook-son, situate at South Shields, having recently passed into the hands of the wealthy and influential firm of Messrs. Swinburne and Co., in which Mr. George Hudson, the eminent railway director, is the principal partner, the scheme for constructing deep and capacious docks within Jarrow slake, and adjoining Mr. Hudson's purchase, is about to be revived under auspices that ensures its complete and rapid success. The Round Church at Cambridge was re-opened on the 10th inst. It appears that the incumbent is responsible for nearly 300% for alterations and immemoria made since the stone altar case was decided, and for the liquidation of which he solicits assistance. —— The marble statue of decided, and for the liquidation of which he solicits assistance. — The marble statue of Dr. Goodall, the late provost of Eton, by Mr. Henry Weeks of Pimlico, was placed hast week upon a marble pedestal on the south side of the ante-chapel of Eton College. The late provost is repre-sented in a sitting posture, with an open book in his left hand, resting on his knee, the right hand helps shirthy raised as in the attitude of hand being slightly raised as in the attitude of resting aloud, and his left foot resting on a reised cushion. The work is what may be termed a "seven-feet-six-inch figure," but the venerable deceased being in a sitting pos-ture, the height of the statue is not more than above five feet. The pedestal bears a Latin above five feet. The pedestal bears a Latin inscription, said to be from the pen of the Rev. Dr. Hawtrey, the head master of Eton school. ——The old market house at Epping, school. — The old market house at Epping, which was exected about the time Queen Eli-sabeth renewed the charter for the market, was entirely removed last week, in accordance with the expressed wish of the inhabitants. It had been for a long time in a decayed and had been for a long time in a decayed and even dangerous state.——A lunatic asylum is about to be erected for the county of Wilts, the cost of which will be 31,750?.——The Manchester Parks' Committee have made a fourth purchase of the Walness estate, which building of the training school at Durham, and the national society for the education of the poor have granted 300%. for the same purpose.-----It is in contemplation at Manchester to erect a new exchange by means of a company, and to raise 200,000*l*. for the purpose in 25*l*. shares. The *Manchester Courier* states, "We have had an opportunity of inspecting a drawing of the intended elevation, which, if carried out, will be a very great ornament to the town,— indeed, we have no building in Manchester that can at all be compared with it; it bears some resemblance in form to the Liverpool Custom House, but is altogether a very su-perior and handsome structure, of two stories. The site is at the upper end of Market-street, High-street, Canon-street, and Palace-street, covering Marsden-square, the whole of the shops, warehouses, and other property within those limits having to come down. The build-ing is to form three sides of a square, having the open or principal front to face Highthe open or principal front to street; the open space in front of the centre and between the two wings will be a raised stone platform, to be approached by a hand-scme flight of steps from High-street, for the some flight of steps from High-street, for the convenience of the congregated merchants and manufacturers during 'change hours. The news-room is to occupy the Market-street side of the square or wing, occupying two stories, thus forming a spacious and lofty room, lighted by three domes and the side-lights; the size of this room will be nearly the same as the large room at Exeter Hall, London, about 12,000 square feet; the ap-proach to it is made by three entrances from Market-street. The centre of the building in

both stories will be converted into offices, which will be let off for mercantile purposes. The northern, or Canon-street wing, will form a Stock Exchange, and a public mercantile sales room; above these rooms, on the second story, will be a large room of corresponding dimensions with the news-room in the other wing, which will be a public room applicable to the purposes of a large music-room, or public meetings, or it will be divisible into three rooms, as occasion may require. At Taunton, a committee has been formed for the purpose of improving the town. Suggestions are courted and may be addressed to the Editor of the Taunton Gazette .---- The erection of a New Market is at the present time occupying the attention of the inhabitants of Coventry. There is scarcely another town in England There is scarcely another town in England possessing a similar population, viz., 31,000; that is so wretchedly off for market accommo-dation.— The subscriptions for erecting the proposed New Church in the district of St. Simon, in the out-parish of St. Philip and Jacob, Bristol, amounts already to nearly 5001. — The owners of the late Suspension-Bridge at Yarmouth bave subscribed 501. towards the fund now raising for the restora-tion of the venerable church of St. Nicholas, and the establishment of a National School in and the establishment of a National School in that town. Lord Woodhouse has sent 204, and a lady 1004 towards the same purposes. The foundation-stone of the new National School Rooms in St. Saviour's parish, Bath, was laid last week by the Rev. Dr. Stamer, rector of the parish, in the presence of a great concourse of persons, among whom were the architect, Mr. Wilson, and the builder, Mr. Freeman. The railway tunnel at Bangor, through hard rock, has been commenced, and the superintending engineer has taken up his residence at Bangor Ferry. The site for the new bridge has been determined upon, but no decision has yet been come to respecting the kind of bridge to be thrown over the Menai Straite:

SETTING OUT RAILWAY CURVES.

S1R,—I for one am obliged by Mr. G. Hawkins' reply to "Amateur" upon the subject of railway curves, and hope he will not complain of my obtuseness in requiring a little more information; after stating the formula for the value of B D as being always equal to rad.— $\sqrt{rad.^2-sin.^2}$, he says "and the same process will apply to any other required point in the curve, merely substituting the value of $sin.^2$ in the expression, as the distances in the tangent A T, increase from the point A. Perhaps he will be good enough to explain this, and how it is applicable (supposing B D to be laid off at the lst chain) to the several distances squared off from the tangent at the 2nd, 3rd, 4th &c. chain to the 10th.

Perhaps he will be good enough to explain this, and how it is applicable (supposing B D to be laid off at the 1st chain) to the several distances squared off from the tangent at the 2nd, 3rd, 4th &c. chain to the 10th. Again he says, further on, "the above method will be convenient, as it affords a facility for calculating tables for the versed sine of an arc of any radius from the one already obtained; for since the curvatures of circles vary inversely as their radii, a simple proportion will give the value of the versed sine of any other required." I dare say he will think the proportion of my attainments simple enough—but I should feel more obliged by any explanation he may

I dare say he will think the proportion of my attainments simple enough—but I should feel more obliged by any explanation he may please to give, illustrating the same by an example in both cases, which perhaps might enable me to reduce the theory more readily to practice. Liverpool.

Referring to the diagram (BUILDER, July 26th), it is scarcely necessary to observe that in the expression radius $-\sqrt{rad.^2 - sin.^2}$, which is the trigonometrical value of the square of the distances measured on the tangent, A T, thus supposing A D to be equal to two chains, and the corresponding ordinate B D be required, it is merely necessary to substitute in the formula the value of A B or two chains for sine.² For instance in a curve of 80 chains radius B D \equiv radius $-\sqrt{rad.^2 - sin.^2} = 80 - \sqrt{6400 - 4} = 80 - 79.975 = .025$ chains or 2.5 links. The same process will give the ordinate for

The same process will give the ordinate for any other point, substituting in each case for sin.⁹ the squares of whatever number of chains that point may be from the commencement A. Generally, the formula may be thus stated :-The ordinate is always equal to the radius of the curve, less the square root of the difference of the squares of the radius, and the distance measured on the tangent to the point where the ordinate is to be laid off.

With reference to the curvatures of circles varying inversely as their radil, it ought to have been stated, that although as an abstract proposition it is strictly correct, yet its use in the manner proposed is only to be recommended within certain limits, since the actual relation between the curvatures of two arcs, measured by their versed sines, is only mathematically true at the point of contact. The practical application of the principle, if not rigidly warranted, may however be adopted in arcs whose radii du not greatly differ, and where the sines are small compared with the radii---the error in such case not being appreciable, thus supposing it were required from the ordinate corresponding to it for an arc of 78 chains radius --we have by the proposition before-stated the following proportion 1---As -78 chains to 2.8 links :: 80 chains : 2.56 links---which control one-hundredth part of a thek is the inter-

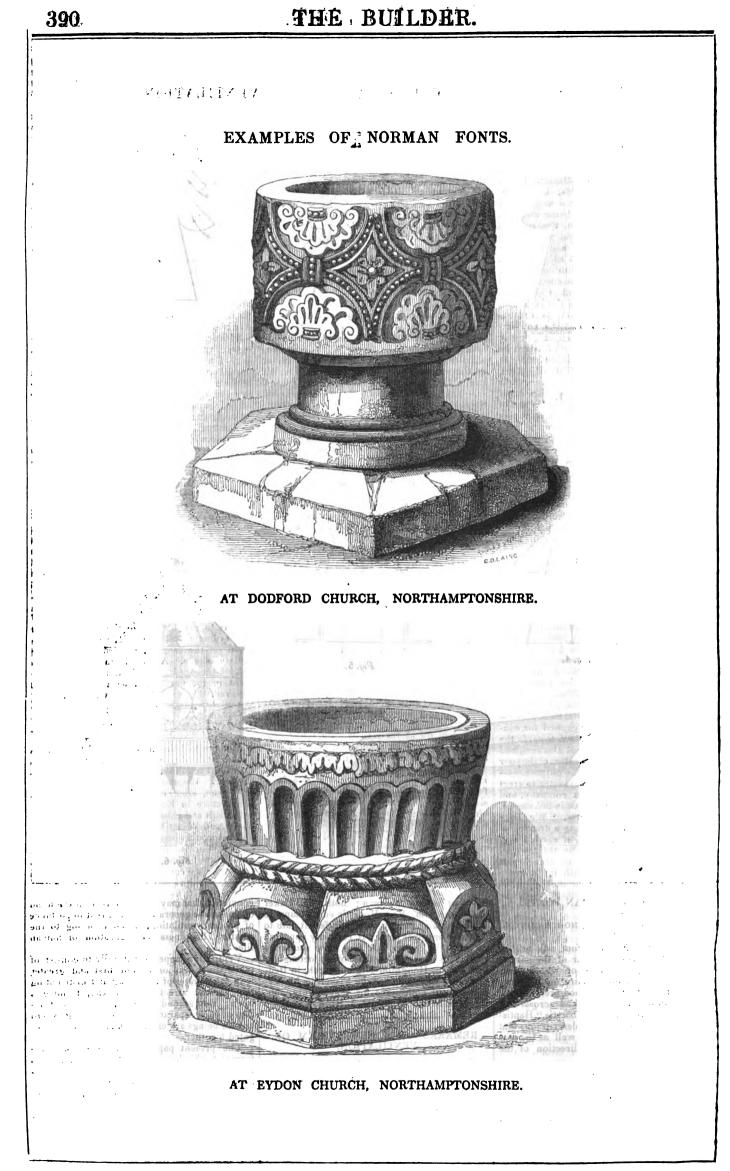
Although implying additional time, it would, as the safer codise, be better perhaps to calculate every separate ordinate according to the formula, and the labour may be much abridged by using an ordinary table of powers and roots.

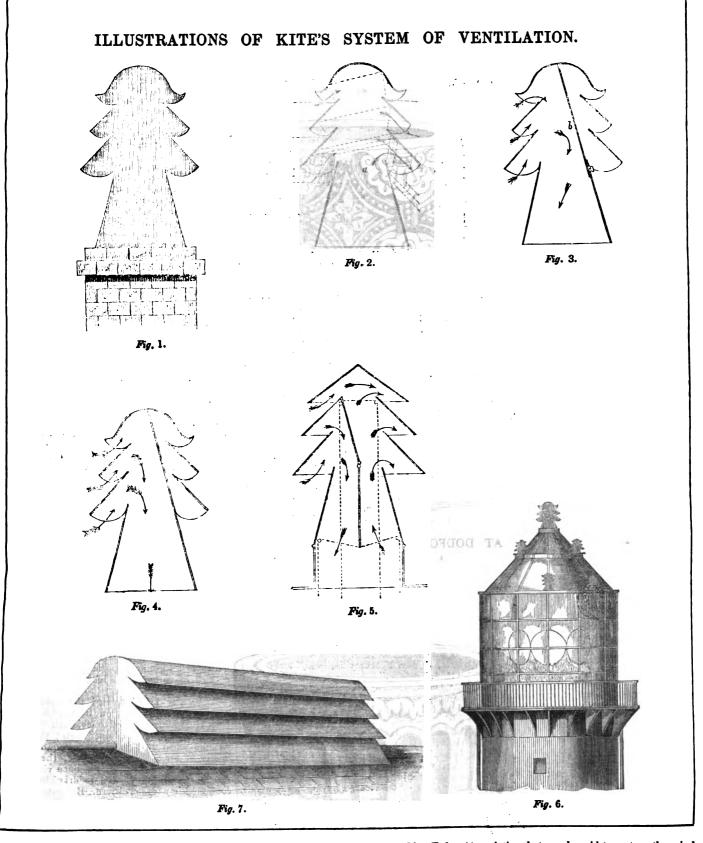
The radii of railway curves being usually confined within certain limits, a table calculated by the above method for ordinates up to eight or ten chains might be prepared beforehand, and would save time and materially facilitate the subsequent work in the field. It was before observed that usually it would be found convenient to recommence the ope-

It was before observed that usually it would be found convenient to recommence the operation at every 8 or 10 chains, and a instead accordingly was suggested for setting out a new tangent to the curve. The following will perhaps be found in many respects superior to the one already given; as no ground is lost, and affords a better position for ranging the new line. Let D be the point from whence it is required to start with the new tangent, from A set off on A B a portion equal to $\frac{AB^{2} \times BD^{2}}{2AB}$: that is to say the sum of the squares of the last ordinate and the whole distance measured on the tangent, divided by twice the same distance. A line from the point so obtained ranged forward through D—the last point in the curve will be the new tangent required.

NEW WINDOW IN ST. JAMES'S CHURCH.

WE are told that it is proposed to put up a Gothic stained glass window in St. James's Church, Piccadilly, but hope our informant is in error. We abuse and scoff at those architects who, after the introduction of Italian architecture in England, disfigured our noble cathedrals and churches with Corinthian altarpieces and Wyatt-knows-what organ screens, and yet would commit similar absurdities ourselves. Consistency is surely as necessary in an Italian building as in one of the pointed style, and we conjure the vestry or committee, who are said to be about to perpetrate this enormaty, to panse before they write themselves dows, "foolish." The neighbouring church of St. George, Hanover square, should be a bescon to warn, them : ence such mistake in London at this date is early enough.





EXAMPLES OF NORMAN FONTS.

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FONT AT DODFORD CHURCH, NORTHAMPTON-SHIRE.

THIS beautiful Norman font adjoins the north side of the western pillar of the nave of north side of the western pillar of the nave of Dodford church; the stone of which it is formed is the Northamptonshire oolite. The sculpture of the font is in good preservation, but it is unfortunately cracked across. A print of it is given in Van Voorst's "Baptis-mal Fonts," who states in the description, that it has lately been cleaned, as well as the ma-terial would permit, by the direction of the vicar, the Rev. W. Thornton.

FONT AT EYDON CHURCH, NORTHAMPTON-SHIRE.

the font is late Norman; both Mr. Baker and, after him, Van Voorst's editor suppose the octangular base to be of a different date to the bowl or upper part. It certainly appeared to me to be earlier. A font very similar to this, with a square instead of an octangular base, is in Houghton-Regis church, in Bed-fordshire, and is given by Fisher in his Ty-pographical collections for that county, pub-lished in 1812. C. J. RIGHARDSON.

REMARKS ON A NEW SYSTEM OF VENTILATION.

BY JAMES KITE

VENTILATION has been of late so much the A representation of this curious font is given in the 3rd vol. of Baker's "History of Northamptonshire," from which it has been copied (without acknowledgment), on a little less scale, for Van Voorst's work, where it forms the sixteenth example. The style of

conviction that may be said to rest on the mind of the public generally of the great importance of proper ventilation, as contributing to the comfort, happiness, and duration of human

or proper ventilation, as contributing to the seconfort, happiness, and duration of human life. Ventilation appears naturally to consist of two distinct divisions. The first and greater is in the manner of arranging and distributing the various streets, alleys, &c., forming a town; the second or lesser, in the construc-tion of each separate house or building where human beings are either domiciled or congre-gated together. The present paper has more especial re-ference to this latter part of the subject, and therefore has for its object the application of proper arrangements for the ventilating of churches, hospitals, manufactories, dwelling-houses, ships, carriages, &c. It is not necessary to occupy time in attempt-ing to describe the deleterious effects of the products of combustion or respiration, and the

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badly ventilated apartments; these predominant evils occupy a considerable share of the attention of the scientific and legislating classes of society. We shall therefore proceed to describe the nature of our improvements, and begin by remarking that there are few who dispute the propriety and advantage of imitating nature as far as possible in works of art, and especially in such operations as ventilation: where we can render any particular natural law available to our service, to take advantage of it both for the sake of economy and effect. How far this has been accom-plished in the present instance remains to be seen.

It is a well-known law, that when an elastic body impinges upon a firm plain surface, the angle of reflection is equal to the angle of incidence. Referring to fig. 1, which is a section of a roof suitable for being fixed on the top of a chimney or flue, or by being pro-longed, to form a ventilating ridge for a church or other public building, it will be observed that this roof is formed of a series of surfaces inclined more or less from the perpendicular, of which those below form a less angle than those at the top, being in regular gradation in this respect from bottom to top.

When the wind blows against the roof, as it impinges upon the lower plain, it would be reflected upwards upon the under surface of the second reflector or plain surface, from thence on to that on the opposite side, where it is deflected downwards outside. When the wind blows against the roof, or cover, an upward current is produced, and even a wind falling perpendicularly will actually facilitate the upward draught.

It is a known fact, and one which admits of being easily illustrated, that when a very small stream of air or other fluid is propelled amongst a body of the same, it carries a very extended current along with it, which arises from the friction of the particles or atoms of the air in motion against that at rest. In the case now before us the friction produced by the wind, or current passing through, takes along with it that with which it comes in contact in the cover, causing a partial vacuum or rarefaction of the air in that part; and which cannot be supplied by a portion of that passing in at the entrance side of the cover, because it comes with an acquired velocity sufficient to carry it through, and therefore the partial vacuum must be supplied from that in the chimney or shaft, but as the action of the wind is constant, so the upward current is also constant. It is then upon the application of these principles, namely, the reflection of elastic bodies from plain surfaces at the same angle at which they impinge thereon, and the effects of friction, which is pro-duced between one current of atmospheric air in passing over another, that the present improvements are carried out; it is upon the proper arrangement of the reflecting surfaces that the whole success depends; this being attained, there is no need for any mechanical arrangements such as require to be kept in constant motion, and are therefore subject to being speedily worn out, neither is there necessity for the application of any costly prime moving power which would be the source of increased expenditure. These covers, or roofs, are quite sufficient to create an upward current where they are exposed to the wind, and have been already found fully equal to any thing here reported of them; they are susceptible of great variety of form either as almost any of the present known forms, such as the lobster back, the malt-house cowls, &c., and it may be here remarked that one great peculiarity of this ventilating covering is, that however light the wind may be, still its action must be favourable, whereas, in almost all if not in every one of its forms heretofore in use, when the wind is light they are found in their most unfavourable position, or their action ceases to be effectual. For the ventilation of ships and carriages this top is peculiarly spplicable, and when provided with a valve, a downward current can be produced with equal facility. By using two of these tops, one for producing a downward current, and another for the upward current, a ship

state he put in the bottom part of the ship, allowing room for the admission of air, the moment that a current of air is projected against the reflectors, the smouldering substance is brought into a flame from the upward current produced; the same will be the case when we blow right down upon it.

Fig. 2. The dotted lines in this sectional figure shew the course that would be followed by the wind in passing through the roof were each separate atom of the atmosphere coming at an interval apart from that preceding it but as this is not the case, the atoms being in immediate juxtaposition, the resultant of these dotted lines will be in the direction indicated by the arrows, which has a tendency to create a partial vacuum in the upper part of the lowest chamber (a) of the roof, and thereby causes an upward draught in the shaft over which it is placed.

Fig. 3 is a section of a roof for producing a downward current in any shaft, flue, or opening over which it may be placed, when that is desired. For this purpose it is farnished with a valve (δ) attached by a screw to the lower de-flector on one side. When this valve is put up in the position represented, the current of atmosphere is thereby made to follow the course marked out by the arrows.

Fig. 4 has this valve put on in a permanent manner. Both these are peculiarly applicable to the ventilation of ships, and such places as are so circumstanced as to require the purer air to be taken in from an elevated situation.

Fig. 5 is expressly designed for shipping; the fresh air is admitted on the one side, the vitiated is ejected from the other; the two values in the centre are hinged with their edges closely together, and may be put over to any side of the roof at pleasure by means of the cords represented by the dotted lines. The arrows shew the action in the position in which they are represented.

Fig. 6 is an exemplification of light-house ventilation, with fixed roofs, the action of which will be sufficiently obvious from the previous description.

Fig. 7 illustrates the application of the ventilating roof or ridge to a church or other public building.

HOUSES AND PEOPLE DESTROYED BY MUD.

THE Quarterly Geological Journal gives the following account of a remarkable torrent of mud, translated from a newspaper lately received from Colombia. The facts are attested officially by the local authorities. The first extract is a simple translation of an account dated "Tasa-jeras, Friday, February 21, 1845," and signed "R. J. Treffery."

"On Wednesday, the 19th instant, a little before seven, A.M., there was heard a great noise in the plain of the river Lagunilla," and at the same time an earthquake took place. Immediately there appeared in the strait or ravine in the mountains from which the river Lagunilla arises, an immense flood of liquid clay, which pursued its course with the greatest rapidity through the whole plain on both sides of the river, carrying away woods of tall trees like straw, rolling them away, and covering them in such a manner as to leave no sign of there having been a wood at all. The same happened with regard to the houses and cottages which it met with in its course, overwhelming them with their inhabitants, and carrying away and burying those unhappy persons who were fleeing from death, so that nearly all the population of the higher part of been destroyed, and many who the valley has had escaped from the torrent and gained some high or enclosed place have found themselves insulated, and have perished by famine. It was quite impossible to succour them, for the whole plain was covered with a layer of mud and sand, so deep that no one could pass without being swallowed up. Some few persons, however, found an asylum by being near the edge of the torrent, and saved themselves by roads formed of the branches of trees."

The space of land covered may be estimated at from four to six leagues; and the quantity of matter poured down at 250 millions of tons.

may be most effectually aired and ventilated in either hold or cabin.
 To prove the efficacy of these coverings, if a piece of flammable substance in a smouldering
 To the claquilla is a small stream emptying itself into the river Magdalena, and situated in the north-western extremity of South America, in New Granada. Ibague, the town alluded to in the subscience table and the subscience table and the subscience table.

LEAD PIPES.

WE copy from The Medical Gazette the following statement relative to the dele-terious effects of water impregnated with carbonic acid passing through lead pipes. It is written by Mr. Rust, of Windsor, who was consulted on the respective cases :-

"On the 23rd of last April a labourer, residing at Ascot, and employed by Mr. Hibburd, clerk of the race-course there, applied to me at the dispensary at Windsor, evidently suffer-ing from the poisonous effects of lead; his complexion was sallow, and he was constantly suffering from severe pain in his bowels, at-tended with flatulence. He had the dark blue tended with flatulence. He had the dark blue mark round the gums, so peculiar to those who are suffering from the deleterious effects of that metal. On inquiry I found that his chil-dren had been in bad health since they had lived at Ascot, and that they had become weak and sallow, and had suffered from pains in their bewels and indication and that he had sent bowels, and indigestion, and that he had sent one of the most affected away, believing that the air of the heath was prejudicial to their health. I immediately asked him if the water he drank, and used for cooking, passed through lead, and was answered in the affirmative. I procured a quantity of it, and, on the addition of water impregnated with sulphuretted hydrogen, a large precipitate of sulphuretted by dio was thrown down. By the use of other water, and of appropriate remedies, the principal of which we alway he is a sub-

which was alum, he is slowly recovering. In November, 1842, one of the whippers-in at the royal kennel at Ascot, applied to me, suffering from lead palsy, after a severe attack of colic during the previous summer, which was believed to have been inflammation of the bowels. Having previously met with similar cases, I felt convinced that lead was dissolved in the water which he had used for cooking and drinking; and, on inquiry, I found that disorders which could be attributed to the effects of lead had for a long time been preva-lent in the establishment at the royal kennel, and that the dogs had for a long period suffered from a species of paralysis denominated kennel lameness. The water was in consequence analysed by Dr. Ryan, at the Polytechnic In-stitution, the results of which were as follows: Water at the spring head, specific gravity at 60 degrees, 1 018. The contents of an imperial pint, on evaporation to dryness, yielded 2.37 grains of solid matter. The solid contents of an imperial pint being—Chloride of sodium, 1.54 grains; chloride of magnesium, 0.71 1.54 grains; of carbonic acid: total, 2:378 grains; a trace water, after it had passed through the leaden pipes, was found to contain .164 grains of carbonate of lead in an imperial pint, or one and a third of carbonate of lead in an imperial gallon.

Soon after I had treated the case of the whipper-in, a young man, Richardson, from East Hampstead, applied to me, with the worst form of lead palsy I had ever seen; this came on him when in service as footman in the family of Sir Willoughby Rooke, then inha-biting a mansion in the immediate vicinity of Ascot, and was attributed to drinking water contained in a leaden cistern. Recently I have seen other persons from the immediate vicinity of Ascot, suffering from various symptoms, which might be caused by lead, and, on inquiry, found that they were supplied by water which passed through the leaden pipes of pumps. I think it may be fairly deduced from the above facts, that the spring-water at Ascot contains a small portion of free carbonic acid, which dissolves portions of lead in passing over its surface, and it will readily account for the fact, surface, and it will readily account for the fact, that the leaden cisterns and pipes usually so innocuous, should occasionally produce such deleterious effects. The paralysis of the whip-per-in was entirely removed by alum, com-bined with guaiacum, and Richardson was very much relieved by the same remedy. From the almost specific effects of alum in vainters the almost specific effects of alum in painters' colic (a disease I have been frequently called on to treat), I was induced to try whether it would be found serviceable in the paralysis produced by lead, and have on many instances found it of the greatest service, although in many more it has been useless."

BRITTON TESTIMONIAL.-The subscription lists are still open, nor have the committee yet determined on the nature of the testimonial

THE QUESTION OF SEWAGE IN METRO-POLITAN SUBURBAN DISTRICTS.

SIB,—I hail with much gratification the ex-tracts from the pamphlet by Mr. John Leslie in your number of this day, not as proposing either to vindicate the charges or defend the conduct of those so charged, but simply on account of the attention of practical men being thus drawn through your columns to a subject, that however deeply it has apparently arrested public attention, has hitherto been only theorized upon. According full credit to my Lord Lincoln for his untiring zeal in the matter, any broad legislation cannot meet the particular difficulties of individual locali-ties; instead, therefore, of attempting to enter upon any discussion of this pamphlet, I will state the course I have taken in a suburban district, upon the wants of which, in regard to sewage, I have bestowed cheerfully much labour; and I would entreat our professional brethren, each in their own district to address their attention to the subject; such a mass of useful evidence would thus be obtained, that subsequent legislation thereon would, by a variety of provisions, become applicable to each individual case; the parties interested (making such reports) knowing best their own

(making such reports) knowing best their own grounds of complaint, which broad legislation may avoid giving relief to. The power of appeal from a parish or an in-dividual (described as existing in the Finsbury distict) would appear as of much advantage over the present irresponsible authority of most com missions.

I am not prepared with Mr. Leslie to charge any commission with malversation in the exe-cution of their duties : I sincerely believe their powers are too prescribed to afford the relief they would desire to give; and it would be absurd to imagine they individually were all Solons, and at their appointed conclaves could divine the wants of large districts. If in a public question, then, parties are too indolent to raise their voice as to their particular grievances, it cannot be wondered at that, as of necessity, broad legislation takes the place of detailed enactments upon fair ground of complaint, which would, so to speak, bring re-

lief to each man's door. I will set the example (instead of discussing the question at large) of confining myself to what has recently fallen within my own obser-vation; if such a course is approved and followed, then by a similar discussion, comes followed, then by a similar discussion, comes the suggestions for remedy, and, I again repeat, a mass of evidence would thus be obtained that must be irresistible, and cannot be expected to be within the knowledge of those to whom we look for relief through legislation. All commissions of inquiry can only grapple with broad facts, sometimes perverted for particular interests, and at no time developing the whole truth. Blue book upon blue book may be heaped, like Pelion upon Ossa and Ossa upon Pelion, and still the case of individuals, nay, of whole localities, may have been uncared of; if we are therefore longer silent, the blame is to a great extent with un.

I would state, as introductory to the remarks I would state, as included by to the seamed I intend making, that it must not be assumed that I condemn the deep sewage described in Mr. Leslie's pamphlet as constructed in metropolitun districts: confining myself to endeavour to shew my objections to such sewage in a suburban district.

No parish round London (that I am aware of) having the power of making a rate for internal operations of drainage, the appli-cation for relief must necessarily be made to the commission within whose authority the district chances to be situated; such, then, was the case which drew my attention to the subject: a large and respectably inhabited locality feeling they had no power internally, applied to a court of commissioners to form a new district, and by the authority they possessed to raise the necessary funds by loan, to be repaid through the medium of a rate within a prescribed period. It may be well to pause, and state the condition of this district with respect to drainage, as defining the position of most suburban districts; the ground, naturally rising, partakes of the acclivity of the balls—at the extremities of the boundaries to sorne considerable extent. The land when used for agricultural purposes was drained by boundary ditches, and the course of the hill water took that pointed out by nature, the whole of course flowing to the low lands. As the land became occupied by buildings, the front boundary ditches were arched over, but at no greater depth than they then existed, and the soil to the extent of these ditches was generally abandoned as public footpaths, under which was, and is, conveyed the filth of large neighbourhoods. In other cases, the ditches being in the rear of the buildings, drains were made thereto, but in this case the ditches were left uncovered. mention these facts particularly, as I shall presently have occasion to allude to them as a strong ground of complaint against the limited and perfectly inefficient powers of commissions to remedy such evils.

With reference to the subsequent argument, it may be well to state what would appear to been the intention of the original aphave pointment of such commissions to be gathered from the recital of all the old Acts of Parliament, viz., to drain low lands.

The commission alluded to as being requested to append a new district, have under their control a considerable district below their control a considerable district below high-water mark, many portions of which were constantly flooded. They some years since exercised scientific and sound principles by constructing large, deep, reservoir sewers, having their exit at dead low-water, protected by gates during the tide, and having a fall of two inches in a mile only to prevent the pressure of back water forcing itself up the drains communicating therewith. This effectually answered the purpose, not only of affording relief to house drainage, but also as draining the level. These sewers were after a time ex tended to outlying districts, which, partaking of rising ground, the sewers naturally were at a very considerable depth. Thus stood the matter when application was made to append this new district; the houses on the portion thereof from which the application originated being situated 2,500 feet apart; the hill water taking its course through the centre of a large open space, partially deposited in a pond, and eventually finding vent by an easy, tortuous, deep ditch to the low lands. I was startled by the proposition of the mode of affording relief to house drainage (the object of the application) by finding it was the intention to con-struct a sewer 15 feet deep in communication with a sewer 20 feet deep, to be driven through this pond to take the hill water from its natural easy course at an immense declivity, which may be imagined when I state, had it been constructed as a reservoir sewer with the little described tall, it would have been 50 feet deep at its termination. I then considered that no owners of houses distant 1,250 feet would attempt to avail themselves of the proffered relief, and the water, like that in an inclined bottle, would always be at the bottom, and certainly flood (at times of unusual high tides and extra ordinary run of hill water) the basements of all houses which had drains communicating, the heads of which were below the level of the back water; and I was confirmed in this by finding, that since the described continua-tion of the reservoir sewers in low land, the level was no longer drained, and basements frequently had water, under extraordinary circumstances, thrown back upon them to the ex-

tent of 2 feet in depth. I took the liberty of addressing the court, stating the thorough uselessness of such a sewer for the desired object, and that there was no reason why the hill water should be taken such a depth under ground.

I also stated my opinion that the vast ex penditure in the district in deep sewers had been money thrown away, to the damage of the rate-paver.

I have great pleasure in acknowledging the courtesy with which my communications were received, and the ready facilities afforded me

to assist in the inquiry. I then, after investigation, and having by the direction of the court been furnished with all necessary levels, suggested the construction of a small sewer near the houses on either side the common, to meet at a point of junction below the pond, and thence to take the natural course, which I found had a fall at its junction with these proposed new sewers of 13 feet, which, crossing a high road, say 10 feet deep, ould eventually have its vent into the Thames t a higher level, but a depth of 20 feet could never thus be diverted. I met, at first, with

some considerable opposition, but the eventual result was my report being agreed to unani-mously by the surveyors, and proposed by the court to be carried into effect.

I trust I shall have convinced your readers that, taking a rational course, commissioners of sewers are not such impracticable overbearing persons as they are frequently described ; they can have no private object to serve, but I be-lieve their powers are far too limited, and that we do not sufficiently and clearly define our wants. A sketch of the mode I would suggest I will, if acceptable, intrude on your columns at a future period.

Having put myself in communication with Mr. Chadwick, I have great pleasure in acknowledging the courtesy with which he has received it. GREENWAY ROBINS. Peckham, 8th August, 1845.

THE COURSE OF STUDY IN THE SCHOOL

OF DESIGN. I OBSERVE that your correspondents are continually arraigning the methods of instruc-tion adopted in the School of Design, conceiving that at the most they produce but inferior draughtsmen, while they leave the primary object of design entirely disregarded. Mr. Pugin has given up all hope of its producing any good, as there is not enough study of good, as there is not enough study or ure. Your correspondent last week finds nature. fault with some of the finest inventions of the fault with some of the finest inventions of the ancients; and those most modest remon-strators, the students, consider it utterly useless, as the directors do not adopt that course of study which they, in their wisdom, think fit to prescribe. But among them all, for my part, I have read no attempt to disclose a practicable remedy. Fixing the capacity to design as the object of his exer-tions the individual must first learn to draw tions, the individual must first learn to draw straight lines and curves of every dimension, and in every possible combination. He must proceed to copy forms of acknowledged beauty, the productions of men who have studied the beauties of nature and concentrated them in their works; which will form his taste, and enable him to perceive what it is that constitutes real beauty. He should then study nature, in order to enrich and vary his knowledge. He must observe and imitate the various turns and conbinations of leaves; the different forms of bodies, and most particularly the beautiful composition and arrangement which she everywhere presents; and, lastly, he must continually, unceasingly exercise himself in the production of works from his own imagination. These, I humbly conceive, are the most obvious means to the end proposed. It is clear that no one can design till he can make lines to express his intention, and to my mind at least equally clear, that he should not study nature till (as artists say) his cyc is formed. There are many humpbacked, crooked, ill-formed persons in life, but no one would wish them to be imitated; and this remark in a proportionate degree extends to all nature.*

Now, Sir, should you allow these theses to be true, allow me to apply them to the case in point. The professors of Somerset House first set a student to simple manipulation; they lead him on to the imitation of the best forms that can be procured, allow him the frequent review of beautiful designs of ornament, the loan of treatises on all the arts, and finally, to crown all, encourage him to design himself by the offer of prizes, and the great chance of employ by those gentlemen who offer them. This is at least my view of the case. If you deem this paper worth insertion, I hope these gentlemen will favour us with their remedy as an answer. I am, Sir, &c., Frith-street, Soho. J. MORGAN.

recently examined a contrivance by Messrs. Palmer and Stepney, carpenters, of Churchstreet, Camberwell, for putting together bedsteads without screws. A metal projection fastened into one part of the frame fits into a socket at the other, and one turn of the hand makes the juntion secure. It seems to us, from its simplicity and the saving of time effected by it, deserving of notice.

* Which proves that all nature is not fit for elementary study

RAILWAY ACCIDENTS.

Fi Tana obsurrence of two or three railway aceidents; wither simultaneously or in rapid sucand sometimes significant hints from those in matherity... Such has been the case lately on the occasion of two great concussions in the naighbourhood of the metropolis; both of them

neighbourhood of the metropolis, both of them erightating in the purest negligence. :: On the South-Eastern line, a train having been allowed to go away without its signal lights at the back, was in 'jeopardy from the possibility of an engine running into it; and an angine was accordingly sent off to realize the fear that was entertained. It is impossible to consoling any thing more groundly stroid than conceive any thing more grossly stupid than dispatching an engine at a rapid, rate after a train which was only in danger from the chance of any thing coming behind it. Going away without the lights would have been, as it hap-pened, of no consequence, for the train was the last for the day. It was only by dispatch-ing a special engine, that mischief could be done. done

On the London and Birmingham line, the morning was misty, and there was conse-quently more than ordinary danger in allowing the trains to be either later or earlier than usual. It was difficult to see further than a few yards; and by way of meeting the diffi-culty, the mail train was hurried forward till it came into violent collision with the luggage train. This, too, went out later than on or-dinary occasions; though, as we have already said, the obscurity of the morning rendered exactness in all the arrangements on the line particularly requisite. Such are the usual causes of all railway accidents ; for by a strange parteneness, whenever there seems to be a necessity for increased care, the persons em-ployed on a line are guilty of increased negli-

Mr. Bernal, a few evenings since, very properly called the attention of the House of Commons to the sublest property called the attention of the House of Commons to the subject, when Sir G. Clerk observed; "that although the Board of Trade generally found that, any suggestions they made were attended to by the companies, yet they, had no, power, whateven to enforce com-pleance. Is might cartainly be hereafter ne-cessay, to impose, some more efficient check on the relivery, companies for the prevention of seedents".

Sir Robert Reel also took occasion to say and with more than usual emphasis : " It is constantly brged that the accidents by sailways but no proportion whatever to those which add to body by stage coaches. That is no answer—it is a mere sophistication. We have sright to be insured that those who derive the profits from these railways shall take every possible precaution on behalf of the public. If by the employment of ill-qualified subordinate, officers these accidents are rendered inore likely to happen or more frequent, then it will be the duty of Parliament to step in and demand a reduction of the profits of those who are concerned in the railway, in order that the due precautions may be taken to in-sure the public safety."

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THE ASSOCIATION OF ARCHITECTURAL , THE ASSOCIATION OF ARCHITECTURAL DRAUGHTSMEN.—At the last meeting of the Association, Mr. Colling read a paper upon the churches of Norfolk, pointing out their peculiarities: the subject was illustrated by many original sketches and drawings. Trunch, Lutham, and Kospton churches give ample scope for the research of the antiquary or architect." The roofs of several of the buildmge moticed are well calculated to produce admiration, and the number and fidelity of their illustrations entitle Mr. Colling to praise for his industry. A proof of a lithograph of one of his quarterly subscription drawings was brought forward, to a copy of which each member is entitled. The Committee projects an exhibition of architectural drawings; if decided upon, it will open for a week upon the 1st September, the day of the *third* anniversary dinner.

THE BRITISH MUSEUM .- Last week the whole of the eastern wing of this building was disposed of by auction, in order to be removed for the erection of the new stone wing, to correspond with that on the western side, which is now finished. The foundation for the intended wing has been laid some weeks.

THE GLASS TRADE.

WE receive many complaints of the conduct of the English glass makers in keeping the price of that material much higher than it should be. They may be assured that they are acting most unwisely; they will induce fresh competitors to come into the trade, and lead buyers to the foreign markets, whence they may not be able to wean them hereafter. The Gardeners' Chronicle invites attention to the fact, that an agency for the sale of foreign glass has actually been established in London, and that any quantity, from a single square up to as much as would glaze a village, may be procured by all purchasers. "We have examined that glass, and can say that it is excellent. It is as good in quality as English sheet plass, called the second quality of No. 1; and thus far better—that the English glass weighs only 16 onnces to the foot, while this glass averages 18 onnces, a very important difference.

As to the price, we find the difference to amount to this. We quote English prices from the tariff circulated by Messre. Chater and Hayward.

| | English glass 16 of. to the foot. | Foreign glass 18 of. to the foot. | Difference againat the English glass, and in fayour of the buyer of fo- roign glass. |
|---|--------------------------------------|--------------------------------------|--|
| 6 by 4, and under 9 by 7 9 by 7, and under 12 by 10 12 by 10, and under 24 24 to 36 inches | 9s. 9d. 0 10 | 5d. 5 | 4d. 5 8 |
| 24 to 36 inches | 1 2 | 5 | 9 |

And if larger sizes are required, the only in-crease in price is 2d. a foot, up to the greatest dimension made abroad, which we believe is much beyond any thing that can be required for glazing purposes.

And here we see one of the most striking differences between the system of glass deal-ing in England and on the continent. An English glass-cutter tells you that he cannot cut you a square of glass 91 inches long, and 71 inches wide, unless you give him 1d. a foot more for it than if it is 9 inches long and 7 inmore for it than if it is 9 inches long and 7 in-ches wide. He sets out by charging in the first place 9d. a foot for little pieces of glass worth 2d. or 3d. If half an inch is added he claps on a 1d. more, until you arrive at the magnificent dimensions of 12 inches one way and 10 the other: for the new matter 2^3 and 10 the other; for that you must pay 3d. a foot more. And so he goes on adding 2d. a foot, till at last, by this ingenious manœuvre, he contrives to extract 2s. 3d. out of his customer's pocket, for that which is worth 3d ; or, taking his own exorbitant standard of value, he converts that which he admits to be worth only 9d. into 2s. 3d. Our calculating powers are unable to determine how many thousands are unable to determine how many thousands per cent. are pocketed by this scheme. That it is a mere scheme of trade is quite clear from the foreign practice. Messrs. Testa and Co. publicly advertized, that if their glass is under 40 inches long, they must have 14 francs per 100 feet, and if it is more than 40 inches long they must have 17 francs per 100 feet. This is a very reasonable advance, the necessity for which is intelligible. But the necessity for which is intelligible. But the English glass trade say that they must have from 1d. to 3s. a foot extra. So that an Eng-

from 1d. to 3s. a foot extra. So that an Eng-lish glass-dealer requires a greater advance upon a single foot of glass than a foreign dealer finds it necessary upon 100 feet." Ordinary English glass can be had cheaper than is stated above, but not so cheaply as it should be, and as manufacturers would find it to their interest to make it.

ST. PETER'S AT ROME .--- We learn from Galignani that the dome of this celebrated edifice has excited serious alarm. For a long time past, the cupola has been cracked in many places, and ten arches of iron, weighing 60,000 kilogrammes, have been placed so as to prevent its fall. It has just been discovered that the lanternino, above which rises the cross that crowns the edifice, is cracked through and through. The numerous lightning con-ductors, which had been erected by Pope Pius VII. for the protection of the edifice, remove all idea of this mischief having been the effect of a thunder storm. The lanternino is being surrounded by heavy iron chains, to prevent the cracks from extending.

Correspondence.

THE NEW DOORS FOR YORK MINSTER. S18,-In your valuable publication of the 15th July, 1 observed a letter from Mr. F. Tyrrell, of Tynemouth, near Newcastle, relative to the execution of three new doors for the west front of York Minster. Mr. Tyrrell is strictly correct in stating that the doors were originally made by Messrs. Scott and Wallace, of Newcastle. He says be considers it is only justice to name by whom the work was executed. I quite coincide in this opinion, but at the same time beg to state that when the doors arrived at York Minster, they were minutely inspected by Mr. Sydney Smirke, the architect for the restoration of the nave, and that that gentleman then distinctly declared "that he could not sanction the execution of the carving," and ordered Messrs. Scott and Wallace to take it all off the doors, and replace it by some other carving of superior quality. The contractors reluctantly renewed the carv ing, but only upon the lower part of the doors, where it now remains for the inspection of the curious; and they having subsequently refused to renew the carving upon the upper part of the doors, Mr. S. Smirke contracted with two of my fellow-citizens, viz., Mr. John Wolsten-holme, to renew the said carving, and Mr. George Coates, the joiner's work, the expense of which was deducted from Mesure. Scott and Wallace's amount of contract. The doors were again inspected by Mr. S. Smirke, and were again inspected by ant. S. Summer, and ordered to be fixed forthwith; the original carving was then carefully packed up, " and sent to the place from whence it came.

The above are " stubborn facts," and as a convincing proof of the great superiority of the work executed by Messrs. Wolstenholme and Coates, the very rev. the dean and chapter have intrusted the execution of the new doors for the north-west tower to their care. The door is nearly finished, and will be fixed during the present month, when the public will be enabled to decide upon the merits or demerits of the respective works.

Justice demands the above explanation; and as you are a consistent enemy of trickery, and as staunch advocate of fairplay, I hope you will have the good gras; to inact; this letter in an early number of THE BUILDER. — I am, Sir, &c. A. CONSTANT READER. Volt Aug 4 1845 Sir, &c. York, Aug. 4, 1845.

OF ST. GILES' AND IBLOOMBURY.

Sin,-My attention has been called to a Sir, My attention has been course as a letter in The Buthban of Saturday last, signed "J. S., Junr." (page 383), respecting a contract for some works now being performed at the School Honse of the Charity Schools of contract for some works now being performed at the School Honse of the Charity Schools of St. Giles' in the Fields and St. George Bloomsbury. I am surprised that the writer should have sent such a letter for the sale purpose, as it appears to me, of imputing to the committee of trustees of that charity, and to the architect (also a trastee, and a geateman, who has for many years given his valaal and gratuitous services to the enanty, both pro-fessionally and in other ways), improper motives in selecting the tender referred to. The facts are these; tenders were applied for to various parties, all, I belleve, subscribers to the charity, for the works required; and the builders were requested to state separately the cost of the bricklayer's, compenter's, and plasterer's works, and the cost of the painting. There were six tenders, as follows :-

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The committee unanimously agreed to accept G's tender for all the works. cept G's tender for all the works. Your cor-respondent, B, complains that the committee respondent, B, comparing that the commutative ought to have accepted his tender for brick-layers works &c., 72*l.*, as being 1*l.* under G's for that portion of the works, and E's tender of 23*l.* 10s., for painting, which together would have been 3*l.* 10s, under G's total. The tras-tees thought that under all circumstances it would be better to accept G's tender, that it would be inconvenient to have two sets of workmen, and that the difference of 3. 10s. was too slight a set-off on that account.

In consequence of this decision, your cor-respondent got a special meeting called (a very unusual thing) of the trustees. They assembled in a large number. A motion was made by A, one of the parties who had tendered, and a relative of B, that B's view should be adopted; but, after some discussion, the trustees present expressed so distinctly their con-viction that the decision of the committee was correct one, that A requested permission to withdraw his metion, which was granted, and I thought the matter had then been settled, natil THE BUILDER was this morning put into my hands. I should mention that H , whose tender for painting was a little lower than G's, deelined to execute the paintar's work only, so that the committee could not have done what B wished.

I am sorry that B's disappointment has induced him to act as he has. He should re-member that his tender for this trifling amount of work for the charity, exceeded the tender accepted by 377.! He had the decision re-viewed by the trustees, and now in your largely circulated publication charged the committee circulated publication charges the committee with unfairness, and infers that the architect recommended G's tender to be accepted, because he was "one of his own neighbours." When G's tender was accepted, the architect asked mie who be was; for although certainly "sne of his own neighbours," be did not previewsky know him.

I cannot imagine that the loss of this small contract is of any importance to your corre-spondent, but this I do know, that he has no ground for the complaint he makes against the committee of trustees of this charity, who, with other trustees, devote much time and at-tention to forward the objects of the very important and useful charity to which they are also subscribers. I am, Sir, &c.,

Aug. 11, 1845.

1000

A TRUSTER.

*** The name of the architect referred to which we have just now learnt, is an ample assurance to us, that whether the decision was the right one or not, it was not influenced by motive contrary to the strictest integrity and honou r.

🤐 - Atiscellanca.

THE GRAVE OF SIR WALTER SCOTT-WE are happy to learn that a monument at Dry-burgh Abbey, to the memory of Sir Walter Scott, will bed immediately commenced. Various obstructions and delays have occurred to interfere, with this pieus and patriotic duty. contemplated shortly after the death of the great minatrel. Sir Francis Chaptrey had premised a design, but died ere he carried his beention into effect. Mr. Allan Cunningham, the friend; and assistant of Chantrey, knowing the friend and assistant of Chantrey, knowing what/was proposed, draw a sketch of a monu-ment; and it is a melancholy and interesting fact; that, the last letter ever penned by "honest Allan" was one transmitting this sketch to Mr. Cadell, Edinburgh. The same day that he ment off his design for the tomb of Scott, Mr. Cunningham suddenly died, and followed his illustrious friends the next and followed his illustrious friends, the poet and and sculptor, to the grave. After a delay of thirteen years, the original object, however, will be attained, and beautiful as is the poet's tomb.in St. Mary's Isle (where nature has decorated the Gothia ruins with a profuse and picturesque wariety of foliage, and the mur-mura of the Tweed are heard in the diatance). the spot will be readered still more impressive by this external commemoration, the offering of gratitude and affection, combined with those higher and more solemn feelings which consecrate the grave of genius .- Inverness Courier.

NASMYTH'S STEAM HAMMER .- It appears that a patent for an invention similar to the above was granted so long ago as the year 1806. In the **Bepertory** of Arts," vol. ix., second bergeh. The patent was granted to William Deverell, of Charles street, Blackfriars-road, for "certain improvements in the mode of giving motion to bammers, stampers, knives, shears, and other things, without the applica-tion of wheel, pinion, or any rotative motion, by means of various powers now in common use." It does not however appear that Mr. Deverell, contemplated the application of his invention to the driving of piles.

ABCHITECTUBE IN PARIS.-The Art. Union remarks that the prevalent taste in the architectural improvements of Paris may be said to resolve itself into very opposite styles-that of the twelfth and thirteenth centuries on the one side, and on the other that of the Renaissance; both of which being carried to extremity-forcibly, on the one hand, revert to a period of barbaric art; and on the other to the character of a time which, with our best efforts at progress, we have not yet been able to rival. We have from time to time noticed the progress of the works in the churches of Paris, and described those of St. Germain des Pres, St. Germain l'Auxerrois, of St. Denis, and others. The whole of the interior decorations of some of these are variously painted -flowers and foliage are represented on the shafts of the pillars; and all the superior embellishments, statues, painted glass, and other paintings are in the style of the twelfth and thirteenth centuries. Notwithstanding the yet effective taste for antique architecture, it is yet surprising that in Paris such a feeling should have arises, where, in the memory of those professing such taste, nothing but pagan art was taught. This is, however, one of those extremes of which we have here so many art was taught. This is, however, one of those extremes of which we have here so many examples—equally in things great and small. It is an excess of that principle which main-tains the supremacy of early art. Among the architects whose works are most con-spicuous in Paris are M. Gau and M. Hittorf, both of where are previous of Colorne but both of whom are natives of Cologne, but Parisians by education. The predilection of the former is strongly in favour of the archi-tecture of the middle ages. It is to him that the erection of the new church in the vicinity of the Invalides is confided. This work is not yet commenced; the plans, however, are pre-pared. The position, on the contrary, as-sumed by M. Hittorf is more favourable: his name is connected with many of the most considerable architectural projects in Paris. A great part of the Place de la Concorde was planned and executed by him—he designed the candelabra here, and the fountains; also the elegant fountains in the Champs Elysées; he built the Cirque Olympique, besides numerous other edifices, domestic and otherwise. If evidence of his powers on a grander scale be demanded, it is only necessary to turn to the church of St. Vincent de Paul, which in 1824 was commenced, according to the ground plan of Lepere, but continued and finished for the most part by Hittorf, who has conducted the work since 1831.

REPARATION OF SEPULCHRAL MONU-IENTS .- The little church of Greatham, near Petersfield, whose lofty wooden porch, with its carved gable-board and crowning canopy of ivy, attracts the attention of the traveller on the Farnham road, has recently been much improved in its interior by the renovation of the pews on the south side of the aisle, at the expense of their respective owners, and of the parish, in conformity with those on the the parish, in conformity with those on the north side, similarly repaired about ten years ago; and the tomb and recumbent effigy of Dame Caryll, lady of the manor temp. Chas. I., has been restored at the expense of Francis Love Beckford, Esq., as her ladyship's more provided by a backgroup to prorepresentative, although he possesses no pro-perty in the parish, nor, it is believed, in the county. The restoration of the above hand-some monument was entrusted to Mr. Ubsdell, of Portsmouth, artist, who, having caused the alabaster and black marble to be cleansed, repainted the parts which had been originally coloured, applying ultra-marine and vermilion, so as effectually to resuscitate the gorgeous hues of former ages. It is to be hoped that the liberal example of Mr, Beckford will not he without its imitators, while such specimens of ancient art, mementos of human mortality and affection, and (where they speak sober truth) records of Christian virtue, may form integral portions of the decorations of churches; but, at the same time, the writer of this notice avows his opinion, generally that, except perhaps in large cathedrals, and even there he questions their propriety, the space monopolised by these erections were more suitably occupied by accommodation for living worshippers of God.—Hampshire Chronicle.

NEW CHURCH AT PRESTOR .- A new church is being built at Preston, the fund for erecting which is being raised by penny-a-week sub-scriptions; 600% has thus been obtained, and more is expected from the same means.

MONUMENT TO THE BROTHERS OF FATHER MATHEW .- A monument has just been exe-MATHEW.—A monument has just over cau-cuted in Tipperary to the memory...of. Francis and Thomas Mathew, Esquere bothers of the Rev. Theobald Mathew, from the design of Mr. James. K. Fabies, of that plates.... It is composed of a devescoloured megnesian dime The men is medangular... The operio stone. The plan is, rectangular. a The opena ing forms three fronts, each bearing a tablet for inscription, sermonated by three trifelinted depressed carved arches; there are mimerous buttresses, and crocketted pignaeles, segminated by carved finials. In the centre stands a equare edestal, on which is to rest a bust of the Rev. Theobald Mathew, covered by a projecting actagonal canopy. The whole is surmousted actagonal sunopy, The whole is summounted by a wrought Gothic cross ; the extreme width is 15 ft. 3 in., and height from the floor 24 feet.

Tenders.

| Unwin £2,380 Plumber £147 Stevenston | | rebuilding the house, No. 104, Oxford, under Mr. Lookyer. | |
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| Matthews. 1,996 136 Trego 1,996 73 For rebuilding the Star Brewery, Oxford-street . Mr. R. H. Abraham, architect. Furnival | ١ | Jnwin £2,380 Plumber £147 | |
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| For rebuilding the Star Brewery, Oxford street . Mr. R. H. Abraham, architect. Furnival | . :1 | Satthews.com1,996 | |
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NOTICES OF CONTRACTS ...

[We are compelled by the interferences of the Stamp; Offer to omit the names of the partice to whom tenders, Ar, are to be addressed. For the convenience of our readers, however, they are estored in a book, and may be seen on application at the offer of "The Builder," ?: % Keyly street, Covent-gardep.]

For the complete restoration of two Windows on the south-side of St. Thomas's Church, Salis-bury; also, for Cleaning and Whitewashing the interior of the same Church.

For the execution of Works on the Leeus and

For the execution of "To have a start of the start of the

miles. For the supply of 70,000 Latch, Gek, or lie Sleepers, and Fencing for 50d miles, or any past thereof, for the Ipswich and Bury St. Kanund's Railway Company. For the crection of a Wesleyan Propristary Colg

lege at Tannton. For the erection of a new Village Infirmary at Brampton, near Huntingdon, for the Lady Olivia Sparrow.

For the Construction of the Gas Works at Wells in the county of Norfolk, with all necessary apparatus.

For a supply of eighty fathoms of Yellow Deal Ends and Boards, in equal proportions, of the best description, to the Trustees of the Parish of Islington. Middlesex.

For the execution of the works on the Nottingham and Lincoln Railway, in two parts; 1 from Nottingham to Newark, being a distance of 171 miles. 2 from Newark to Lincoln, being a dist

tance of 153 mfles. For the construction of the entire Line of Rail-way through the County of Anglesca, for the Chess way through the country of Anglesca, for the Colleg-ter and Holyhead Railway Company. It is divided into four separate Contracts, being inspectively da-length & miles and 28 chains, 5 miles and 26 chains, 7 miles and 35 chains, and 8 miles and 60 chains, 5

muse and so comma, and some such as the second seco

Provident Institution.

For the taking down the present parochial school-house at Bethnal-green, and erecting a new

one on the same site. For the supply of about 18,000 sleepers for the Canterbury Branch of the South-Eastern Railway.

APPROACHING SALES OF WOOD, &c. BY TENDER.

In the Plantations of the Duke of Montrose, situate in the Parishes of Drymen and Buchanan, Stirlingshire : many Thousands of Larch Trees of some size, adapted for Railway Sleepers, Roof-ing and Joisting, and other purposes.

THE BUILDER.

COMPETITIONS.

The Committee for the establishment of Public Parks, Walks, &c., at Manchester, offer two prizes, one of 50 guineas and the other of 25 guineas, for the best and second best set of Plans (with estimates), for the laying out, &c., of the sites already The Board of Guardians of the Bridlington Union

offer a premium of 10% for a Plan and Specification of a Workhouse, the expense of which is not to exceed 2,000/., and to accommodate 150 inmates.

TO CORRESPONDENTS.

"Wood Models."-The correspondent who inguired as to architectural models last week, is referred to Mr. Smith, of 49, Millbank-street, Westminster.

"An Old Subscriber."-We have no doubl our correspondent can build over the passage without

correspondent can build over the passage without making the walls thicker, but the information sent is not sufficient for us to reply with certainty. "Subscriber" (Kensington.)—The structure in guestion could not easily have been made uglier. Its utility is unquestionable. "A Builder" (Clapham).—If the houses were

"A Builder" (Clapham).—If the houses were commenced before January 1st and shops are part of the original design, notice need not be given to

"S. C. Fripp" (Architect.)—The Glasgow Im-provement Act, better known as the Glasgow Consolidation Act, stands cap. 99, 6th and 7th

Consolidation Act, stands cap. 99, 6th and 7th of Victoria. "Constant Reader."—An edition of Bushell's price-book has not appeared since 1816. A similar work by Elsam has been published since, price 8s. Apply to Weale, of Holborn. "Cast Steel Bars instead of Bells."—Another correspondent desires to know where cast steel

ars can be obtained, and how they are to be

struck. "J. I." (Kennington Common.)-The district

surveyor was authorized to interfere. "The District Surveyors."—We cannot insert charges of improper behaviour or complaints, un-less accompanied by the name of the writer, not necessarily for publication, but as a guarantee of

their correctness. "R. G." shall not be lost sight of. "J. L." has our thanks. "Veritas."—We are sorry we have not space

"Veritas." -- We are sorry we neve not open for his letter. "A Young Bricklayer." -- Read Mr. Hosking's treathes on "Building," published by Longman. "U. S." (Clerkenwell). -- We shall be glad to see a specimen, and might then offer terms. "Extend to the Builder," next week. "An Architect" (Leamington). -- The design "be" he encound.

ADVERTISEMENTS.

TO CAPITALISTS. **R**EQUIRED, a GUARANTEE for Contractor for the Erection of a Splendid Building in Lon-don for a highly-patronized and well-understood purpose. The Guarantee will not be liable until the expiration of two years from the completion of the building, and it will be satisfactorily shewn, that the liability will be cancelled in one year. The Guarantee will have a security upon the building, and highly advantageous terms will be given.--Ad-dress W. W., 5, St. James a-square

dress W. W., 5, St. James's-square. SNOXELL'S PATENT REVOLVING WOOD SHUTTERS. WM. SNOXELL, 96, Regent-street, and 131, Chancery-lane. These Shutters combine Eco-nomy with perfect Security, having the edges sheath(d with iron ; the cost little/more than common shutters, and of such simple construction, that the largest establishments can be opened or closed in a few moments with the greatest possible ease without the use of machinery. One great advantage over all other revolving shatters consists in their being made without metal hinges, consequently cannot rust or get out of order.—Highly satisfactory references of their utility can be given to getablishments where they are now in use. PATENT OFFICE, S, CHANCERY-LANE, NEAR

be given to details binents where they are now in use. PATENT OFFICE, 5, CHANCERY-LANE, NEAR FLEET-STREET. INVENTORS requiring protection by LETTERS PATENT should apply direct to the patent OFFICE, as abore, where Patents can be speedily procured for the United Kingdom, &c., and by which a great saving of expense will be effected. CAVEATS are en-tered at this office, fee 11. is. DESIGNS of all kinds are REGISTERED. Apply at the PATENT OFFICE, 5, Chancery-lane, near Fleet-street.

Chancery-lane, near Fleet-street. PRIZES IMPORTANT TO INVENTORS AND PATENTEES. A GOLD MEDAL, value 1001. and a SILVER MEDAL, value 501., will be given by Mr. M. JOSCELIN COOKE. The Gold medal for the best SILVER MEDAL, value 501., will be given by Mr. M. JOSCELIN COOKE. The Gold medal for the best or Registered at the OFFICE for PATENTS and DE-SIGNS, 20, Half-Moon-street, between the 1st of Novem-ber, 1844, and the 1st of June, 1846. The Prizes will be awarded by competent judges on the 10th June, 1846. The conditions to be observed, together with instructions, charges, and every information for obtaining Patents in England or Foreign Countries, or Registering Designs, will be forwarded grains, on application to Mr. M. JOSCELIN COOKE, at the Office for Patenta and Registration of Designs, 20, Half-Moon-street, Piccadilly, London,

NOTICE TO INVENTORS. OFFICE FOR PATENTS OF INVEN-TIONS and REGISTRATIONS of DESIGN8, 14, Lincolu's-inn-fields.—The printed INSTRUCTIONS gratin, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Design Acts, may oe had by applying personally, or by letter, pre-paid, to Mr. ALEXANDER PRINCE, at the office, 14, Lincoln's-inn-fields.

Incoin's-inn-fields. HOT WATER APPARATUS. — The attention of architects, builders, and others, is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, stair-cases, conservatories, forcing and green-houses, manufactories, and warehouses, kilna, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some handreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no birkwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

DOLONCEAU'S BITUMEN PAVE-MENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granarics, Corn Stores, and Salt Warchouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwell-ing Houses, Porticos, Balconics, and Sheds. Price 3s. 6d. per square yard. BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Bailways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILLKINGTON, 16, Whart-road, City-road.

TO ARCHITECTS. IN consequence of many complaints having material having been used in the execution of Works where the SETSEL ASFHALTS had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorised CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

SEVSSEL ASPHALTE has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte," Or "Bitu-men," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. Stangate, near Westminster Bridge, Jan., 1845. Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

price 1s. *.* In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

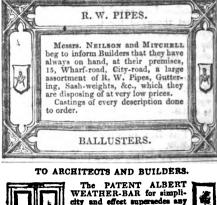
expressly mentioned, that "Chirage's Asplatte" was to be used. Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX. THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Furchase or Rent Houses or Property, or take Land or Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. By the Court, STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-

O BUILDERS and Others interested in

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The PATENT ALBERT WEATHER-BAR for simpli-city and effect supersedes any thing of the kind yet offered to the public. The expense varies from 18s. to 25s. Invented and manufactured by T. WILKIN-SON and Co., Ironmongers, 77, Regent-quadrant. T. W. also executes all kinds of Iron-works, ing by Hot-water, Fitting up St also and the horeing activation of the sector o

executes all kinds of Iron-works, Maircases, Warming by Hot-water, Fitting up Stores Ranges of all kinds; also Bell-hanging extensively exec Estimates given. n sad

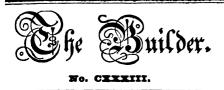
CAUTION.—In the Case of CHUBB r. COOPER and Another. The Court of Chancery, or April 92nd, 1842, decided that it is illegal for any person or persons to stamp, engrave, or in any manner put eur Name or Trade Marks (either by themselves or in conjunction with any other Words or marks) on any description of Locks or keys whatever, and that all persons Making or Selling Locks and Keys so marked subject themselves to legal proceedings : and woon the trial of the cause, CHUBB or DAVIS, in the Sheriff's Court, Birmingham, on the 17th April, 1844, the jury found a Verdict for the Plaintiff's, with 80. Damages for he illegal use of the plaintiff's name and trade marks apon looks not of their manufacture. — CHARLES CHUBB and SON. N. B. The Trade are represented in the second states of the second section of the trade are represented in the second state.

SON. N.B. The Trade are respectfully informed that C. CHUBE and SON have on sale every description of their New Pates Detector Locks and Latches.—Lists of Prices may be had a application, 57, St. Paul's churchyard.

PORTER'S GALVANIZED CORRU. GATED and PLAIN IRON ROOFING, and IRON HURDLE and PENCE WORKS, Grove, Southwark-The Patent Galvanized Iron Co. (Sorel's) process is now being used for the roofing of the new Houses of Parifament, a Woolwich Dock-yard, by the Trinaity Board, &c. It is particularly suited for the colonies, and is shipped by J. Porter to the East and West Indies, Cerjon, &c.; also sup-plied by him to several English, and to the Jamaics Reilwy Co.'s. Moreable Feeding Sheds and Pens; form-yard and fin-proof buildings of all kinds; a new description of Galvanized from Open Guiter, covered with the for the circulation of bot water, much cheaper than any other kind. The Trais supplied with Corrugated Plates, Galvanized or not, and with Iron Fences of all kinds.

supplied with Corrugated Plates, Galvanized or not, and with Iron Fences of all kinds. **DATENT GALVANISED IRON**, 100 PER CENT. STRONGER and from 300 to 300 PER CENT. CHEAPER than COPPER. The Patent Galvanised Iron Company are ready to Galvanize any Iron sent to their Works, either at Millwall, London; Pheenix Iron Works, West Bromwich; Lea Brook, Tipton, Staffordahire; or Broad-street, Birmingham, and to supply Rootan; Ship Sheathing, Fastenings, Chains, Rolts, Maila, Serews, Pumps, and the endless variety of artheles to which Iron, not sub-ject to rust, may be applied. The Patent Galvanized Iron is well adapted for Rooting, especially for Troitcal Climates, being cheaper and more durable than Ziac, Lead, Tin, or any other material, calculating weight, atrength, elegance, and durability; Sheathing Ships, Boing not more subject to clog by barnicles, sea-weed, or oxidation than any other Sheathing; Rolts, Chains, and all Iron Weet about Ships, Boats, and Steam Vessie, Alimar's implements, Agricultural and Orasmental Fencing, Rick Oover, &c. The validity of the patent was contested in Petrusry has before Iord Chief Justice Tindal, when among others the following eminent gentlemen gave evidence: -- Charles Barry, Say, P.R.S., architect, " that he is roofing the new Houses of Parliament with the Patent Galvanized Iron, and is peffectly have ordered H.M. steamer Spinx, about to be built by him, to be wholly bolted and fastened with Galvanized Hron. Captain Paulter, resident superintendent of tha Trinity Board for their buoys, &c., and found to be parisetly effective in protecting the iron from injury stace, the barry Eminary Ford Say, Soft from of Curring, Young, and Co., all de-posed in the strongest manner to the perfect effect of the from of your from the preservation of iron from rust. Amongst other testimonias the following certificates has been received from Lloyd's surveyors. 2. White Lion Court. Conthill, Februart J. 1845.

rust. Amongst other testimonials the following certificates has been received from Lloyd's surveyors. (Copy.) Lloyd's Register of British and Foreign Shipping. 9, White Lion Court, Cornhill, February 7, 1615. This is to certify that the undersigned surveyors to this society did, at the request of Messrs. Mains and Bawlinson. examine the Patent Galvanised Iron Sheathing apon the bottom of the Mary Stewart lying at Messr. Curfure, Young, and Co.'s Diry Dock, Limehouse, and laidy returned from a voyage to the Island of Lehabos, on the coast of Africs, and found it unbroken and perfect throughout the ship's bottom, and no appearance of corrosion, or oxide of iron upon its surface. The iron that had been exposed by unetaring the nail holes had become coated with sine; the sheathing was nearly clean and free from marine gross and animalenize. It appears to have naswered with sine; the sheathing was nearly clean and free from marine gross and the before mentioned voyage, and the ship has sailed without its being found necessary to do any repairs to it. PETER COURTERNAY, J. H. RICHIE, JAMES MARTIN, Agents - Liverpool, John Hamilton, Jun, Esq.; Fly-mouth, For, Sons, and Co.; Falmouth, G. C. and R. W-mouth, For, Sons, and Co.; Falmouth, G. C. and R. W-mouth, For, Sons, Red Co.; Falmouth, G. C. and R. W-mouth, For, Sons, Red Co.; Falmouth, G. C. and R. W-mouth, For, Sons, Red Co.; Falmouth, and Co.; Gloss-center, Cook and Butt; Bremen, Widow J. Lang, Son-eester, Cook and Butt; Bremen, Widow J. Lang, Son-F, Zachelli, Eaq.; Antwerp, W. Turner, Jun, Esq.



SATURDAY, AUGUST 23, 1845.



N the last number of our journal we expressed a hope that a statement which had been forwarded to us, to the effect that a *Gothic* stainedglass window was about to

be put up in St. James's church, Piccadilly, was erroneous; considering that consistency was as necessary in an Italian building as in one of the pointed style. We have since seen the design, and have been led to inquire into the circumstances connected with it. It seems that it has long been desired to fill the window at the east end of St. James's church, which is in six compartments and two stories, with stained glass. Nearly twenty years ago, Mr. Backler adapted to it Raffaelle's "Transfiguration," and had a small glazed model made, whereon he painted the picture. Recently, funds having accrued, the desire was revived, and a committee was appointed to carry it into effect, with Mr. Charles Mayhew, the architect, for honorary secretary. Mr. Fairs, in conjunction with Mr. Backler and Mr. Wilmushurst, submitted the "Transfiguration;" but, after inquiry and consideration, Mr. Willement, Messars. Ward and Nixon, Mr. Hoadley, Mr. Warrington, Mr. Gibbs, and Mr. Wailes, of Newcastle, were invited to submit designs. The two first being much occupied, declined. The last, namely Mr. Wailes, with a candour which is creditable to him, stated in reply, that having devoted himself and his workmen exclusively to the production of glass adapted to Gothic structures, he hardly considered himself a proper person to execute a window for a church "in the modern style." At the same time, however, he gave the committee his reasons for thinking that stained glass of the Norman or Byzantine period was fitter for a Roman church than copies on glass of Italian pictures. In return, the committee said they would be happy to receive any design he might think fit to submit, without restriction as to style.

Accordingly, Mr. Wailes submitted a design in competition with the other parties named, and ultimately it was selected by the committee and ordered to be executed. It is unquestionably an admirable design, and the drawing in which it is set forth is very beautiful; in style, however, it is, as its author knew perfectly well, as different from the church of which it should form a part as Sir Joshua Reynolds' "Virtues" are from New College Chapel, at Oxford, and will be quite as much out of place. It is essentially Gothic, and even if the vesica-pisces, agnus Dei, trefoil, and other forms characteristic of the period be removed, will still remain so, and if put up, will entail opprobrium on those concerned. Inigo Jones, Wren, and others, shewed if not their contempt for pointed architecture, at all events their preference for Italian art, by destroying the unity of our noble cathedrals and churches with Corinthian porticos and Ionic altarscreens,-a proceeding which now forms the only drawback from our admiration of their great genius. If any man were to attempt to do so now, he would be laughed at by the public, and trampled under foot by the Cambridge Camden Society. Why then is con-

THE BUILDER.

sistency to be disregarded in a reverse case? Can we expect to shew our preference of one style to the injury of another without the castigation of those who, following after, will see clearer? Gothic doors would hardly be permitted yet in a Grecian or Roman church, the idea would be universally laughed at,—no where approved of. Why are Gothic windows then to be suffered in such a position, or how can those who introduce them expect to escape the ridicule in which they would themselves indulge in the other case?

In the first letter from Mr. Wailes, which was read to the committee, he stated, that whenever he had been called on to fill " Roman windows " with stained glass, he had always inserted Norman glass, on the ground that that was the earliest style of glass painting known, and that as it partook strongly of the Roman character, so much as to be called Romanesque, the use of Norman glass did not entail holf the anachronism or incongruity that introducing copies of the works of modern painters did, as these latter were removed six or eight centuries further from Roman architecture than the Norman. "I, myself," said Mr. Wailes in his letter (of which we gladly give him the full benefit). "I, myself, see nothing in the pictures of the old masters, as that school is termed, which at all approximates to Roman architecture. The earliest Christian decorations we know, are found in some of the Byzantine churches in Sicily, and these have all the characteristic features of Norman or Romanesque glass; whilst in a copy of an ancient picture, the material of the window (glass) is totally lost sight of, in most cases differing but little from the effect of a transparency on canvas. Glass, from its intractable nature, can only be applied in one particular way, as an architectural mosaic embellishment.'

Further, when the artist submitted his design, which he said was totally at variance with the usual mode of ornamenting a Roman window, he urged that it was more in accordance with the Roman style of architecture than the manner adopted by most glass painters. Stained glass, he again maintained, could only be consistently applied in the manner of Roman mosaics.

Now, throughout this argument the artist and those who assented to his views proceed upon an entirely wrong assumption; they forget that St. James's church, like most of our "classic" buildings, is not after the ancient models, is not in what we understand, strictly speaking, by the term the "Roman style," but is in reality an Italian building, after the models produced by those great men who in the fifteenth century adapted ancient architecture to modern wants and their own views, and induced what was termed the revival :men who sedulously avoided any thing that was Gothic, and in whose works the principle adopted is totally different from the principles exemplified in pointed architec-The question is not which is ture. the best style for stained glass : if it were, assenting as we do to the opinion expressed by Mr. Wailes, that stained glass windows ought to be treated more like a mosaic device than a picture, we should have nothing to say. The question, however, is, what character of glass, if any, should be used in St. James's Church, and the obvious, incontrovertible reply is, NOT GOTHIC. We have great respect for the committee appointed (which includes the Bishop of London, and other names of high character), and would not willingly cavil at their decision' Feeling

however, strongly on the subject, and knowing full well that if this wrong step be taken it may be the prelude of many others, we strenuously call upon the committee to reconsider their decision dispassionately. The selected design, as we before said, is admirable of its class,—it is simply to the proposed introduction of it in St. James's Church that we loudly object, being satisfied that if persevered in, it will prove a great and serious mistake.

GOTHIC IRONWORK.

CONSIDERED IN REFERENCE TO ITS INFLUENCE UPON THE FUTURE DEVELOPMENT OF THE STYLE.

THE constraining influence upon style in Gothic architecture, induced by an exclusive desire for reproducing works, which have, or might have been erected at a former time, has been in part indicated by us in previous numbers of this journal.* A reign of taste, which subsists entirely on the produce of former ages, fertile as those ages may have been, bids fair soon to be exhausted, and already there is that resemblance in most of the designs of our new churches, which be-tokens the probable aspect of the future. It is vain for the architect to trust to no ideas but his own; and without the suggestions, which ancient models afford, he will either lapse into a system of routine, in which the principle of life is wanting; or will run in quest of originality, into eccentricity and bizar-rerie. But it is equally true, that unless the powers of the artist's own mind are exerted, and unless the advantages peculiar to present times are considered; if to the native ore the reducing flux be not added, the matter will remain an object of interest, but unproductive of those new combinations, to which the fusion in the crucible of art might have led. It is our peculiar humour at this crisis, to content ourselves with a very partial study of ancient models, and a total disregard of all internal resources. We have, therefore, endeavoured to urge the importance of an increased study of the principles of art in former times, and a more active use of the advantages of the preent. Amongst these advantages are a greater ability to execute substantial work, through our better knowledge of the properties of ma-terials. Many of the Gothic buildings, though constructed on principles, on which we have not improved, have failed from causes, which modern experience could readily avert. The disuse of uncoursed rubble, a better knowledge of the qualities of materials, the addition of proper drains and gutters, the employment of concrete, and the application of iron to constructive purposes, are some of the advantages which we may be said to be in possession of. Of these, not the least important is the knowledge of the properties of metals.

It must be considered, as one of the greatest merits in Gothic architecture, one which emi-nently distinguishes it from other styles, that each material, which became the vehicle of design, was invested with the precise character, which its peculiar physical properties and capabilities best admitted of. Whatever the occasional eccentricities, perchance observable occasional eccentricities, perchance observable in a style of such fertility, it was unquestion-ably the leading principle of the Gothic archi-tect to give to stone the appearance of stone, to wood the appearance of wood, and of iron that of iron. Though to produce surprise was one object in view, he did not excite it by means, which were not evident; the arrangements, necessary for construction, were not less apparent, than those belonging to de-coration, for they were identical. Whatever the space to be decorated, or the constructive object, he yet considered the particular advantages of the material employed, and held, that it was better to seize those advantages than to mimic, in one material, the form and treatment of another. In a screen, or canopy, the ar-rangement of mullion, and foliation was by no means similar in wood, stone, and metal, and in no case did he desire, by paint, or other mode of deception, to make any thing appear what it was not. Where metal was employed, we it was not. Where metal was employed, we find the mullions of less thickness, the crockets of greater projection, and in every respect the

* Vide ante pp. 39, 98, 171, 181, 217, 266, 314, &c., &c.

peculiar capabilities of the metals availed of, and still with the minimum of labour and ex. brasses, or by the simple use of a pair of pincers, a description of ornament was produced, having the true metallic character, and yet with less labour, than is needed for a yet with less labour, than is needed for a similar effect, in a casting. Our modern iron-work—especially the Gothic—betrays a com-plete disregard of the nature of the material. It has become bulky and massive, in a degree, more suited to stone and wood; the great beauty of the old ironwork, produced by hand, is wanting, through the absence of relief and undercutting, and the ability to supply a multitude of copies is co-existent with the almost worthless character of the work itself. It is the duty of the architect, to avail himself of every aid to the proper execution of his design; but in the present use of reating, facility of execution, and reproduction are deemed to be advantages, the which every beautiful form must bend. If, however, the former treatment of metal work were more generally understood, and the kitle labour required to produce an effect in wrought iron; we might hope to see a more securate definition of the limits of the two sits; whilst it would be found, that the labour now devoted to iron work, where rasting has been employed, often is actually greater, than necessary to produce a better effect, when the process is entirely by hand. In "The true Principles of pointed Architecture," Mr. Pugin has very clearly pointed out the original method, and there shewn, that with plates of metal, laid over one another, and perforated in forms, differing in each, the character of Gothic panelling is given, in a manner better adapted to the material, and with less expense than by the process of senting. The execution of larger tracery, and of folinge is not less simple. It is not only -in Gothic iron-work, that the misuse of the art of casting is apparent; the scrolls and antifixœ in modern wark gates, and railings are elabo-rate, but unsuccessful attempts to imitate a school of art, in which, at one time, the painter and the scalptor were operators.* At the best, where the casting has been improved upon by subsequent labour, that labour is extreme, and indeed in many cases, where the pattern is costly, without being of further use, the want of manual dexterity can be the only impediment: The increasing taste for decoration will probably remedy this defect, and if the operative skill be properly directed, we may

Though examples of Gothic iron-work are not very numerous, there is ample evidence of remarkable skill in the material. The railing, round the tomb of Henry VII. at West-ninster, the monument of Edward IV., at St. George's Chapel, Windsor, certain cano-pies to recumbent effigies in Westminster Abbey, the hinges of the doors at Lichfield, and Windsor, and other examples, still exist-ing in Earland and on the retingence. ing in England, and on the continent are proofs of the fact, and will afford hints, as to the mode of working. Had the material been as plentiful as it is now, and the ready mode of reducing it from the ore been as well understood, there is no doubt, that it would have played a still more important part in the construction, and decoration of buildings. But we have iron in abundance; it has been applied to purposes, which our ancestors did not dream of; it has floated on the ocean, and carried the passenger over the strait; it does the work of men's hands, and work, which hands could not do, and has become the way on which in hours, we count the days of former times. Bridges, beams, roofs, whole houses are now made of iron; every day it is being applied to some fresh purpose, and therefore it is a material, which has influenced, and will most powerfully influence the decorative character of our architecture. Such being the case, it seems, that it may be employed in Gothic architecture. It may not be the most important item in the future style, but it is at least one, which may advantageously be used, decoratively, and constructively to a much greater extent, than it formerly was.

There can be no reason that its use should

• Francia, who painted the "Dead Christ" in the Na-tional Gallery was a goldsmith, "Francia Aurifex" is in-scribed upon one of his works, -Quentin Matsys painted "The Misers," at Windsor castle.

rigidly be confined to such parts of a building we are accustomed to see it in, as railings, locks, and hinges; though in these, there is great scope for invention, and certainly for improvement upon their modern forms. may be applied to more fundamental constructions, without violating any real principle, and with a new field for the display of Gothic Gothic architecture. Roofs, window-tracery, slender shafts, pinnacles and crosses, spires of openwork, and font covers may be executed in it, with the best results, and without offence to the taste of any one, who really understands Gothic architecture, and whose love of pre-cedent does not blind him to the merit of originality, and the inspiration of inventive genurs. But, say the book-learned, "tracery! columns! spires! in iron!! this is contrary to all propriety, and there is no authority for it !" But, if invention is a thing, which cannot or must not be, then do we at once sorrowfully abandon the practice of the style, along with all such, as are content to forget the artist in the virtuoso, who venerate less the creative the virtuoso, who venerate less the creative power of mind, than the sweepings of centu-ries past, who live entirely in this compa-rative ignorance, and have no hopes in the prospect of the future, to all the cavillers at the Gothic style, during its, in such case, short-lived existence. We have ourselves urged the examination of ancient models, but we deprecate a state of-it cannot be art where imitation is the only end and object. Imitation is an aid to art, the matter out of which originality springs, and not the point, at which art stops short.

Those who are conversant with ancient models can hardly think of Gothic bridges, or of columns of iron, without reverting to many attempts to imitate the forms, and proportions of timber and stone, unhappily, common enough. We do not wish to see more constructions of that solid character. Co-lumns must not be painted like stone, but have the proper appearance, and proportions of the metal employed, whether iron or brass. In metal, we shall be able to carry out the forms of slender shafts with perfect security, and consequently better effect, than is dis-cernible in the old buildings. The desire of the Gothic architects to make these shafts perfectly secure, led them to use a material, different to that of the rest of the building; this they found in the Purbcck marble; but it was still requisite to band them at intervals to the neighbouring pier. Where these bands were omitted, the shafts have failed, as in the Temple church, where it has since been necessary to tie them with iron to the multion. Conse-quently, with iron we should be able to execute slender shafts with better effect, than in the original manner. It is well, sometimes, to listen to an openet, and we quite agree with the following remarks: —"The grove at the east end of Salis-bury cathedral, which, like the banyan tree, seems to be composed of pendants from the roof, in different dimensions, rather than columns to support it; beautiful, indeed, but so fragile, that the blow of a stick, or the movement of an awkward visitor would put the whole fabric in peril. If, instead of a friable stone or marble, the shafts were made of brass, the mind would relax into that security, which is ever the first requirement of our art." Salisbury cathedral is a remarkable instance of the use of slender shafts, and it cannot be denied, that our satisfaction would be greater were those shafts of metal. spire should not be, like that recently erected at Vienna, a reproduction of the forms of masonry, but should be of open work, not resembling the spires of stone at Freyburg, and elsewhere, but entirely sui generis, with the character of iron-work, and not with the form, and proportions of stone. On the continent, it is not unusual to find windows entirely destitute of stone mullions, the tracery being formed in iron-work. It is possible, that this idea might be turned to some account, though the absence of stone mullions is attended with a poverty of effect, the colour of the iron-work, not contrasting with that of the window, when seen from the exterior. As a matter of course, in combining iron with other materials, it will to consider the effect of colour. be necessary

Thus we think, that in iron, we have one aid to the future development of style in Gothic

* Cockerell's Lectures on Architecture at the Royal Academy.

architecture, one of great importance, whose advantages were not unfelt by the architects of old, and were met by them in a manner, from which we can learn much in its more extended application. Hitherto in modern architecture, where iron has been used, it has been misused, and in employing it, it must be our endeavour to invest it with the character of ornament, for which its peculiar properties best adapt it; the masonic must be carefully avoided. When once so important a material is properly treated, and with the originality, which cannot fail to be the result, we may fairly hope to see a better style, influencing all parts of future Gothic buildings. E H

ASSERTED ABUSES IN THE WESTMIN. STER COURT OF SEWERS.

IN a recent number of THE BUILDEB WE nserted extracts from the pamphlet written by Mr. John Leslie, one of the Commissioners of Sewers for Westminster and part of the County of Middlesex, in which he alleges that great abuses have existed, and do still exist, in the Westminster Court of Sewers, in the waste-ful and extravagant expenditure of large sums of money, levied on the inhabitants for sewer's rates, by the building of new and the repair of old sewers. At the time we made those er-tracts we did not pledge ourselves to the accuracy of Mr. Leslie's statements, but gave incartion to them simply with a vious to juicate insertion to them simply with a view to inquiry.

At a Court of Sewers recently held at the Sewers Office, in Greek-street, Soho, a most important communication was made to the Commissioners from the Secretary of State for the Home Department, and which was read to the commissioners then present, and was as follows :---

Whitehall, August 13, 1845.

SIR,-I am directed by Secretary Sir James Graham, to transmit to you the inclosed copy of a pamphlet by Mr. John Leslie, one of the Com-missioners of Sewers for Westminster and part of Middlesex, to which Sir James Graham's attention has been called by representations from various parishes in Westminster, and I am to request that the Commissioners of Sewers will favour Sir James Graham with any observations they wish to make upon the allegations contained in this pamphet.

I am, Sir, your obedient Servant, slet, Esq., H. MANNERS SUTTON.

Lewis C. Hertslet, Esq., H. MANNERS SUTION. Clerk to the Commissioners of Sewers, 1, Greekstreet. Soho.

Considerable discussion then ensued as to the best course the commissioners should take in reference thereto; at length it was decided that the clerk do simply acknowledge the re-ceipt, and also state that the court will take it It was reinto their earliest consideration. solved that a committee be appointed at the next court at two o'clock, "to draw up observations, in accordance with the request of Sir James Graham," and that these observations should be prepared and laid before the court at their earliest convenience. Considerable excitement seems to prevail at this court, and among the rate-payers under its jurisdiction, with respect to this question of lavish expenditheir money; and each succeeding ture of court will be extremely interesting to the public, particularly the very large portion now so deeply engaged in the important question of the good and efficient sewer age of the me-

tropolis. For some time past, a very large sewer has been in course of construction along filou-been a course of construction along the several at a cester-road, Paddington. It was ordered at a former court, that a further length of 450 feet of this sewer be built, esti mated at 1,23/l. On the question being put that the order be confirmed, Mr. Leslie moved the following amendment:—"That the work for building 450 feet of severe in Club 450 feet of sewer in Gloucester-road, Padding ton, be not done until after a plan, section, and specification, carefully prepared, which must include every expense; and that when those plans, specification, & C., are prepared, that the work be thrown on on to public comthat the work be thrown op en to pu petition, by advertisements in the public parters and the weekly journal called The BULDER.

This amendment created In animated div cussion, on which the comma i ssioners divided, when there are the comma i state the lines cussion, on which the comma sisteners autors, when there appeared, ayes 6 = ler, Messrs. Biffin, Chambers Leslie. Noes 6 : Messrs. Donaldson, Eyre, Gutch, G. chairman, E, Willoughby.

This division was rather unexpected, and considerable excitement and confusion was the result in consequence of this near approach to what Mr. Leslie has been laboriously endea-vouring to effect for some considerable time past, that is, that every large work under this commission be thrown open to public competition, so that the rate-payers may by this means partake of the benefit which must naturally result from the adoption of a good and wholesome system.

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ON BRICKMAKING.

ON BRICKMAKING. Sig,—Having seen an account in THE BUILDER, (p. 182, ante), and considering it to set forth by far the best management of clay, together with other ingredients necessary for the purpose of making bricks and for their durability and colour, that I have ever before met with, I should feel much obliged if the writer of it would answer me the following questions, viz.:—Ist. After the clay is raised, what sized mesh the sieve should have for passing the scheet through before being thrown passing the ashes through before being thrown on the clay, and whether the breeze might not be reduced so that the whole might pass through the same sieve, as I have put breeze in the clay, and though not coarser than a common white pea, it has invariably blis-tered the brick in the burning. 2nd. How to reduce the chalk to that state capable of being intimately mixed with the clay; my reason for asking this question is, that I have a field of fine red clay that does produce ex-cellent building and floor bricks of a uniform red colour; I have also made floor bricks and pavings with the same clay that have burnt a pavings with the same clay that have burnt a very good white by adding whiting, &c., &c.; but the process of grinding chalk and manu-facturing it into whiting is attended with too great an expense for general purposes. Hence my wish to know a more easy process of reducing it by other means, if such can be done. I remain an attached friend to THE

BUILDER and A SUBSORIBER FROM THE FIRST. Wisbeach.

SIR,-Your correspondent asks first of all, what is the most advantageous size of the breeze to mix with the clay in brickmaking? As a general rule, I believe, it may be asserted that the smaller the better, so long as the extreme case of mere dust is avoided; for it will be evident on consideration that the smaller the breeze is the more thoroughly can it be incorporated with the mass of the materials constituting the brick, and the more uniformly they are blended the better will be the brick in every respect. With regard to the case in which your correspondent states, that he has used breeze "the size of a common white pea," which has blistered the bricks ia which it was used, this blistering must, in my opinion, have proceeded from some other cause than the mere consequence of the admission of breeze of the average size stated. I think the cause would more likely proceed from haste in burning, that is, that the bricks were not thoroughly dried in the stacks, when they are very apt not only to blister, but to crack; and if in such case they have not been well pressed into the moulds, every crack and joint in them will open. The proper sized meshes through which to run the breeze to get it of a uniform size is somewhat arbitrary, and depends in some degree upon the amount of labour intended to be given to the proper mix-ing of the clay, for it is clear that to obtain fine breeze it will require much care in its various siftings; the general sized mesh used in the neighbourhood of London varies from about three-sixteenths to three-eighths of an inch for the square of each mesh, say from about Fourto six wires to the inch; but a five-sixteenth mesh is as good as any, it neither being too I arge nor too small, but of a medium size, fit for almost any purpose.

Many brickmakers, however, use their breeze Many brickmakers, however, use their breeze uch larger than the above meshes would allow, hut, as a general rule, I would not re-commend such an extreme size to be used. The more thoroughly the breeze is incorpo-ated with the clay, the more likely is the brick o turn out well in the burning, as the heat if the more diffused through the mass than if only had particles of breeze scattered wough it in unequal portions and improperly ixed, which statement may be well illustrated

by breaking and examining a badly prepared brick, in which clinker breeze will be easily traced

With respect to your correspondent's second question, I can only repeat what I have already often said before, viz., that the more thoroughly the chalk is cleansed and mixed with the clay the more clear and uniform will be the colour of the brick. I scarcely understand what your querist means when he speaks of converting the chalk into whiting before he mixes it with the clay; that would indeed be too expensive, but if he calls washing the chalk turning it into whiting, then I can scarcely tell him what to do, as there is really no way of getting good

clean white stuff without washing. In ordinary purposes, however, the chalk is often merely broken into small lumps, and well slaked with water before mixing with the clay, but this method requires that the clay itself should be well kneaded and worked to mix the chalk and clay, otherwise the bricks will turn out full of white lumps, rotten, and of very poor quality. To produce really good bricks, the chalk ought to be washed in a bricks, the chalk ought to be washed in a common circular horse mill, and poured over the clay in a fluid state; this I take to be the only means of giving anything like certainty to the process. I have known many a clamp of bricks rendered almost valueless from the careless mixing of the chalk; and as a general rule it may be stated, that chalk cannot well be mired too fine end that it is more certain in its mixed too fine, and that it is more certain in its results if used in a fluid state before the clay is finally ground for the moulders.

I have seen some decent bricks, as far as regards colour, made in Yorkshire, without the application of breeze at all, or indeed of any other ingredient but the mere clay and a little chalk, but then they were coarse, and full of cracks, which appear to be characteristic of this mode of brickmaking. Brickmaking, as a separate trade, seems but little attended to in country districts, as it is not uncommon for mere farm labourers to turn their hands to brickmaking, as I have known in several cases; this probably accounts for the uniform coarseness of the bricks used in such parts of the country. JOSKPH LOCKWOOD. 6, Child's-place, Temple.

ART-UNION EXHIBITION.

THE works of art purchased by the prize-holders of the present year in the Art-Union of London, are now being exhibited to the subscribers and their friends in the Suffolk-street gallery. They are nearly 300 in number and form a very interesting collection. Although there are no leading pictures, the in-crease of taste exemplified in the choice of productions is highly satisfactory. A very judicious movement has been made on the part of the committee, who have commissioned Mr. Marshall to produce his excellent work "The First Whisper of Love" in marble, for a 300/. prizeholder, who deputed them to select. This branch of art has been as yet neglected by the society, and we see with pleasure their deter-mination of further encouraging this important department by offering premiums. Among the excellent pictures (of which there are not a few), we noticed the extremely clever work entitled "The Gaugers are coming," by Philip, which was committed to utter dark-ness by the Academy; Elmore's work, "The Origin of the Guelph and Ghibeline quarrel;" the fine landscape by W. Linnell, that wor-thily created a sensation at the British Gal-hery: a heaviful landscape by Willow. lery; a beautiful landscape by Müller; In-skipp's "La Cephaline;" Johnston "Trysting Tree," that was treated so ill by the British artists; some fine Lee's; one or two by Hart; a particularly good Clint, and many excellent specimens of Cooke, Pyne, Bright, Montague, Boddington, Kennedy, Witherington, &c. The water colours contain some favourable

specimens of Topham, Wehnert, the two Fripps, Bentley, Fielding, Richardson, and others. The two bronzes exhibited are in the highest

made by Stevens, fac-similes of which are to be issued in statuary porcelain next year. The Duke of Cambridge visited the exhibition on Saturday last, and was attended round the gal-lery by Mr. G. Godwin and Mr. Pocock, the Honorary Secretaries. His Royal Highness entered warmly into the merits of some of the pictures, and expressed himself as ever, warmly interested in the prosperity of the Association.

IMPROVEMENTS AT BRISTOL.

THE corporation of this ancient city seem determined not to be behind in the movement towards improvement new making itself felt. Amongst the most important projects is that of forming a new street between the terminus of the railways and Bristol bridge. If efficiently and wisely carried out, this cannot fail to prove of great value to the city. At a meeting of the town council, on the 13th instant, the Mayor, Bi J. P. King, Esq., said in the course of his admirable address "The necessity of this improvement will be abvious when I men-tion that the present road was only tolerable when the whole, traffic upon it was that from London eastward, and that it is now altoge-ther inadequate for the great railway traffic which traverses it not only from the east, but from the north, south, and west. The subject has been taken into consideration by the Improvement Committee, and a remedy recommended by them to the citizens, and the only thing which deterred the Improvement Committee from before bringing it forward was the great expense. It has been before the committee for two years, and that was the only obstacle. One of the advantages of a broad street into Bristol would be the ventilation and fresh air introduced into, at present, one of the most crowded districts; the better drainage of that part would be another great consequent improve-ment. If we look at the expense it does carwould be another great, consequent: improve-ment. If we look at the expense it does cer-tainly form an obstacle, but it is an obstacle we must get over. If the burden fall on us in one or two years it would be immense; but if the cost be spread over 20 years, it will be greatly reduced, and when put in comparison with the benefits to be derived, I do not think that the citizens will consider the taxation worthy to be set off against the advantages. One thing I wish gentlemen to guard against, and that is looking at the sum in the total only. If gentlemen would calculate what each individual had to pay, the sum would be found so mederate in comparison with the great improvements to he effected, that I do not think it would be feit. It is not the intention of the committee, nor the architects, Mr. Pope or Mr. Fripp, to re-commend the erection of magnificent buildinge. All that is recommended is a good wide street of 60 feet, leaving it to individual parties to construct such houses as they may deem most desirable for carrying on their business; by this means all the expenses attending emforcing strict uniformity in the plans will be avoided, and the street will still be, if not so handsome, as useful and sightly to the city. Another con-sideration, which I hope will not be lost sight of, is, that the money will be expended in our of, is, that the money will be expended in our own city, and a great part of it smonget the industrious mechanics. It will merely be an exchange of property, from one class to ano-ther—an exchange the best of any—from the wealthy to the poor. If the money was to go out of our city, I confess I should think more of it."

Another thoroughfare is to be improved, and Bristol-bridge widened. The Froome, and Bristol-bridge widened. The Froome, at present a source of infection, is to be deepened, and many other important steps taken. Relative to the proposed new street (Victoria-street it is to be called), we may mention that the length is 2,100 feet, and total width 65 feet. The number of premises re-quired to be purchased is 263; the number of lots to be created in the new street, allowing 18 feet to each lot, is 167. Frontage in ad-18 feet to each lot, is 167. Frontage in ad-dition to the above-mentioned will be gained on the proposed line of improvement to the extent of 1,800 feet, equal to 100 additional lots. It was estimated that the first division, commencing at the terminus and ending in Temple-street, would cost, allowing as a set-off the value of ground to be cleared and sold for building lots, 13,000*l*.; the second, com-mencing in Temple-street and ending in Thomas-street, 11,550*l*.; the third, from the corner of Longram of the Bed corner of Long-row to the corner of Red-Digitized by GOOSIC

cliff-street, 15,7401. The general estimate of the whole cost of making the new street, towith it, is 85,510%; towards which it was estimated that 44,220% would be obtained for sites for building, old materials, &c.; leaving the cost of the improvement 41,290/. This amount seems very large; without

however, now going into the question of the best means of opening a new road in the best means of opening a new road in the direction pointed out, we would repeat a re-mark made by Mr. Herspath at the meeting, and caution the committee against widening old roads instead of making new ones; the latter course wisely pursued will usually pay for itself.

The new Guildhall is approaching comple-tion, and the restoration of St. Mary Redcliffe is to be commenced immediately.

WORKS IN THE METROPOLIS.

NEW iron gates have recently been erected at the Albert Gate entrance into Hyde Park, from Knightsbridge. They consist of two openings for carriages and two for pedestrians, and are affixed to buttresses on each side, each but-tress being surmounted by the figure of a stag. The whole is lighted by six large gas lamps. Mr. Barry, the latter under that of Sir Robert Smirke. — The new church on the west side of Chester-square, Eaton-place, is nearly finished. The consecration will take place in about three weeks by the Bishop of London. It is to be dedicated to St. Michael, and will accommodate 1,400 persons. This is the fourth church which has been built in that portion of the parish of St. George, Hanoversquare, within the last few years.—On the south side of Vanxhall-bridge-road, Pim-lico, the sites for two new churches are already marked out.—A new Roman Ca-tholic chapel in the Gothic style is in course of constinue and parial parameters. of erection, and rapidly approaching completion, in Farm-street-mews, at the back of Mount-street, Grosvenor-square. It is to give of accommodation to between 1,400 and 1,500 persons.—On the 1st instant, the founda-tion stone of a new church in Charlotte-street, Fitsroy-square, was laid by the Bishop of Lon-don. It is to be dedicated to St. John the Evangelist.----The works connected with the Victoria Park are now in very active operation, and considerable progress has been made in the principal lodge entrance in the approach from Bethnal-green, which is being built in the Norman style of architecture. Adjoining this, the piles have been sunk in the Regent's Canal for the erection of the suspension bridge, which is at an angle of the two roads from the Hackney and Bethnal green roads. Nearly the whole of the paling has been placed up round the park, and on the roads through it there is a handsome iron railing.

IMPROVEMENTS IN CHELSEA. - The Bill "for better paving, lighting, cleansing, regulating, and improving the parish of St. Luke, Chelsea, having received the royal assent, it becomes incumbent on the parishioners to see that its powers are wisely exercised. Its operations are to be guided by forty-five commissioners (to be elected by the parish), and five nominees. A society has been formed to promote the welfare of the parish, and they have issued a list of gentlemen eligible to serve as commissioners, who seem well quali-fied for the office. The parishioners should watch jealously lest the public good be made to yield to private interest. OPENING EXHIBITIONS TO THE PROPLE.-

The Royal Hibernian Academy, in order to enable the operative classes to visit the exhibition, reduced the charge for admittance to one penny. 1,300 persons availed themselves of it the first day, and the number afterwards increased to more than 4,000 a day. Not the slightest disorder occurred.

New Town Hall, North Shields.-The new Town Hall at North Shields was opened on Tuesday week. The interior of the building is said to be handsome, and well adapted to its purpose. Besides being used by the magistrates as a justice-room, the hall is intended as a repository for works of art and portraits of eminent persons.

IRON AND THE IRON TRADE.

SCARCELY any change has taken place in the price either of pig or bar-iron since our last quotations.* In the former some large sales have been effected at 62s. 6d. and 65s., and the market remains firm at the latter price. Rails are in good demand at 91, 10s. per ton.

The admission of British iron into France duty free is undergoing the most serious con-sideration of the French Government. The fact of Great Britain and other countries now so largely extending their navies by the con-struction of iron vessels has led to the raising of this important question. The preliminary investigation has been referred to the general council of mines, which, after examining the progress of metallurgy in France, and the cost of iron in England, Belgium, &c., is to decide whether iron shall be admitted into France duty free, or whether such duties shall still be levied. While on the subject of iron, it will be interesting to many readers to trace it will be interesting to many readers to trace the progress of its make during the past cen-tury. In 1740 the quantity of pig-iron pro-duced in England was only 17,000 tons, from fifty-nine furnaces; in 1750, it had increased to 22,000 tons; in 1788, the amount was 68,000 tons, and 121 furnaces; in 1806, the number of furnaces had increased to 169, producing 250,000 tons; and in 1820 the amount of pig-iron in England was 400,000 tons; while last year the total produce of pig-iron could not have been less than 800,000 tons, which has considerably increased in proportion in the first six months of the present year.

The use of iron as a material for bridge building has at length found its way to the United States. The first construction of this kind has just been completed at Pottstown depôt of the Pottsville and Philadelphia Railway: it is on the truss principle, 34 feet span, weighs rather over nine tons; the cords are of wrought-iron, and its cost is about 3251.

THE ARCHITECTURAL PECULIARITIES OF GALWAY, IN IRELAND.

BY W. F. FAIRHOLT, F.S.A.+

BEFORE I had visited the western coast of Ireland, my attention had been frequently directed, by the remarks of previous travellers, to the striking peculiarities of the city of Gal-way. I was told that the houses and public buildings still remaining — the relics of the "high and palmy days" of Galway, when its port was the centre of Irish commerce—exhi-list commerce—exhibited specimens of pure Spanish taste and style, and that the dark features and coal-black hair of the people also strongly indicated their Spanish descent. As I approached within a few miles of the city, I at once recognized the truth of these remarks; the peasant girls, who were returning from the market in that town, were, in many instances, strikingly dissimilar in figure and feature to the Irish peasantry I had before seen. Their slender, tall, and grace-ful forms, long black hair and keen eyes; their dress, a petticoat of intense red or rich brown, with a closely fitting black boddice, ending just below the waist; their arms and feet uncovered, and the head only shaded by the dark hood hanging down to the waist, - brought forcibly to the memory the paintings of Murillo. On walking through the town on the morn-- brought ing after my arrival, I could scarcely imagine myself in Ireland, so singularly Spanish were the relics of the old buildings exhibited at each step. 1 had never visited Spain, and knew it only from pictures; but N. P. Willis, the American, and our own countryman, Inglis, had both done so, and they had, in their repective notices of this town, recorded this curious feature. Inglis had indulged in "rambles in the footsteps of Don Quixote" but a short time previous to his visit here; and he says, "I had heard that I should find in Galway

some traces of its Spanish origin, but was not repared to find so much to remind me of that land of romance. At every step I saw some-thing to recal it to my recollection. I found the wide entries and broad stairs of Cadiz and Malaga; the arched gateways, with the outer and inner railings, and the court within-needing only the fountain and flower vases to emulate Seville. I found the sculptured gate-ways and grotesque architecture, which carried the imagination to the Moorish cities of Gra-nada and Valencia. I even found the little sliding wicket for observation, in one or two doors, reminding one of the secrecy, mystery, and caution observed, where gallantry and superstition divide life between them."

Fig. 1 delineates one of the most perfect of the ancient residences of the town; it is known as "Lynch Castle," and was the dwelling-place of that powerful family of merchant-men for many generations. Their names occur either as provosts, portreves, or mayors of Galway, no less than ninety-four times between the year 1274 and 1654, and the last mayor of the family in that year resided in this mansion." A row of gargoyles run round the summit, precisely similar in style to those so commonly seen in Spanish ecclesiastical and other buildings, of which the pictures by Roberts furnish so many fine examples. The windows have been modernized, and all the mullions and tracery that no doubt once existed have dis-appeared.† The mouldings that now surround the upper portion of each are in their original state, and are exceedingly rich in detail, and beautiful in workmanship. The corbels which support them flow at the ends into elegant foliations, and sometimes surround small shields bearing the arms of the family and its alliances, while the outer angles of the moulding which springs from them are sometimes similarly decorated. A blank window occurs above the two to the spectator's right hand, between the second and third stories, where the original tracery remains; it is divided by a central mullion into two lights, and a transom beneath allows a small space between that and the outer frame-work to be devoted to a display of decorated masonry resembling a Gothic canopy. The window on the first floor on the same side of the house is equally peculiar, but in a different taste; the mouldings are supported by shields of arms; a lion stands above, supporting a circular piece of enriched above, supporting a circular piece of enricate masonry, containing in its centre another shield. The execution of this bas-relief, and of one very similar on the other side of the mansion, is very peculiar, and indicative of its southern origin; the surface is cut in very low relief, and the entire depth of the carving forms a straight side, raised at once from the wall, when viewed at an angle. Over the principal door is another heraldic display similarly executed, and enclosed in a frame-work of orna-ment and coat-armour. The door beneath has no decoration, and is not ancient in its character; the smaller door beside it preserves a few decorations similar in style to the windows above. At the side of the mansion, beneath the further second-floor window, are projecting supports for a balcony; and the house alto-gether is a striking and remarkable specimen of the Spanish taste of its builder.

Many other such mansions exist in the town, but they are in nearly all instances suffered to go to decay and ruin. There is one avenue known as "Dead Man's Lane," but which formerly bore the title of " Lombard-street," from its being thickly populated with the rich mer-chants of Lombardy; it has on both sides of the way a row of these highly decorated stone houses, standing roofless and untenanted, with-out a floor remaining, and the walls falling gradually away at the summit. From being the homes of wealth and luxury they have sunk down to receptacles for the dirt and filth of the lowest and most neglected of the poor of the town, who congregate about them, and are to

See ante p. 381. + We are indebted to Mr. Fairholt and the committee of the British Archieological Association (Lord Albert Conyng- han's division, if we may so describe it), for their ready com- plance with our request to be allowed to transfer the follow- ins the our request to be allowed to transfer the follow- ins paper from the second number of their journal (pub- lished by H. G. Bohn, York-street), which is full of interest- ing matter, comprising papers on "The Transmission of ob- jects of Antiquity to our times," by the Rev. Beale Post, "Ragland Castle," by Dr. H. Edwards : "Anglo-Saxon Masonry," by Mr. J. G. Waller; "The Nimbus," by Mr. Thos. Wright; "The Ancient Trassures of the Exchequer," by Mr. W. H. Black, &c. We hope shortly to refer to the journal of the other division of the association which also contains several valuable papers.

[•] Their arms, a chevron between three trefoils slipped or, occur frequently on the public buildings and religious edifices of the town. Their crest was all ynx present grundward. The motto, Semper fidelis. They were descended irom Wisham le Petit, who came to Ireland in 1185, with Sir Hurch be Lucy. John De Lynch, the first settler in Galway, all but the middle of the thirteenth century, married the daughter and sole heires of William De Marsechall, whose father was the great Earl of Pembroke. † In Inglis's "Ireland" there is a plate, after a drawing by Bartlett, of "a street in Galway." in which this ancient house is represented as it may have originally appeared, although there is nothing said to give any other theat than that it is delineated faitfully as it now stands. I merely notice this to prevent a misconception of my own the tech. Their arms, a chevron between three trefoils slipped or,

be seen in some instances shrouding themselves be seen in some instances survouring themselves in the lower rooms, where the wind and the weather do not yet fully penetrate, the upper ones being unroofed and exposed to its full influence. The doorway here delincated (fig. 2), influence. The doorway here delineated (fig. 2), stands nearly opposite Lynch castle; it is a beautiful example among the many which abound in its neighbourhood. The deep moulding above is elegantly varied at each side, where the flat projection from the wall would only meet the eye, by an angular cutting resting upon the terminations of the hood moulding, as upon a corbel. The doorway is suched and the spaces between the arch and arched, and the spaces between the arch and the mouldings above is filled on each side with the montainty source is find on each side with a boldly sculptured triple leaf, radiating from a central ball flower: the way in which the heavy hood mouldings terminate in delicately executed leaves at the base on each side, is very beautiful.

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The hood-mouldings of all the doors, and many of the windows of these old mansions, always terminate at each side by a graduall aways terminate at each side by a gradually inward slope towards the wall, so that each rib contracts to one point, from whence foliated ornaments spring forward and entwine in the most quaint and beautiful manner. Two ex-amples are given (figs. 3), from doors in Lom-bard-street. They show the single and double bard-street. They shew the single and double turn of these ornements: when single, they invariably turn on each side toward the door. The trefoil is the prevailing ornament, as in the instance here exhibited, as well as on the doorway already described; the vine is also equally common, as delineated in the second example. The trefoil was the national emblem, as well as the armorial bearing of the powerful ruling family. the Lynches: the vine may, inas well as the armorial bearing of the powerful ruling family, the Lynches; the vine may, in-dependently of its beauty and fitness as an architectural enrichment, have been chosen as a badge of the staple trade of the town—wine, with which it supplied nearly all Ireland. In 1615, the records of the town state that "up-wards of 1,200 tons of Spanish wine were landed here for account of the merchants of Galway." Over many of the merchants of calway.

Over many of the gates are sculptured shields, displaying the arms and quarterings of the persons residing there, with all their family connections, as well as others containing their marks as merchants; very frequently the names of the owners are also engraved above them, together with the date of erection. One of the simplest and latest of these decorated doors bears the arms and crests of the families of Brown and Lynch, joined by intermarriage as proprietors, surrounded by mantling, and inscribed above each MARTIN BROWNE-MARIE

macribed above each MARTIN BROWNE-MARIE LYNCH, separated by a cross springing from L.H.S., beneath which is the date, 1627. The cause of the peculiarities that thus ex-isted in ancient Galway may be explained by the very singular laws and regulations made by the inhabitants for the exclusion of the patient risk. to the incluse propage is which native Irish; to the jealous manner in which they lived within their strongly walled town, enriched by an exclusive trade, and holding little or no connection with the people without. Among the bye-laws of the corporation for 1516, it was ordered, "that no man of the town hold, it was ordered, "that no man of the town shall lend or sell gally, botte, or barque, to an Irishman." And in 1518 it was ordered, that none of the inhabitants should admit any of the Burkes, M'Williams, Kellys, or any other sept into their houses; "that neither O ne Mac of Galway." Hardiman, the historian of this town, has given many other curious entries from these laws, which shew that Spanish pride from these laws, which shew that Spanish pride and jealousy operated most forcibly upon the ruling powers of the town. He engraves a curious map of the town in 1651, which gives a bird's-eye view of every building, and dis-plays the strong walls and bastions with which it was encompassed. He observes that this map "gives an accurate idea of the former opulent state and magnificence of Galway, adorned with superb and highly decorated buildings, and surrounded by every requisite for security and defence which either art could suggest or wealth command : it was universally suggest or wealth command; it was universally admitted to be the most perfect city in the kingdom, while its rich inhabitants stood con-spicuously distinguished for their commercial parsuits, public zeal, and high independence of spirit." A brief notice of the rise and decline of this town, gleaned from Mr. Hardiman's quarto volume, may be here acceptable. In 1124 a strong castle was built, and the town put in defence, to the great jealousy of the Munster

men. between whom and the men of Connaught, men, between whom and the men of Connaught, of which Galway was the capital, a deadly enmity existed, and which continued until very recent times.[•] In 1132, Connor, king of Mun-ster, dispatched a body of troops under the command of Cormac M'Carthy, who took the castle, put all the inhabitants to the sword, and, after destroying the castle and town, soon after defeated and slew Connor O'Flaherty, the lord of Lar Connaught II 1140 after recoverof lar Connaught. In 1149, after recover-ing themselves from this invasion, they were doomed to another from Turlough O'Brien, the new king of Munster, who did them nearly as much mischief. With indomitable perse-verance the inhabitants soon righted again, and in 1154 the ships of "Galway Dune" and of Conmacnamara were out upon an expedition to the northern part of the kingdom. After the invasion of Ireland in 1170, the

After the invasion of Ireland in 1170, the castle was fortified, and the town put into a state of defence. It at this time consisted of a small community, composed of a few families of fishermen and merchants, principally under the protection of the O'Flahertys, who held the castle and surrounding territory, as feudal lords, from the kings of Connaught; but it ultimately came into the hands of Richard de Burgo, and became his principal residence, and finally the capital of the province, which it still continues to be. Ile fortified against the incursions of the Irish, and appointed a magis-trate, called a provost or bailiff, who governed the inhabitants and established laws. It now the inhabitants and established laws. It now increased rapidly in wealth and importance, and being the stronghold of the De Burgos, was always receiving additional military strength; yet incursions became frequent and destructive. yet incursions became frequent and destructive. An entry in the pipe roll, temp. Henry III., informs us that Gillepatrick Mac Carthy was fined 50s. " on obtaining his pardon for burning the town of Galway, and for the death of David Bree;" a singularly reasonable rate of charge for so much mischief!

During the reign of Edward the First, the trade and prosperity of the town rapidly increased, and many new settlers appeared, lay-ing the foundation of its future wealth. A bout this time some of the most important of the old familles first came—families that continued for many centuries its wisest rulers and richest traders. The earliest settlers were the families of Blake Bedities before layer layer. of Blake, Bodkin, Ffont, Joyes, Lynch, Mar-tin, and Skerret.† With the spirit and enter-prise of these men Galway flourished greatly, foreign trade improved, and in 1277 Dermod More O'Brien, who resided at Tromra in Clare, received twelve tons of wine yearly, as a tribute from the merchants of the town, for protecting the port from pirates, and maintaining a suit-able force for that purpose. In 1303, the revenue called "the new customs," being an impost of three-pence in the pound, due from merchant strangers only, upon all commodities imported or exported, was farmed out for one year only to Richard le Blake for 32*l*. In 1375, the king's staple was fixed in the town for the sale of wool, sheep-kins, woolfels,

and leather; a privilege only before granted to Cork and Drogheda. During the fourteenth and fifteenth centuries the trade of the town wonderfully increased, both with France and Spain, from whence the merchants annually Spain, from whence the merchants annually imported vast quantities of wine, as well as other commodities. They were still as exclu-sive as ever, and as anxious to keep out the Irish, as well as all external rulers. For this purpose they exerted themselves to obtain from the pope a separate religious jurisdiction within their own walls, which was granted them; and they also procured from Richard III. a power to remodel their corporation, turn out the De Burgos, who had become exceedingly unpopu-lar, and elect a mayor and two bailiffs from their own body as rulers, and that no person, not excepting the king's lieutenant and chan-cellor (who were then privileged), should enter the town without their license. The first election of officers under this charter took place on the first of August 1485.

During the next century Galway was re-garded as the stronghold of the English govern-ment and trade. Its wealth increased, and its improvement as a town continued. About the middle of the sixtcenth century an Italian tra-veller is quaintly described in the annals as having seen at one view "the blessed sacrament in the hands of the priest," boats passing up In the hadds of the priest," boats passing up and down the river, a ship entering the port in full sail, a salmon killed with a spear, and hunters and hounds pursuing a deer; upon which he observed, that although he had tra-velled over the greatest part of Europe, he had reares before wineseed o sight which ere bigst

velied over the greatest part of Europe, he had never before witnessed a sight which combined so much variety and beauty." The downfall of Galway began with the fall of the Stuarts. In 1642 the fleet of Alexander, Lord Forbes, consisting of seventeen ships devoted to the Parliamentary party, landed at Galway, took possession of St. Mary's church, lanted ordnance against the town burt the planted ordnance against the town, burnt the surrounding villages, but did not gain the fort, which was, however, taken and demolished in 1643. Ludlow, the commander in chief, who, in 1657, was making the country around bitterly feel the "curse of Cronwell," was sent to by the people of Galway, to propose terms of capi-tulation, they having held out for the Stuarts. He coolly told them, that " if the Lord inclined their hearts to submission, such moderate terms would be consented to as men in their condi-tion could reasonably expect;" refusing all other tion could reasonably expect;" refusing all other arrangements, and also forbidding an appeal to the parliament. The principal nobility and inhabitants now shipped themselves off and abandoned the town, which surrendered, and was placed under the military government of Colonel Stubbes, who tyrannized over the in-habitants, fining them at the rate of 400%. a month, and enforcing payment at the sword point of his soldiers, who would 'ush' like ban-ditti into the dwellings of the wretched ihha-bitants to obtain it. He even seized and shipped to the West Indiës upwards of a thou-sand persons, of all conditions, under the pretence of insurgency and variance. The Jobs sand persons, of all conditions, under the pretence of insurgency and vagrancy. In July 1655, all papiets were ordered to leave Galway before the following November 5 and "the superb houses which, in the language of the Annals, were fit to lodge kings and princes, and described as the best built and most splen.

and described as the best built and most splen-didly furnished in the klugdom, were seized upon and occupied by the lowest of the popu-lace, until they were completely rulhed.³⁴ Not only did the houses of the merchantmen of Galway display their taste and magnificence; they are described by Sir Henry Sidney as "refined, of urbane and elegant manners, con-traction costs in from their weld and englished tracting no stain from their rade and anpolished neighbours." Heylin calls their town " a noted empire, and lately of so great fame with foreign merchants, that an outlandish merchant, meet-ing with an Irishman, demanded in what part of Galway Ireland stood." With such men of Galway Ireland stood." With such men the churches and monastic buildings received their full share of decorative enrichment, but of which little now remains. Civil war ori-ginally, neglect afterwards, and recent "im-provements," have all done their part in the demolition. There is still a convent in Lombard-street, possessing its old external features, but the collegiate church of St. Mary, origin-ally founded in 1320, contains the most interesting vestiges. The porch was crected by James Lynch Fitz Stephen, mayor in 1493, as a protection to the poor from the inelemency of the weather, and as a residence for the sexton, who still lives in the rooms above, which are reached by an external stair beside it. The door leading into the church (fig. 4), is a good example of the prevailing taste displayed throughout; the ornaments surrounding it re-sembling those so frequently seen in French architecture at this period, and known as that of Francois premier, or the Remaissance; but the slender pilasters shooting upward from the sides and centre, with their peculiar foliated pinnacles, shew its direct transmission from the country where that style originated. The windows of the church externally present the same features as this door, the tracery flam-

^{*} This must have been before 1569, when public mass was

[•] This must have been before 1569, when public mass was problibited. † flardiman, "History of Galway." The town never recovered these fatal wars. Charles the Second, with his usual ingratitude, behaved ill to the Galway men, who had incurred debt and ruin in his cause. He left them to destitution, but he gave the town the privilege of being a free borough of itself, taking in two miles in a direct line round it, to be called the county of the town of Galway. The walls and batteries were levelled by William III. in 1691 after the surrender, and fresh Government forts erected by the sea.





Fig. 1.



F'g. 2.

Fig. 3.



Fig. 7.

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boyant and elegantly varied, the corbel heads quaint and peculiar. Gargoyles, like those at Lynch castle, project from the roof, and are occasionally more grotesque. Within is a noble nave, separated from the side aisles by a series of columns of great solidity. They are now unfortunately perfectly plain, but only a few years since they were richly sculptured with wreaths of flowers and fruit, with canopies and figures of saints, in the style, as well as I could guess from the description I obtained, of the famous pillars in Rosslyn chapel. I could hear of no view taken while the church was in this state, and I could listen only to the regret of all who described the "improvements," and join with them. The day of spoilation came, "a great builder" came from Dublin, and as ornament was not necessary, and canopied saints "smelt of papistrie," the beautiful pillars were cut smooth, and the whole interior, to use the old woman's phrase, made "as plain and nate as a new pin." A blank surface succeeds the enrichment of the olden time, and the exquisite pillars have become mere blocks of stone to support a roof! Some few remains of its former glories exist. The tomb of Nicholas Lynch still stands embedded in the wall of the south transept, or " Lynch's aisle," as it is termed. Long may it lie, and continue as perfect and beautiful as I saw it when the sketch was made for the accompanying cut (fg. 5). It is in a remarkably fine state of preservation, and the beauty of the flamboyant tracery which fills the space between the outer and inner arch is perfect. I can hope to give but a general idea of this on the small scale I have represented it.

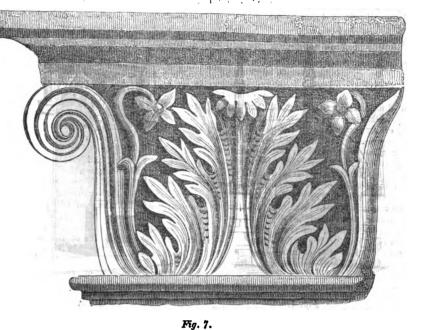
In the wall of the south aisle is the elegant recess here engraved (fig. 6). The shaft of the pillar which divides it in the centre is decorated with a spiral line from top to bottom. The base and capital are sexagonal, and support ogee arches filled with elegant tracery. A curious plain doorway is near this, with a circular cap-moulding, at each side of which crouch a hare and hound (fig. 7). The spandrils in the square-headed doorways, of the florid English style, were frequently decorated with some such quaint figures. The combat of St. Michael with the dragon was not uncommon, the saint occupying one side and the fiend the other. In the screen of St. Saviour's church, Southwark, a singular example occurs—a monk is chasing a fat pig, and endeavours to secure the animal by the tail as it runs down one side of the arch, while he scrambles up the other.

the arch, while he scrambles up the other. The font has originally been very beautiful, but it has suffered from mutilation. It is placed in the nave, on three steps. It is square, standing upon an octagonal base, richly sculptured with a row of trefoil or lozenge shaped leaves, having a smaller trefoil between, similar to the Tudor flower, which forms so common a finish to the screen-work of Henry VII.'s chapel at Westminster. Each face of the square basin is elaborately sculptured, with pointed arches filled with flamboyant tracery, or richly decorated quatrefoils. The Irish hound and three fleur-de-lys appear on one side; the arms of De Burgo on another. This font has been engraved from my sketch in Van Voorst's "Illustrations of Baptismal Fonts."

I cannot dismiss this imperfect paper without adding a few words on the interest and importance of Irish antiquities generally. Not only do many of their towns display architectural remains of much curiosity, but vestiges of early times of the most extraordinary character abound. Unlike the English peasant, the humblest Irishman has a love for the history of the great men of his country; he treasures their names, their deeds, and story; and he is always full of anecdote, and ready to accompany the traveller anxious to investigate the remains of "the fine ould ancient times," which he himself delights to descant upon, and to offer all information and service in his power. In his humble cabin the stranger always finds a warm welcome; and his deep-seated love of his native land urges him to treat any one as its friend who can lead his mind back to the days of its former glory.

WENTWORTH HOUSE.—Arrangements are making for the intended lighting of Wentworth House with gas, to be produced from coal in the immediate neighbourhood, the property of Earl Fitzwilliam.





ANCIENT CAPITALS FROM THE SOANE MUSEUM.

IN former numbers of THE BUILDER* we have given representations, from drawings by Mr. Richardson, of various ancient fragments now in the Soane Museum. The annexed engravings, figures 7 and 8, represent two other marble capitals of the same class, and afford pretty examples for the ornamentist or modeller.

AIR A MOTIVE POWER.

An ingenious application of the power contained in condensed sir to locomotive engines has recently been patented, and is now being exhibited, on a small scale, at the residence of Mr. Parsey, patentee, Spur-street, Leicestersquare, who courts the fullest inquiry into the pretensions of his invention. The engines are to be filled at a terminus with highly condensed air, previously generated and replenished from stationary receivers at the various stations of railroads as often as occasion may require. To the receiver or receivers of the engine so filled, to obviate the excessive force and gradual decline of pressure as the working cylinders draw it off, a receiver is attached into which the air passes till it reaches a given working pressure, which it cannot exceed but by adjustment of the engineer, as the self-acting regulator belonging

* See pp. 211, 234, and 247.

to the working receiver shuts or opens the inductive passage from the high-pressure receiver or receivers uniformly with the discharges from the driving cylinders, by which means as much power is carried by the engine as will propel it and a train any distance. It seems to have one advantage over steam, inasmuch as steam must be used as it is generated, whereas condensed air may be generated at leisure [and can be kept any length of time without losing its elastic or expansive power, and therefore can be used at any time it is required. Whether the invention will realize Mr.

Whether the invention will realize Mr. Parsey's expectations we cannot undertake to affirm. The working model has been seen in operation by many mechanicians and practical engineers, all of whom speak of it in terms of approval. Should success attend the carrying out the plan on a full working scale, a complete revolution must be effected in our railway system, as the wear and tear and numerous other expenses would be reduced to a mere fraction of what they are at present, many of the present causes of accidents removed, while any speed might be secured which could possibly be required. Our observations have been limited to locomotive engines, of course they apply equally to those which are stationary.

which are stationary. While Mr. Parsey has been devoting his time and ingenuity towards obtaining a motive power by means of a pressure from *within*, others both at home and abroad have been Digitized by

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attempting to produce the same effect and at the most expeditious and economical rate by means of a pressure from without; indeed the vacuum and plenum systems appear destined ere long to be worthy rivals for supremacy, when steam shall be known only as a thing

that was, or at most as an auxiliary. Mr. Nasmyth, in a letter to the editor of the Mining Journal, propounds a novel method of procuring a vacuum by the direct action of low pressure steam. He says "the object de-sired to be attained is, to remove the air en-tirely from the interior tirely from the interior of certain large chambers, so that they may, as it were, become vast magazines of vacuum. The ordinary mode of doing this is to pump out the air by air-pumps, which receive their power from a vacuum, created above or below the piston of a steam-engine. The principle I set out upon is simply this—why employ one vacuum to create another, when we could, by the pri-mary process, attain the desired object, without the intervention of any secondary action, or machinery, whatsoever? Now, let us ex-amine how this is best to be done. One cubic foot of water, converted into low-pressure steam, will, in round numbers, yield 1,700 cubic feet of steam, which will be capable (on being introduced at the upper end of an upright air-tight vessel) of displacing, or forcing out at an aperture below, 1,700 cubic feet of air; if we now stop the further influx of steam, and close the sperture below, and either permit the steam to condense, per se, or perform that duty by a separate condenser, we shall have for our 1,700 feet of steam, 1,700 feet of very nearly perfect vacuum (supposing, of course, that our vessel was exactly 1,700 cubic feet capacity). Now, if we suppose a com-munication opened between this magazine of 1,700 cubic feet of vacuum, and an atmospheric railway pipe of similar capa-city, we shall abstract one-half of its contents of air, and at once reduce it to the state of a vacuum of 74 lbs. to the square inch, or thereabouts. Here, then, we have done some work so far, with our first 1,700 cubic feet of steam. It will be evident that the remaining vacuum in the exhausting chamber, and that in the pipe it has partially exhausted, will be similar in extent—namely, each a half perfect vacuum. Now, let us suppose that we have, during the performance of this operation, discharged the air from a second chamber of like capacity to the first—viz., 1,700 cubic feet, and that that vessel is just filled with steam on a balance with the atmosphere: if before opening the communication between our condenser and this steam-filled vessel, we first open a communication between it and our first vessel which, as before described, is in the state of half vacuum, it is evident that this first vessel will abstract from the steam-filled vessel a very large portion of steam, until the two are then on a balance; on this simple system of mutual transfer we not only employ the first vessel to act on the second, as a preliminary condenser, but also, as it were, use the steam of the second vessel in great part twice over, inasmuch, as this transferred steam will so far act the same as fresh steam from the boiler in satisfying the wants of the first, or "used up" chamber: this being the case, the second up" vessel has its vacuum rendered complete, by being brought into communication with the condenser, while the first vessel has its complement of steam made up direct from the boiler; which steam, flowing in at the upper end, per-forms the air-discharging office to perfection."

NEW CHURCHES .- On Saturday, the 25th annual report of the Commissioners for Building New Churches (which was presented to Parliament) was printed. It extends to fifteen pages. It appears that 343 churches have been now completed, and provision has therein been made for 402,259 persons, including 225,217 seats appropriated to the use of the poor. There are 36 churches now in the course of building, to the erection of which the commissioners have contributed pecuniary aid from the funds placed at their disposal The commissioners state that plans for 23 churches have been approved, to be built at the places mentioned in the report. Applications have been made for further church accommodation to the commissioners from 74 places, which are detailed in the annual statement.

BARTON HOUSE, IN THE ISLE OF WIGHT.

HER Majesty the Queen having purchased the site of the old convent or oratory of Barton in the Isle of Wight, for the erection of a marine residence, the following notices of its history, from a paper read at the late Winchester meeting, by Mr. John Alfred Barton, of Barton village, may not be uninby Mr. John Alfred teresting to our readers.

In archæological remains, and more par-ticularly those of an early date, the Isle of Wight has been represented by some writers to be very barren, which, if true, may have arisen from various causes; and amongst them, doubtless, the sweeping devastions, which have so frequently passed over it in by-gone times, are to be considered as primary ones. Yet there is much that will repay the antiquary for a patient investigation, — much that may yet be brought to light, hidden beneath the soil; and amongst those relics which time has spared, not the least interesting portion, is that which comprises the old manorial residences of ancient families, many of which still remain in nearly their original state, and being generally in secluded situations, have almost en-tirely escaped the notice of the tourist, or the antiquary. A considerable list of these might be given, but I shall now limit my remarks to the ancient oratory of Burton, or Barton, which has survived to the present day, and, till within a very brief period, presented a curious example of the domestic arrangements of a different state of society from the present. This fine old place is, at this time, an object of peculiar interest, from its having so recently become the property of her most gracious Majesty, and from the demolition (withsmall exceptions) of the venerable walls, which for nearly six centuries have withstood the assaults of time and the injuries of man. It is true that another building is in progress of erection, and that taste and genius preside over the work; but it is difficult to forget that, with its destruction, the associations attached to the time-hallowed and hoary dwelling of a distant age are passed away; and, however we may admire the new creation, still we must regret the old and the familiar. Very fortunately, during the lust year, I had taken a series of sketches of the house as it then appeared, and as it remained till within these few weeks. I shall briefly describe the old house as it

lately stood, and then proceed to give such account of its uses and of its history as I have been enabled to collect from the scanty sources of information available. It is much to be regretted that these are so meagre and unsatisfactory; but the truth is, that the religious house of Burton having been dissolved long before the Reformation, it has escaped the at-tention of our writers on ecclesiastical antiquities altogether, and with the exception of a lew scattered notices of it in old documents, some traditionary matters, and the preservation of the building to illustrate them, its history is involved in obscurity. Barton Court House icas an extensive mass of buildings erected at various periods, and having that general character which has been denominated the Elizabethan style; but it is little to be doubted that it belonged to a period somewhat anterior, and that it offered a specimen of the domestic architecture of Henry VI.'s age. The reasons for the adoption of this opinion are, that the houses of Elizabeth's time are usually more ornamented, whereas the prevailing characteristic of Barton was a severe simplicity; and also, it is well known that when the oratory was surrendered in the reign of Henry VI. great alterations were made in the building; and to that era, therefore, the late dwelling house was to be attributed.

There were two principal fronts, the castern, in which was situated the porch entrance, and the southern; but from whatever quarter it was viewed, a picturesque and massive group of moss-grown walls, towering and elegant chimnics, and ornamented gables, the whole embosomed in fine old trees, formed a scene of the greatest beauty and cheerfulness com-bined. The castern front comprised wings, with a central porch of two stories, and was very beautifully varied in its combinations, and exhibited a rich and interesting assemblage of details. The southern front was of much greater extent, and of greater simplicity in its outline, yet exceedingly impressive and noble, are now being made to carry into e while, from its more weather-stained hue, it a pidly as possible the original design.

had an appearance of the most venerable kind. These two fronts are the only portions of the ancient building which will be preserved, and it is creditable to the taste of those entrusted with the restorations, that they should have spared these antique remains, although it might have been wished the chimnies could have been also exempted from destruction, as their elaborate and elegant design and massive grouping well entitle them to this distinction.

During the progress of demolition, a wall of very solid construction, the sole remainder of the original building, was brought to light; and it having been stated in the public papers that is was interesting with respect to its architecture, I made a visit of inspection to Barton, but was, unluckily, too late for the swift progress of destruction - a considerable part having been then demolished, and with it an which the clerk of the works informed me was a plain chamfered one, possessing little of architectural merit. He also stated that the discoveries, concerning which so much had been written, were of a much less important character than had been represented, the arch being precisely similar to that at the eastern entrance, and the only point of interest visule. That portion of the wall which remained, certainly presented no features to distinguish it from any other, with the exception of its antiquity. It was a plain but massive piece of masonry. I was informed by the same gentleman, also, that a few coins had been discovered during the demolition of the house, which had been sent to his royal highness Prince Albert; but he could give me no information as to

their age or character : they are of silver. To describe the interior distribution of a dwelling which has ceased to be, may seem unnecessary, but there were some peculiarities about that of Barton which may entitle it to notice; and although it no longer retained its original monastic character, its details were of sufficiently remote period to excite curiosity, and to gratify it. One apartment, about 12 feet square, bore the title of the chapel, and was very singular, having been apparently fitted up as a secret chapel for the performance of the mass, subsequent to the Reformation, and within the memory of living individuals, retaining an altar, crucifix, and other Gatholic accessories. The hall was also a spacious and nuble room, though subsequently divided into two, and had its ample fire-place at either end, and its hospitable and antique table, formed from one immense plank of oak.

The oratory of Burton, or Byrton, as it is originally written, was founded about the close of Henry the Third's reign, or the commencement of that of Edward the First, by John de Insula (a member of the ancient family of that name seated in the Isle of Wight) the rector of Shalfleet, and Thomas de Winton, rector of Godshill, and by them dedicated to the Holy Trinity, and endowed with certain lands and manorial rights, situated in the parish of Whippingham and elsewhere, in the Isle of

Wight. By the Winchester register we are informed that in A.D. 1290, the prior being then a captive in France, and the buildings of the oratory in a state of dilapidation, instructions were issued by the bishop that the house should be repaired, and other necessary things be done.

A.D. 1439, about 150 years after its institution, and in the eighteenth year of Henry VI. the oratory of Burton or Burton, was surrendered into the hands of the bishop of Wiachester by Walter Trengoff, the arch-priest, who afterwards became Archdeacon of Cornwall. This was undoubtedly through the influence of William Waindeet, the bishop; and by the same influence the oratory with its lands were granted to the college of St. Mary, at Winchester, founded by William of Wykeham, and with this foundation it has remained till the recent transfer to our most gracious queen.

DEVONPORT DOCKYARD .--- For many years past, the Government has contemplated the enlargement of Devonport dockyard, but various interests have hitherto successfully prevented its execution. The additional powers recently given by parliament to the Admiralty having placed that department in a better position, very active arrangements are now being made to carry into effect as yle GOO igitized by

EXAMINATION IN CURVES.*

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38. For what reason is an egg-shaped curve the best, and what is the best egg form for the section of a sewer?

39. What is the best egg shape or other curve for the section of a railway tunnel 40. In what way can a workman describe such egg formed curves for such purposes, full size, by simple continuous motion ?

41. What is an isometrical ellipse?

42. In what ancient Grecian building has the isometrical ellipse been adopted ?

43. Shew how a cylinder or cone may be cut to produce an isometrical ellipse. 44. State in which modern bridge the half of an isometrical ellipse has been selected as the form of the centre arch.

45. Can any reason be assigned why the ancient Greek geometrical architects selected the form of the isometrical ellipse?

46. And why should that curve be selected for an arch in modern bridge building?

for an arch in modera bridge building? 47. Shew how the varying ribs of a Gothic groin should be formed from any given curve for one rib, so that all the other ribs, differing in length of span, but rising to the same height, and with the same transverse section throughout, shall be perpendicular over their plan, intersect truly, and each spring at the same

distance from a point on the cap of the pillar. 48. Shew how several ribs of like sections, &c. as in the last can be placed so that their intersections shall be all of the same length.

49. Shew how several ribs, as before, can be placed so as to intersect truly, and although of various lengths and making various angles with each other on plan, will at the springing not be more crowded in one place than another.

50. What is a catenary curve? 51. Is it an asymptotic line? 52. Prove whether it is or not. 53. Show the simplest way of setting out a railway curves in a tunnel as the work pro-ceeds-whether the line is a portion of a circle or a line baving two points of contrary fixture to which the right lines of the railway at both ends are tangents to the curve at those points.

54. Supposing several radii proceeding from the centre of the eye of any ancient example of the Greek volute, at what point of any revolution is a tangent to the curve perpendicular to a radius ?

55. And at what point is a tangent most oblique to a radius?

56. Compare these with any modern ex-ample of the Greek volute, and point out the difference.

The study of architecture, engineering, and decorative art, would be greatly facilitated by a series of cones, right cylinders, circular cy-linders and spheres, to as large a size as convenient; some of them being cut to shew their several distinct plane sections; others to shew their their various distinct intersections with each other; and these accompanied by their several envelopes.

They would thus be proceeding on the same principle that the ancients made use of to ascertain true geometrical forms-true lines of beauty. The Greeks knew the right line, of beauty. the circle, the true form of the ellipse, the hyperbola, and the parabola, practically; and their relation to solids. They also knew other varying curves, but if they had ascertained their relation to solids, that knowledge appears to have been lost.

Some hundreds of pieces may be necessary to complete the illustration that would be desirable. Even the platonic bodies and their plane sections should be included, and the importance of all these may be shewn by askcube? In how many ways can a cube be cut by a plane section into two equal and similar parts? How can a cube be cut parts? How can a cube be cut by a plane section so that its half shall have five, in other cases six, and in other cases seven plane surfaces?

The knowledge of intersections and enve-lopes is essential for the construction of groins, skew-bridges, &c. Mr. Morgan justly says the student should first have his mind formed by drawing straight lines and curves of every dimension, and in every possible combination. To what extent is this done at present in any

* 800 page 870 ante.

British or foreign school from true geometri-cal forms? The better geometry is under-stood the more accurately nature can be exa-mined—nature in perfection is geometry. Jos. JOPLING.

29, Wimpole-street, 16th Aug., 1845.

NATIONAL ANTIQUITIES. Is the British Museum visited for curiosity

alone? Can there be a higher proof of the intellectual appreciation of its contents than the desire so universal for a more liberal endowment,—the off-repeated hope that it will be built as one national monument of which at least we may be proud? And the proposal to establish Museums of Art throughout the principal cities of the land,—was that no indication of the state of popular opinion? We say popular, for men do not discuss these questions as the interests of a class, but as the common benefit of all. Can any one doubt but that, after the expression of opinion in the House of Common upon the National Gallery House of Commons upon the National Gallery, that building must and will be ultimately given up? Can we suppose that when it is admitted by the premier to be inadequate, and that we have thrown away "the most magnificent site in Europe," it will be long suffered to exist as it is, or remain unaltered or unremoved? Not the most virulent opponent of measures con-nected with these subjects can be found willing to repeat a so stultified confession of faith. Very few we suspect would be found so courageous as to oppose them. Unless percourageous as to oppose them. Unless per-haps, the Chancellor of the Exchequer, for the time being, whose "Whole Duty of Official Man" is, apparently, to take from the public as much as parliament votes possible, and to return the little which government votes enough. We cannot, indeed, withhold the expression of our extreme regret upon the manner and arguments with which Mr.Wyse's motion, "To establish a Museum of National Antiquities," was met. Without a juxta-position of works of art of different periods, how can we estimate the past, or produce for the future? How can artists conduct his-torical works without a knowledge of the spirit of each age? Manners, habits, cos-tumes, ceremonial observances, and peculiar traits of national character are all incidentally or immediately connected with this study. Is there any one who does not feel an interest in there any one who does not feel an interest in there any one who does not feel an interest in the preservation of public monuments, who would not restrain the dilapidations, who would not restore them? Yet how shall we restrain, if we do not place them beneath the protection of public feeling; how restore, un-less we know the origin, principle, and style of their construction? But is not the study of the antiquities of Art intimately connected with literature? has it not an historical import-ance? He knows but little of the history of with literature ? has it not an historical import-ance? He knows but little of the history of civilization in Europe who has neglected this interesting witness of its progress. The French Government, the most liberal in Europe, has ever wisely considered the patro-nage of literature and art, and the protection of national monuments, as a stringent duty, and made it a distinct part of their adminis-tration. Those only who have read the docu-ments transmitted to M. Guizot by the Com-mittee of Art and Monuments can be aware of the proof it affords of the honourable feelof the proof it affords of the honourable feel-ing of the minister, and the general desire of the people to give effect to his intention. But in England we live under a different dispen-sation. History is here an old almanac; antiquity of no repute, unless as the record of fiscal regulations; and works, the evidence and illustration of manners, events, and arts, valueless, if not as tribute to the Treasury, or according to the gold and silver standard of the Custom-house. And we have, notwithstanding, an enlightened Government; and we standing, an enlightened Government; and we are, as we say we are, an enlightened people!! The Chancellor of the Exchequer reluses the appointment of a commission for the esta-blishment and maintenance of a Museum of National Antiquities, because, abroad, "these were the care of the Government, and in England they were not, for *custom* (or the Custom-house?) left the advancement of such objects to private individuals." Can any argument be more cogent? Sir J. Graham was equally concise. and equally argumentawas equally concise, and equally argumenta-tive. "Will you establish a museum?" "We will not." "Why?" "Because we have not!" and thereupon ensues the negative

without a division. But we do not despair; the ministers are better than their speeches; "the grave consideration" the chancellor re-"the grave consideration" the chancellor re-quires will be followed by the adoption of the measure which the country asks for. It is in measure which the country asks for. It is in cases of this kind that figures are more argu-mentative than facts; there is no solvent which acts so powerfully upon exchequer reasoning as the surplus on quarter-day.—Art Union.

NOTES IN THE PROVINCES.

Crosthwaite Church, Keswick, one of the most ancient in the kingdom, has recently been almost rebuilt at the sole expense of James Stanger, Esq. of Lairthwaite. The whole of the interior decorations were under the superintendence of Mr. Jones, the architectural carver and modeller of London. The alte-rations and adornments are said to have cost rations and adornments are said to have cost upwards of 4,000*L*.—During the past year the committee of council on education have made the following grants towards the erection of schools, masters' houses, &c., in Yorkshire:— 400*L* to Batley Carr; 400*L* to Honley; 188*L* to Bedale; 110*L* to Connonley in Kildwick; 65*L* to North Frodingham; 45*L* to Dalton; and a few other smaller amounts for less ponnlous places.—It is in contemplation at populous places.——It is in contemplation at Hull to enlarge and improve the forry boat dock. At a quarterly meeting of the Town Council, held last week, it was determined that Council, held last week, it was determined that means be instantly adopted towards obtaining plans and estimates. It is probable that an Act of Parliament will be applied for next session to empower the council to obtain loans of money to defray the immediate expense, and to levy funds in the form of borough rates, for the purpose of liquidating the loans and paying the interest.—A large body of quarry 1 mean have lately been employed in horing for paying the interest.—A large body of quarry 1 men have lately been employed in boring for. stone on the Weston Hills, for the erec-tion of the new docks at Runcorn, Cheshire, which when finished will exc.; tend nearly a mile in length. — Her Majesty and Prince Albert recently had. Mr. Webster's new patent hand-pipe and tile-machine exhibited and explained to them, and after seeing it in operation, gave instructions after seeing it in operation, gave instructions it is said to have the estate in which Osborne it is said to have the estate in which Osborne. House stands, consisting of about 1,500 acres, thoroughly drained upon Mr. Webster's plan. — On Monday last the foundation-stone of the New Church at Middleton, near Leeds, was laid by C. J. Brandling, Esq., assisted by the architect, Mr. J. B. Chantrell. Upwards of 2,000 persons were present, including most of the neighbouring clergy and gentry.— The Commissioners of Woods and Forests have just determined upon several improvements in just determined upon several improvements in the Home and Great Parks at Windsor, according to the designs of Mr. Edward Blore. A lodge is to be erected at the en-trance to the Great Park, close to Cumberland Lodge the residence of Major General trance to the Great Park, close to Cumberland Lodge, the residence of Major General Wenyss, the manager of the farming esta-blishments of his Royal Highness Prince Albert. The gardener's cottage close to Adelaide Lodge, in the Home Park, is to be taken down, and a picturesque building to harmonize, in the style of its architecture, with Adelaide Lodge, erected on its site. and fourteenth centuries, during the reign of Edward III. There will be two spacious school-rooms underneath, with every conveni-ence, and the whole will be executed with a fine red stone found on the ground.——A coped tomb (of which there is an example in the Temple church, London) has recently been erected in the churchyard of Hanley Castle, Worcestershire, to the memory of the late head master of the Grammar School. The following is the inscription, which is in capital letters of an ancient form :---

ABEL SMITH B.A. PRESEVTER ECCLESIF ANGLICAN: IDEMQUE LYDI VETEBIS PROXIME SITI MAGISTER DISCESSIT E VITA DIE DECEMBRIS XVIII ANNO SALVTIS MOCCALIIII #ATATIS XLY

have determined upon enlarging their church nave determined upon emarging their church according to plans prepared by Mr. J. Wing, architect. They propose 1st, To erect an aisle on the north side of the nave; 2nd, To lengthen the gallery at the west end; 3rd, To take out and widen the arch under the west side of the tower; 4th, To re-arrange the whole of the pews in the church, and make them into open seats of uniform size and height. The estimate cost is 520%. It is further proposed to erect a vestry at an additional cost of 210%.—A de-putation from Armagh had an interview last week with the Lord Lieutenant of Ireland to present a memorial representing the great ad-vantages which that ancient city possesses as the most suitable site for the new college in Ulster. His excellency stated that he would take especial care to place the arguments in favour of Armagh before Sir Robert Peel. During the first six months of the present year notices of the erection of sixty warehouses and of 1,645 dwelling-houses were lodged with the corporation surveyors of Liverpool. with the corporation surveyors of Liverpool. Since then several Hundred additional no-tices have been served. It is estimated that during the present year upwards of 2,500 new houses will be erected in Liverpool. After raising 600,0001. or 700,0002. for churches, the Free Church people of Scot-land determined recently to have a college, and twenty individuals instantly put down their names for 1,0002, each for the purpose. Since then they have commenced a subscription to build parsonages for their ministers, and in a few weeks 40,000%. or 50,000% has been raised for that purpose. _____St. Ives Bridge, the property of the Duke of Manchester, is at present undergoing numerous extensive re-pairs. Various minor dilapidations, evidently, however, more affecting the external appearance, than the actual stability of the fabric, having become manifest, the noble duke has employed Messrs. Harratt and Balbirnie, of Huntingdon, to effect this restoration. The new stone work of some of the piers has already been completed, and considerable preparations appear in progress for the other The wharf stairs and steps also, which parts. have been long in an exceedingly dilapidated state, are to be replaced by substantial new ones. West for some

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NEW METHOD OF PROTECTING WOOD PILES IN SEA WATER FROM INSECTS.

The destructive effects produced by the insect called by entomologists tereno navalis, or sea worm, on wood piles subject to the action of sea water is well known. In the Trinity pier, at Newhaven, in the Frith of Forth, so rapid were the ravages of this insect (which when perfectly formed bears some resemblance to a diminutive shrimp) that in the course of six years the piles were reduced from 12 to 14 inches diameter to 9 or 10 inches. At the Brighton pier in the course of a few years the whole of the piles in the outer head which were all 14 inches square, were reduced to 8 or 10 in some parts, and the second or third stations were also much injured.

Many suggestions have been made from time to time, and many experiments tried, having for their object a protection against this evil, but hitherto with no success. In the case above referred to the piles had been charred and saturated with boiling coal tar in an iron trough made for the purpose. Kyan's anti-dry-rot has been tried, in a few years the piles were quite perforated; Prichard's oil of tar was tried, and failed; Payne's process was also unsuccessful; asphalte hus been attempted, but, with the utmost care in driving, it breaks off.

Captain Sir Samuel Brown, R.N., in a letter to Admiral Sir Byam Martin, states that, from numerous experiments and observations, he is satisfied "that at present there is really no specific remedy against the attacks of the insect except iron nails." He proposes to encase the pile with broad-headed iron nails resembling scupper nails, but considerably larger, and says that in the course of a few months corrosion takes place and spreads into the interstices. He further suggests the adoption of squareheaded nails, which leave the smallest possible extent of the surface of the pile exposed. Experiments tried at the Trinity pier, Newhaven, and Brighton pier have fully established the effectiveness of Sir Samuel Brown's method,

THE COLOURS AND FORMS OF FURNI-TURE AND ROOM DECORATIONS.*

MUCH has been written within the last few years respecting the choice of colours and of forms in the chief articles of household furniture. At present, each individual selects for himself according to what may appear to him beautiful or fitting; but no very considerable progress has hitherto been made in laying down rules of taste to be followed generally. Indeed, it is a much disputed question whether such rules could be laid down with any thing like general sanction. A few paragraphs may here serve to shew the views entertained on these points by writers who have paid some attention to them.

Mr. Pugin makes the following comments pattern papers for hanging walls, where a wretched caricature of a painted building is repeated from the skirting to the cor-nice, in glorious confusion; door over pin-pacle and pinnacle over door. This is a great nacle and pinnacle over door. This is a great favourite with hotel and tavern keepers. Again, those papers which are shaded, are de-fective in principle; for as a paper is hung This is a great round a room, the ornament must frequently be shadowed on the light side. The variety of these miserable patterns is quite surprising; and as the expense of cutting a block for a bad figure is equal, if not greater, than for a good one, there is not the shadow of an excuse for their continual reproduction. A moment's reflection must shew the extreme absurdity of repeating a perspective over a large surface with some hundred different parts of light; a panel or wall may be enriched or decorated at pleasure, but it should always be treated in a consistent manner. Flock papers are ad-mirable substitutes for the ancient hangings, but then they must consist of a pattern without the forms relieved by the introcolour, with duction of harmonious colours.'

Mr. Loudon, in a work to which we have before had occasion to refer, takes the following view of the relations which ought to exist between the several parts of a room as to colour :--- "Much of the opinion which we form of all objects depends on the effect of the first impressions which we receive from them. Our first ideas of any man or woman, in seeing them at a short distance, are taken from their height and clothing; and our first ideas of a room from its size, and the covering or colour of its floor and walls. Taking the room as a whole, and considering its effect as a picture, the colours of the carpet and of the walls will form the principle masses in the composition, and will necessarily influence every other component part. If the floor and the walls were of the same colour, there would be a deficiency of force and of effect from want of contrast; if they were of different colours, equally attracting to the eye, the effect produced would not be that of a whole; because a whole is the result of the co-operation of different subordinate parts with one principle part. The harmony of the colouring o a room, therefore, can only be produced by the same kind of knowledge which guides an artist in painting a picture. The principles of the art of painting supply the principles for the art of distributing colours in furnishing; but as this art cannot all at once be communicated to the reader, all that we shall attempt at present is to supply him with a few hints, drawn from the usual practice of upholsterers. These are, that neither the colours of the carpet should be so brilliant as to destroy the effect of those of the paper, nor the contrary; and that the curtains should always be of a colour suitable to both. It is not necessary that they should be of the same colour, but that they should be of colours that harmonize, or, in other words, look well together. A very brilliant colour, such as crimson, in the carpet, may have a drab or other subdued colour in the curtains and paper; but then there should be some of the brilliant colour introduced in both, as bordering or ornaments. Thus a room with a bright blue or crimson carpet may have white or yellow or drab curtains and paper; but then a crimson bordering or ornaments should be introduced in them, to barmonize the effect. It would not do, in the case of a blue carpet, to have green curtains or paper, or with the crimson to have scarlet, because these colours

* From the " Pictorial Gallery of Arts,"

do not accord. A green carpet may have black' red, or white curtains, with green borders and ornaments. A yellow carpet may have black curtains, and a dark grey paper with yellow borders and ornaments. Whatsoever will apply to a self-coloured carpet, curtains, or paper, will apply equally well in all cases where those colours predominate. It should never be forgotten that the whole effect of an elegantly fornished room may be destroyed by the selection of a carpet, which, though handsome in itself, does not harmonize with the other furniture."

Mr. Pugin, in treating of the relations which interior fittings bear, or ought to bear, to each other, and to the general purpose of the whole, visits with some severity the usual mode of hanging window-curtains. He says that whatever elegance may be shewn in such articles of room furniture, their use should be first considered. This use is, to exclude cold and wind from windows and other openings, and yet to admit of the curtain to be closed or drawn aside at pleasure ; and hence there is a rod, on which the curtain may be drawn aside by means of a ring, and a short valance to hang down over the openings above this rod. "Now the materials of these curtains," says Mr. Pugin, "may be rich or plain; they may be heavily or lightly fringed; they may be embroidered with heraldic charges or not, according to the locality where they are to be hung; but their real use must be strictly maintained. Hence all the modern plans of suspending enormous folds of stuff over poles, as if for the purpose of sale or of being dried, is quite contrary to the use and intention of curtains, and abominable in taste; and the only object that these endless festoons and bunchy tassels can answer is, to swell the bills and profits of the upholsterers, who are the inventors of these extravagant and ugly draperies, which are not only useless in protecting the chamber from cold, but are the depositories of thick layers of dust, and in London not unfrequently become the strongholds of vermin. It is not less ridiculous to see canopies of tomb and altar screens set up over windows, instead of the appropriate valance or baldagnin of the olden time. It is proper in this place to explain the origin and proper application of fringes, which is but little understood. Fringe was originally nothing more than the ragged edge of the stuff tied into bunches to prevent it unravelling further. This suggested the idea of manufacturing fringe as an ornamental edging, but good taste requires that it should be designed and applied correctly. In the first place, fringe should never consist of heavy parts, but simply oft hreads tied into ornamental patterns; secondly, a deep fringe should not be suspended to a narrow valance; thirdiv, no valance should be formed entirely of fringe, as fringe can only be supplied as an ornamental edging to some kind of stuff; fourthly, fringe should not be sewed upon stuff, but always on the edges. It is allowable at the very top, as it may be supposed to be the upper edge turned over."

Mr. D. R. Hay, of Edinburgh, in his "Treatise on Harmonious Colouring," dwells on the importance of so selecting colours in a room as to form a consistent and harmonious whole. He also insists on the point, that the colouring of rooms shall be an echo to their colouring of rooms shall be an echo to their uses: the colour of a library ought to be com-paratively severe; that of a dining-room, grave; and that of a drawing-room gay; while light colours are most suitable for bed-rooms. He also adds, "Apartments lighted from the couth and suitable are the suitable for the south and west, particularly in a summer residence, should be of a cool tone; but the apartments of a town-bouse-ought all to approach towards a warm tone, as also should be such apartments as are lighted from the north and east of a country residence. When the tone of an apartment is, therefore, fixed by the choice of the furniture, it is the business of the house-painter to introduce such tints for the ceilings, wall, &c., as will unite the whole in perfect harmony; and this it may be ob-served, is a difficult task. The colours of the furniture may be arranged by a general knowledge of the laws of harmony, but the painter's part can only be done by the closest attention to all the minutize of the art."

The late Sir John Robinson, of Edinburgh, sent to Mr. Loudon, for insertion in the "Enclopædia of Villa Architecture," a description of a drawing-room which he had caused to be decorated, with especial reference to what was

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deemed by the artists the proper harmony of colouring in the principal parts. There were only three decided colours throughout, viz., white, crimson, and green. The ceiling, cor-nices, woodwork, and canopies of the windowhangings were white, enriched with gilding; the hangings, the ground of the walls, and that of the carpet, crimson, while the pattern on the carpet was a sort of tracery of creeping plants in shades of green. The chimney-piece was of white marble, reaching nearly to the ceiling, with a panel, equal in width to the opening of the chimney, filled with a mirror or looking-glass. The walls of the rooms were painted in imitation of Morocco leather, enriched with roses in gilding, shaded by hand, and the whole varnished with copal. The woodwork was dead white, bordered with gilt mouldings. The window-curtains were of a very simple form, being merely large curtains, without draperies or fringes, and they hung in vertical lines, so as to catch no dust. They ran on gilt wooden poles, and inside the cornice was a common French curtain-rod, on which ran a very fine but plain muslin suncortain, edged with crimson cherry fringe. The cords for drawing the curtains, instead of being concealed, are made very conspicuous, and contribute much to the general effect : they are about the thickness of half an inch, of pluited worsted cord, with handsome termi nation. In speaking of the general colours adopted throughout, Sir J. Robison observes: "The whole of the crimson is, as near as practicable with the different materials, of the same bue, the lake for the walls having been first procured, and the silk and worsted dyed to match it. From this circumstance, and from its being contrasted by the green, and relieved by the white and gold, it has no more of a predominant hue in the arrangement than is perfectly agreeable, while it gives great distinctness in the pictures, and a general air erfectly agreeable, while it gives great of warmth and comfort, without appearing glaring or gaudy. In the design and con-struction of every thing in the room, the aim

has been to avoid harbourage for dust. In tracing the principles on which the early English builders are supposed to have acted in the construction of churches and edifices. Mr. Pugin states that they adapted their designs to the kind of materials employed, and made no attempt to bide any of the latter. With us, hinges, locks, bolts, and nails are, as far as possible, hidden from view, as if unsightly; whereas in the "pointed" style (whether of architecture or of room decoration) they were rendered conspicuous features in the general design. The hinges covered the whole face of the doors with varied and flowing scroll-work; a lock was made the object of much curious decoration; and the key was often cast or carved with emblems appropriate to the purposes of the lock belonging to it. Mr. Pugin adduces as an argument in favour of carving instead of metal-castings wherever both may be used, that "all castings must be deficient of that play of light and shade consequent on bold relief and deep sinkings, so essential to produce a good effect. Cast-iron is likewise a source of continual repetition, subversive of the variety and imagination exhibited in pointed design: a mould for casting is an expensive thing; once got, it must be worked out. Hence we see the same window in greenhouse, gatehouse, church, and room; the same strawberry leaf, sometimes perpendicular, sometimes horizontal, some-times suspended, sometimes on end; although, by the principles of pure design, these various positions require to be differently treated." Whether or not, according to any particular theory of the principles of art, the employof casting leads to the heterogeneous ment mixture of things that ought to be kept separate, we must not forget that the power of rapid and cheap production, possessed by and inherent in the system of custing-whether ornamental impressions from a mould, or printed impressions from a stereotype plate has been, and is, one of the most powerful of all means for diffusing among the many that which had before been attainable only by the few.

OPERATIVES IN PARIS .- We learn from Gulignani that nineteen journeymen carpenters have been ordered by the council chamber of the civil tribunal of the Seine to be brought to trial for illegal combination against their masters.

LIST OF NEW PATENTS RELATING TO ARCHITECTURE, ENGINEERING, &c., GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-inn Fields, London,

[SIX MONTHS FOR ENROLMENT.]

Stephen Hutchinson, of the London Gas

Works, Vauxhall, engineer, for certain im-provements in gas meters. July 2. John Hopkins, of 1, Rector-place, Wool-wich, gentleman, for certain improvements in rails and trams for railroads and tramways. July 3.

Thomas Walker, of Buston-square, mecha-nic, and George Mills, of Dover, coal-merchane, for certain improvements in springs, and elastic power, as applicable to railway carriages and other vehicles, and to other articles and purposes in which springs or elastic power is

now used. July 3. William Mather, and Colin Mather, of Salford, Lancaster, engineers, for certain im-provements in boring earth, stone, and sub-terraneons matter, and in the machinery, tools,

or apparatus applicable to the same. July 3. William Newton, of Chancery-lane, civil engineer, for certain improvements in railways, and in the means of propelling carriages. July 3.

George Myers, of Laurie-terrace, Westminster-road, Lambeth, builder, for improvements in cutting or carving wood, stone, and other materials. July 8.

Jacob Brett, of Hanover-square, Middlesex, esquire, for improvements in propelling car-riages on railways, and other roads and ways. July 8.

John Samuel Templeton, of Sussex-place, Kensington, artist, for improvements in pro-pelling carriages on railways. July 12.

Edmund Ratcliff, of Birmingham, manufacturer, for a certain improvement, or certain improvements, in the furniture of door-locks and latches. July 12. and latches. July 12. Joseph Falton Meade, of Dublin, gentleman,

for certain improvements in steam-engines and boilers. July 12. Horatio Sydney Sheaf, of Waterloo place,

Old Kent-road, artist, for certain improvements in obtaining and employing motive power. July 12.

Samuel Tretheway, of Watergrove Mine, near Stoney Middleton, Derby, civil engineer, and Joseph Quick, of Summer-street, Southwark, engineer, for an improved combined expansive steam and atmospheric engine. expansive July 12.

Joseph Malcolmson, of Portlaw, Ireland, for improvements in apparatus used for propelling carriages on roads, and vessels on inland waters when employing atmospheric pressure. July 12.

John Shaw, of Broughton, in Furners, Lancaster, chemist and druggist, for a bydro-pneu-

Julius Adolph Detmold, of the City of London, merchant, for improvements in the means of applying steam as a motive power. July 21.

Angier March Perkins, of Francis-street, Regent-square, an extension for the term of five years of an invention for certain improvements in the apparatus or method of heating the air in buildings, heating and evaporating fluids, and heating metals. July 21. Jacob Brett, of Hanover-square, Middlesex,

gentleman, for improvements in atmospheric propulsion, and in the manufacture of tubes for atmospheric railways and other purposes. July 21.

William Breynton, of the Inner Temple, London, esquire, for certain improvements in rotary steam engines. July 25.

George Beadon, of Batterses, Surrey, commander in the royal navy, for improvements in propelling vessels and land-carriages, in raising and drawing off water for driving machinery, which means of raising and drawing off water are applicable to other useful purposes. July 29. Sir Samuel Brown, of Blackheath, knight

of the Hanoverian Guelphic Order, captain of her Majesty's navy, for improvements in the formation of embankments for canals, docks, and sea walls, and in the conveyance and propulsion of locomotive engines, and other car-riages or bodies on canals and other inland waters, and also on rail and other roads, and in propelling vessels on the ocean and navi-gable rivers. July 29.

John Paltrineri, of Skinners'-place, Size

John Paltrineri, of Skinners'-place, Size-lane, London, gentleman, for certain new and improved modes of obtaining and applying motive power. July 30. Joseph Quick, of Summer-street, South-wark, engineer, and Henry Austin, of Wal-brook, civil-engineer, for improvements in the construction and working of atmospheric rail-wave. Into 31 ways. July 31. 5.1

Dew Books.

Memoir of John Aubrey, P.R.S. By JOHN BRITTON, F.S.A. Published by the Wilt-shire Topographical Society. 1845.

THE object of the Wiltshire Topographical Society is to collect materials for, and publish occasionally, historical and descriptive ac-counts, either illustrated or otherwise, of places and things in the county of Wilts and the adjacent districts, which have not hitherto been satisfactorily elucidated. The present work forms the second volume of the society's publications, and is a yaluable addition to biographical literature. It seems that Mr. Britton had commenced for the society a history of the parish of Kington St. Michael, of which Aubrey was a native. It was proposed therefore to include in the work a notice of Aubrey's life. In arranging the materials for this, however, it was found that they were sufficiently copious and interesting to make a separate volume, which was accordingly done, and the result is one of the most charming memoirs that we have seen for some time, well calculated to sustain the reputation of its author and increase that of the society. It includes some very singular and interesting auto-biographical notices of his early. life and studies, copied from a manuscript in the Ash-molean Museum Option with molean Museum, Oxford, which have never

molean Museum, Oxford, which have never been printed before. Aubrey was born at Easton Pierse, March 12th, 1625, and when very young shewed a love of antiquarian pursuits. "Ile may be regarded," says Mr. Britton, "as essentially an *archaeologist*, and the first person in this country who fairly deserved the name. His-toriana, chroniclers, and (prographers there country who fairly deserved the name. His-torians, chroniclers, and topographers there had been before his time; but he was the first who devoted his studies and abilities to archeology in its various ramifications of architecture, genenlogy, paleography, numis-matics, heraldry, &c. No one before him investigated or understood any thing of the vast Coltic temple at Avebury, and other monu-ments of the same class; and certainly no person had preceded him in attempting to distinguish the successive changes in style and decoration of ancient ecclesiastical edifices, or to ascertain, by observing architectural features and details, to what era any particular building belonged. Aubrey's remarks on this subject are certainly interesting, and their publication at the present day, when the study of architectural antiquities is so deservedly general and popular, would add much to his credit as a careful and discriminating observer and delineator of the peculiarities of Christian architecture."

He was entered as a gentleman commoner of Trinity College, Oxford, in 1642, but was removed thence soon afterwards in consequence of the hostilities between the King (Charles I.) He wrote twenty-two and the Parliament. He wrote twenty-two works, and died in 1697, after being much involved in debt and oppressed by litigation.

We trust that the appearance of this interesting and valuable work, with the promise of the early publication of a history of Castle Coombe, by Mr. Poulett Scrope, M.P., will lead a host of new members to join the Wiltshire Topographical Society, and enable the committee to carry out efficiently what it has so well begun.

A Peep into Architecture. By ELIZA CHALK. Bell, Fleet-street; Meggy and Chalk, Chelmsford, 1845.

A VERY pretty little illustrated book; well adapted for a present to youth of either sex. It traces the history of architecture from the earliest times, and describes in a pleasant manner the peculiarities of the various periods of Gothic art.

In our leading article last week we urged the value of architectural knowledge to the general student, and expressed a desire that Digitized by GOOSIG

THE BUILDER.

it might become a part of ordinary education:

"The public buildings of a people say,

How unrefined, how far advanced were they; And on the temple's architectural page, We read the mind, the manners of the age."

The book before us contains much information, and, moreover, is calculated to induce a further and more precise study of the subject ; as such we recommend it to our non-professional readers.

The London Art-Union Prize Annual of 1845. R. A. Sprigg, Great Russell-street.

This work, to which we referred briefly a fortnight ago, contains 250 engraved sketches by Mr. Henry Melville of pictures and sculp-ture purchased by the London Art-Union, and cannot fail to be acceptable to a large number of persons. Apart from the interest of the volume in the eyes of subscribers to the association, who will find it if continued, the most comprehensive catalogue of the works annually purchased by the Art-Union, it presents a collection of interesting and useful memoranda to artists and others studying composition, and is moreover, a pretty drawing-room book. It would be easy to find fault with the execution of some of the engravings, but we are contented, in consideration of the boldness of the attempt and its general value, to overlook minor defects. A large sale alone can remunerate the proprietor, and this we cordially hope it may have.

Tender.

For rebuilding the Prison at the back of Clerkenwell church, delivered to the magistrates of Middlesex on the 12th instant, according to the plans of their Architect, Mr. Moseley. The lowest was that of Mr. Grimsdell which was accepted.

| Mr. Trego | £38,051 |
|--------------------------|---------|
| Messrs. J. and W. Bennet | 36,365 |
| Messrs. Hayward & Nixon | 36,170 |
| Mesars. Lock and Neasham | 35,970 |
| Messrs. Piper. | 34,995 |
| Mr. Winsland | 34.766 |
| Messrs. Baker and Son | 33,600 |
| Mesara. Lee | 31,860 |
| Mr. Grimsdell | 28,684 |

NOTIERS OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-atrect, Covent-garden.]

For the execution of Works on the Leeds and Thirsk Railway.

For the execution of several lengths of Earthwork on the Aberdeen Railway. There are 5 separate Contracts, varying in lengths from 3½ miles to 4‡ miles.

For the supply of 70,000 Larch, Oak, or Fir Sleepers, and Fencing for 501 miles, or any part thereof, for the Ipswich and Bury St. Edmund's Railway Company.

For the erection of a Wesleyan Proprietary College at Taunton.

For the execution of the works on the Notting-ham and Lincoln Railway, in two parts; 1 from Nottingham to Newark, being a distance of 174 miles. 2 from Newark to Lincoln, being a dis-

miles. 2 from income to annound, and the present perochial school-house at Bethnal-green, and crecting a new one on the same site.

For Lighting a portion of St. John'z district, Notting-hill, with Gas.

For Paving and Relaying the Footways and Pav-ing or Macadamizing and Relaying the Carriage-way in Somers-town, St. Paneras, for the term of three years.

For the supply of 500 Tons of dark-coloured hard Guernsey Granite to the Guardians of the Brentford Union.

For supplying the Aberdeen Railway Company with Scotch Fir Sleepers. For supplying the Dundee and Perth Railway Company with 50,000 Scotch Fir Sleepers. For supplying the York and North Midland Railway Company with 2,000 Tons of Chairs. For supplying that participant of the Dundee and

For executing that portion of the Dundee and Perth Railway, commencing at Dundee and ending at Kingoodie, being about five miles 360 yards in length.

For supplying her Majesty's several Dockyards with Cast-iron Articles for twelve months certain. For the erection of a Malting at Bury St. Edmunds.

For the supply of 100 Wrought-iron Bedsteads to the Portsea Island Union. For supplying 300 Sets of Wheels, Arles, and Guard Irons to the Great Southern and Western Poilmer (Lalard)

Railway (Ireland).

For the supply of 4,400 Tons of Rails and for about 900 Tons of Cast-iron Chairs for the Dundee and Perth Railway.

For taking up and relaying the Carriage-way Pavement of a part of Maze-pond. For taking up a certain portion of the present Carriage-way Pavement of Maze-pond and Great

Maze-pond, and relaying the same with Wood Pav-ing, to consist of Dantzic or Memel Timber. For making a Cylindrical Sewer in the town of Cambridge. The length will be about 48 yards,

and the average depth about 12 feet. For the execution of the whole works of the first

For the execution of the whole works of the nist tan miles of the Howick branch of the Edin-burgh and Howick Railway. For Raising Mud in the Ship-bash of the Re-gent's Canal Company, for a term of three years. For the execution of that portion of the Cum-nock Branch of the Glasgow, Paisley, Kilmarnock, and Ayr Railway situate between Lock Brown and and Ayr Railway, situate between Loch Brown and Auchinleck, being about 7 miles in length.

COMPETITIONS.

The Committee for the establishment of Public Parks, Walks, &c., at Manchester, offer two prizes, one of 50 guineas and the other of 25 guineas, for the best and second best set of Plans (with esti-mates), for the laying out, &c., of the sites already purchased by them.

The Board of Guardians of the Bridlington Union offer a premium of 10*l*, for a Plan and Specification of a Workhouse, the expense of which is not to ex-ceed 2,000*l*., and to accommodate 150 inmates.

APPROACHING SALES OF WOOD, &c. BY TENDER.

In the Plantations of the Duke of Montrose, situate in the Parishes of Drymen and Buchanan, Stirlingshire : many Thousands of Larch Trees of some size, adapted for Railway Sleepers, Roof

ing and Joisting, and other purposes. A Quantity of Old Wrought and Cast Iron, in store, at the Royal Arsenal at Woolwich.

TO CORRESPONDENTS.

"A Constant Subscriber."-In reply to our cor-respondent's inquiry, Mr. Jopling says: "It is now more than twenty years since I invented the Sep-tenary system. For many years I used every effort to shew the necessity of a complete illustraeffort to snew the necessity of a complete inustra-tion. Absence from town for several years retarded those efforts which I now revive with an increased and increasing conviction of the desirableness of the object, your columns contributing greatly to the impression that I am right. If taken up as extensively as it would be useful, it might be pub-liabed at a small cost to each wurchese

extensively as a would be each purchaser. "A Constant Subscriber."—We believe Weale's work is the best. Five-feet rods are generally used

used. "Level of St. Paul's."—In reply to "Juve-nis," the floor of the cathedral is 52 fl. 8 in. above high-water mark. "X. Y. Z."—The awards can be seen at 3, Trafalgar-square. We are making arrangements to publish them regularly. "Timber."—A correspondent inquires if there be one multished tables to afford the following in

be any published tables to afford the following in-formation for retailers of boards and sawn-timber. The cost of balk-timber being given :--What is the value of boards of various thickness, including price of balk and cost of sawing, and also of various

"ious scantlings? "J. C." reached "J. C." reached us too late for insertion. We shall be glad to receive the decision of the Court. "A. A." and "E. B. L." next week.

"R. S. F."—The only work on Elizabethan furniture, designs, is Mr. Bridgens'. The price, furniture, designs, is Mr. Bridgens'. The price, 21. 12s. 6d. The next, on furniture generally, by Mr. Henry Shaw, price, 2l. 16s. There are several plates of furniture in Mr. Richardson's books, which can be had of M'Lean, at 2s. 6d. each. The best examples for chairs are given in "The Builder." The printseller alluded to is Ecans, at the corner of Queen-street. R. S. F. had better commission some person in London to select communication.

select examples for him. "G. S."—We have endeavoured, without success, to obtain information as to the " glass tiles."

We will try again. "J. S., Jun."—The letter contains no fresh fact requiring publication. Received :-- "B. B.;" "J. Dredge;" "G. R.;" "A Learner;" "J. B." To Correspondents.--All letters must be post-

paid, or they will not reach us.

advertisements.

TO ARCHITECTS AND BUILDERS.

TO ARCHITECTS AND BUILDERS. DOOR SPRINGS AND HINGES.— GERISH'S PATENT DOOB SPBINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Like-wise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all se-spectable Ironmongers in the United Kingdom.

PATENT METALLIC SAND CEMENT, PATENT METALLIC SAND CEMENT, requiring no Colour or Paint, and free from Cracks and Blisters. Mired ready for use at 88. 6d. per cask. 2s. 6d. allowed for each cask returned in good order. 2d bushels common sand to be added to each cask of Metallic Cement, which will float fourteen square yards Stucco. Ap-ply at the Metallic-Cement Wharf, King's-road, Camden New Town (opposite Pratt-street), London.

TO ENGINEERS, ARCHITECTS, AND CON-TRACTORS.

TRACTORS. GROUND BLUE LIAS LIME, at 2, South Wharf, Paddington, London, and Works, Southam, Warwickshire. Agent for Liverpool, Mr. WYLIE, 56, Gloster-street; ditto for Manchester, Mr. J. THOM FSON, Back King-street; ditto for Chester, Mr. J. HARRISON, Linen Hall-street.

A TKINSON'S CEMENT.—The public is respectfully informed, that the price of this very ex-cellent Coment, which has now been in use for Architecture and Engineering works upwards of thirty years, is reduced to \$8. 3d, per bushel, and may be had in any quantity at Wyntt, Parker, and Co.'s Whart, Holland-street, Surrey side of Blackfriare-bridge. N.B.—This Comment being of a light colour, requires no arti-ficial colouring or painting, and may be used for stucce with three parts its own quantity of sand.

There parts its own quantity is able: **KEENE'S PATENT MARBLE** cemeration of the composition beg to refer to the British Museum, the Royal Exchange, the new works as Bethlem Hospital, Greenwich Hospital, and the Co-liseum in the Regent's-park, as beildings finished or in pro-greas, in which Keene's Coment has been used as an internal stacco. Its superiority to common plastering consists in its extreme hardness, and the rapidity with which it dries, which qualities fit it to receive paint or other finishing sooser than other water Cement. When employed for skirtings, architrave, and other mouldings, in place of wood, it checks dry-rot, is impervious to vermin, prevents the spread of fire, and is more eco-nomical in its application than the material for which it thus becomes the substitute. Confirmation of these statements is to be found in the almost universal adoption of Keene's Cement for Skirting and Hall flooring in the new houses on the Hyde Park Estate, where its application is to be seen to the fullest advan-tage. In Livernool and Manchester, Keene's Cement has in

White he applied and Manchester, Keene's Cement has in several cases been used for the covering of the firs-proof warehouse floors, where its lightness and hardness give it be preference over tiles and flagging, which are much heavier, and necessarily leave the floor intersected with numerous joints, whilst Keene's Cement is laid down in one unbreken arfa

surface. The high polish and marble-like hardness of which this Cement is susceptible render it the most suitable material or the manufacture of Scagliola. Patentees, J. B. WHITE & SONS, Millhank-atreet, Westminster, Manufacturers of Roman and Portland

Depót in Liverpool, 36, Seel-street ; James Woods, Agent.

O ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MER-CHANTS, SHIPPERS, AND THE PUBLIC IN то GENERAL.

JOHNS and CO.'S PATENT STUCCO Generate. Generate the series of the solution of the solution

now in use ; but with hit the above-mainter transmission of the solven saturable advantages, nothing can approach it in point of economy. Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred. Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application to MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London : of whom also may be hed. JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in overy way better suited for this purpose than White Lead Paint, which will frequently come off in fakes, being in direct chemical opposition with Cement; whereas mESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stuceo, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pare stone-like effect, produceable by no other Paint water way betters. It is cheaps in the application, and may be used by any Painter, in any climate, even in the most exposed Marine situations.

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SATURDAY, AUGUST 30, 1845.



OTWITHSTANDING the search that is now made after old buildings, and the efforts used to induce their preservation, there are numerous interesting struc-

tures in the villages and hamlets of England falling to decay unknown and disregarded,structures which are most valuable as records of the past, and evidences of the skill of our forefathers. Shrouded by a clump of trees, in some cases not a hundred yards from a high road, they remain unnoticed, even by the passers-by, although worth a pilgrimage,-and, full of the accumulated remembrances of past centuries impressed in the varying handwriting of different generations, are allowed to fall into ruin, or, worse still, are destroyed for the sake of the materials of which they are composed, and so disappear entirely.

It would hardly be thought that this could occur in a locality so close to the metropolis as Slough, the much-frequented station of a railroad. But so in a great degree it is : for we will venture to say that of the crowds of sight-seers who daily go from that place to Eton and to Windsor, not one in a week is aware that he passes within five minutes' walk of an interesting structure six or seven centuries old, if not more, dismantled and decaving; and perhaps there is not one in a month leaves the road and wends his way to visit it.

Yet there it is. Old Upton Church, so called to distinguish it from a modern monstrosity seen in the high road to Eton, is a genuine remnant of the Norman period, consisting of nave, chancel, and solid square tower, the latter standing between the two former. The chancel is peculiarly interesting, and should on no account be suffered to fall further into ruin. It is small and low; lighted by narrow, semicircular-headed windows in the sides, and a plain three-light window, of small dimensions, in the east wall, this latter being an interpolation of later date. It is covered with groinvaulting, and is paved, or rather was paved, with encaustic tiles. There is a pretty Norman doorway on the north side of the nave, and another entrance, through the tower, on the south side. The tower itself is covered with a mass of ivy of extraordinary magnitude, the main stem being no less than three feet wide and one foot two inches thick.

The interior presents a melancholy scene; all the fittings are removed with the exception of one rude desk with a prayer-book upon it : the stained-glass and brasses have been stolen, the plastering is tumbling, and the whole in ruin. Full service has not been performed in this church since 1837, but the burial prayers are sometimes read here, in the midst of the desolation, over the bodies of those who have desired to be buried in the quiet yard around it, where

" The rude forefathers of the hamlet sleep."

This line from Gray's " Elegy in a country churchyard" reminds us, that independently of the interest thrown around this structure by time, there are other circumstances which render a visit to it pleasing, and should aid in inducing its preservation. It was probably THE **BUILDER.**

this very church that Gray had in his mind's eye when that elegy was written :--- " the ivymantled tow'r," whence " the moping owl does to the moon complain." Gray was educated at Eton, and long bore it in memory. The elegy in question was not written there, but was commenced a few years after he had left, about the same time that he wrote the ode on a distant prospect of Eton College, beginning:-

"Ye distant spires, ye antique towers, That crown the watery glade, Where grateful science still adores Her Henry's holy shade."

Further, in this interesting old church rest the remains of our eminent countryman Sir William Herschell. In the tower, amongst ruin, is a modern slab of marble recording his name and merits, looking sadly out of place and suggesting to the mind the uncertainty of such memorials. "In perpetual memory," writes upon marble an affectionate son or sorrowing widow :-In a score of years the church may be a ruin, and the "lasting testimony" part of the paving of a churchwarden's pigsty !

" So perish monuments of mortal birth,

So perish all in turn, save well-recorded worth."

Surely, however, Herschell's grave is not yet to be desecrated. Every tomb that can awaken some sentiment, excite to enterprise, or stimulate to good, should be religiously preserved as of national importance.†

As regards the church itself, it is seriously to be hoped that means will immediately be taken to preserve it yet for many years to come. Mr. Britton interested himself warmly to effect its restoration some time ago, and at this moment Mr. Jesse, well known to the reading public, is seeking to raise a subscription for that purpose. We trust he will not relax in his endeavours, and that he will be aided by all in the district who have influence.

THE UNREWARDED EXHIBITORS IN WESTMINSTER HALL.

THE following letters have passed between the royal commission on the Fine Arts, and a certain number of the competitors at Westminster Hall.

Chester-street, July 17th, 1845. S18,—In concurrence with a general feel-ing among the competitors whose works are now exhibited in Westminster Hall, I have the honour to transmit to you the accompany-ing memorial to the royal commission on the ine Arts, signed by a few of the competitors who happen to be in town. The necessity

• Gray was one of the first to apply himself to the revived study of pointed architecture, and from him Mr. Bentham derived much assistance in his celebrated "History of Ely." Horace Walpole was one of his most intimate associates at Eton, and they afterwards set out together for the tour of France and Italy, but quarrelled on the road through Gray's greater love of antiquities. Gray died 1771. T We take this opportunity to refer to a letter on the present dilapidated state of Chaucer's tomb, in Westminster Abbey, which appeared in *The Times* a few days ago. The writer says that the name of the father of English poetry can only be deciphered by the assistance of a tracing in the chalk over the letters. Thus few persons are aware when loitering through Poet's-comer, that they are treading over the ashes of one whose memory ought to be respected by all his countrymen; and foreigners visiting England must feel surprise in viewing the ruinous appearance of the swall, with the old inscription, which is extant, cut neatly upon it, this would be something, and might be done at but a trifing cost. The tomb of Edmund Spenser was restored by private sub-

would be something, and might be done at but a triffing coat. The tomb of Edmund Spenser was restored by private sub-scription in 1778. Shall we feel less alive than our fore-fathers seventy years ago, to the claims which these fathers of verse have upon our loving and respectful memory? The tomb of the great father of poetry was created by N. Brig-ham, who, in the year 1556, "in the name of the Muses," placed the present inscription (now by the hand of all-de-vouring time rendered almost illegible). Let us then enter-tain a hope that very shortly, in these days of light and hnowledge, some respect will be shown to the might dead, and that the author of the "Canterbury Tales" will not be suffered to lie in a spot unmarked, and with scarcely his name discernible, except to some inquiring antiquary. Let us in this imitate the excellent feelings of our continental neighbours, who treasure up with the most sacred love the tombs and inscriptions relating to their poets and states-men.

for its being submitted without delay prevents its being signed by several who are out of town, and who, I am informed, would hasten their return for the purpose of signing it if that were deemed necessary. A consideration of delicacy alone prevents

some of the rewarded candidates from affixing their names to the suggestion, which they cordially approve. I am, Sir, Your obedient Servant,

F. Y. HURLSTONE.

To C. L. Eastlake, Esq., R.A. Secretary to the Royal Commission of Fine Arts.

To the Right Honourable Her Majesty's Com. missioners on the Fine Arts, —The memorial of the undersigned Artists, Competitors for the decoration of the New Houses of Parliament, and exhibitors in the present exhibition in Westering Wester Westminster Hall.

Sheweth,-That the improvement of public taste and the encouragement of those artists who are disposed to forego the more lucrative branches of art for the higher walks of historic and poetical composition, are essential objects of your royal commission.

That three experimental exhibitions have now taken place under the authority of your honourable board; an amount of talent far beyond expectation has afforded gratification to the public, and received the repeated ap-probation of your honourable commission. On the first occasion 137 artists responded to your the first occasion 137 artists responded to your invitation. In 1844, besides sculptors, sixtyone painters applied their exertions to cartoon-drawing and fresco painting, and received the sanction of your honourable commissioners, as worthy to be selected for public exhibition. In 1845, thirty-seven painters and twenty-nine sculptors are again before the public, with the approbation of your honourable commission.

That the advantage of these exhibitions to public taste and to the arts are indeed great, but unfortunately they have been attended with serious injury to most of the artists from the great expense (as well as loss of time and connection) that has resulted. The actual outlay of the painters for materials and models cannot be less than 8,000% or 10,000%; loss sufficient to check their progress in future attempts, and in some instances perhaps to involve them in serious difficulties. Their desire to co-operate in this great national experiment, and to assist in furthering the noble course marked out by your honourable com-mission, will surely be listened to with that indulgence and respect that is seldom denied to men who have suffered in a good cause, and must be their excuse for thus troubling your honourable board with the following remarks.

That it appears that the receipts of the ex-That it appears that the receipts of the ex-hibitions of the first and second years were, repectively, 2,900*l*. and 1,400*l*.; and if we sup-pose 1,000*l*. to be received this year, the amount is 5,300*l*., of which sum 1,000*l*. were given in 1843, in additional premiums, leav-ing 4,300*l*. unappropriated. If 500*l*. are de-ducted from the second, and 200*l*. from the vers' receipts for the scultors, who acc third years' receipts for the sculptors, who according to the general opinion were not, like the painters, led out of their accustomed course, there will be the following sums to be divided by the number of unrewarded candidates in each year.

| 1843, | 1,900/. | among | 116 | unrewarded | Candida | tes, | | |
|-------|----------------|----------|------------------|------------|------------------------|------|-----|-----------|
| | 9001. 8001. | \equiv | 85 2 6 | | give ditto ditto | 16/. | 84. | each _ |

Thus, to those who have tried but once, there would be a return of from 15*i*. 10s. to 30*i*. 15s.; those who have competed twice would receive from 31*i*. 18s. to 47*i*. 3s., and the few who have struggled on through all the three years, would have 62/. 13s. out of a fund raised from their own previous sacrifices; not indeed half the amount of their actual outlay in models and materials, but each in propor tion to his former exertions and sacrifices would be enabled to make another effort in this great national experiment, with fresh energy

Your memorialists humbly submit to the wisdom of your Honourable Commission the advantages of a self-supporting system of emulation, instead of that of premiums which renders each succeeding competition more un-equal; and in the hope that the proceedings of your honourable commission will secure to

the arts of this country high honour and preeminence, your memorialists will ever pray. R. W. Buss. F. Y. HURLSTONE.

S. BENDIXEN. ALEX. BLAIKLEY. FORD M. BROWN. W. RIVIERE. July 25th. 1845.

JAMES FOGGO. GEO. FOGGO. W. P. SALTER.

"Whitehall, 31st July, 1845. -I beg leave to acknowledge the re "Sir.ceipt of your letter, accompanying a memo-rial, dated the 25th instant, from numerous artists who are competitors for the decoration of the New Houses of Parliament, and who are exhibitors in Westminster Hall, recommending the division of the receipts of the exhibitions in Westminster Hall among the unrewarded candidates in each of such exhibitions.

I had the honour to submit the memorial in question to her Majesty's commissioners on the Fine Arts on the 29th instant, when the commissioners, referring to their decision respecting similar applications in 1843, directed me to reply that they do not think it expe-dient to adopt the course suggested by the memorialists.—I am, Sir, your obedient ser-vant, C. L. EASTLAKE, Sec. F. Y. Hurlstone, Esq."

"7, Fitzroy-square, 31st July, 1845. Sir,-Herewith I have the honour to send you the answer which her Majesty's commis-sioners on the Fine Arts have directed me to return to the memorialists referred to in your letter, received on the 29th instant.

In further explanation I venture to state, that in consequence of various applications, similar in their object to that of the memorialists, during the exhibition in Westminster Hall, in 1843, the question respecting a divi-sion of the receipts of the exhibition was frequently submitted by me to the consideration

of the commissioners. This subject was, from first to last, consi-dered to admit of discussion only in one form, viz., the appropriation of the nett proceeds of the exhibition, after payment of the expenses.

The statement contained in the memorial, respecting the gross receipts of the exhibition, is incorrect. In 1843, instead of 2,900/., the receipts were 2,472/. In 1844, instead of 1,400/., the receipts of two exhibitions (in King street and Westminster Hall) were 1,259/. 5s. The receipts of the present exhibition up to the 28th instant are 638/. 8s. 6d.

the 28th instant are 6381.88.6d. The balance, after payment of the expenses incident to the exhibition in 1843, includ-ing 1,0001. in additional premiums, was 5691.28.11d. In 1844, the expenses far ex-ceeded the receipts of both exhibitions (the rent of the premises in King-street amounting alone to 8501.) That cost being defrayed by the Treasury, through the Office of Woods, the balance was 4001.38.4d. Before the exhibition took place. the cost

Before the exhibition took place, the cost of advertisements (with other expenses strictly defrayed by the Treasury. Such expenses would, if enumerated, cause a further considerable reduction from the receipts. Again, the woodwork fittings in Westminster Hall, and in King-street, and the cost of the work-men employed on them, has not been defrayed from the receipts of the exhibitions. This is the state of the case applicable to

the view taken by the commissioners, and by the treasury, with regard to the proceeds of the exhibitions

I have lately made application to the Treasury respecting the payment of the three premiums of 200*l*. each this year awarded. In the event of my receiving instructions to make such payment (600*l*.) from the fund arising from the present and the balance of the former exhibitions (amounting on the 35th instant) to 1,0071. 16s. 10d., the balance at the close of the exhibition will probably be insufficient to

It will be apparent that the Lords of the Treasury may justly require such payment to be made from the funds referred to, in consequence of having defrayed the extraordinary expenses above mentioned during the last year.

In entering into this explanation, I have perhaps taken a course unusual for official agents. I have done so on my own responsibility, from a desire to put the memorialists in

possession of the facts which, in the view of the commissioners, bear upon the question herein referred to.—I am, Sir, your obedient servant, C. L. EASTLAKE, Sec. F. Y. Hurlstone, Esq."

The memorialists have since published the correspondence in the shape of a small pamphlet, and have added some remarks expressive of their disappointment, and their opinion that the expenses of the exhibitions should be defrayed by the nation.

"One small circumstance that concerns all the exhibitors must not be omitted. There is a principle, founded on equity, till now in-variably maintained at our exhibitions, viz.: that every contributor shall have free admission, and be supplied with the catalogue that contains the account of his productions with-out charge. The royal commissioners alone have rejected this wholesome and just regulation: the charge of a shilling on the paying days, and of sixpence for the catalogue, has been exacted from the competitors; thus, regardless of their previous sacrifices and their rights, they have been made to contribute to the very last towards expenses over which they were allowed no control.* This has been the treatment of the artists; but that of members of both Houses of Parliament, of ministers and officers of state, of the high and puissant of this wealthy kingdom, has been more considerate; they were, to the number of 2,000, admitted gratuitously at the private view, and were presented with catalogues, for which

they were not required to pay! Is it love of money that induces artists to memorialise, or a desire for emulation and memorialise, or a desire for emulation and fame? Their past deeds must decide this question.⁺ In the last century, when our artists first attempted exhibitions, the profits were given by them to public charities, and they received the grateful acknowledgments of the governors of the Foundling, the Mid-dlesex, and other hospitals, for their generous liberality. In our our time, if path are reliberality. In our own time, if parks are required for the health and recreation of the people; if literary and scientific institutions have to pay off a building debt, or to extend the means of their usefulness, an appeal to artists for disinterceted assistance is never made in vain. At Manchester, Liverpool, Leeds, and other towns, the liberality of British artists is in this respect fully established. But how can they continue their vo-luntary exertions for the good of others, if a system is adopted that deprives them of all their means? If the example of the royal commission were followed, if its mode and measure of patronage and munificence were to be adopted by our corporate, parochial, and other authorities, what must be the fate of artists? In this model of encouragement at the conclusion of a great national experiment for the promotion of art and the introduction of the proudest style of historical painting, the outlay of a great nation is about one-half the actual expenses of artists who enthusiastically responded to the invitation of the royal com-mission."

FRESCO PAINTING .-- The Commissioners on the Fine Arts having received various applications from artists, candidates for employment as fresco painters, respecting the mode in which specimens of fresco painting may hereafter be submitted to them without may nereatter be submitted to them without reference to public exhibition, have issued a notice to the effect that such specimens may be sent to Westminster Hall from the 1st of March to the 1st of May next. The subjects and dimensions are left to the choice of artists, but these who have next the remaining of this. but those who have not previously exhibited are required to send specimens of drawing with their fresco paintings.

If the royal commission had looked to parliament, as it should have done, for the expenses, the artists would have had no concern in them; but as the funds raised by the exhibition of their works are applied to the liquidation of those expenses, some control ought to have been allowed. If the same love of art and desire for fame that impelled Barry and his contemporaries to offer to paint St. Paul's at their own expense would have induced the artists of the present day to nerve their energies and exhaust their means in the great experiment at Westminster Hall if no premiums had been offered by the royal commission. But however enduring their energies may be, their pecuniary means are limited; as they become exhausted, their zeal is rendered impotent, and the struggle for pre-eminence in historical composition hopeless. The principle recommended by the memorialists, of a self-supporting emulation, is surely the most economical, as it is the most effective mode of promoting genus.

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ARCHITECTURE, A STUDY OF UNI-VERSAL INTEREST.

THERE is no circumstance in the present period of architectural history so conducive to a future prosperous state of the art, as the increasing love of the study of it amongst those who are not practically engaged in the pursuit. The day may be far distant when the high and wealthy of the land will aspire, by a similar course, to attain to the eminence which the great Lord Burlington reached, not only the great Lord Burnington reached, not only by means of an arduous inquiry into the prin-ciples of the art, but by the labour of the craft; and it can hardly ever be deemed a wise proceeding to submit constructive details to the consideration of others than architects. But we deem that in the other department of the art no mistake has led to worse results, than that very common one, that architects must necessarily be the sole judges of architec-tural works. We hail, with pleasure, the in-creasing knowledge of ecclesiastical architec-ture, which has already done more towards ture, which has already done more towards the acquirement of correct principles in church building, than the years subsequent to the Re-formation which preceded it. As already urged in this journal (vide *ante*, p. 385), a source of infinite pleasure is entirely lost, through the want of that knowledge which we recom-mend; one-half the page of history is blank to the tourist, who discovers nothing in the monuments of art, but their abstract forms. The collecting of stones and minerals, with-out a knowledge of the mighty revolutions in out a knowledge of the mighty revolutions in out a knowledge of the mighty revolutions in the earth's surface, and the component parts of the specimen, or the contemplation of the form of man, without the perception of the intellect, which animates and ennobles; these would be fit parallels for that state of igno-rance to which non-professional persons have been for a long period ready to submit, and which professors have not desired to reand which professors have not desired to re-move. Do the hundreds, that annually pass along the stream of the "exulting and abound-ing river" leave the scenery of their own islands unnoticed, because this is of inferior beauty, or rather for the sake of that interest, with which legends and the chroniclers of wars have invested the "chiefless castles" of the Rhine? But how much their interest would be enhanced could they feel that these "gay but leafy walls, where Ruin greenly dwells," contained "matter to be learned" dwells," contained "matter to be learned" more than cicerone and sight-seer think of, "sermons in stones," vocal of the customs and habits of centuries. The decorative character of an architectural work, the system adopted in points of detail, or the constructive ar-rangement, have more to tell, than the written obversion of the next. But it is not only the chronicle, of the past. But it is not only the antiquarian part of the art, which might be studied with advantage; an earnest applica-tion to the theory, an elaborate study extend-ing into all points of detail, could tend only the improvement of architecture. to

It would at least be some advantage if those who will probably always be the judges of architectural works, were acquainted with the mode of expression in plans and sec-tions. Without this necessary knowledge, the member of a committee is quite unable even to know what is placed before him, and it is therefore the highest injustice that he should be allowed to sit in judgment. He is very much in the position of one who looks over a foreign author, without having opened a dic-tionary. But, much more than this is necessary; we wish that such an extent of information as the late Mr. Hope possessed, may become a thing of common occurrence rather than a solitary exception. Architects would then gain from those by whom entirely new ideas are most likely to be imparted, and archi-tecture would no longer be "a thing of shreds and patches," but an art expressive of the state of national manners and acquirements. To praise any thing in such a building as Fonthill Abbey would now be deemed a proof of igno-rance; yet the builder of that pile manifested that he was one of those who might have aided the art, though he was ignorant of the fashions in style. The architect has still more to do, though he may be well acquainted with the grammar of his art, and, however much the details of certain Gothic buildings, erected a short time since, are at variance with the original method, the whole con-ception is often grand and imposing. From their errors we may learn as much as from their successful features, and may discern the

way to a style in architecture, in which elegance and novelty of effect shall be co-existent detail. In doing any thing to repress the study of architecture amongst non-professional persons, architects would be acting most blindly against their interest these with the most scrupulous attention to points of blindly against their interest; hasty and in-correct judgments are the result of want of information, and a slight study of the art would lead to the conviction, that much greater study was needed ere the ability to give a correct opinion could be reached. Perhaps the want is not easily supplied, the information is scattered through a multitude of books, and is gained by the professor only by extreme difficulty and labour. But with the conviction that we have still to learn, and the earnest desire to do so, every difficulty is removed; the art becomes a source of delight, an index to the records of history, an intellectual accomplishment to men and women, alike. The field of the profession is expanded; it enters into the scheme, where building alone was thought of ; it is alike called for in the palace and the manufactory. Let architects, there-fore, aid in spreading the knowledge of their art, and themselves be prepared to learn, whilst so teaching, and the second half of the nineteenth century will be more remarkable for the prosperous state of architecture, and the estimation in which its professors will be held, than the first, for its thousand copies of old examples, and its ignorance of the pleasures and a dvantages which the pursuit is so amply able to afford. E. H.

THE VENTILATION OF BUILDINGS.

THAT many of our readers agree with us in considering this subject one of the greatest importance is proved by the number of letters relating to it that we receive. Efficient arrangements in this respect universally applied, in conjunction with others for draining, cleansing, and an ample supply of water, would effect an improvement in our social condition, and increase the sum of happiness enjoyed by the community, to an extent that cannot be fully estimated. Perhaps we should not be far wrong if we asserted that less than the enormous amount annually expended in England in the maintenance of hospitals and dispensaries, would be sufficient to effect this and render the great majority of these establishments unnecessary, *if we but knew the way*. Let us earnestly strive to find it.

The second volume of the second report published by the Health of Towns Commission, contains twenty-one valuable plates illustrative of the principles of ventilation, accompanying a report from Dr. Reid on the state of Newcastle-upon-Tyne and other towns in the northern coal-mine district. From this report we take the following notes on the subject :----" The state of ventilation in any apartment

depends essentially on three conditions,--the quality of the external air; the quantity that can be made to flow throughout it at a given time, including its mode of distribution, and the regulation of which it is susceptible, whether we regard the temperature communicated to it or the force with which it impinges on the system; and its freedom from any noxious ingredient that may be developed by lamps, candles, fire-places, or any other special cause. Where sanatory measures sus-tain a pure external atmosphere by effective drainage, cleansing, and prevention of nui-sances, one-half of the remedy may be suid to be already secured, and without such measures no system of ventilation can be successful. Examples are not wanting where it may be a fair subject of discussion, whether it is not better to suffer a certain amount of deterioration of the atmosphere from within, when this does not proceed to extremities, than to permit a free and overflowing atmos phere from without where it is overloaded with emanations from drains or extreme accumulations of decomposing refuse known to produce disease. Such cases, however, are to be considered as rare exceptions,—a stagnant atmosphere without receiving in general additional contamination from within, which renders it still more deleterious and oppressive by the impurities communicated to it in all inhabited apartments. It is thought right, how-ever, to advert to the extreme importance of

with a pure atmosphere, as cases have occurred where disease has been propagated by ventilating apertures, selected without reference to the nature of the air which necessarily entered by them, particularly when taken from the surface of the ground, or from sites not regularly cleaned or subject to inspection.

In the northern district, as in other places, little or no ventilation is in general observed in any of the dwellings of the different classes of society beyond those usually accessible by the medium of doors, windows, and fire-places. In such examples of any attempt at systematic ventilation as came under observation, the leading defect was, that though an escape was provided for vitiated air, systematic arrangements were rarely adopted for securing the admission of fresh air.

The consequence of this was, that the discharge could not operate, except with such casual force as the irregular entrance of air permitted. It did not appear to be practically understood that, where there is no entrance there can be no exit, except through the conflicting process of a double current (an ascend-ing and descending movement) through the aperture that ought to act as a discharge alone. Nor did the operation of the fire and fire-flue, in relation to ventilation, appear to have been more specifically investigated than in most other places. Again, where ventilation had attracted considerable attention (and in this mining district certainly many individuals were well aware of the important relation which it bears to health), the means of regulating the quantity, or diminishing the offen-sive impression produced by local currents, had not been brought into extensive operation. The constant complaints were—'we have too much air;' or, 'we have too little;' 'the much air;' or, 'we have too little;' 'the draught is too strong;' or, 'we are oppressed with heat;' 'our feet are cold, but there is a sense of fulness and of headache.' These evidently indicate the necessity of controlling and regulating the ingress to a much greater than can be effected by doors or winextent dows alone; of establishing a proper relation between the ingress and the egress, and of proportioning the ingress to the amount of supply, required both for any fire-place that may be in action and for such egress as may be provided.

It fortunately happens that the means requisite for these essential positions are much more simple for individual apartments (which are not densely crowded like public buildings) than for larger structures, for if an aperture for the admission of air of sufficient magnitude be always left open, then it will only be necessary to diminish the extent of opening left for the discharge by a superior aperture, or the opening in the fire-flue, according to the relative rapidity with which it may be required that the ordinary ventilation, or the heating power of the chimney shall act.

In the preceding observations no reference has been made to ventilation by forced currents, induced by any means, except those accessible in almost every apartment, as these are not considered absolutely essential for ordinary purposes, though very desirable when provision is made for them by arrangements incorporated with the original structure. I cannot omit to notice, however, that, where gas is introduced, or any brilliant illumination is employed, there the saturation of the air with moisture, and the extent to which it is vitiated by carbonic acid, demands in general a special provision, in order to secure satisfactory ventilation. Few cases presented themselves where gas is so largely used as in the metropolis, and none such as are so abundant there, more especially in shops and offices, in which the ordinary gaslamps are lighted during the day (when required for heat and not for light), and the external air excluded as much as possible, that the vitiated air with all its warmth and oppressive deleterious products may be retained, no other source of heat being provided.

cumulations of decomposing refuse known to produce disease. Such cases, however, are to be considered as rare exceptions,—a stagnant atmosphere without receiving in general only additional contamination from within, which renders it still more deleterious and oppressive by the impurities communicated to it in all inhabited apartments. It is thought right, however, to advert to the extreme importance of beginning, in all cases where it is practicable,

which gas-lights, candles, and all other warm objects usually have, is in reality a ventilating power, which may, almost universally, with proper management, be made to correct the evil they otherwise induce, and even to assist or command general ventilation. Further, independent of the occasional presence of sulphureous and other offensive products from gas, the quantity of air consumed by excessive illumination produces an amount of carbonic acid and moisture far exceeding that commonly evolved by lamps and candles, and this neces demands a proportionate increase of sarily ventilation. In some cases, gas-stoves may be observed, which in very small spartments not provided with fire-flues, often prove more manageable than any other stoves or fireplaces, notwithstanding the expense of fuel; but these also, unless the products of com-bustion are removed by an iron or other tube as systematically as those that proceed from a common coal fire, are still more injurious than lamps, from the lower position in which they usually placed. are

Ventilation is universally observed to be most defective where great destitution prevails, as a low diet renders the system less capable of bearing that amount of air which would otherwise be agreeable. Protection from cold is the first and great desideratum which the constitution demands in any apartment, and the less the supply of the air, where the chemistry of the system is not in high condition and amply supplied with materials for producing internal warmth by those processes that elaborate the products of digestion and apply them in every part of the living system, the less is the extent to which its influence is felt. Hence, in the habitations of the poor, economy in the management and application of fuel, and diffusion to an extent, such as will render the air gentle in its impulse upon the person, become more and more important in proportion as the circumstances of the inmates are reduced. Similar remarks apply imall cases when the constitution has been enfeebled by disease, want of exercise, or a vitiated and too warm atmosphere, even among those whose means command every luxury that can be purchased for their gratification.

Again, the extreme difference in the demands of the same constitution at different periods (passing over the diversity of different temperaments) scarcely satisfied with one or two hundred times that amount of air when it is warm and loaded with moisture, which is abundantly sufficient when comparatively dry, and at a very low temperature, shews the necessity of providing in each individual apartment such openings as may admit at all times of a gentle and regulated movement, though cases constantly occur when, without a wide opened window, or a special ventilating power, an adequate supply of air cannot be obtained.

The application of any measures for forced ventilation in ordinary apartments beyond what can be commanded by their natural warmth, and the influence of the fire, or of the fire flue in warming the wall, does not appear to have been made a particular object of attention. Were the kitchen fire-flue—or any separate flue immediately adjoining it—to be arranged so as to rcceive a communication from each individual apartment being made of a magnitude corresponding with their number, great facilities for ventilation could be introduced in all new structures for promoting those natural movements by which ventilation is most satisfactorily sustained.

The ventilation of workshops and manufactories claims as much attention and is fully as important to those who are engaged in them as the ventilation of their dwellings. In the latter they may spend from a third to a half of their life in a vitiated atmosphere, and at all events that period of repose which is often oppressive and unrefreshing from this cause. But in manufactories, more especially where the occupations are sedentary, where the vicissitudes of temperature are extreme, where siliceous, metallic, or other particles are received into the lungs, and induce disease by mechanical irritation, or when acid and corrosive or other deleterious emanations produce still more rapidly dangerous consequences, the subject of ventilation demands a more earnest attention, and is important to the manufacturer who is deprived by early death of skilled and valuable workmen, independent of the

severity with which such causes prey upon them and their families.

In all such cases the great point which the manufacturer should endeavour to attain, when emanations from the very source at which they are developed. General ventilation must they are developed. General ventilation must be superadded to give complete relief, but if noxious emanations be once permitted to escape into the atmosphere of the spartment or workshop, the entire change of atmosphere is essential to restore freshness to the air: whereas if every noxious product be treated as much as possible on the same principle as emake he providing averangements for the smoke, by providing arrangements for the direct exclusion of the products of combus-tion, a much less amount of ventilation is sufficient, and at the same time the ventilation becomes much more effectual.

Excepting sedentary occupations, where no peouliar nextous product is to be guarded against, the extreme variety of circumstances peculiar to each occupation in which noxious ingredients are communicated to the air in ingredients are communicated to the air in confined apartments, renders any general plan of operations impracticable beyond what has been indicated, without introducing an amount of interference that might be too prejudicial to the interests of the manufacturer to be generally supported. The amount of suffering, however, and of early death under many circumstances, is so great, that any systematic means of fixing public attention on this subject. to such an ex-

public attention on this subject, to such an expublic attention on this subject, to such an ex-tent as would explain the cause of death in factories where it is excessive, and the economy of sanatory measures, would be attended with very beneficial results, equally apparent both to the proprietor and the workman. To the former alone can we look for the general in-troduction of sanatory measures in their re-spective establishments; but more intelligence among the work men is essential for enable them among the workmen is essential to enable them

among the workmen is essential to enable them to appreciate and Take full advantage of such opportunities as they may have. As to the improvement of ventilation in crowded workshops occupied by tailors, millinges, shoemakers, and all persons en-gaged in sedentary occupations, where few or no deleterious products are evolved beyond those that arise from respiration and combus-tion, the question would be more justly stated were it described as a question of warming as well as one of ventilation, as it is rarely observed well as one of ventilation, as it is rarely observed that there is any objection to the discharge of vitiated air when that which enters is adapted to the state of the system. Undoubtedly, a regular egress for the system. Undoubtedly, a seldom provided; but this can never be placed on a right footing, however much it may relieve distress, till the ingress of air, and the warmth it may be necessary to communicate, shall have been satisfactorily adjusted.

shall have been satisfactorily adjusted. In no case do the evil effects of the im-perfect distribution of air manifest them-selves in a more palpable manner than where rooms are crowded with individuals engaged in sedentary occupations. An under-current passing along the surface of the floor to the fire-place in winter may occasion, on the whole, a considerable change of air, but its local movement deprives it of almost all its value. The fire may receive pure air but value. The fire may receive pure air, but little or none moves upwards to supply the organs of respiration. The evils from defective ventilation are then

of great magnitude, and the continuity of their operation gives them a power and influence over the system which cannot be too minutely investigated. Few pause to consider the necessary consequence of twenty respirations per minute, 1,200 per hour, or 28,800 in a single day and night, where not only a noxious atmosphere is inhaled, and brought directly in contact with the blood, but where also the state of the air diminishes the amount of discharge of those noxious products which the system discharges more and more largely, in proportion to the purity of atmosphere in-

spired. Bad ventilation, also, is as injurious to the mind as to the body; and in its more aggra-vated forms not only induces headache and apoplexy, but, conjoined with other circum-stances, is prone to favour that depression which leads at times to low spirits, or even to suicide.

If the progress of air be examined in a room of ancient date, where neither the doors nor windows are air-tight, an ingress of

fresh air is almost invariably observed below, and an equivalent discharge of vitiated air above; the fire-place being in this case sup-posed to be inoperative and closed by an airtight board. Stagnation is thus prevented, and a continuous, though subdued ventilation, maintained through the apartment, to an ex-tent dependent on the magnitude of the crevices in the doors and windows, and the condition of the internal and external atmosphere.

Again, if the fire be in action in the same apartment, the air in general enters by all crevices to supply the draught it creates, so creates, so that in this manner also the freshness of the air is maintained. Farther, the great altitude of the open fire-place in ancient chimney-breasts sustains a very powerful circulation at a higher level than is commanded by low cottage-grates in modern rooms, when the feet may be bathed continuously in cold air, while the head is placed comparatively in a warm stagmant atmosphere, unless crevices in warm stagnant atmosphere, unless crevices in doors and windows permit a considerable change.

It is a matter of much regret that in many houses the supply of air is so perfectly in-adequate, both for individual rooms and for passages, that they act continually upon each other, the powerful fire in one room over-coming the weaker draught in the other, and communicating through the passage, which is accordingly more or less filled with smoke, that is—carbonic acid gas, mingled with various visible impurities, particularly char-

coal, oily, or other substances. Vitiated air from lamps and candles, well as from respiration, tends to ascend, though, as projected from the nostrils and the mouth, it moves, at first, more or less downwards, or in a horizontal direction. In experiments made on this subject, the tem-perature of air from different individuals placed in a box lined with cotton and open above and below, was found to be generally four degrees higher above the head than below the feet (the box was suspended in the air), and, at natural temperatures, a current constantly ascended on every side from the person. Thus then it is obvious, that, if the natural movements of vitiated air in ordinary apartments be facilitated by one opening at the lower part, and another above, every room will ventilate itself sufficiently to prevent the more extreme effects that are so often observed

at present. If the lower opening be diffused by extending it along the skirting, the current becomes more mild and equal and less liable to strike upon the person, so as to produce an offensive draught.

draught. If the upper aperture be led into a chimney flue, or into an independent flue warmed by its near position to a hot chimney, its action is more powerful and more uniform than a mere aperture in the wall near the ceiling, and not so subject to modification in windy weather. If it communicate with a newerful weather. If it communicate with a powerful chimney-flue, it works still better, except when the fire declines, or the supply of fresh air is interrupted, a dangerous recoil taking place, and the upper aperture discharging smoke into the apartment: this defect may be obviated to a great extent, though not entirely, by the use of valves, unless they be regulated, and adapted from time to time according to the

varying circumstances of the case. Two apertures, then, at different levels are the great essentials in each apartment, and so the great essentials in each apartment, and so ample a supply to all stairs and passages, that they shall not borrow or draw down air from individual rooms, but give freely to all that do not draw their supply from an external source. The most serious evils from offensive draughts and currents may be greatly diminiched by I he most serious evils from offensive draughts and currents may be greatly diminished by proper diffusion of the air, as well as by the previous communication of warmth to it. Diseases from exposure to draughts appear principally to arise when the constitution has been heated excessively, in consequence of a defective supply of air; but, were a small aperture left continually open, the constitution could never attain that extreme susceptibility of cold and aversion to the slightest breath of of cold, and aversion to the slightest breath of air which so often accompanies to limited a supply, and that reduction of the insensible cutaneous and pulmonary exhalations by an atmosphere loaded with moisture which leaves the surface of the lungs and skin unduly ex-cited and turgid with a load of material that

would have been dissipated by exhalation and

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evaporation with a better supply of air, When a fire-place is in action, it necessarily complicates the ventilation. But all cases of this kind resolve themselves into the following classes :

classes: The first comprehends those in which the fire-flue alone becomes the discharge of viti-ated air. This cannot be considered the best, as, under ordinary circumstances, the fresh air travels along the floor, and little rises to the head, where it is most largely required. In the second class, the evil effects of the vitiated air, which is prone to accumulate above the chimney breast, are diminished by its being raised to a bigher level than is now common, or by admitting the external air from

common, or by admitting the external air from an aperture above, near the ceiling, so as to sweep across the apartment in its descent to

the fire-place. In the third and best class, the chimney face is reduced to a minimum, and carries off solely is reduced to a minimum, and carries off solely the products of combustion; another superior aperture discharging the products of respira-tion and of lampe and candles, while a free in-gress of air prevents all interference of the fire-flue and the ventilating flues. This ad-justment is carried still farther in some places by the union of the fire and ventilating flues, and by the provision of a sufficient local supply for the fire in its immediate vicinity, which reduces greatly the general force of the

which reduces greatly the general force of the current throughout the apartment. The above principles involve the more im-portant bearings of the question of ventilation, so far as it affects the individual apartments in so far as it arects the individual sparmaens in tenements occupied by the poorer classes of society, it being taken for granted that the evils arising from defective drainage, closets, and cleaning, and a bad external atmosphere, and cleaning, and a bad external aurospone, have been removed. Practically thes, a well-constructed window, capable of being opened above and below, realizes, when the fire-place is well arranged, all the essentials for effective ventilation in such apartments. Window, ventilation in such apartments. Wisdow, however, are not recommended as affording the best means of insuring ordinary ventilation, though they may be resorted to with adma-tage when the weather is not severe, or under peculiar circumstances, and should therefore always be available when large supplies of an are required; but for that more minute venti-lation which the system requires and tolerates in the severity of the winter's cold, and at a time when the dryness of the air promotes rapid evaporation both from the skin and lungs, a much less extended opening is required, and one capable of more minute and delicate adjustment to the ever-varying circumstance of the case, than a window can be made to command. The complaints arising from draughts and currents exist only when the movement of air becomes excessive, and inor suited to the termonomet on which it im suited to the temperament on which it im-pinges. The human frame is so constinued that a movement of air is perpetually sustained around it by natural causes during life. Very cold air having a very gentle movement around the person may not be offensive, while a mach warmer atmosphere moving rapidly may be

productive of extreme annoyance. Taking these circumstances into considera-tion, with the fact that doors and windows appear generally, if not universally, to have formed no barrier against the most defective ventilation, great improvements may be anti-cinated when every anotyment shall be provided ventuation, great improvements may be and cipated when every apartment shall be provided with an independent ingress for fresh air, and an egress for vitiated air, which, though small, shall be incessantly operating, much more ca-pable of regulation, and one which can beer induce those violent and extreme charget induce those violent and extreme changes which are produced by the occasional opening of doors or windows that may have been closed for too long a period.

In the great majority of cases where any attempt at systematic ventilation has been carried into effect in ordinary spartment, the objections which have followed its introduction appear to have arisen principally from two causes, viz., the excessive introduction of fresh cold air, or its local movement arising from cold surfaces or defective diffusion, which might have been obviated by leading in the air at any more remote part of the room, or in any position, so as to admit of the first impulse being broken by a diffusion board, or by ex-tending the tending the aperture of ingress along the

skirting. Another cause which appears to have re-

tarded considerably the introduction of ventilation in ordinary apartments, is the idea that some special force or power is required for this purpose. It is true, indeed, that a power is required; but nature has provided this power in the movements which the warmth of the person necessarily induces in the air which it vitiates; and hence, if the natural movements of vitiated air in ordinary apartments be not opposed and resisted by the absence of apertures at those levels where air, if left to itself, will enter or escape, the discharge of vitiated air upwards by ordinary currents is as fixed and certain as the descent of water by its natural gravity in draining operations; and, if a modification be induced in apartments by kindling a fire, still, if the chimney-flue be not excessive in size, and an adequate supply be given for it, as well as for superior ventilation, these natural movements will be sustained, and proceed in harmony with the functions of the system.

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Apertures such as are now adverted to may not command the extended movements that give the most complete ventilation that machinery, furnaces, and other arrangements can sustain; they may be rendered more or less irregular by the action of the wind; but, without inducing severe draughts, they will remove the extreme evil that induces so large an amount of weakness, discase, and death, and it is this result that is necessarily most important to society.

portant to society. It is also important to know that mere openings operate in another way than by facilitating ordinary currents, according to the relative pressure within and without in any apartment; though this second mode of action is to be regarded principally as an auxiliary force, in respect to its power of changing the atmo-sphere in any apartment, however important its functions may be, where the air comes in direct contact with the living frame. So careful has nature been in the securities taken careful has nature been in the securities taken to prevent any stagnation of air around the person, that, besides the movements dependent on an alteration of the specific gravity of each successive portion of air that is received into the lungs, or brought in contact with the sur-face of the body, a power of penetratiou, re-vealed in modern times more especially by the experiments of Dalton and Graham, is found to be incessantly in operation, promoting natural ventilation, and discharging vitiated air from every place in which it is prone to ac-cumulate. This force operates in every direc-tion with a power superior to that of the pressure of the atmosphere, and its tendency is slowly to diffuse all gases and vapours through each other, whatever may be their difference each other, whatever may be their difference in specific gravity; its action is never arrested except where air-tight barriers are interposed between one portion of the atmosphere and another. Hence, then, where internal and external temperatures approximate so closely as to reduce the movements that commonly ensue between the atmosphere within and that without, and even where they may be reversed (as when a higher temperature prevails externally than is found within), still the power of pene-tration between the particles of different gases or vapours never ceases to reduce the intensity with which they may be prone to accumulate in any individual place, provided a communi-cation be maintained between it and the external atmosphere.

HOLBORN AND FINSBURY COM. MISSION.

TENDERS for new sewers.—Copenhagenstreet, White Conduit Fields; length, 1,040 feet; surveyor's estimate, 8524.

| G. Smith (Bayswater) £1,018 15 Hill 1,012 0 |
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| Johnson |
| Cooper |
| Cooper £1,020 0 |
| Eldred |
| Hill 905 0 G. Smoith 787 11 |
| Red Lion-street, Clerkenwell: length, 480 feet; estimate, 4401. |
| Hill |
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THE TOOLS AND IMPLEMENTS OF INDUSTRY AND ART.

A LECTURE on the above important and interesting subject was delivered on Thursday, 21st inst., at the City of Westminster Literary and Scientific Institution, Great Smith-street, by Mr. Wm. Higgs. The lecturer commenced by observing, that man was distinguished by the proper exercise of which he is enabled to administer to the comfort and happiness of himself and all by whom he is surrounded. The mechanical powers, the means whereby muscular force is augmented and man is enabled to perform with ease many things, of which his unassisted strength would be quite incapable, were next glanced at, and an experiment or two given in illustration. Hunt's Patent Receiving Box was also alluded to as an ingenious and useful invention, illustrating the employment of the lever.

Having taken a brief view of the progress of the building art from the most primitive but to the convenient dwelling and the elegant and stately mansion, the lecturer next commenced a detailed examination of some of the implements by which that art had been advanced to its present state. The spade first engaged attention; the properties of a good one were described, and the audience put on their guard against the spurious, but good-looking article formed by rolling, &c. The axe was then described, and its varieties exhibited, with notices of ancient instruments of this kind, of stone, and subsequently of an alloy of copper, as preceding the use of iron and the more improved steel-edged and steel-polled axe and adze of the present day : the Canadian, or Backwoodsman's axe, from its formidable appearance, excited much interest. After detailing the manufacture of these important tools, the hammer was noticed, and many of its varieties submitted to the inspection of the audience. The delicate hammer of the watch-maker, weighing together with its handle not more than 140 grains, was contrasted with the metal helve of our ironworks, weighing seven or eight tons, a diagram of which and of the tilt hammer made their mode of operation easily understood; the sledge of the smith, and the highly-wrought and beautifully polished planishing hammer of the silversmith were also examined. A form of mallet, differing from that in use by the carpenter, was also suggested, as having its weight so concentrated as to strike a heavier blow with less expenditure of labour. The saw was described as an instrument of

The saw was described as an instrument of great importance, both as regards facility of operation and economy of material; its history and high antiquity were noticed, and its principal varieties submitted to inspection in a number of most beautiful and highly-finished specimens. The manufacture of saws was described as calculated to call into operation the skill and ingenuity of first-rate workmen. The properties of a good saw were thus described: " It should not be so thick as to be heavy or clumsy, nor so thin as to be easily crippled by fair use; the plate should be equally ground, not gouty or thick in the middle, for then it will require too much set, but if it gradually taper from the teeth to the back it will work with the smallest amount of set to the saving of wood and labour; it should not be too hard, but be capable of being filed, nor to soft, for then it will not retain its edge; upon examination, it should not discover any weak or crippled part, but all the particles should have an equal tension." A tool not much known but very useful was noticed, the flote, as intermediate to the saw and file. The antiquity and importance of the file also claimed attention. Filecutting was described, as also the subsequent process of hardening; many beautiful varieties were exhibited, some of the most exquisite workmanship, and some so exceedingly small as to bear a value of 2*l*. per ounce.

NEW RAILWAY BREAK.—The Rev. F. H. Maberly, of Stowemarket, has lately obtained a patent for a break, by means of which he states, "every carriage of a whole train may be easily, safely, and almost instantaneously stopped," and further, that "if applied in all parts, it will be the means of preventing the carriages being thrown off the lines by oscillation or otherwise,"

THE OLD CHURCH AT FULHAM.

THE venerable tower of Fulham church, adjoining the palace of the Bishop of London, has long called for restoration : brickwork capped with Yorkshire paving formed the battlements, the turret was stunted, the belfry windows, strings, and plinth, were tumbling to pieces, and the great west window had disappeared altogether, and was boarded up. Partly by a rate, and partly by subscription, funds have been raised, and the work is now rapidly proceeding, under the direction of Mr. Godwin, the architect. His lordship the bishop, the Rev. Mr. Baker, the rector, John Gunter, Esq., and several other of the principal inhabjtants of the parish, have exerted themselves to effect this restoration. Mr. Samnel Cundy, of Pimlico, is the contractor. When completed we shall give some account of the church, which has several points of considerable interent.

PROTECTION OF BUILDINGS FROM LIGHTNING.

The effect of a thunder storm on the hothouses and frames of the Marquis of Lansdowne, at Bowood, has led to a correspondence on the subject of conductors in the Mark Lane Express. Mr. White, of Walworth, says :--- "I am fully persuaded that if a range of conductors had been placed on the nearest rising ground, the severity of the storm would have been drawn off, and the noble marquie's property preserved in part, if not altogether. But it frequently happens that many mansions are provided with "numerous conductors," like those erected by Pope Pius VII. for the protection of St. Peter's at Rome, the cupols of which edifice is cracked in many places, and ten arches of iron, weighing 60,000 killogrammes, have been placed so as to prevent its fail. The lanterino above the cupola, which supports the cross, is found to be cracked through and through, and hasbeen surrounded by heavy iron chains to prevent the crack from extending. All this heavy iron they say is to prevent mischief by thunder storms / Now the same building, it is evident that they will attract the passing storm to that focus, and there the elemental strife will rage; and again, the application of ten iron arches, and heavy iron surrounding chains, are sufficient to draw from the thunder clouds such a vast amount of the electric fluid as to shiver the building to atoms. We not unfrequently see a tall chimney, or a stack of chimneys, supported by slanting bars of iron fastened to the roof of the building. It commonly happens that the electric fluid as to shiver the building to atoms. We not unfrequently see a tall chimney, or a stack of chimneys, supported by slanting bars of iron fastened to the roof of the building. It commonly happens that the electric fluid will follow the slanting irons, and, not finding a free passage, frequently damages the roofs or the walls; and then the wonder is, how came the walls cracked ? An architect is consulted, the foundation must be defective, and thee walls must be shored up; whereas if the conductors had

VIEWS IN SAXE COBURG AND GOTHA.---Mr. Hogarth, of the Haymarket, is preparing for publication a series of views of the ducal palaces, castles, and hunting seats in Saxe Coburg and Gotha, drawn on the spot, and lithographed by Douglas Morison. The work is announced under the patronage of the Queen and Prince Albert, and will be dedicated by permission to the Duke of Saxe Coburg Gotha.

Gotha. **ROYAL DURLIN SOCIETY.** — The appointment of drawing-master in the figure school of this society is at present vacant. Candidates are required to send in probationary drawings by the 25th of October next. The election will take place in the following month.

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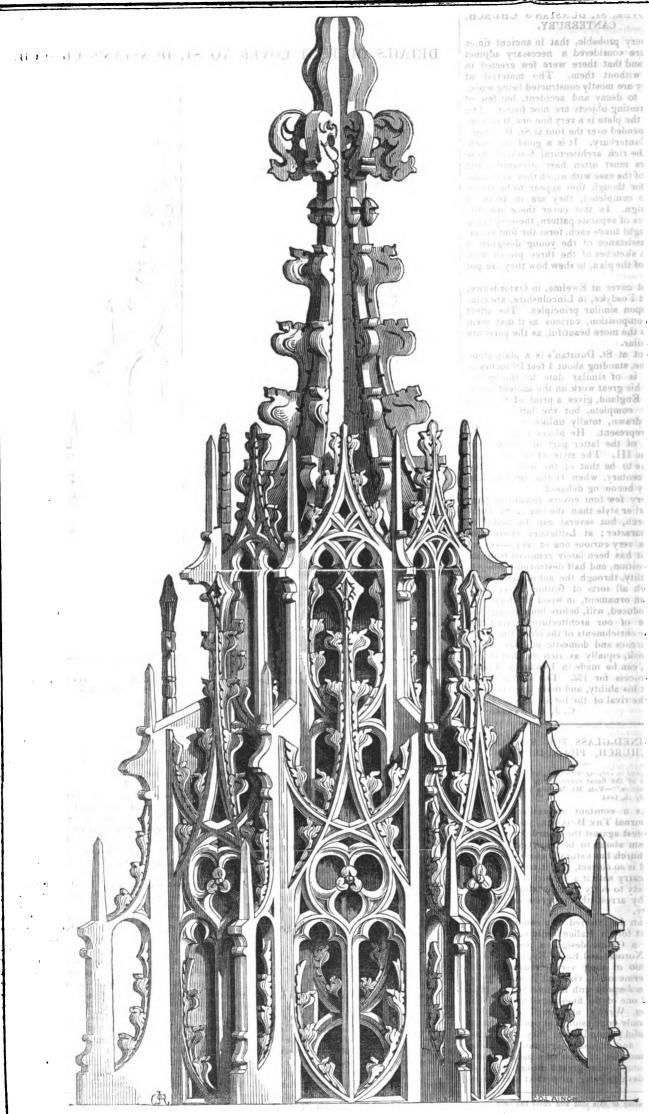
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v becom ng deham TV few font covers riter style than the ren, but several can suracter; at Lutlebury a very curious one of if has been lately rem mition, and half destriility, through the and in all sorts of 6min an ornament, in woo oduced, will, before) 6 of our architectu e enrichments of the irches and domestic oile, equally as ri , can be made in Lucess for 154. t has ability, and d ods to lavir ad

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Font Cover, St. Dunstan's Church, Canterbury.

FONT COVER, ST. DUNSTAN'S CHURCH, CANTERBURY.

It is very probable, that in ancient times overs were considered a necessary adjunct to fonts, and that there were few erected in Rngland without them. The material of Ragland without them. The material of which they are mostly constructed being wood, and liable to decay and accident, but few of these interesting objects are now found. The subject of the plate is a very fine one, it still re-mains suspended over the font at St. Dunstan's church, Canterbury. It is a good specimen, first, of the rich architectural features these font covers must often have presented, and secondly, of the ease with which they were con-structed, for though they appear to be elabosecondly, of the ease with which they were con-structed, for though they appear to be elabo-rate when completed, they are in truth of simple design. In this cover there are only three pieces of separate pattern, these by being repeated eight times each, form the font cover. For the assistance of the young designer, I have given sketches of the three pieces with a portion of the plan, to shew how they are put together.

a portion of the plan, to together. The font cover at Ewelme, in Oxfordshire, and that at Foedyke, in Lincolnshire, are con-structed upon similar principles. The effect of such composition, curious as it may seem is the more beautiful, as the parts are less dissimilar.

less dissimilar. The font at St. Dunstan's is a plain stone octagon one, standing about 4 feet 10 inches in height, it is of similar date to the cover. Carter, in his great work on the ancient archi-tecture of England, gives a print of the font and cover complete, but the latter is most strangely drawn, totally unlike the object it affects to represent. He places it among the specimens of the latter part of the reign of Edward the III. The style of the cover ap-pears to me to be that of the middle of the sixteenth century, when Gothie architecture sixteenth century, when Gothic architecture was rapidly becoming debased.

was rapidly becoming debased. Few, very few font covers remain in Eng-land of earlier style than the one at St. Dun-stan's church, but several can be found of similar character; at Littlebury church, in Essex, is a very curious one of very novel de-sign, but it has been lately removed from its original position, and half destroyed. The facility, through the aid of machinery, with which all sorts of Gothic tracery and Elizabethan ornament, in wood or stone, can

Elizabethan ornament, in wood or stone, can now be produced, will, before long, change the now be produced, will, before long, change the appearance of our architecture, giving the picturesque enrichments of the olden time both to our churches and domestic edifices; a font cover in oak, equally as rich as that of St. Dunstan's, can be made in London by Pratt's carving process for 15*l*. The young carver must exert his ability, and make the powers of his mind the rival of the forces of mechanical agency. C. J. RICHABDSON.

THE STAINED-GLASS FOR ST. JAMES'S CHURCH, PICCADILLY.

To be designed in *keeping* with the interior, which is con-sidered one of the finest specimens of Sir Christopher Wren's abilities."-Vide Mr. Mayhew's Circular to Ar-tists, on July 16, 1844.

SIR,—As a constant subscriber to your valuable journal THE BUILDER, your able and candid protest against the absurdity and manifeat solecism about to be perpetrated in St. James's Church has naturally come under my notice, and is so correct, that it must, and will, no doubt, carry with it a conviction of justice and propriety to every rightly-informed mind, and thereby arrest the progress of such a monstrosity.

monstrosity. What can be inferred of a committee who could select for an Italian building an altar-window of a Gothic design, a positive com-pound of Norman and Early English, and in the face too of their very circular and the specified terms of it, viz. that it should "be designed in *keeping* with the *interior*, which is considered one of the finest specimens of Sir Christopher Wren's abilities?" I boldly assert the only conclusion that can be come to by any candid person is, that they have acted by any candid person is, that they have acted ignorantly and unjustly-ignorantly, seeing that a committee of their own papers could not have committed so great a mistake, each of the other designs being in perfect accordance

* An engraving of this font and cover has been in our hands for some time, and will shortly be given in TEE BUILDER.-ED.

and in *kceping* with the interior; the one selected being the only exception—and un-justly, because by the terms and conditions they put forth they have misled and wasted the time and talent of artists, as well as wasted, by misapplication, the funds intrusted to them by misapplication, the funds intrusted to them by the subscribers, by adopting an unfitting de-sign, not "in keeping," &c. &c., from an artist who candidly confesses his incompetency to any other. What, Mr. Editor, would Sir Christopher Wren have said? that perhaps which Boilleau has said—" nothing is beautiful which is false." Mr. Willement and Messrs. Ward and Nixon wisely declined the competition, and, Sir, can it be wondered at, if, after such ex-hibitions of thoughtlessions in a number of eminent persons (who ought to know, and some of whom, no doubt, do know better)

That artists in future should decline To throw their "pearls before the swine;" Donors, too, devotionally bent, May have a care their meed is not mis-spent.

I am, Sir, &c., WILLIAM WARRINGTON. 42, Berkeløy-street, Hyde Park-square, August 25, 1845.

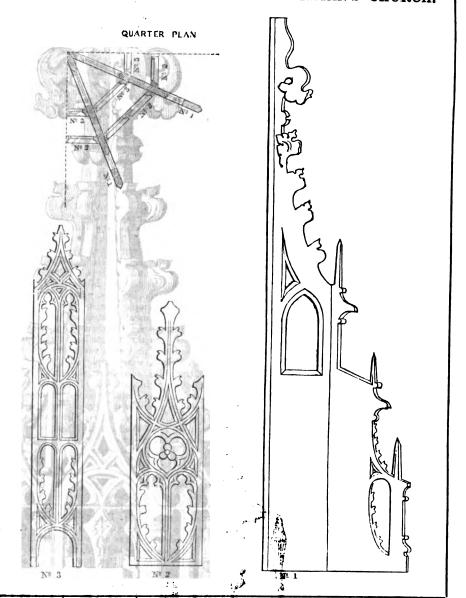
August 25, 1845. In your article I believe you are not exactly correct in one point. The persons originally applied to (as I am informed) were Mr. Wil-lement, Messrs. Ward and Nixon, Mr. Backler, and myself. Eventually the Duke of Cleve-land and the Bishop of London wishing Mr. Wailes to be applied to, it was thought proper by the committee to open it to an extended competition. The Bishop of Armagh, the Bishop of London, and the Duke of Cleveland are, I perceive, the three principal subscribera are, I perceive, the three principal subscribers with Mr. Byng. Level Salar Ca

FREE ADMISSION TO PUBLIC BUILDINGS.

ON Saturday last a petition, signed by the mayor, magistrates, town council, clergy, and principal inhabitants of the city of Lincoln, to the number of 160, was forwarded to the Right Honourable Sir Robert Peel, Bart., the pre-mier, praying him in the appointment of the new dean to the cathedral chapter of that city, to have regard to the free admission of the public to the cathedral at proper periods. At present a fee of one shilling is demanded to view the interior; this acts as a severe tax upon the citizens, who may have visitors, and who, in shewing "the lions " of the city, do not like to be charged with a payment of one shilling per head for walking through an edi-fice, profusely rich in sculptured decorations and groined vaultings of the nave, yet possess-ing few attractions of stained glass or monu-mental records. The recent decease of Dean Gordon, the discussions in Parliament, the correspondence with the Dean of Westminster, On Saturday last a petition, signed by the correspondence with the Dean of Westminster, and the various articles in the public prints, about the example given by the Deans of Durham and Norwich, have all suggested to the citizens of Lincoln the propriety of making the present effort for a free admission to the interior of the cathedral. Of course it is not intended to exempt those who are curious enough to clamber up the rood-tower, to visit the great "Tom bell," from the payment of a proper fee to the guide. The same remarks apply equally to York and other cathedrals in the country, where a diagraceful system of fee-taking is too frequently carried on. correspondence with the Dean of Westminster,

taking is too frequently carried on. As regards Norwich Cathedral being open to the public, we are disposed to think any person applying to view it would find they

DETAILS OF FONT COVER TO ST. DUNSTAN'S CHURCH.



• ould see very little of the building without payment, and that only during a certain number of minutes each day. While on this subject, we would allude to the insolent and discreditable behaviour, in his office, of the principal verger at St. George's Chapel, Windsor, a man named Tucker, who seems to regard every person that looks into the nave of that building, in the half-hour previous to divine service on week-day mornings, during which it is open, as committing a robbery; and when the first lesson is over, drives them out of the door with the greatest incivility. We seriously advise this worthy functionary to alter his course before stronger representations are made.

ENGLISH DECORATORS AND THE NEW HOUSE OF LORDS.

COMPLAINTS have reached us, that either the Royal Commissioners on the Fine Arts have behaved ill to the decorative artists who submitted works in competition, or that their recommendations are put aside by others. A communication in the Spectator of last week contains the whole complaint : we extract from it the following :--

"There are at this time some sixty or eighty decorators — wood-carvers and ornamental painters—at work upon the enrichments of the Chamber of Peers in the new palace; and among them, I believe, are only one or two of those artists whom the commissioners expressly recommended for employment. Certain it is, that the most skilful and experienced practical workmen among the carvers and painters thus recommended have not been engaged; and what makes this still more extraordinary, is the statement of Mr. Pugin, who superintends the interior decorations, that for want of competent assistance from Englishmen he is compelled to send for foreigners. "When the royal commission in 1843 invited

the English decorators to send in specimens of their ability in the various branches of ornamental art, no premiums were offered ; it being understood that the prizes for successful competitors would be employment. In pursuance of this arrangement, a committee was appointed to inspect the specimens exhibited in the spring of last year at the St. James's Bazaar, and to report on the merits of the artists. These re-ports, from which I shall presently quote, are printed in the third Report of the commis-That the ornamentists whose specinoners. mens were approved have been officially re-commended to be employed in preference to others, I know for certain; having seen letters signed by the secretary to the commission, Mr. Eastlake, and sent for the information of the parties. I can also state of my own personal knowledge, that the artists in question have applied to Mr. Barry for employment, and are both willing and able to enter upon the work. but have been put off with smooth words and promises. Not being aware of any but woodcarvers and ornamental painters being em-ployed at present, I confined my inquiries to these two branches of decoration. Six carvers, namely, Messrs. Cummings, Ollett, Ringham, Freeman, Browne, and J. Thomas, were favourably noticed in the Report of the committee; and another, Mr. Rogers, is especially men-tioned in these terms : 'It is the opinion of the committee, that among the carvers whose works have been exhibited he holds the first place; and they consider him as the person best qualified to be entrusted with those parts of the woodwork of the House of Lords in which great richness of effect and delicacy of execu-tion are required.' Nothing can be stronger or more explicit than this. And that the commission adopt the recommendation of the committee is proved by a letter from the secretary, directing Mr. Rogers to communicate with Mr. Barry. Mr. Barry says there is nothing for him to do at present; and bows out the applicant with this flattering excuse,— 'There is nothing worthy the exercise of your talent, Mr. Rogers, in the House of Lords !' So that the doors, for which designs were especially required, the stalled and canopied seats of the peers, and the throne, are all to be left to common workmen. The soffits of the ribs of the ceiling, though they are of pierced carving, gilt and relieved upon a coloured ground, cannot be considered very important, since they are cut out of Canadian pine, the commonest and most fragile wood that could be chosen, and a favourite haunt of insect vermin. Of the other six carvers I have only heard of one being employed, and he only as a journeyman; and two individuals might be named who have suffered serious loss and disappointment by leaving their business in the country, in consequence of the committee's recommendation.

⁴ In the department of stablesque painting, the artists noticed in the detailed report of the committee sre Mr. Collman, Mr. Goodison, and Messrs. F. and J. Crace,' say the commissioners; and they add the opinion of the committee, that the specimens sent by Mr. Johnson 'evince considerable taste and ability.'

The following significant hint was appended to their report :--- 'The commissioners, having had reason to suppose that some of the persons who have exhibited works of decorative art may have employed other hands, or even the assistance of foreigners, in the execution of such works, have resolved that those persons who may be selected for employment in those branches of decoration shall, if the commissioners think fit, be required to produce specimens of their art, to be completed under such conditions as the commissioners may think necessary.' The meaning of this is, that the commissioners will employ none but practical men-working artists. Mr. Collman is an architect, and employed German painters Mr. Collman is to execute his design. Messrs. Crace are very respectable shopkeepers, who undertake decorespectable shopkeepers, who undertake deco-rations and employ artists to execute them; but they are men of business and taste, not working artists. Of themselves they are in-competent to the production of the specimen they sent in; on which various artists, French and English mere employed. Mr Gooding and English, were employed. Mr. Goodison and Mr. Johnson were the only successful competitors in arabesque painting who de-signed and executed their specimens themselves ; yet neither of them is employed ; while Messrs. Crace have both the honour and profit accruing from the painted decorations of the House of Lords, which are being executed by foreign and English artists, from designs fur-nished by Mr. Pugin, and under his direction, to the exclusion of the only two artists who were qualified for employment according to the decision of the committee. To the application of Mr. Goodison, the same flattering answer was given by Mr. Barry—that there was no scope in the House of Lords for the exercise of his talent; it was mere journeyman's work. If this injustice be suffered, the inference is in-evitable, that the Royal Commission either wants the will or has not the power to enforce its recommendations. In either case, the artists whose labour has been taxed, and whose hopes have been disappointed, will have good ground of complaint of a breach of faith. The country also will have reason to be dissatisfied that the best native talent has not been engaged on a national work, that is intended to exemplify the highest state of perfection to which British art can attain in this age. The pecuniary loss to several ornamentists, through their being thrown out of employment by competing against their masters, or their giving up pri-vate business in the country to come to Londou, has been almost ruinous.

But, taking a wider view of the matter, there is great cause for regret that such a grand opportunity as this for calling out any original talent in ornamental design that exits in the country should be suffered to escape, by excluding from employment all but merely mechanical copyists of Gothic patterns."

RARE BUILDING GROUND. — The beautiful domain known as the White Knights Estate, near Reading, to which we referred a short time ago, is now fairly in the nurket as building ground. A company is in course of formation to make the roads and drains, build the lodges, and grant leases of plots for building on, and will not fail by a spirited and judicious outlay to secure a large return. The American and Chantilly Gardens, the wilderness and lake are to be reserved for the enjoyment of the inhabitants. It is impossible for the most graphic pen to describe the exquisite grouping of the splendid timber, shrubheries, and the slopes of sward, forming as a whole, perhaps the happicst effort of landscape gardening this or any other country in Europe can produce. We know of no such sites for houses at the same distance from the metropolis, and have little doubt that the shares will be eagerly sought after.

STIR IN THE SCHOOL OF DESIGN.

SIR,-As an article has appeared in your per of the 16th instant on "the course of paper of the l6th instant on "the course of study in the school of design," the writer of which appears to have settled the matter very much to his own satisfaction, will you permit me to prove that he is either ignorant of the course pursued by the students, or that he has endeavoured to produce wilfully erroneous impressions of the grounds of their complaints. After mentioning the opinion of Mr. Pugin, and a previous correspondent in your paper, he goes on to say, "and those most modest re-monstrators, the students, consider it utterly useless, as the directors do not adopt that course of study which they, in their wisdom, think fit to prescribe." Immediately following this comes, "But among them all, for my part, I have read no attempt to disclose a prac-ticable remedy." How those two assertions can be both true I do not see, unless the students have offered a practical remedy which Mr. Morgan has not taken the trouble to read. But the first assertion is utterly false, and without the slightest foundation : the students never have attempted to prescribe any course of study, or even to offer any suggestions to the council or the authorities of the school. The facts are simply these :--- The council lay down for the students a certain course of study, and they offer to them a certain amount of instruction; they spoint a director and clearly define his duties. Now what are the complaints of the students? They complain that the course of study prescribed by the council has never been followed out; that the instruction promised by the council has never been given; and, that the duties of the director as defined by the council have never been fulfilled. These are questions of facts, not matters of opinion. We have never discussed the merits of the system laid down by the filled. council; we have never attempted to dicta douncil; we have never attempted to dictate or criticize their plan: we have laid before them depositions which prove (beyond all constra-diction) that the instruction promised has never been given, and the duties of the director never fulfilled. If any further proof were wanting, hear the director's own admissions. In a special report of his, delivered to the council on the 4th of February (exactly a month previous to our petition being sent in), he says :-- "As the subject of lec-turing is of much importance, I wish to state briefly what has been the amount of my efforts to comply with this duty.".... "I have delivered a very few written ad-dresses," "and from time to time, when a new example or set of examples was purchased, I have prepared myself and deli-vered a little lecture upon them." And very And very little ones they must have been; and in som very snug corner they must have been deli-vered; they most certainly were never given to the students, nor did they ever benefit them. One solitary effort was made to get up a lec-ture upon architecture, but painful to relate, it was found to draw too heavily upon the talents of the director, and it was abundoned. Immediately following the sentences quoted above, he says (speaking of his little lectures), "This cannot be deemed any sufficient substitute for the course stipulated for by the council."

At the same meeting of the council at which this report was read "Mr. Wilson was directed to obtain from Mr. Herbert a written statement of the most efficient mode in which he conceives the figure can be taught in the school with reference to ornament." In the report accordingly prepared by Mr. Herbert, he thought fit to suggest that a black board should be used by the director, practically to demonstrate to the students the various points of the lectures upon the history and principles of the various styles of ornament which it was his duty to give. Now, immediately on the sending in this report by Mr. Herbert, Mr. Wilson wrote to him, saying, that in consequence of the feeling which had incited him to suggest to the council the use of the black board, he should hold no further correspondence with him. Now what reason could there be to consider this suggestion as so severe a personal affront. I have attended lectures on various subjects connected with arts and sciences, and I have found it a common (almost a universal) practice for the various professors to draw upon a black board in the presence

of their audience, various diagrams illustrative of their subject. Is it possible then that the gentleman who undertook to furnish original designs for the various classes in the school, who agreed to teach the whole body of the students in the varied round of instruction promised in the school; and who took exclu-sively upon himself the task of teaching the upper class of the school, should feel himself upper class of the school, should feel himself incompetent to the use of so common and generally received a vehicle of instruction as the black board? And yet upon what other grounds is it possible to account for such a message as that sent by the director to Mr. Herbert, or for the virulence with which he Herbert, or for the viruience with which he has pursued that gentleman, until at last he has procured the dismissal of one who had done, and was doing, more for the success of the school, and the benefit of the nected with it. The truth is, the council had hoped to have veiled from the public their want of foresight, in appointing to the office of director a gentleman practically ignorant, and to have imposed the belief that the school was rapidly progressing to perfection under their management. The students have dared to rend the mask from before them. They have said to the public what the council had said to each other over their own tables long before; and we are punished accordingly. Not for uttering falsehoods, but for daring to apeak the truth.

I trust, Sir, that you will excuse my intrud-I trust, Sir, that you will caute any ing so long on your valuable time, and I re-main yours. &c., R. BUBCHETT. main, yours, &c., August 25th, 1845.

SUSPENSION BRIDGES.

SIR,-I do not think Mr. Hosking, in his "Treatise on Bridge Building," investigates the principle illustrated by the diagrams in your 128th number. I cannot contradict "B. B." on this point, but can say I have never seen it, and should like very much to have it pointed out to me. I did not make a choice of the works at Derby and Ashton, but inserted them in my letter because they were the first instances that occurred to me at the time, probably for the reason that they had lately happened, and were therefore fresh in my memory. I know nothing of the particulars in either case further than was given by the newspapers at the time; but, if my recollection serves me, the centres in if my recollection serves me, the centres in both bridges were being struck, and therefore they were completed. Neither did I require these examples to fill up a vacuum in an argument which was of minor importance, and which I did not enter upon in my first letter until after stating I had replied to "all that concerns me;" for I could adduce a score of bridges that have fallen, and an immense num-ber in a very dilapidated state, if it were not imidiant to the replication to make the score of "B. B." mistakes my position if he and

"B. B." mistakes my position if he sup-oses it to be suspension versus compression bridges. It is the principle upon which both suspension and compression bridges are generally built to which I object, and which I say is incorrect. To set it clearly before you, let it be allowed, that of two principles (which require for their investigation data differing from each other), when carried out in practice, and compared together, that which is superior in power, and admits of unlimited extension, may be termed correct, whilst that which is inferior in power, and continually approaching towards a maximum, incorrect. This being premised, here are a few experiments with suspension models, constructed on the catenary, and on my plan.

"In Bristol, Jan. 6, 1838, two models of equal materials and dimensions were tried. The parallel chain model bore 1.565 lbs.; the taper chain model hore 3.681 lbs. Again, in Bristol, Jan. 10, 1838, the parallel chains bore 1.456 lbs.; the taper chains bore 3.696 lbs. Another trial before the same party, the same day, was made with models constructed by Mr. Cross, of Bristol, unknown to Mr. Dredge, in order to prove that all was fair in the former trials; and the result was, the parallel chains bore 2.632 lbs., and the taper chains bore 6.849 lbs. Each model broke on adding more weight, and the chains throughout on the taper principle was reduced one size by the experiments."#

These experiments are proved by practice and verified by mathematical investigation, which does not shew a maximum in extent of span. Hence, that principle which demon-strates the tapering chains may with propriety be termed correct; whilst that which compels the catenary, incorrect: and now to apply this reasoning to compression bridges. The only condition involved in our present inquiry depends upon the line of resistance which is traced from the resultants of the pressures applied to the arch of the bridge. Now, since these pressures are similar, and similarly applied both in suspension and compression bridges, their resultants are similar; and because it is the relative magnitude and position of these pressures which constitute the principle, we argue that since they are similar in each, the principle is the same in both. But the investigation turns on this point, that in the former the direction of the bars in the curve is determined by the direction of the resultants of pressures, whilst in the latter these resultants trace out some line within the boundary of the voussoirs, and the stability of the structure depends upon this line not intersecting the extrados or intrados of the arch. Now, if the fundamental principle is the same in both, and has been proved in one to be wrong, it follows it must be wrong in the other also.

By this time "B. B." will see that the feilure of the suspension bridges which he brings forward are proofs in my favour, because they tend to shew that the principle upon which they are built is erroneous, - the very position I take. I have merely to remark in reference to the extract from Professor Hosking's work, that it is the opinion of an eminent man, to which I offer no objection, when the span is small, the command of capital large, provided the head room beneath the arch, or a hill over it be of no consequence; for in such cases any error of principle may be counteracted by immense masses of material, which the public have been used to see, and there-fore think substantial, but because the error increases in a greater ratio than the span, when we come to extensive bridges there is this objection, viz. that the use of stone is impossible, in large spans it is very difficult of application, and in very extensive ones impracticable. "B. B.," Still dwelling upon suspension

bridges, after alluding to many circumstances which are supposed to alter the internal struc ture of iron, goes on to say: "in proof of which see the accounts of the numerous acci-dents that have occurred on the various lines of railway from the fracture of the axles of railway carriages," &c. This is no proof at all, Sir, for in the axle of a railway carriage the forces are applied at right-angles to the direction of the fibres, but in the bars of a suspension bridge in the direction of them, the mechanical action of the fibres of the two is very different, the mathematical principles distinct, and therefore the comparison is erroneous.

With regard to the Yarmouth bridge, the immediate cause of failure is easily accounted for by the fact that the section of iron in the chains was not sufficient to resist the effects of a loaded platform, for at the time of the accident there were several tons of tension in the chains more than the engineer should have allowed, and this, coupled with the inferior quality of the iron, accounts for the failure. It may be very true that twice the number had been upon the bridge, but then the weight was equally sustained by both chains ; and besides, perhaps this weight might have permanently injured the iron by straining it beyond its limits of elasticity, so that when the lesser weight came on one chain it broke down. A question may be asked of me, would not your plan if similarly situated be attended with a similar result? Certainly not; for in the first place, if any part of the chain had an under rise, is any part of the chain had an under strain upon it, the rest would be immediately active to resist it; and secondly, even sup-posing the chains to fracture similar to the Yarmouth onlyang circle is in the armouth, only one-eighth of the bridge would have sunk, and this not sufficient to have en-dangered life, because the remaining seveneighths would have stood as firm as ever, and

reference to the oscillation which "B. B." here speaks of, I beg to refer him to my letter published in your 128th number.

I am, Sir, &c., 18th. JAMES DREDGE. Bath, August 18th.

P.S. " M. Navier speaks of a chain stretched r.S. "IN Ivavier speaks of a chain stretched across between two rocks that command the town of Mourtiers, in the department de Basses Alpes. It is 656 feet long, and made of rods about 2 feet 1 inch long, and 1 inch diameter, hooked one to the other without any diameter, hooked one to the other without any intermediate links. The date of its erection is not certain, but it is supposed to belong to the thirteenth century. It does not, however, appear to have been ever intended for a bridge, but is thought by some to have been an offer-ing to the Virgin to obtain protection against being overwhelmed by the rocks that overhang it. By others it is attributed to a knight of Rhodes, who is supposed to have erected it in consequence of a vow made during his capti-vity in the holy land. The iron is said not to be injured by rust."—Drewry, page 9.

We learn from the newspapers that a suspension bridge near Calcutta has just now fallen in. It was known as the Ballee Khall fallen in. It was known as the ballee huan bridge, and was the largest of the kind ever constructed in India. It gave way in the middle just as it was completed, and fell into the creek over which it was erected. The accident is attributed to an error in judgment of the contractor, while making some necessary alterations, and does not in any degree effect the principle on which the bridge was built.

POWER OF CORONERS TO INQUIRE INTO THE CAUSE OF FIRES.

lives have been lost and property destroyed to; an enormous extent. The attention of Europe is awakened to the importance of an inquiry. into the means of averting this dreadful cata trophe, and it is to be hoped that some atens,

with that end in view may speedily be taken. Last week a jury of the inhabitants of the ward of Cripplegate-within were empanelled before Mr. W. Payne, the city coroner, at the School kourse Dhills before Mr. W. Payne, the city coroner, at the School-house, Philip-lane, Aldermanbury, to inquire into the cause of the late fire on the premises of Messrs. Bradbury and Co. Manchester-warehousmen, of Aldermanbury. The investigation, from its novelty, excited considerable interest, several of the common council of the ward, together with the civic authorities, being present. The coroner, on taking his seat said be

The coroner, on taking his seat, said he would take the liberty of stating, as the present was rather a novel proceeding, why he had called them together. Latterly the number of fires in London had considerably increased, and when they took into consideration that nothing was so fearful as fire, they would be of opinion with him that when they had the power to inquire into the causes of such fires, nothing could be more important to the public at large than that the cause should be closely investigated. The ancient authorites shewed that in olden times it was the practice of the coroner to inquire into all burnings within his district, and that power still belonging to the coroner, although fallen into desuetude, he thought that they would be of opinion with him that it was most important that it should again be brought into force. In "Horne's Mirror of Justice" the duties of the coroner were clearly laid down, and among those duties the coroner was to inquire of all burnings, whether they were caused by felony or mischance. If they were of opinion that they had been set on fire with a felonious intent, then it was their duty to inquire and ascertain who the party was who was guilty of that felony. It was clear, therefore, in the olden time, that part of the coroner's duty was to inquire into all burnings; and he need not say how necessary it was to revive it at the pre-sent time. No one had the power to inquire into the causes of a fire-not even a magis-trate, unless a party was in custody charged with causing it. The persons living in the neighbourhood of a fire were always most anxious to know how it occurred, and he thought the public would think that he had would have supported it. I have again to remark that all the objec-tions urged against suspension bridges gene-rally are arguments in my favour. And in

ure, fires being so numerous. He had directed a number of persons to be summoned to give evidence as to the cause of the recent fire in Aldermanbury, so that they might come to a proper verdict, whether it was caused by accident or otherwise.

As every thing connected with this novel and most important proceeding must be of interest, the following is the form of oath administered to the jury :-- "You shall well and truly into the jury:-" You shall well and truly in-quire, on behalf of our Sovereign Lady the Queen, why a certain house and premises, in Aldermanbury, were lately burned, and a true verdict give according to the evidence; so help you God."

After a patient investigation the jury re-turned a verdict, "That the fire was caused by accident."

NOTES IN THE PROVINCES.

THE inhabitants of Taunton are displaying no little spirit and judgment in carry-ing out their determination to improve their town, and thereby render it more attractive to strangers as well as more pleasant and healthy to themselves. A public meeting is about to be convened for the purpose of electing a committee of taste, and of devising means to carry into execution those improve ments which may be considered desirable may be considered desirable. Many excellent suggestions have already been made, among them we may mention the re-moval of the alms-houses in Magdalene-lane, and building in their stead a number of elegant and building in their stead a number of elegant and uniform cottages; the purchasing ground for public walks; the erection of a suitable building for public concerts, lectures, &c. A prospectus for the erection of public baths has also just been issued. It is proposed to raise a capital of 800% in shares of 10% each. 500% to be appropriated to the building, and the remainder to furniture and incidentals. These and other improvements will not only raise Taunton in the scale of places of resort, empedially during the winter months, but will especially during the winter months, but will was celebrated by a public dinner, at which up-wards of eighty gentlemen sat down, and George Round, Esq., the high-sheriff of Essex, pre-sided. The building is situate close to the old Exchange, at the entrance of High-street. The forced is composed of a receding centra The façade is composed of a receding centre and wings, the entrances being under an fonic colonnade, and the wings are connected by pilasters of the same order. The wings by pilasters of the same order. are ornamented in niches or panels with two bas-relief figures the size of life, emblematic of ancient and modera agriculture. A figure of Ceres, to cap the centre colonnade, is now in course of preparation. A flight of steps leads to the interior, which is an apartment 78 feet by 47, a row of light pillars on each side supports the centre part of the roof, the northern end is semi-circular, there is a row of sky-lights running all round, and a large lan-tern-light in the middle. The cost of the building, independent of the purchase of the ground, is about 2,400%. — The committee for the restoration of the Norman Tower, Bury St. Edmunds, have once more issued an appeal to the public for means to enable them to rescue this fine specimen of Norman archi-tecture from the destruction that threatens it. The total sum required is 2,794. The sub-scriptions amount to 2,294., leaving still a deficiency of 5001. — A cemetery is about to be formed at Dudley, in Wolverhamptonstreet. The ground, comprising part of the fields and gardens between there and the castle bounds, in extent about ten acres, with a frontage of a hundred yards to the main street, is given by Lord Ward.—A new church is about to be erected in the Wielder Scheffeld at the effected for the Wicker, Sheffield, at the sole cost of the Misses Harrison, of Weston. ---- Great im-Misses Harrison, of Weston. — Great im-provement is in progress at the Market-street entrance to Trinity Church, Cambridge. A local paper states that very handsome iron gates have recently been put up there by Messrs. Shallow and Coleman.—Govern-ment has appropriated 25,000% of the grant for the improvement of barbours to that of the improvement of harbours to that of Harwich, and the works will be commenced almost immediately. — Part of Cabourn Wold Pillar, situate one mile from Caistor, in Yorkshire, may now be seen above

the trees. The stone-work is of such firm and nest execution, that great time is required even in gaining a few feet in height. Persons sailing on the Humber may now see part of the building, which, when finished, will be an ornament, and a use to most extensive views, both by sea and land, from the highest ground in Lincolnshire. — The Cliff Bridge Comin Lincolnshire. — The Cliff Bridge Com-pany, Scarborough, have accepted the tender rary and Philosophical Society of Newcastle, Dr. Glover, as secretary of a committee ap-pointed to take steps for the immediate formation of a collegiate institution in this town, stated that the committee had memorialized Sir James Graham on the subject, and that although the answer of Sir James Graham was not favourable to the prayer of the memorial, yet it was not such as to preclude all hope of receiving assistance from Government.-----The Wesleyan Chapel, at Bramley, Yorkshire, has recently been considerably enlarged and improved, and an infant school erected at a cost of upwards of 1,0004. Mr. Simpson, of Leeds, was the architect. — Holy Trinity Church, Hull, is undergoing a complete resto-pation under the superintendence of Messra. ration, under the superintendence of Messrs. Binks. All the contractors are bound to complete their works before the 9th of October. A prospectus has been issued during the past week for the erection of a harbour of refuge in the Downs, between Deal and Sandvich, and close to the branch of the South-Eastern Railway. The proposed capital is 200,000*l*.—.At Huntingdon, workmen have recently been employed in pulling down the Theatre, preparatory to a chapel being erected on the spot. on the spot.

Aew Books.

Compositions from Shakspeare's Tempest. By J. NOEL PATON. Chapman and Hall. 1845.

MR. PATON has already made himself favourably known by a volume of outlines il-lustrative of Shelley's Prometheus (rewarded by the Art-Union of London with an honorary premium),* and a cartoon now exhibiting in Westminster Hall, for which he has been rewarded by the Commissioners of Fine Arts. The compositions before us will not fail to increase his reputation, some of them indeed display extraordinary genius, and lead us to anticipate that their author who is quite a anticipate that their author who is quite a young man, will take a high place in his pro-fession. We would instance more particularly No. 5, "The foul witch, Sycorax," and No. 11, "Caliban musing," which are full of power. With much cordiality, we bid him or on, and prospergo on, and prosper.

A Manual of Writing and Printing Characters, both ancient and modern. By B. P. WILME, Civil Engineer. Weale, Holborn.

This is a very valuable work, and should be purchased by all young engineers, architects, and surveyors. The author asserts no more than the truth when he says, "The ground-work is laid for a system of analysis never before attempted, and which will be found to afford the greatest assistance as well to the teacher as to the learner, from its placing in their hands the correct principles for the practice of the art to be acquired. "The analysis here referred to is that of the

Roman alphabet-upper and lower case, and numerals. A careful examination of the system will enable the most inexperienced to extend the investigation of the subject to all the other alphabets." This Manual commences with an investiga-

tion of the most generally useful letters, viz., those of the round hand, the first hand taught in schools, on account of its great utility in after life. Next in order follow the Roman upper and lower case letters and numerals, in full detail, exhibiting at one view both their analytical or integral parts, and their mechanical construction. Also, the Old English and German text alphabets as adapted to English The architect is furnished with nine use.

* Published by Holloway, Bedford-street,

plates of curious ancient alphabets, with the authorities for each.

Mulhatiser says, in his analysis of his method of teaching writing :--- "Writing is a species of drawing; and, as such, an imitative art. To imitate is natural and delightful to children; the power of imitation is therefore an important agent in education, and ought to be developed and directed. In writing, the child is required to produce an imitation of letters and words, *i. e.* of complex and combined forms, which are subject to a definite order and proportion. To enable the child to do and proportion. To enable the child to do this with ease, the instructor must render the process natural and therefore intelligible. He must dissolve the combination of letters which are called words; and he must resolve complex forms called letters into their simple elementary parts; in other words, the *in-*structor must ANALYZE the objects which the child is to imitate. The next step is also to be taken by the master—he must arrange the elementary forms in the order of their simplicity, i.e. the instructor must CLASSIFY the elementary forms, so that the first efforts of the child may be directed to the imitation of the simplest forms. By this natural process, the child soon becomes familiar with, and enabled to imitate the separate parts of letters; he gains a rational conception of their elementary forms; easily combines them, and writes LETTERS and then WORDS. The child, therefore, proceeds by SYNTHESIS, and constructs the object from the elements furnished by the analysis of the instructor."

The author gives ample directions for con-stucting titles for maps, railway plans, &c., with numerous examples. In writing a title, he observes :--" 1st. We should decide on the size of the

title we would have.

2nd. The number of lines we would have. 3rd. The style of characters to be used. 4th. The model or trial title should be formed, which if it suit not our taste when done, can be altered or amended in writing the title itself.

5th. The spacing or distance between the

lines should be determined on. 6th. Form the lines of writing (in pencil) by putting the centre letter of each line on the centre (perpendicular) line of the title, and working the other letters in the line from the centre to either extremity. Thus we find, by referring to the model title, that the first line contains seven letters, of which the fourth from the commencement will of course be the centre one, and will be placed on the centre centre one, and will be placed on the centre line; N is placed in position, and we next (at the proper space which has been previously determined on) put down A, and at another similar space therefrom we put down L. It now only remains (for that side of the line) to put down P, which is placed at an equal space from L as A was from N. Proceed in a einily monner to work from the contra letter similar manner to work from the centre letter N to the right hand, and when the letters are all properly shaped out with black-lead pencil at equal distances, ink them over; when this is done, the construction lines may be rubbed out, and the title will be complete."

Mr. Wilme's book should be in every office.

LIQUID AIR A MOTIVE POWER. – In our last number we referred to the rival systems, at present dividing public attention, for ap-plying as a motive power, to railway propulsion and other purposes, air in a highly condensed, or in a highly rarified state. We have this week to record another step made in the same direction: — by means of enormous compression a person of the name of Evans, residing in Phidelphia, is said to have succeeded in liquifying atmospheric air, which resumes its original volume with an elastic force quite prodigious, on applying a few drops of some chemical composition. is asserted that a train of twenty loaded waggons was transmitted a distance of sixty miles in less than an hour and a quarter, the whole motive power being the liquid air en closed in a vessel of two gallons and a balf measure, into which fell drop by drop and from minute to minute the chemical composition in question. We should mention that the source of this information is a private letter from Philadelphia published in the Memorial de Rouen, and seems to need the authentic confirmation of the American journals.

Correspondence.

HOLLOWAY CONGREGATIONAL CHAPEL. Sig.—I may perhaps be allowed, in confir-mation of the remarks of "Vigilans," to mention on good authority, that two of the designs sent in were considered preferable to that of Mr. Emmett, but that both were thrown aside ostensibly *in justice to the other parties*, because the estimates did not precisely tally with the sum stated in the advertisement. You will then perhaps be surprised to hear that this notorious committee have actually had the effrontery to accept an estimate (artfully omitted in the first instance), which proves to exceed that amount by only 7001.; viz. 3,200, instead of 2,5001.

This is indeed insulting, but as I suppose they are fully prepared to carry their *protegé* through thick and thin, it is hopeless to expect any redress, and nothing is left to the victimized but the dismal satisfaction of publicly making known such nefarious treatment, and defying the parties implicated to a clear explanation.

I am sorry to learn that at the head of the committee is the minister of the place, who from his station it might have been hoped would have been among the first to see justice dispensed to all, and check rather than (to say the least), connive at the unfair attempts of party influence.

I am, Sir, &c., E B.L.

THE GLASS TRADE.

SIR, — The article upon the glass trade, quoted from the Gardener's Chronicle in your journal of the 16th instant, is a misrepresentation of facts, and we shall feel obliged by your

giving the following observations publicity. The quotation of second quality at gross prices from our listin comparison with foreign glass nett, is unfair, British glass of fourth quality being fully equal to the best sheet yet imported; and, if from our price be deducted large discount we allow, the difference the

does not exceed one farthing per foot. Again, when British glass for horticultural purposes or skylights is made above forty inches in length, our nett charge is only three farthings per foot extra, and not from one penny to three shillings, as erroneously set forth.

The price of foreign glass is for squares not exceeding forty united inches, thus, 20 by 20, 30 by 10, and not forty inches long, as stated, or as we sell British glass 40 by 30, in sheets from 41d. to 51d. per foot, according to the substance required. We are, Sir, &c., CHATER AND HAYWARD.

SEWER IN HENRIETTA-STREET, BRUNSWICK-SQUARE.

SIR,-Having had occasion to pass frequently by the end of Henrictta-street, Brunswick-square, in which a new sewer is being built of the egg shape, the smaller end downwards, of about 2 feet 6 inches by 4 feet, inside measure, I have watched the men at their work, and was to-day much surprised at the mode in which it is being done. It is thus-a number of bricks are put together with cement (I believe in a mould), forming a block of about 18 inches long by 12 inches wide, and 4 inches thick; the blocks are then carried down into the excavation, and placed in it not only to form the bottom, but the sides also; the blocks are bedded solid on each other at the level joints, but at the cross joints they are put together dry, and then pointed up. The crown is made of two rings of brickwork, 4 inches thick in mortar.

Now, I think there are many great objections to this mode of proceeding. If 4-inch brick-work be enough for the bottom, that part being of a quick curve, it certainly is not enough for the sides, they being nearly flat, or very little curved, and must give way if any height of water get between the brickwork and the earth, for then we shall have an hydraulic pres-sure which will force in any brickwork only 4 inches thick, and of a flat curve; or if there be any pressure from any other cause, the sides will give way, and fall into the sewer. More-over, the 4-inch brickwork is built in the worst manner; every brick should be laid by itself, bedded solid on the brick beneath it, and also against the next brick, breaking the joint at every course, and also laid solid against the earth; but by the mode here adopted, we only get the level course solid, and, instead of the upright joint being broken at every course,

there is a straight upright joint to four successive courses, and that not made solid, but merely pointed up. It is all but impossible to lay a block of brickwork 12 inches by 18 inches solid against the earth ; at any rate, in this case a stick may be passed between them almost everywhere. The outside 4-inch ring of the crown has no abutment but the earth, so that the pressure from without is likely to make it run behind the 4-inch springing walls, and throw them into the sewer. Again, why not make the crown of the sewer of 9 inch brickwork, well bonded by bricks or headers, instead of two 4-inch rings, connected by a course of mortar. I believe it is allowed by mechanics, that a 9-inch arch will bear four or five times the pressure that a 4-inch arch will.

It is only right to state that I, being a builder, frequently notice how the sewers are built, I never before (as I can remember) saw less than 9-inch brickwork, even to the bottom or invert, and that in cement and well-bonded together except to some sowers in Camden Town, where the bottoms are but 4-inch in cement.

I hope this is the first and last time of build-I hope this is the first and last time of ound-ing a sewer in this manner, for I think it is very much like wasting the money it will cost, towards which, as a ratepayer, I shall be called upon to contribute.—1 am, Sir, &c., 6, Judd-street, THOS. ELDRIDGE,

August 26, 1845.

Miscellanea.

BELFAST.-Since the commencement of the resent year upwards of 400 houses have been built in Belfast and its suburbs. At the pre-sent moment there is not in the town a machine-maker, iron-founder, boiler-maker, stone-cutter, stonemason, bricklayer, brick-maker, or carpenter, unemployed who is willing or able to work; and yet we are told that the union has annihilated our trade. In 1822 the Belfast carrying trade was disposed of by a single steamer of 50-horse power, plying once a week, and there was no steam communication with any port but Glasgow. Belfast now sends out 26 steamers.—Northern

Whig. THE LEICESTER MONUMENT. — The first to the memory of the late Earl of Leicester, better known as Coke of Norfolk, was laid about a fortnight ago, by Lord Colborne, in the presence of a large number of persons, the architect, Mr. W. J. Donthorne, of London, assisting. The monument, as most of our readers know, the design having been both exhibited and engraved, will be a well-proportioned column with agricultural emblems.

THE ASSOCIATION OF ARCHITECTURAL DRAUGHTSMEN.—The works of members of this association will be exhibited to the public at their rooms in Southampton-street, Strand, during the whole of next week. We are during the whole of next week. anxious to draw attention to this society as offering facility of communication between principals desiring assistance and those competent and willing to afford it, which must prove valuable.

COMPETITION GOVERNMENT OIL IN PAINTING.—A notice has been issued by command of the Fine Arts Commission, to the effect, that the competition in oil painting, which was to have taken place in June, 1846, is postponed till June, 1847.

SNOKY CHIMNEYS .- Mr. Hope's chimney. doctor's bill, for his new hotel in the Rue St. Dominique, exceeds 5,000*l*., as we learn from an action just brought by the said chimney-doctor, M. Ducel.—Paris Paper.

Tenders.

For contracts at Southall, at Mr. George Robins's Estate, August 18th, 1845; Mr. Wm. Reynolds, Notting Hill, Surveyor.

| | New Buil | dings. | Repair | rs. |
|------------------|----------|--------|--------|-----|
| J. Lockwood | .£1,260 | 0 | £242 | 0 |
| Thos. Hiscock | 1,256 | 0 | | |
| W. Mumford | . 1,250 | 0 | 250 | 0 |
| Thos. Nias | 1,240 | 0 | 191 | 0 |
| Cooper and Davis | 1,225 | 0 | 275 | 0 |
| W. Hunt | 1,047 | 0 | 115 | 0 |
| Richd. Brewer | . 1,000 | 0 | 135 | 0 |
| John Shoppee | 987 | 0 | 207 | 0 |
| Francis Sandon | | 10 | 165 | 5 |
| E. Brighton | . 849 | 0 | 109 | 0 |

For the Superintendent's Residence and Ref Establishment for the Incorporation of the Phicolanthropic Society, St. George's-road, Southwark i: Messrs. Graland and Christopher, architects.

Mr. Nicholson's tender was accepted, ruled by his schedule of prices.

For building seven Small Houses in Bothnal Green Road; Messrs. Brandon, Architects.

| Mr. Spekins | P 1 865 |
|---------------|----------------|
| Mr. Paluck | 1.600 |
| Mr. Geary | 1,597 |
| Mr. Ward | 1,558 |
| Haines and Co | |

NOTICES OF CONTRACTS.

We are compelled by the interference of the Stam to omit the names of the parties to whom tends are to be addressed. For the convenience of our however, they are entered We are mp Office aum tenders, &c., ace of our resders however, they are entered in a book, and may be seen on application at the effect of "The Builder," 2, Terk-Covent-garden.]

For the execution of Works on the Leods and Thicak Railway.

For the excettion of several lengths of Earthworks on the Aberdeen Railway. There are 5 separate Contracts, varying in lengths from 31 miles to 44 miles.

For the supply of 70,000 Larch, Oak, or Fir Sleepers, and Fencing for 501 miles, or any part thereof, for the Ipswich and Bury St. Edmund's Railway Company.

For the erection of a Wesleyan Proprietary College at Taunton.

For the execution of the works on the Nottingham and Lincoln Railway, in two parts; 1 from Nottingham to Newark, being a distance of 174 miles. 2 from Newark to Lincola, being a distance of 153 miles.

For Lighting a portion of St. John's district, Notting-hill, with Gas. For Paving and Relaying the Footways and Pava. ing or Macadamising and Relaying the Carriagely way in Somers-town, St. Paneras, for the tarm of three years.

For supplying the Aberdesa Railway Company, with Scotch Fir Sleepers. For supplying the Dundee and Perth Railway Company with 50,000 Scotch Fir Sleepers.

For supplying the York and North Midland Railway Company with 2,000 Tons of Chairs. For executing that portion of the Dundee and

Perth Railway, commencing at Dundee and ending at Kingoodie, being about five miles 350 yards in length. For supplying her Majesty's several Dockyards

with Cast-iron Articles for twelve months certain. For supplying 300 Sets of Wheels, Axles, and Guard Irons to the Great Southern and Western Railway (Ireland).

making a Cylindrical Sewer in the town of Cambridge. The length will be about 48 yards, and the average depth about 12 feet.

For the execution of the whole works of the first For the execution of the whole works of the mrss ten miles of the Howick branch of the Edin-burgh and Hawick Railway. For Raising Mud in the Ship-basin of the Re-gent's Canal Company, for a term of three years. For the execution of that portion of the Cum-nock Branch of the Glasgow, Paisley, Kilmarnock, and the Bailmar situate how and the company and

and Ayr Railway, situate between Loch Brown and Auchinleck, being about 7 miles in length.

For 500 Tons of Cast-Iron Socket Pipes with bends, branches, syphons, &c., for the Com-mercial Gas Light and Coke Company, Stepney. For the construction of the Gas Works at

Wells, Norfolk, and all necessary apparatus. For the construction of Three Reservoirs for the Waterworks Company : also, of Stone Blackburn

Culverts for conveying the water a distance of about 23 miles. The earthwork will amount to about 180,000 cubic yards.

For paving and repairing certain Carriage and Footways in the parishes of St. Margaret and: St. John the Evangelist, Westminster. For supplying the East-India Company with

British Iron, &c. For the erection of an Infirmary at the Lambeth

Workhouse. For the execution of works on the Manchester

South Junction and Altringham Railway, in two parts : 1, being a distance of $1\frac{1}{2}$ mile; 2, being a distance of $7\frac{3}{4}$ miles.

For the execution of Works on the Manchester For the execution of Works on the Manchester and Birmingham Railway in 2 parts. 1. The Ashton Branch, being a distance of about 44 miles. 2. The Macclesfield branch, being a distance of about 30 chains, including a tunnel of 330 yards in length.

For the execution of that portion of the Edin-burgh and Northern Railway, extending from Burntialand Pier to Kinghorn.

For supplying the Trent Valley Railway Com-any with about 200,000 sleepers of good sound any with Baltic timber.

For erecting sundry Workshops for Engine and Carriage Repairs at the Brighton Station of the London and Brighton Railway.

For supplying the Clydesdale Junction Railway Company with about 2,500 Tons of Rails, and about 600 Tons of Chairs.

about 600 Tons of Chairs. For supplying the Leeds and Thirsk Railway Company with 100,000 Railway Sleepers. For the execution of works on the East Lanca-shire Railway, viz., the Accrington Contract, being a distance of about 8 miles. For the execution of the nortion of the New-

For the execution of that portion of the New-castle and Berwick Railway, extending from Netherton to Tweedmouth, being a distance of about 53 miles. To be let in four contracts.

For the execution of works on the Leeds, Dews

ror the execution of works on the Leeds, Dews-bury, and Manchester Railway, viz., the Churwell Contract, being a distance of about 24 miles. For supplying the Wakefield, Pontefract, and Goole Railway Company with about 7,000 tons of Malleable Iron Rails, and 2,000 tons of chairs.

COMPETITIONS.

The Committee for the establishment of Public Parks, Walks, &c., at Manchester, offer two prizes, one of 50 guineas and the other of 25 guineas, for the best and second best set of Plans (with estimates), for the laying out, &c., of the sites already purchased by them.

The Board of Guardians of the Bridlington Union offer a premium of 10*l*, for a Plan and Specification of a Workhouse, the expense of which is not to exorkhouse, the expense of which is not to exceed 2,000/., and to accommodate 150 inmates.

APPROACHING SALES OF WOOD, &c. BY TENDER.

In the Plantations of the Duke of Montrose, situate in the Parishes of Drymen and Buchanan, Stirlingshire : many Thousands of Larch Trees of some size, adapted for Railway Sleepers, Roof

A Quantity of Old Wrought and Cast Iron, in store, at the Royal Arsenal at Woolwich.

TO CORRESPONDENTS

"G. W. B."-The patent process referred to is

Payne's. "B. B."—The drawing is in the engrover's

"Window at St. James's."-We have not room for all the letters sent us on this subject; they All receive further consideration.
"W. A."—We will inquire.
"A Learner" (Portsmouth).—T

-The lerm sesquialteral in geometry is a ratio, where one quantity or number contains half as much more than another: as 2 and 3, 6 and 9. If the width of a room be two-thirds its length, or the height of each division of a tower be half as much more than the width; it may be said that they are designed on sesquialteral proportions. It is thus Mr. Gwill uses the term in the passage referred to. "F. H."-" Specifications" by the late Alfred

Bartholomew. "J. A. W."—Can our correspondent refer us to a specimen of the stone in London, and give us the p price. B. J."-

"B. J."—The architect would be justified in "B. J."—The architect would be justified in charging 5 per cent. on the amount of the works as executed, and the value of the time occupied in preparing the drawings, &c., in accordance with the first instructions.

"R. B. W."-We were unable to avail our-selves of the sketch, which is left at the office with thanks. The account of the church shall appear. "G. B. C." (Drury-lane); "W. Mason;" "Thomas Smith;" "Dr. L.;" "G. R."-Next

week. "W. A."-We understand the work on Linear

Projection has not been published. Received.—" Unhealthiness of Towns, causes and remedies," by R. D. Grainger.

ADVERTISEMENTS.

NOTICE TO INVENTORS. OFFICE FOR PATENTS OF INVEN-TIONS and REGISTRATIONS of DESIGNS, 14, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Design Acte, may be had by applying personally, or by letter, pre-paid, to Mr. ALEXANDER PRINCE, at the office, 14, Lincoln's-inn-fields.

PATENT OFFICE, 5, CHANCERY-LANE, NEAR FLEET-STREET.

IN VENTORS requiring protection by LETTERS PATENT should apply direct to the PATENT OFFICE, as above, where Patents can be speedily procured for the United Kingdom, &c., and by which a great saving of expense will be effected. CAVEATS are en-tered at this office, fee 11. 1s. DESIGNS of all kinds are BEGISTERED. Apply at the PATENT OFFICE, 5, Chancery-lane, near Fleet-street.

PRIZES IMPORTANT TO INVENTORS AND PATENTEES. A GOLD MEDAL, value 1007. and a SILVER MEDAL, value 507. will be given by Mr. M. JOSCELIN COOKE. The Gold medal for the best Patent, and the Silver medal for the best Design taken out or Registered at the OFFICE for PATENTS and DE-SIGNS, 20, Half-Moon-street, between the 1st of Novem-ber, 1844, and the 1st of June, 1846. The Prizes will be awarded by competent judges on the 10th June, 1846. The evaluation of the obtaining Patents in England or Foreign Countries, or Registering Designs, will be forwarded gratis, on application to Mr. M. JOSCELIN COOKE, at the Office for Patents and Registration of Designs, 20, Half-Moon-street, Piccadilly, London.

Moon-street, Piccadilly, London. ROYAL ADELAIDE GALLERY, Low-ther Arcade, Strand. — ATMOSPHEBIC RAIL-WAY daily, with a Lecture, at Two and at Half-past Eight. A series of Lectures, with Illustrations, on the manners and customs of the Ancient Egyptians, by Mr. E. Clarkson, every Monday Evening. Mr. Russell's Lectures on Cha-racter, with Musical Illustrations, every Tuesday, Thurs-day, and Saturday Evenings. Les Reunions Magiques, on Wednesday and Friday. Lecture on Science, Daily, in-cluding Major Beniowski's Artificial Memory; Beale's Ro-tatory Steam-engine, &c. Every Evening a grand Pro-mental and vocal. On Wednesday and Friday Evenings, a series of Lectures on "The Manners and Customs of New Zealand," by PAHE-A-RANGE, the New Zealand Chief.

A MAGNIFICENT, EXTENSIVE, and UNIQUE COLLECTION of TROPICAL PRUITS, modelled by Mons. Grimaud during his long Besidence in the late of France, is just deposited at the ROYAL POLY-TECHNIC INSTITUTION. The ATMOSPHERIC RAILWAY is lectured upon by Professor Bachhofmer, and exhibited Daily, and in the Evenings. A NEW AME-RICAN INVENTION, COLEMAN'S PATENT LOCO-MOTIVE ENGINE for ascending and descending inclined planes on Railways without the sid of stationary power. SWIMINIG and DIVING ILLUSTRATED by the Son of Capt. Stevens, the celebrated teacher of Swimming, on Mondays, Wedneadays, and Fridays, at Troo o'Clock, and on the Evenings of Tuesdays and Thursdays, at half-past Eight o'clock. The other Exhibitions, &c., as usual.--Ad-mission, One Shilling; Schools, half-price. MAGNIFICENT, EXTENSIVE, and

HOLBORN AND FINSBURY SEWERS, MIDDLESEX. THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Severs, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-

NO BUILDERS and Others interested in

PART OF MIDDLESEX, No. 1, Greek-street, Soho-equare. TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by water-courses falling into the river Thames, between the city of London and the parish of Fulham. The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, pre-viously to the making of any new sever in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing that such new sever or severs shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise. And, in order to prevent the serious erils and inconveni-ences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon ary licaticn being made at this office previously to the excavation of such ground, information shall be given os the lowest depth at which the same ten be drained. And the Commissioners do also give notice that, when-here the lower floors or pavements of buildings. It is recommended to all persons shout to purchase or take houses, or other premise, to ascertain whether such premises have aparte and distinct drains into common severs. All commissioners will be cult off, and the parties making to support the application will be struck out, and the pro-ceedings must in consequence be commenced de novo. All commissioners will be cult off, and the parties making to such works, under the superset to f, and the parties making the same will subject themselves to a fine. The provisions of the Metropolitan Buildings Act (7 and 8 victoria, c. 84) do not supersede the authority of the Commissioners will be cult off, and the parties m

TO ENGINEERS, ARCHITECTS, AND CON-TRACTORS.

TRACTORS. GROUND BLUE LIAS LIME, at 3, South Wharf, Paddington, London, and Works, Southam, Warwickshire. Agent for Liverpool, Mr. WYLIE, 56, Gloster-street; ditto for Manchester, Mr. J. THOMPSON, Back King-street; ditto for Chester, Mr. J. HARRISON, Linen Hall-street.

A TKINSON'S CEMENT.—The public is respectfully informed, that the price of this very ex-cellent Cement, which has now been in use for Architecture and Engineering works upwards of thirty years, is reduced to 28. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfrigm-bridge.

28. 3a. per ousnel, and may be near in any discrete side of Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge. N.B.- This Cement being of a light colour, requires moarti-ficial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

MARTIN'S PATENT CEMENT. TO ARCHITECTS, BUILDERS, AND PAINTERS IN RESCO. TEVENS and SON, PATENT EES and SOLE MANUFACTURERS, beg respectfully to ansounce that this beautiful Cement has now arrived superiority over every article hitherto in use; it is now being used extensively by Government in the British Museum and the public buildings. IT DOES NOT THROW OUT ANY SALT, but presents a beautifully plain and perfect surface, which may be painted upon dry work within four any without peeling. It is equally applicable for walls are been used for many of the prise freeco slaty exhibiting in westiminster Hall. It will bear an intense heat without the distingtion of the prise freeco slaty exhibiting in Westiminster Hall. It will bear an intense heat without the applicable for many of the prise freeco painting, having westiminster Hall. It will bear an intense heat without the applicable for many of the prise freeco painting in the set westiminster Hall. It will bear an intense heat without the applicable for many of the prise freeco painting. As in the applicable for many of the prise freeco painting in the beat the applicable for many of the prise freeco painting in the beat westiminater Hall. It will bear an intense heat without the applicable for many beat applicable for any for the prise freecose slately exhibiting in the for many of the prise freecose lately exhibiting in the applicable for many beat and intense heat without the applicable for many beat and the second applicable for any the many beat and the second applicable for any for heat any the second applicable for many beat and the second applicable for many beat applicable for many beat applicable for any beat applicable for any the second applicable for any for heat applicable for any for heat applicable for any beat applicable for any beat applicable for any beat applicable for any for heat applicable for any beat applicable for any b

186, DRURY-LANE, LONDON.

Agent for Liverpool and Manchester, Mr. B. Part, 11, Atherton's-buildings, Dale-street, Liverpool.

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tage. In Liverpool and Manchester, Keene's Cement has in Several cases been used for the covering of the fire-proof warehouse floors, where its lightness and hardness give it the preference over tiles and flagging, which are much bestvier, and necessarily leave the floor intersected with numerous joints, whilst Keene's Cement is laid down in one unbroken

joints, whist Acene's Cement is into over a surface. The high polish and marble-like hardness of which this Cement is susceptible render it the most suitable material or the manufacture of Scagliola. Patentees, J. B. WHITE & SONS, Millbank-street, Westminster, Manufacturers of Roman and Portland

Cement. Depòt in Liverpool, 36, Secl-street ; James Woods, Agent.

O ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MER-CHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

CHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL. JOHNS and CO.'S PATENT STUCCO CEMENT.-The following are the positive advantages possessed by this Invention over every Cement hitherto in-troduced :-It will effectually resist Damp. It will never ergetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It is co closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any scason. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and be-comes perfect when other Cements begin to periah. It may be worked through the Winter, as froat has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instru-tions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapeet Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy. Architects and Builders who have used this Cement have

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally

Architects and Bunder and the first property of the universally preferred. Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application to MANN and CO., SOLK AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had. JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over ex-terior Walls of Houses that have been covered with Homan or other Cements, and which have beene dirty and disco-loured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the auction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like efficiency, and in the finish producing a pure stone-like splication, ---and may be used by any Painter, in any climate, even in the most exposed Marine situations.

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SATURDAY, SEPTEMBER 6, 1845.



R N July last we referred to ment which prevailed on the subject of railways, the gambling carried on, and its probable conse-

quences: we mentioned some of the newest schemes before the public, and referred to the singular change in opinion which had taken place since the time when the towns were striving to keep the rail as far from them as possible, and spent large sums of money to injure themselves.

At the moment we wrote the mania for speculation in railway shares seemed almost universal, and might have been thought at its highest. Since then, however, it has increased in a fearful manner, and, at the present moment, possesses the whole mind of thousands. It is madness, and nothing short of it. Shares in projects to which an Act was refused for reasons which will exist when the application is again made, find purchasers at a premium; scrip, which could be bought yesterday for one pound, commands to-day three, although its circumstances remain precisely the same, and men talk of having made twenty, thirty, and forty thousand pounds by what seems a very safe and simple operation, namely, subscribing for shares at par, waiting a few days, until an adventitious value was given them by the prevailing desire to buy shares, selling them, and pocketting the difference.*

It is, perhaps, hardly our province to comment on these proceedings; our more legitimate business is the construction of railways, the design and arrangement of stations; but observing the extent of the prevailing mania and well assured of its injurious tendency, we cannot avoid earnestly conjuring our readers to resist the desire to gamble infused by example, and to seek to raise their condition by continuous industry, and the exercise of their abilities, rather than a lucky stroke of fortune.

It is hardly necessary to say, our remarks apply simply to buying shares to sell again. (speculating on a rise), and not to the legitimate investment of capital in railways. The extension of the railway system is in no way to be deprecated, but, on the contrary, to be assisted to the utmost consistent with the national resources, as by means of this, the general prosperity will unquestionably be advanced. At present the advantages of the system are but partially developed; every line which is brought into work will make them more palpable.

The Westminster Review for the current month contains an able article on the allengrossing topic, and brings forward some original and striking notions. After combatting the unwise system of high charges, the reviewer remarks :-

"The true value and uses of railways has not yet dawned on men's minds. They are the future streets of the coming time, when horse and foot transit shall be nearly extinct; when the conquest of time and space, by steam or other power, shall have made intercommunication perfect between every farm, village, town, and manufactory throughout the island; when the industrious races, no longer driven away by high or uncertain rates of transit, shall people the whole borders of the lines; when farms and manufactories shall work in unison, and contribute to increased results; when the most improved labour among processes shall be applied to the production of food as well as

BUILDER.

THE

other articles. This principle is obvious, and may be thus Interpretendent in the second but in being the medium of communication with numerous wealthy buildings on either Take away the buildings, and the street side. would become a comparatively insignificant road. And these houses have been built road. because there exists facilities for the supply of water, fuel, and provisions. Take up the water-pipes, and break up the road, the result would at no distant period be analogous to one of ' Sultan Mahmoud's ruined villages.

Crowded cities have been a result of slow and expensive transit, and therefore highways, on the old system, have not become lines of farms, factories, and dwellings. But for this, water-pipes would have been laid throughout. With the advent of railways the difficulty ceases, and towns may expand, for ten miles of railway are but as three miles of omnibus. Our railways will become streets of detached buildings, factories, dwellings, and farms, so soon as their uses shall be rightly appreciated; that the petty profits of distant transit shall merge and be overwhelmed in the huge gain to be wrought out from the land which bounds them; that the suicidal process of high fares shall be abandoned, which, like heavy turnpike tolls, deter the public from their territories."

Stationary engines, when not required for the line, should be used, it is urged, to carry on improved farming operations, independent of times and seasons, and with the minimum of human drudgery. " In all farm cultivation, as in factories, transit is one of the most costly items. No farms laid out on the ordinary plans, with mere highway transit, could compete with farms laid out along a line of railway, any more than a factory with distant cartage could compete with one situated on a canal or railway, and ultimately, when the uses of railways are thoroughly apprehended, all new farms and factories will be located thereon; and in self-defence, the existing farm and factory owners must construct railways along their roads and streets. Where the mountain cannot come to Mahomet, Mahomet must go to the mountain ! Upon this principle we feel assured that ere long the system will commence of laying down lines of rails along all the borders of highways, communicating with the various farms.

A stationary engine should be as much the central moving power-the nucleus of a farm -as of a factory. No factory of any magnitude is now constructed without an engine, and the factory is the centre of a neighbourhood of greater or less extent. Supposing a railway to be constructed through a line of factories, the engine power of those factories might be used for the purpose of atmospheric traction during meal times, exhausting a receiver for that purpose. And thus in farm districts the power need only be applied to road purposes when required, using it for farm purposes at all other times."

Viewing the Epsom line as the first of the atmospherics, the reviewer selects that as the seene of operations, and shews how he would proceed :-

"We would procure a well or underground tank to be made to receive the liquid contents of the sewers, either of Croydon or of the Deptford marsh. By stationary engine power we could force this sewer water through a line of pipes along the course of the railway to the next stationary engine, used for working the line, in the neighbourhood of which land fit

for agricultural purposes could be found. W would then, by means of the engine power would then, by means of the engine power, force the sewer water up a stand pipe precisely similar to the mode used by the water compa-nies for high service. Having secured, on lease or otherwise, a sufficient extent of ground proportioned to the supply of sewer water, we would apply it to the land in the mode thus described in Martin's 'Thames Embankment

and Metropolis Improvement Plans,' p. 17. 'The consideration which I have so long given to this most important subject, leads me here to propose a system of distributing the manure, which appears to me to be greatly superior in economy and efficiency to the foregoing, or to any at present in use :-- it is to going, or to any at present in use :—it is to spply the well-known principle of *fluids find-ing their level*—thus to convey the sewage in its most fluid state, by means of pipes, from the principal receptacle or great sewers, and to then pump it up into a small receptacle or hydraulic tower of sufficient elevation, from which a pipe should descend and he laid down which a pipe should descend, and be laid down into the centre of the tract to be manured. cock and strong caoutchouc cloth hose, with one or more small branches, should be attached to the extremity of the pipe, and a swivel cock placed at the junction of the branches to allow of their being easily moved round; by these means, each hose being guided by a man, the manure could be turned on, and projected in every direction in the same way as the firemen discharge water upon a fire; and, without moving the main hose, a space of three miles in circumference could be manured with only one half-mile of iron pipe, the same hose serving to manure the whole tract, and be then

readily transported to another locality." The value of this system may be under-stood from the fact that land in the neighbourhood of Edinburgh has risen in value from 2*l*. to 20*l*., 30*l*., and 40*l*. per acre, as meadow land, by the simple application of sewer water, by which means four and five annual crops of grass are obtained.* One cause of the value of this Edinburgh land is its proximity to the city. But land border-ing a railway is, if the railway be rightfully applied, equally available at ten miles distance as ordinary land at one.

To this same station we would lay down main of water-pipes from the most eligible supply along the whole course of the line; and we would also lay down a main of gaspipes.

At the station, we would inclose on the cheapest plan of an ordinary railway terminus, from two to four acres of land in a square form, with brick walls, say 20 feet high. The roof to be in spans of 50 to 60 feet, formed of iron, and supported on iron columns. The whole of this we would cover in with hailwhole of this we would cover in with pan-proof glass, a process that will be ultimately cheaper than slating, and far more durable. In Belgium, we believe, at this time glass for

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^{*} In France the mania is as strong as in England, and occupies the thoughts of all. In Austria, it appears, no new lines will be authorized till 1850, when all lines already com-menced are to be completed.

green-house purposes is sold at the rate of green-house purposes is sold at the rate of ten shillings per hundred superficial feet, weighing fourteen ounces to the foot. We are much mistaken if the two railway mag-mates who have just established a glass-work fn Sunderland will not produce it cheaper than this.

Around the outer wall we would crect dwellings of two floors, leaving four gateways into the inner square. The exuvize from these dwellings would be carried by pipes to a common receptacle to be applied to the purposes of manure, so chemically prepared on the plans of Liebig as to neutralize all odour. The number of dwellings surrounding an in-closure of four acres would be about eighty. Assuming four grown persons for each, the exurise would be equivalent to manure the heavy corn crops of one hundred and sixty acres of ground, and be worth 300% per annum or more.

The internal building or green-house would thus be very cheaply attained. The external walls would be gratuitous, as being part of the houses, and the central columns would the interview of the gratuation of the gratuation of the second would re-

use nouses, and the central columns would serve as rain conduits; the ground would re-quire no paving or laying, and the only real cost would be the roof. The application of this large green-house would be for the production of vegetables in the winter time. Four acres thus inclosed and sheltered would be multiplied in value many fold. Produced on the very verge of the railway, the crops could be gathered and the railway, the crops could be gathered and delivered direct into the markets of the city within an hour of cutting. At other periods the external land could be applied to the same purposes.

or all these arrangements the steam-engine would be a most valuable adjunct. The waste steam would warm the green-house and the dwellings, and would serve the purposes of cookery, either in a general kitchen or sepa-rately. The condensation water would supply rately. The condensation water would supply baths, and thus be rendered available for ir-rigation purposes. It would serve also for washing clothes, and the steam would serve for drying them."

This is with a view to towns-people with small incomes; for the rich he goes further:

"On a healthy spot, say Epsom Downs, we would erect a similar glazed inclosure as a winter garden and walk for the inhabitants of surrounding villas. If the neighbourhood in-creased, a school and a lecture-room, a library, and newhone a theter bound be added to the and perhaps a theatre, should be added to the establishment; but in all cases a steam-engine or steam-engines should be the sources for warming, ventilation, and baths. We can imagine that all the luxuries procurable at the country houses of the wealthiest landholders might thus be achieved at a moderate cost. With large neighbourhoods even Chatsworth might be eclipsed. With double glass roofs a very small quantity of fuel would suffice to warm a conservatory of very large size.

It must be obvious that on such a plan the It must be obvious that on such a plan the whole road would rapidly become a system of detached buildings; for the facility of obtain-ing water and fuel at every point would re-move all obstacles. It would be worth the while of the inhabitants to pay an annual rate to the road makers, and throw it open to all dwallars on the line dwellers on the line.

If our views be correct, the time will come when railways will be made for the purpose of miles of land will be intersected with a railway throughout the whole country. If this be so, where is the wisdom of the men who are expending money in millions merely to oppose fancied rivals? Where is the use of crushing an opponent at ten miles' distance, when two or three other lines are sure to intervene subsequently? If we cast our eyes over the map, we cannot resist the conviction that every mile of highway will ultimately be replaced by two miles of railway. We cannot but laugh at the opposition to the London and York by the London and Birmingham, while perhaps at the very time a new line is in contemplation between both. As the conviction grows that the railway is not the mine—that the land is the true mine—and the railway is but the access to the mine, this sort of absurd opposi-tion will diminish and disappear."

The article ends with a proposition which will be ridiculed by many and deemed chi-

merical by most, but nevertheless is worthy of consideration.

"Unless a succession of bad harvests intervene to check prosperity, the year 1850 will behold the extinction of horses as a moving power in England, for the purposes of pe-cuniary gain in the public transport of pas-sengers and goods. Every new street, every village, every farm will have its railway, and village, every farm will have its railway, and stationary power will have become so com-mon in its numerous applications, that it will be turned on and off for the purposes of haulage as easily as gas jets for the purpose of lighting. And the modes of its application will be manifold. Beyond the mere purposes of traction, there are other important problems to work out. There is an important process to be achieved in English agriculture, which seems not yet to have entered into the imagination of any of our improvers. The reason seems to be that our chemists are not mechanicians, nor are our mechanicians che-mists; but be it as it may, we have never yet seen the matter proposed, and possibly may run the risk of being deemed mere visionary enthusiasts for propounding it. Yet_in_sober earnestness we propose-

To convey artificial heat beneath the earth, on open land, so as to maintain the tempera-ture suited to the growth and development of the vegetable tribes, by means of pipes of metal or earthenware; circulating steam, or hot water, or air, from a close boiler or stove. These pipes to be laid at depths of from 4 to 5 feet, in the manner of deep draining. Also, by a similar process, to inject the ground with gaseous manure, as ammonia and carbon, so that the heat and gases may be constantly as-cending towards the surface, and thus be ab-sorbed by the roots of the plants."

We may look for great things in the next twenty years.

JOTTINGS ABOUT BAILWAYS.

ANY iron wheel may be made to travel almost noiselessly along a railway, it is said, by inclosing its two sides with boarding or thin metallic sheeting, so as to confine a quantity of sawdust in immediate contact with its spokes; sawdust being anti-vibratory will effectually prevent the wheel vibrating, thus enabling it to roll without noise. All who are interested in lessening the noise of railway wheels, should make this easy method as pubwheels, should make this easy method as puo-lic as possible, so that railway directors may be urged to adopt a plan so inexpensive, effi-cacious, and desirable.—An ingenious plan for rendering the electric telegraph valuable as a means for indicating the precise position of a railway train upon different parts of the line, was lately submitted to the Academy of Sciences in Paris, by M. Dujardin, the inventor. He proposes, that as a locomotive passes by certain places, it shall touch a spring in connection with the wire, and then communicate with the index of the station by certain signs previously agreed on.——A project has just been made public having for its object the effecting a telegraphic communication, by means of electricity, between London and all means of electricity, between London and all the principal towns in England, and also between the principal large commercial towns. To carry out the project, it is proposed to establish a company, and to raise a capital of 500,0002.—In a recent number we gave an account of a method of obtaining vacuum for atmospheric relevant by the direct acc an account of a method of obtaining vacuum for atmospheric railways by the direct ac-tion of steam, and gave credit to Mr. Nas-myth for the invention. It appears, however, that he was anticipated by Mr. Robert Mallet, Mem. Inst. C. E., who minutely described the Arem. Inst. C. E., who minutely described the process in a recent number of "Weale's Quarterly Papers on Engineering," and who claims the credit of being "the first inventor." ——A series of private experiments has lately been made on the London and Croydon Rail-way, for the purpose of testing the powers of atmospheric propulsion. The question as fo the power of ascending inclines has been com-pletely set at rest. A train was brought to the pletely set at rest. A train was brought to the foot of an incline o fone in fifty, and stopped so as to deprive it of any power it might have acquired from the impetus of its previous progression. It was then propelled by the atmosphere up the incline, and that which many of our most eminent engineers have declared impossible was accomplished with the

greatest ease imaginable. Among other results that have been obtained, we may mention that five miles length of tube has been exhausted in its whole extent, and that the piston has traversed the entire length of the tube The death of Lord Canterbury, by apoplexy, in a railway carriage, has given occasion to a surmise that railway travelling conduces to that disease. Dr. Badeley, of Brighton, having fully investigated the subject, asserts that the surmise is wholly groundless. He says :-- "If surmise is wholly groundless. He says :- " If a calculation were made of the number of persons who have travelled by railway during the year, and the number of deaths from apoplexy that have occurred during the journey, I think that the question of cause and effect would at once be settled. Let the guards and the engineers be included in the calculation-men who are every day and all day engaged in their locomotive duty; has any single instance of apoplexy occurred in the whole corps? I have inquired of them whether their occupation has ever induced any affection simulating or threatening the disease in ques-tion, but I have, without exception been an-swered in the negative."—A novelty, in the form of a railway without steam or fire, presents itself in the proposed line from Callao to Lima, in Peru. The ground has a gradual and un-broken rise the whole way. Above Lima flows the river Rimac, which passes through a part of the city in its way to the sea near Callao. This river, though not navigable, affords at all seasons of the year a hundred times the water power necessary to work any traffic that can possibly come upon the rail. The saving of the usual expense of fuel is thus effected; and the cost of the steam-engines, and, what is no small item in railway expenditure, the charges for their after management are entirely avoided. — The Duke of Cleveland has issued the strictest orders to all his tenants and servants, on no account to allow any railway engineer to make a survey through any part of his property, by giving all who attempt to do so notice to desist; and if this is disregarded, commencing immediately an action for trespass against them. Two parties of surveyors in the neighbourhood of Barnard Castle have lately been repulsed. Watchers are posted night and day on the look out. Sapient duke !

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STEREOCHROMY.

A NEW METHOD OF ARCHITECTUBAL PAINTING -BY DR. FUCHS AND PROFESSOR SCHLOTTHAUER IN MUNICH.

EXPERIMENTS which have been carried or in this respect for the last two years, in the Bavarian capital, have reached that point , where it may safely be said, "The thing is done." The first subject, however, to be broached is, that the new method of painting bears no analogy to the Pompeian, either in principle, far less in its technical part; and that it is something quite original and new. On account of its thorough novely and ori-ginalty, it would be wrong to consider it merely as a substitute, and we are sure that the more known, the more it will be applied EXPERIMENTS which have been carried or the more known, the more it will be applied to those purposes for which painting al fresco has been hitherto used. The distinctive characteristics of this new method, from all other sorts of painting hitherto practised, are its great durability and indestructibility-re-sulting from the particular chemical composi-tion and preparation of colours, and the method of using them. Under these circumstances, it is very probable, that it will outdo all ot her methods of architectural painting, and become a common property of civilized nations.

This new technicism has appeared under a new name—as Dr. Fuchs (Ober-Bergrath to new name—as Dr. Fuchs (Ober-Bergraff to the king of Bavaria) has thought, that the ap-pellation of stereochromy would be the best adapted to is peculiar features. Still, it is a truly national, German discovery, resulting from that all-sided development of art, which has been concomitant in Bavaria with an improvement in all branches of artistic mechanism, nay even the handicraft $\sim P^{ern-}$ tions of the action. What has been det are in ne in tions of the artisan. What has been day ne me that country for the casting of metals, me painting, and encaustic, may even for the metals chanism of the different sorts of lithog and galvanoplastic, is the best proof activity, which, in the present instance, have yielded a great result. The want of pliable and constant means of

pictorial representation (colours), has been felt in all ages, especially by those, who, like the practical artist, were most suffering by this deficiency. It is known to every such, how much this has been the case in monumental or architectural painting, which did not only afford no adequate means for ex-pressing the ideas of the artist, but subjected his creations to the everyday's influence and destruction of the elements. The usual *fresco* could not suffice the great masters; the inade-quacy of colours, and the limited scope of technical execution, did not allow of the execution of masterpieces, where a rich display of groups and vast perspective were to be achieved—in fact, the colorit could never be worked out to a natural and harmonic ensemble, still less where the more worldly disensence, still less where the more worldly dis-play of glaring colours was contemplated. Thus, several erroneous and noxious expedients were resorted to. In the *stanzas* of Raphael, we find corrections and after-work made obviously with *other* materials than those of *fresco* painting; and it is known, moreover, [that this great man had made preparations to paint the Hall of Constan-tine in oil — in imitation of *Schastian del* imitation of Sebastian tine in oil—in Piombo, who had resorted to the same in his Leonardo da Vinci had mural paintings. Leonardo da Vinci had used a sort of varnish-painting in his celebrated "Last Supper," and thus surrendered an incomparable masterpiece to precocious de-struction; and finally the frescos of the *Caraccis* and their pupils wouldn't have so much suffered, if they had not combined the simple method of fresco with the use of glue and a la tempera colours, for accomplishing a better colorit. It could not but happen, that in Munich, where similar pursuits were carried on of late, similar views and trials were resorted Mural paintings of the most diversified to. kind-the most stern and the most serene and lively--were to be executed; and it was natural, that the *fresco*, whose mild and quiet hue corresponded so well with the still and reserved character of the new historical, or rather religious school of painting, was found inadequate to these various exigencies. Many trials were, discover some new tech therefore, made to nicism, especially for mural puinting, which should possess the undeniable advantages of fresco, without partaking of its defects. To those manifold endeavours, which grew out from the increase of artistic tendencies, and the higher claims of the constantly varying character of art-we are indebted for the introduction of the new encaustic method of Mr. Montabert, detailed in his *Traité complet de la peinture*, as well as that of the deserving method of encaustic painting of Mr. Fernbach. To these experiments for discovering a new procedure of fresco painting, exhibiting a more natural and effectful colorit — Stereochromy owes its origin, at least in its incipient stages. A chemical discovery made by Dr. Fuchs (councillor of mines to the king), served to put in practice a series of thoughts, and ideas, and experiments, which Professor Schlotthauer had followed up for years, and it was proved again, how important it was that "science and art, theory and practice, should go hand-inhand," and also how much it required to ac-complish new things in art and its technics! While, in this instance, both talents, scientific, technical, practical, and artistic, were put into requisition — results were, indeed, achieved greater than they were, at first, contemplated ; as there is every reason to believe that this new method will be also adapted for painting on canvas.

The painting is done by colours chemically prepared for this purpose, and, moreover, on a coat materially analogous with them; which combines, in paintings on canvas, into a thin integument, with which it becomes saturated; in mural paintings on stone or mortar, it is used as a coat of only a few lines thickness, which, however, unites even with the hardest substratum into a mechanically inseparable mass. The picture executed sterochromatically on this coat, is fixed (after its completion) in a very particular way—so much so that, after this operation has taken place, colours, coat

• This procedure has been used with the best success in the execution of the large historical pictures in the Imperial Halls (Kaiser-Sillen) of the royal residence of Munich, by Mr. de Schnorr: and the description of the hitherto secret will shortly appear in a detailed description in the literaryartistic publishing Bureau of that city, as Mr. Fernbach has received the king's permission for so doing. His secret had not been hitherto known, but to the Committee of the Royal Academy of Arts.

and stone (or other substratum) present an intimately connected whole. It is, therefore, here not the case, as it is in al fresco painting, or even encaustic, that a defined, easily to be separated stratum of colour is formed; on the contrary, the very colours are converted, by the all-combining substance, into a rigid, nay petrified mass. In this intense combination with the stone or mortar, the colours become capable of even resisting pretty strong mechanical contact or force. We may pass with pretty sharp or pointed tools over the picture, —nay strike them with a hammer, without injuring or exfoliating the colour; and as to any endeavours of rabbing them off, there is no possibility of so doing. In a similar vigorous way, they resist chemical influence.

For testing these qualities, stereochromic paintings have been subjected to the most severe trials, which they have stood with astonishing success. It was resolved, to bring those elementary agencies which destroy pictures, as air and light, wet, heat and cold, and even acids, to bear upon them in forms more strong than they occur in the usual course of time. Stereochromic tablets, were therefore, exposed to the various effects of sun and rain; but they remained unchanged. A comparative experiment of these tablets, one al fresco and the other stereochromisedpainted on the same kind of sandstone, and the usual coating of mortar, were exposed to the severest test of the last rigid winter, and placed during the months of February and March, nearly for eight weeks in the frost, snow, and fog, and moreover water was thrown upon them, which converted them into a mass In this state, they were suddenly into heated rooms. After these exof ice. brought into heated rooms. periments, the tablets exhibited a most dif-ferent aspect. The fresco painting, although done in the most approved method, had experienced, especially in the parts representing carnation, the most complete destruction; whole parts became exfoliated, and the coat of mortar so softened, as to separate from the stone. The stereochromic painting, on the other hand, remained such as it had issued from the atelier of the artist, and the coat of mortar, formed (as well after as before the experiment) the same compact mass, combined with the stone. His majesty the king, who had seen the tablets as exhibited to the roughest weather, was much gratified at the results of this new discovery, which, according to royal command, has to be first employed on a large scale in the decoration of the outer walls of the Pompeian House, near Aschaffenburg. The durability of stereochromy has also stood the test of acids, which may be of importance, inasmuch as rain, especially that fallen during thunderstorms, contains nitric -it is true in small quantities; still large acidenough to produce some effect during the lapse of time. Acids, half diluted with water, will not affect perceptibly stereochromic pictures, while they produce on fresco paintings effervescence and immediate destruction.

With these rare qualities, perfectly resisting the ordinary effects of the elements, it is easy to be conceived what important advantages will be obtained for the ornamenting of outer walls with colour—advantages still greater, if we come to consider, that the layers of mortar required for the reception of stereochromic colour assumes, when dry, the hardness of marble; and we may not appear too sanguine in expecting, that this discovery will be pregnant with important advantages for the whole range of architectural pursuits, and, sooner or later, obtain general approbation.

We have to say, in conclusion, a few words on the artistic and technical character of the new discovery. The external appearance of these paintings is similar to that of fresco. Stereochromy possesses the same advantages as the latter, especially valuable for mural painting, viz. its great clearness, and the same lucid tones of the scale of colours; but, besides this, a greater force and depth, in which fresco is deficient. Stereochromy ranges over a greater extent of colours, and as those are capable of further mixture, it possesses more tints and shades than fresco, which is altogether to be compared to an instrument of a very limited range of tones. These were advantages appreciated by Mr. Cornelius, when, at his last stay at Munich, he saw the pattern tablets. To this is yet to be added, thut the stereochromically prepared colours will dry

uniformly and without any extraneous lustre whereby the ultimate effect of a picture can be calculated during its process, with a great degree of certainty, which is not the case with fresco. The process of painting itself is very easy and handy—much more so than in any any other branch of pictorial art; it proceeds nimbly and slake, and the colour flows full and liquid from out the brush. As the ground is laid on over all, at once, and not piecemeal, and does not require but to be wetted at each time of operation, it will not be the case here (as it is with fresco painting), that if one be unable to finish a certain piece in the course of one day, he be obliged to have it obliterated, and to begin the whole afresh. The painting may be interrupted and resumed at pleasure, at any place desired; and it is also possible to go over the whole signin after it has been once completed, for bringing all into due unison imparting the most delicate melting and smoothing together to the whole.

And thus stereochromy may expect to be received confidently within the pale of existing methods of painting, the more so, as it does not attempt to out-elbow any thing existing, but to supply the artist with a new, beauteous, and handy method of mind's-manifestationmaking its products almost indestructible, handing the *worthy* down to remotest posterity. --(From German Sources.) J. L---y.

EARLY DOMESTIC BUILDINGS,

At the literary institution of Frome, in Somerset, a number of lectures have been recently delivered by the gentlemen of the neighbourhood. In one on the "Feudal System," by Mr. Charles Bayly, of that place, the lecturer made the following remarks. "The science of architecture in France and

England before the thirteenth century almost exclusively confined to ecclesiastical and castellated buildings. Indeed, the style of domestic architecture was so mean, that we feel surprised at the slight attention previously paid to it, and that no attempt was made to imitate the comfortable and luxurious domiciles of the Romans. The English houses were built chiefly of clay, held together by wooden frames. But amidst this neglect, there was introduced an invention which has produced great comfort, and which has contributed much to the refinement of modern domestic society. I allude to the invention of chimneys, which the architectural skill of the Greeks and Romans did not, I believe, accomplish; the ancients having allowed the smoke of their fires to escape through an aperture in the roof. This ingenious and useful discovery did not come into general use in England until the fifteenth or sixteenth century; and even now is seldom seen in the cottages of the poor in Ireland, or in those of the Highlanders in Scot-land. The art of making glass, which was known to the Romans, and most probably practised by them in England, was lost soon after their departure. It seems strange to us, that the English, the Saxons, the Danes, and the Normans, should have submitted to the inconvenience of open windows in their houses for seven or eight centuries. Indeed, we are too apt to be misled in our estimate of the comforts of those times. The romances and ballads of the twelfth and thirteenth centuries would lead us to suppose that the spacious halls, the banquetting rooms, and chambers, they tell of, were more magnificent than those now in use; but if we could lift up the veil of departed years, we should see bare walls, without wainscot or even plaster, with the exception of some great houses which were furnished with hangings; and the greater part of these buildings had open windows, so small in size as to admit little light, but sufficiently large to allow the wind to sweep through them. But if domestic architecture was neglected, it is with the more astonishment we look back on the splendid ecclesiastical and castellated buildings which, at the same time, arose throughout Europe, and which I have before alluded to."

To elucidate this subject at greater length, we have put together a number of extracts from Mr. Bernan's interesting and valuable work on the history of warming and ventilating buildings, already referred to in our pages.⁴

> • Published by Bell, Fleet-street. Digitized by Google

"In the Anglo-Norman period small regard was paid to the habitations of the commonalty, which in London, the mother city of the kingdom, were, Stowe says, not more than sixteen feet high, poorly built of wood, and ill covered in with reeds and straw, with a hearth in the middle of the floor, and a smoke hole in the roof over it. Carpets were unknown, except as bedclothes or table-covers; and spreading straw and leaves on the floors formed part of straw and leaves on the noors formed part of the rough magnificence of the times. The practice was general. Pegge thinks it was adopted for coolness; and Nichols, with rea-son, adds for warmth also.* In the winter season the feet could be covered with the straw, and they required protection at all times from the cold damp floors of bare earth and stone in the hall and kitchen. The beds of the meaner sort were spread on the litter, and in great houses it served the purpose of a chair. Thomas à Becket, when chancellor to Henry II., according to Fitzstephen, was 'man-ful in his household, and had his hall strewed every day in the winter with fresh straw or hay, and in the summer with rushes and green leaves fresh gathered ; for which the whimsical reason is given, that such knights as the benches could not contain, might not dirty their fine clothes when they set on the floor.

From the contiguity and construction of the houses, accidental fires had been such cruel scourges of the Londoners, that, under Rich-ard I., a law was passed, that in future all houses in the city should be built to a certain height of stone, and covered with slate and burned tiles ; 1 and after the fire that destroyed the greater part of Oxford in 1190, the burgh-ers, following the example of the Londoners also began to construct their houses of stone and in those quarters where the poor people were unable to be at the expense of this im-provement, a high stone wall was raised be-tween every four or more houses.§

It has been observed, that the practice of trewing the floors was universal; and it seems to have extended into the apartments of the kings themselves. William, son of William of Aylesbury, held lands from Edward I. on con-dition of providing straw for strewing the king's chamber in winter, and herbs in summer. Glass windows, that in the time of William the Red were a mark of great luxury and magnificence, when placed in a church or palace, begin now to be seen in the houses of persons who affected Chaucer, who from his tastes and propensities may be considered one of the 'perfect gentle-men' of his time, says in his Dreme, that in his bed-room.

' with glas Were all the windowes well yglazed ;'

and kept in such good order as to be ' Full clore, with nat an hole yerased ;'

and moreover so beautifully painted,

That to behold it was great joy;

For holly all the story of Troy Was in the glaising ywrought.'

It may also be noticed that the windows were moveable; for he further tells us that when he was reposing, the

> Windowes weren shut echone, And through the glas the sunne shone '[]

upon his bed. The manner of hanging and fastening these windows is described by a co-temporary romancer. When the Squyr of Lowe Degre poured out the serrows of his disconsolate love for the king of Bohemia's daughter, from which it is clear that the window she opened was framed and fastened like the casement in a modera cottage. Returning to the poet's bed-room for a few illustrations, it is found that as well as the windows,

'All the wals with colours fine Were paint both text and glose;'

* Illustrations of Manners and Expenses of Ancient Times.

Hussrations of Manners and Expenses of Ancient Times,
p. 13.
† Brand. Popular Antiq. vol. i, p. 241.
‡ Stow. Survey of London, p. 73, ed. Thoms. The dwellings of the Scots were either very mean or extremely inconvenient. The bishop, noble, and king lived in small stone castles, perched on some precipitous rock, with massive walls enclosing narrow stilled apartments, that had no chimneys, and loopholes for windows. The cottages were slight crections of wood, without hearth, chimney, or window, and their towns were a collection of such hovels. The use of wood in building had been so general, that castles were built with it. Several of these combustible strongholds, helonging to the Celtic chiefs in Moray, were burned in the rebellion of Gilliessop.—Chalmers's "Caledonia," vol. i, p. 172, I Works, fol. 229. Edit, 1602.

which shews that the wall must have been plastered with some care before it could receive a painting, rough as it might be, and, therefore, without the chinks that let the wind into the Saxon palaces. Arras or tapestry was also hung on walls, of which that ornamenting the hall in Warwick Custle in 1344 was a superb specimen. It should, however, be borne in mind, that it was most likely seen only in regal palaces, or in houses rivalling palaces in their furniture and in the presumption of the owner.

Amidst all this laudable attention to warmth in nocturnal climate, no mention whatever has been made of any means of heating the dormitory; and there does not seem to have been any except a pan of charcoal. A notion may now be had of the comfort enjoyed in the houses of persons of rank. The spacious lofty hall, left open to the roof, had its windows placed high from the floor, and filled with oiled linen or louver boards, or occasionally with painted glass. Its clumsy unframed doors were opened by latches; and when the walls were not coarsely painted in the fashion of the time, they were left rough, and covered with arras suspended by hooks at a distance of three or four inches from the wall. The floor of stone or earth had a part at one end raised a little above the general level, and laid with planks. On this platform or dais stood a mas-sive table and ponderous benches or forms, and a high-backed seat for the master under a canopy. On the hearth, in the middle of the hall, were placed the andirons for supporting the ends of the brands, that were arranged by means of a heavy two-pronged fork, the type and predecessor of the modern poker. On the roof over the hearth was a turret or louver, filled with boards arranged so as to exclude rain and wind, and permit the escape of smoke; and this was sometimes an object of considerable architectural beauty in the external aspect of the building.

The chamber, like the hall, was lofty, and lighted with tall narrow windows filled with oiled linen or glass, with a part made to open like a casement, and screened with a curtain; it had neither a hearth nor a flue.

The country houses of inferior landholders and farmers were generally one story high. If they were built with two stories, the roof was so deep as to reach to the ceiling of the lower room. The hall and kitchen forming one apartment, and roughly plastered, was open to the timbers of the roof, and sometimes had a louver, and a window that could be closed with a shutter. 'Barre we the gates, Cheke we and cheyne we and eche chine stoppe

That no light leopen yn at lover ne at loupe.

When these houses had a room to sleep in, old and young reposed in the same apartment, and several in one bed; servants made their beds on the floor in the kitchen. Cottages had neither louver nor loupe, and their inmates lay round the fire.

The chimneyed chamber was spacious and lofty, and usually formed with a large bay window, looking into the court of the castle. It adjoined the hall, and was used on ceremonious occasions as a reception-room for the guests before they were ushered into the hall of entertainment, and to which they retired on leaving it. At other times this privy, or presence-chamber served, according to the poet, as a dining-room. Anotherspartment, distinguished as our lady's bower or parlour, and appropriated to the exclusive use of the dames, was that in which they received their visitors, passed their time, and often took their family meals in. The windows of this also opened into the dismal quadrangle, for all were obliged to sacrifice their feelings and enjoyment to security.

The stronghold of Conway is remarkable for exhibiting another domestic refinement, not found, except at Kenilworth, in any cotemporary building. A hearth is recessed into the wall, and has a flue rising from it for the passage of the smoke into the air. It is true, that after this period, flued fireplaces were some-times made in rooms that had been erected without them, but the chimney in Conway Castle, and a similar one at Kenilworth, appear as if they had formed part of the original edifices.

Castles and mansions were now built of stone, but wood and plaster continuing to be the materials of ordinary houses, in towns destructive fires were common, and the custom

of strewing the floors with straw must have greatly increased the danger. Chaucer says-

> 'Whan a chambre a fire is, or a hall, More nede is sodainly to rescowe. Than to disputen, and ask among us all, Howe the candel in the strawe is fal.

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This frequency of accident, more particularly in London, had led to the enactment of some judicious municipal regulations. The magis-trates, says the Chronicle of London, quoted by Strutt, 'are empowered to enqyre if there be any house in the ward that is tiled without other thing than tile or lead, and there be any chemeni that hath a reerdos made uncomli, cnement that hath a reerdos made uncomli, otherwise than it ought to be.' And also if any baker or brewer heat their ovens or other '(furnace) with strawe or reyde or other things that might cause peril of fire.' Every ward was also to have 'a reach with the line.' was also to have 'a racke with two long cheypes of yrne and two ladders,' and every house was to have a 'tub of water ready for peril of fire.' The scavengers' oath of office was, that they should examine that all 'chemys, reedossys, and furnessys be made of stone for defent of fire.'* But notwithstanding these precautions, the history of London and of other towns shew a lamentable disregard to the lessons of dire experience in every thing connected with the

protection of buildings from fire. The chimney has been considered an Italian invention. But if Winwall House be an Anglo-Invention. But If Winwall House bean Anglo-Norman edifice, its chimneys must have been built in the twelfth century; and those in the castles at Kenilworth and Conway will also long precede, in point of antiquity, the camini and fumajudi of Padua and Venice. The fourth example of a chimney in an English building is that described by Leland, in his 'Itinerary,' where he gives an account of his visit to Bolton Castle. This building, he says, 'standethe on a roke syde; and all the substaunce of the lodgynge in it be included in 4 principall toures. It was finiched or Kynge Richard the 2 dyed! One thynge I muche notyd in the hawle of Bolton, how chimeneys were conveyed by tunnels made on the syds of the walls betwyrt the lights in the hawle, and by this means, and by no covers is the smoke of the harthe in the hawle wonder strangely conveyed.'† It has been seen that, previous to the erection of this stronghold, the word chimeney is of frequent occurrence. Chaucer in several places speaks of chambers with chimeneys; Longlande, we have seen, also employs it: and Wiclif, in his translation of the New Testament, in 1330, has the expression, ' thei schulen send him into the chymeney of fier.' In the poetical vocabulary, 'chimerey' appears to be synonymous with 'fire-place,' or 'hearth recess;' and the verbal equivalent to the word in the reformer's Testament is 'furnace.' Leland, who wrote a century after, in using the word almost defines it. The chimeneys were conveyed by tunnels; or, in other words, the fire-place was continued by a tunnel to the top of the building; a de-scription that will accurately fix the meaning of the word when found in writers previous t the Tudor period; for it is quite obvious the chimneys in common use, and with which Leland was acquainted, had no tunnels to convey the smoke from the hearth-otherwise bis ad-miration of those in Bolton Castle would have been unexplainable. His observation, that the smoke from the hearth was not conveyed by covers,' also shews that at the time he was writing, covers were common appendages to fire-places for conveying smoke.

It was, perhaps, from a desire to diminish the risk of accidents by fire that the custom prevailed of laying the floors with a coating of prevailed of laying the floors with a coating of cement made of lime, and pounded rubbish, or pebbles. The floors in the upper rooms in the old part of the Abbey House, at Waltham, built by Sir Edward Denny, were overcast, or paved in this manner, with a coarse plaster of sand and pebbles, forming a crust about an inch thick, coloured deep red like a bright brick floor, and similar to the rude rough-cast or stucco floors seen in some parts of Lincoln and Yorkshire. ; Glass was rare in the windows of gentlemen's houses before the time of Henry VIII.§ Copyholders and poor people had none. The windows belonging to Con-

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• Horda. Ang. vol. ii. p. 46. † Britton. Arch. Antiq. vol. iv. p. 156. ‡ Illustrations, &c., p. 94. In the churchwardens' accord of St. Mary Hill, London, 1485, is an entry—" Paid the daw for terysing of floris per day viijd.;" under the date 149 a charge for " a lode of lime to overcast the floore in Lew ham's house." ī 1495 4 Antiquarian Repertory, vol. i. p. 72.

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tarini, a rich Italian merchant residing in Botolph, were reckoned valuable moveable furniture. And in the riots at Oxford, in 1502, the glass windows were carried away as rich booty by the rioters.• In London, about 1510, Sir Thomas More, in his 'Utopia,' says, that they keep the wind out of their houses with glass, for it is there much used, and some also with very fine linen dipped in oil or amber; and that for two commodities, for by this means more light cometh in, and the wind is better kept out. In religious houses it was common. Alnwick Castle, in Northumberland, when the earl removed to another house, the glazed sashes were taken out of the window fi rames, and laid carefully by, in case they should be broken by the winds or other accidents, until 'my lord' again visited his mansion. How wind and rain were excluded after their the removal does not appear.

At the close of the reign of Henry VIII., domestic convenience and comfort had made a little progress. The rooms in the bouses of the upper classes were built capacious and lightsome, and the ceilings were often plastered, or formed of boards. Halls, and parlours, and the chief sleeping chambers, were, as in bygone times, hung with tapestry; or they were lined in a manner recently introduced, with boards of a foreign kind of oak, called wainscot. In houses of the inferior gentry and wealthy trades-men, parlours and the best bed-rooms were hung with arras, or with a kind of painted or sized cloth, made in imitation of it. Stamped hung or painted leather imported from Flanders was also latterly introduced as a wall lining. doors were clumsily made and fitted, but well hinged, for Sir Thomas More says those of London would follow the least drawing of a finger: locks were rare, and internal doors opened with a latch and string. Boarded floors in halls and parlours were becoming common.t Rushes and straw, however, still covered and polluted their surface.

PARTY WALLS.

RECENT AWARD UNDER METROPOLITAN BUILDINGS ACT.

THE following award involves a question of considerable importance : the papers came into our hands too late to allow us to offer any observations upon them in the present number, but we may return to the subject on another occasion.

On the 16th of June last Mr. Pownall, district surveyor, gave notice to Messrs. Mans-field and Co., builders, " that the works now in progress at the house situate in Lincoln'sinn-fields, No. 54, are not conformable to the statute in the portions thereof under men-tioned," and required them within forty-eight tioned," and required them within forty-eight hours from the date thereof to amend the same.

Irregularities referred to :-

The rebuilding a portion of the above-men-tioned house, consisting of two fronts of such The party wall between Nos. 53 and house. 54 having timbers running through it; and the party division between Nos. 54 and 55 being a ti nber partition.

Mansfield's reply to the information Measure was as follows :-

"As to the party structure situate between Nos. 54 and 55, we submit that such structure runs from east to west, and that the fronts thereof being at right angles thereto and running north and south have neither been taken down or rebuilt, or in any way touched, and therefore that the 33rd section in no way and incretore that the 33rd section in no way applies; that the building at present erecting is an attached building to No. 54, Lincoln's-inn-fields, situate in Duke-street, more than 17 feet from the party structure, and at direct right angles, and consequently at oppo-

site angles to the party structure. Inasmuch as the building owners of the south party wall between Nos. 53 and 54 have not required a survey, and the party structure is not so defective or so far out of repair as to render it necessary to pull down and rebuild the same, we consider that the district surveyor has no power to survey the wall under the 25th section."

After numerous hearings, the following award was made :---

* A'Wood. Hist. of Oxford, vol. i. p. 659. † In Samlisbury Hallitis curious to observe that the upper floors are massive planks, which, instead of crossing, lis parallel to the joists, as if dischaining to be indebted to them for support. — Whitaker, Whalley.

Office of Metropolitan Buildings, 3. Trafalgar-square.

In the matter of the reference by way of infor-mation of Mr. George Pownall, District Surveyor, against Mesars. James and George Mansfield, Builders.

With regard to the party-wall dividing and between the houses numbered, and situate and being No. 53 and No. 54, Lincoln's-Inn Fields, and with regard to the party-partition dividing and between the houses numbered, situate and being No. 54 and No. 55, Lincoln's Inn Fields, the said premises respectively being within the district of St. Giles's-in-the-Fields and St. George's, Bloomsbury, and within the limits of the Metropolitan Buildings Act, 7 & 8 Vict., cap. 84. We, the Official Referees of Metropolitan

Buildings, duly appointed in pursuance of the said Act, having received information from Mr. George Pownall, the surveyor of the said district by virtue of the said Act, that Messrs. James and George Mansfield, of Little James-James and George Mansneld, of Little James-street, Gray's-Inn Lane, builders, had not amended certain alleged irregularities, men-tioned in the Notice of Irregularity hereto annexed, and having on the 19th day of July, 1845, and again by adjournment on the 31st day of July, 1845, duly heard the said George Pownall and the said James and George Mansfield, and their agents in that behalf, at one of which hearings the said George Pownall proved the due service of the said notice on the said Messre. James and George Mansfield, and the inspection of the work after the expiration of the said notice, and the failure of the parties to amend the same; --Do hereby determine and award, with re-

spect to the party-wall first above mentioned, that if the said wall be made as nearly as may be practicable in conformity with the provisions of the said Act, relating to the construction and materials of party-walls, by stopping up all openings therein, and by removing there-from such timber and wood-work now lying in or running through the said wall, as is not by the said Act allowed to be laid or placed in the substance of party-walls, and by making good the said wall, such party-wall may re-main, and need not be pulled down or rebuilt, nor need an external wall be built against such party-wall.

And with respect to the said party-partition, inasmuch as the portions of the back front of the said house No. 54, which have been taken down and rebuilt, do not adjoin the said party-

partition, we make no direction thereon. And with regard to the costs and expenses attending this proceeding, we, the said Official Referees, do hereby further award :---

First; As to the fees and expenses of the office of metropolitan buildings, that on or before the 23rd day of August, instant, the sum of 144. 3s. 11d. be paid to the Registrar of Metropolitan Buildings at the said office, No. 3, Trafalgar-square, London, and that such sum be so paid in the first instance by the said James and George Mansfield and the said George Pownall, or by either of them; and that if such sum be paid by the said George Pownall, he shall be entitled to claim and be repaid the same by the said James and George Mansfield.

Secondly; As to the costs and expenses of the said George Pownall as such surveyor as aforesaid, that on or before the said 23rd day of August, instant, the said James and George Mansfield do pay to the said George Pownall the sum of 51. 5s., at his office, at No. 14, Upper King-street, Holborn, in the said district.

In witness whereof we, the said Official Referees, have to this our award, on three pages of foolscap paper, set our hands this 15th day of August, 1845. JAMES W. HIGGINS, WILLIAM HOSKING.

ARTIFICIAL STONE .- We learn from the Athenæum, that an architect at Augsburgh, Herr Alois Steiermann, has invented an artificial stone which for solidity is said to surpass the best free-stone, is one-third its cost, and to which any form can be given in the manufacture. It is composed of river-sand, clay, and a cement whose composition is the inventor's secret. It has been submitted to the proof of air, pressure, and fire, and resists The king of Bavaria has given his them all. gold medal of civil merit to Herr Steiermann, for this useful invention.

STAINED GLASS WINDOW IN ST. JAMES'S CHURCH.

MR. EDITOR, with regret as an amateur of the fine arts, I have read the unhappy conclusion to which the committee of taste have come, as touching the stained-glass window in St. James's church, Piccadilly.

Are we ever in this country to get out of trammels as regard architecture and the fine arts?

Thus, some writers designate Gothic architecture as *Christian* architecture, and decry all churches built in the Grecian, Roman, or all churches built in the Grecian, Italian style as Paganism. As if devotion was not congenial with the splendid churches of Germany, St. Paul's in London, or St. Peter's, Whilst others declare that because at Rome. Greece and Rome had no stained glass in ancient time, so putting stained glass in a Grecian or Italian built church must be anathematized as bad taste ; ideas, in my humble opinion, nothing better than vapouring puerilities, to which no man who has a relish for art ought for a single moment to lend an ear.

The love of antiquarianism at the present day approaches monomania. Not only are church windows glazed without subjects to interest the mind or heart, but to tabernacke work and grim figures in niches are also sometimes added affected corrosions of the stains of time !!! a true smack of what was formerly called " The Smell-fungus School."

What may a true love of art in matters pictorial be termed, but a zest for the de-lineation of nature in its highest, truest, and most perfect state, whether it be in animated subjects or still-life? The rest is mere con-ventionality. Window glass, of all colours, when it comes from the furnace is diaphan ous, and if objects in nature are described upon it, architecture, animal, or vegetable life, its real beauty consists in the truth of what it intends to describe, not in a dirty obscurity. But the windows of the smell-fungus school

must often excite a smile of pity. Cherubim like monkeys, bishops like mummies, and saints like chimney-sweepers with their faces and robes as dirty as if they had been up the chimney. How different the taste and execu-tion of stained-glass in the churches of Munich !!! But we are in trammels. Westminster Hall is forbidden ground to the splendid artists of the schools of Hesse and of Cornelius.

The protective system, as regards art, is still maintained by Sir Robert Peel in all its intensity. Our youthful aspirants of the pencil are not allowed to profit by a view of what a foreign school can do; and foreign talent and foreign genius are by Sir Robert put into the same category with the threads and tapes of foreign manufacture-what an Augustan age!

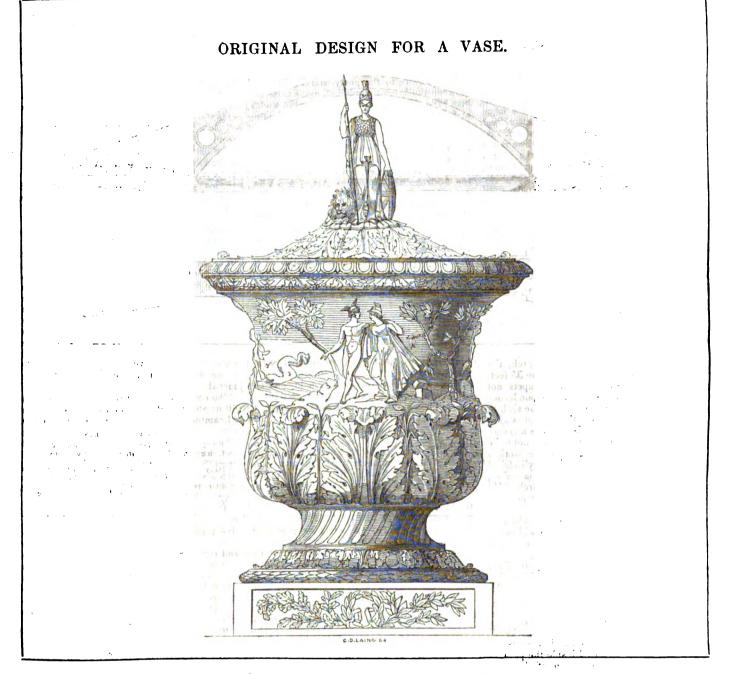
The poor artist, fettered by the res angusta domi, can know nothing of foreign power and execution, and is thus left to fancy that art can be perfectionized intuitively. The authorities of Hamburg want to build a splendid church; they do not call confining art to their own people "patriotism," but, like true lovers of genius, invite competition from all nations, and England gains the wreath.

The Prince de Joinville offers to sailors of all nations 1,500 france as a prize for rowing a six-oar sea boat-the sailors from Ports-

mouth row, and gain the wreath. Is England alone to consider talent and genuss as necessarily circumscribed to the place of its birth? Whatever the Government may do, the people, I feel assured, repudiate such narrow-minded ideas, and I trust the day is fast arriving when our "powers that be" will no longer tell Talent and Genius that their Genius is the common property of the world, and ought in all branches to find in England an affectionate welcome.

I am, Sir, &c., W. MASON. Neiton. P.S. Though not of "the smell-fungus school" I beg no one will impute to me a dis-taste to the Gothic. I passionately admire art and architecture in "all" its varieties.

CONSUMING OF SMOKE.-The Government has appointed Mr. Faraday and Professor Playfair to ascertain how far it is possible to consume the smoke from steam engine chimneys.



ORIGINAL DESIGN FOR A VASE.

THE vase represented by our engraving was designed and modelled at the School of Design designed and modelled at the School of Design by Mr. W. J. Wills, modeller, of 16, Cum-ming-street, North, Pentonville, and obtained a premium at the last distribution of prizes. On the body of the vase the Thames is allegorized, Commerce and Mercury, the god of merchandize, appear in the foreground; sur-mounting the whole is the figure of Britannia.

The engraving is one-seventh of the real size of the vase : the whole height is 3 feet 6 inches.

DECORATIONS OF THE NEW HOUSE OF LORDS.

SIR,—As it appears by an article in the last number of "THK BUILDER," as well as in notices contained of late in other periodicals, that a misconception prevails as to the nature of my employment in the works of the new palace at Westminster, I think it incumbent on me, in justice to Mr. Barry, to state that I am engaged by him, and by him alone, with the approval of the Government, to assist in preparing working drawings and models from his designs of all the wood carvings and other details of the internal decorations; and to procure models and drawings of the best examples of ancient decorative art of the proper kind, wherever they are to be found, as specimens for the guidance of the work-men in respect of the taste and feeling to be imitated; to engage with artists, and the most skilful workmen that can be procured in every branch of decorative art, and to superintend personally the practical execution of the works upon the most comomical terms

compatible with the nature of it, and its most perfect performance. In fulfilling the duties of my office, I do not do any thing whatever on my own responsibility; all models and working drawings being prepared from Mr. Barry's designs, and submitted to him for his saproval or alteration previous to their being carried into effect; in fine, my occupation is simply to assist in carrying out practically Mr. Barry's own designs and views in all respects.

Trusting to your fairness in giving insertion to this letter in your next number, I am, Sir, &c., A. WELBY PUGIN. London, Sept. 3rd, 1845.

SIR,—Replying to the observations contained in your last number "On English Decorators and the New House of Lords," I can state distinctly, that not one single foreigner is, or has been engaged upon the decorations of the New House of Lords; that after receiving the sketches from Mr. Barry, I have drawn them out full size with my own hands, and have entirely directed the execution of them under Mr. Barry's immediate instructions and control. I hope you will give insertion to this plain statement of facts in your next number. l am, Sir, &c, JOHN G. CRACE.

Wigmore-street, Sept. 2nd.

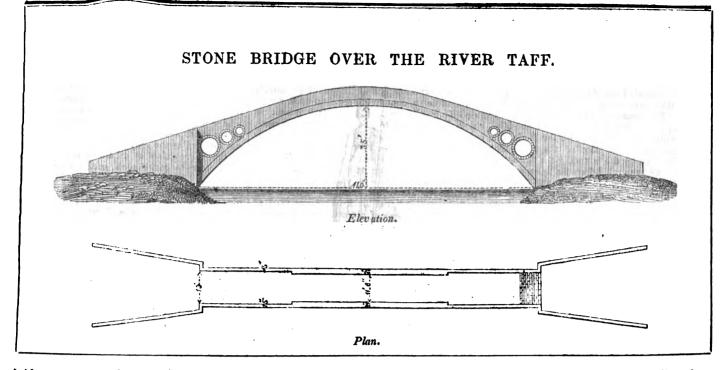
STONE BRIDGE OVER THE RIVER TAFF GLAMORGANSHIRE.

GLAMORGANSHIRE. PONT-Y-PRIDD (the bridge of the East-house), or the Newbridge, is an extraordinary piece of masonry, consisting of a single arch thrown across the river Taif. It is situated about halfway between Merthyr Tydfil and Cardiff, on the turnpike-road leading from the Merthyr and Cardiff turnpike-road to the

Taff Vale Railway Station and Llantrissant, and forms a conspicuous object in the beauti-ful vale of the Taff, which, being a favoured county, possesses unusual facilities of transit, namely, a good turnpike-road, a canal, and locomotive railway, running immediately parallel to each other.

Thescenery contiguous is of a rich and roman-tic character; the confluence of the Tuff and Rhonodn Vawr, the amphitheatre of hills, the bold and strpendous bridge, the luxuriance of the hanging woods, the projecting masses of rock, with the foaming and tortuous course of the river Taff, alongside which the railway winds its course, all may be seen at once, presenting a gorgeous and magnificent spectacle, more particularly if viewed from the eminence to the soath-west of the village on the road to Llantrissant. The architect and builder of the bridge was William Edwards, son of a farmer of the parish of Eglwysillan, in the County of Glamorgan, where he was born in the year 1719. Having a natural genius for masonry, he was observed to excel in that art, and has left many interesting specimens of his works, exclusive of the one above alluded to, in various parts of South Wales. In the year In the year 1746 he undertook to build a bridge over the river Taif, consisting of three arches, but owing to the uncommon rapidity of the current of this river when swollen by long and heavy rain (to which it is frequently liable from its rain (to which it is frequently hade from its contiguity to the Brecknock Beacons, whence it takes its rise), the bridge was soon after its erection swept away. He had given ample security for its stability for seven years (a stipulation which it is customary to make in all contracts for public works in South Wales), and he proceeded on his duty in erecting ano-ther with all possible speed. The second

THE BUILDER.



bridge was proposed to be of one arch, the span or chord 140 feet, its versed sine 35 feet. The arch was finished, but the parapets not erected, when the pressure of the ponderous weight over the haunches caused the arch to spring up in the middle, and the keystones were forced out. This second failure was a severe blow, but the spirit of Edwards was not to be disconcerted, and he engaged in the work a disconcerted, and he engaged in the work a third time, when, by means of three cylindrical openings through the work over the haunches, he reduced the weight upon the arch. He also added to the thickness of the parapet wall at the crown of the arch, and reduced it to its smallest possible limit over the haunches, as shewn on the plan, in order to throw additional weight on the former, and to lessen the weight on the latter. The bridge was completed in the year 1750;

previous to Edwards entering upon his task a third time, he, I believe, consulted the celebrated Smeaton, and, acting I have no doubt under his advice, adopted the expedients above stated. In the year 1798, the bridge underwent some extensive repairs at the hands of Edward David and Thomas Evans, as appears from a tablet inserted inside the parapet wall of the bridge at the crown of the arch. The arch, which is of 140 feet span, is a segment of a circle, its radius being 90 feet, and the proportions the various parts of this bridge bear to each other are as follows:— The rise or versed sine to span one-fourth, depth of the keystone to the span of the arch one forty-seventh. The latter is re-markable as being less in proportion than most bridges of modern construction. The masonry is of that description usually de-nominated rubble, and the stone of which it is composed is the level bedded and shelly sand and limestone of the country. At the time this bridge was erected, it was considered a great triumph of genius and skill, and is even now thought to be an extraordinary pears from a tablet inserted inside the parapet

and is even now thought to be an extraordinary piece of masonry to be accomplished by an uneducated and self-taught architect and masons; still I think if the works had to be masons; still I think if the works had to be performed in the present day, a much more convenient structure might be erected, viz. one of less altitude. The ascent to, and de-scent from the crown of the arch of this bridge is exceedingly steep and inconvenient, so much so, that if carriages with heavy weights pass over it, the descent cannot be accomplished with safety without the use of the drag (a square frame of timber with a long chain attached to it) which is kept there for that purpose: this is weighted and the chain fastened to the carriage at the summit, and as fastened to the carriage at the summit, and as the carriage descends the one side, the drag, which acts as a counterbalance weight, as-cends to the summit on the other. This opecends to the summit on the other. In sope-ration has to be repeated for every carriage that passes over this bridge. The danger of passing this bridge is considerably augmented, in consequence of the roadway being pitched, which renders it difficult for horses to obtain a good foothold. B. B. Brecon and Merthyr Tydfil.

DESIGN FOR SMALL FARM BUILDINGS. | HAVING been requested on more than one

occasion, to supply a plan for small and inex-pensive farm-buildings, we avail ourselves of the following communication :---

Sig.,—From solicitations of friends to the allotment system, I have been induced to forward you a design for a cottage with small farm buildings (containing in the area 500 square yards of land, including the fold yard) of simple construction, in brick-work, without any expenditure in external decoration.

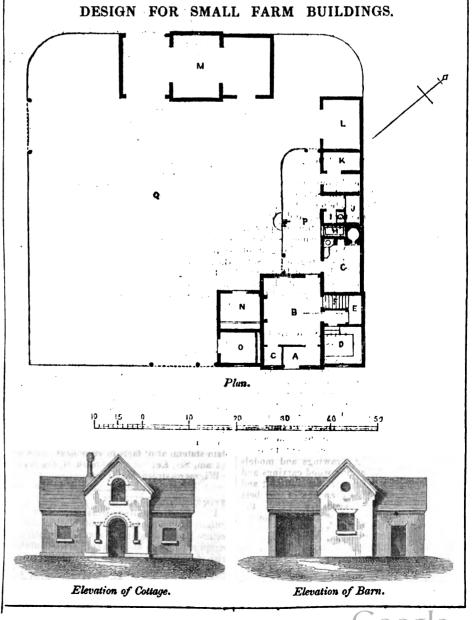
If you should approve of it, you will confer a favour by giving it a place in your valuable journal.

The cost for the erection of the building I am, Sir, &c. An Architect. will be about 2001.

Leamington REF THE PLAN

G Bakehouse M Barn, &c. H Hog Cistern N Cow-house I Privy O Stable J Ash-place P Court with Pamp K Pig-sty Q Fold-yard L Open and. and hay tablet, over the cow-house and A Porch B Living room C Closet D Dairy E Pantry F Stair-case

Three cl stable.



COURSE OF STUDY IN THE SCHOOL OF DESIGN.

-Were I not fully confident that in-SIR. calculable good will result from the matter which has hitherto appeared, and I hope will still appear, in the columns of your truly valuable journal, I should be very sparing of my remarks upon the all-important subject of design. Your correspondent's letter of the aesign. 1 our correspondent's letter of the 25th ult., inserted in your journal of the 30th, contains most painful matter on the deplorable and most inefficient state of the "drawing school," called by the council "the School of Design;" and though I have no knowledge of the author (Mr. R. Burchett), yet from his letter, which has every appearance of truth, and the fair spirit therein evinced, I cannot help giving credence to it until I see it disproved. If then Mr. Burchett's statement is true, what is the council about? or what sort of informed minds on artistic matters must the majority of the members of this council have to allow such a destructive state of artistical education to take place? Surely they cannot be aware of the amount of evil that must accrue to the students' faculties for the arts, and which will be sure to take place if they are to be subjected to such an un-artistical school as this so-called "School of Design" is stated to be. Those members of the council who have shewn by their works that they possess a thorough knowledge of design, should immediately investigate this painful subject, and put their shoulders to the wheel to extricate their weighty burden from its clogging difficulty, that the students may have justice done to their faculties for the arts. should be the first step taken by those This members who are strongly gifted with the varied talents of design, in order to the establishing of a sound system of artistic instruction which shall be the most effectual for training the youthful mind up to every variety of true

design. If this "School of Design" is not a school of design, the pupils have been most unjustly treated, for by their own shewing they have had a loss of three years inflicted upon them in the very prime of their life, and to young men who depend upon employment for their existence, and to obtain which without the necessary qualifications would be next to an impossibility, this is most serious ; such a severity as that with which they have been visited must be painful to the greatest degree to those who depend upon their labours for their support. If, as I have said before, the pupils' statements are true, then let the members of the council look into this matter, and devise a remedy for a reparation of the injury inflicted on those pupils who have been made to suffer, and see for the future that sound instruction be imparted throughout the whole range of design, that those of our youth who intend to enter the profession of designers be made as perfect as possible. In fact, the council should no longer believe that its own "branches of instruction," as stated in its prospectus, will accomplish any thing of the kind they suppose they will do. Such half or quarter measures will do more mischief than good, therefore the sooner the council applies its wisdom to a remodelling of their "branches," and adds a much greater extension of knowledge, the better ; that those who wish to learn may have real knowledge imparted to them. It is most extraordinary that the council could not see when they drew up their prospectus that the meagre "branches of instruction" therein stated were quite in-adequate for the purpose intended; and the smallness of the amount of instruction appears to have been imitated by the head master of the establishment, as he is made to say by Mr. Burchett, "I have prepared myself and delivered a little lecture upon them.

This surely must be a mistake upon the part of Mr. Burchett, for no head master of an artistic institution could have delivered any thing so small as a *little* lecture upon so important a subject, or would have caused the students to waste their time upon a *little* lecture, when his duty would have been to have entered deeply into the merits and demerits of the examples which were purchased for the benefit of the students. Now, as this is what a director would be sure to do for the enlightenment of his pupils, there must have been, I think, some mistake in this part of the affair. And, indeed, the black-board part is so very dark, that I cannot comprehend

how any mind should be so unenlightened as not to thank Mr. Herbert for so wise and salutary a suggestion as the black-board, it being the readiest article of communication upon all forms which the instructor is bound to convey to his pupils. I can safely say from my own experience, that it would be utterly impossible to convey information upon design or individual forms without a black-board. In teaching drawings to please papas and mamas. the black-board is very little used; but in this matter the papas and mamas are to blame; they care very little about their children's faculties for the arts being duly cultivated. Their children bring home some pretty pencil copies of lithographic prints, and the parents are satisfied. But if the black-board was used at the commencement of all artistic instruction, in all schools as well as colleges, we should have a much more enlightened set of scholars in this country than we have. But it is not yet the order of these days, though somer or later to the black-board we must come. As much as we may painfully feel the dismissal of a highly talented artist, Mr. Herbert, for suggesting the use of a black-board, neverthethe council will ere long see the necessity of adopting Mr. Herbert's suggestion, though it appears they dismissed him for proposing it. This is, indeed, a state of things much to be deplored, as the students' designing talents are held in abeyance, to their serious loss and the nation's injury. This is certainly not very wise legislation.

As the faculties for the arts make up a most important part of the human mind, and as legislators make laws for the benefit of mankind, I would most humbly beg to advise all who intend to enter the legislatorial field, to have their faculties for the arts legitimately exercised, in order to obtain a thorough understanding of all the bearings which appertain to a sound system of artistic instruction; they would then see that those faculties ought to have their due exercise as well as all the others, and they would then legislate accordingly. Had this been previously done, we should not have such a prospectus of a "Government School of such a prospectus of a "Government Genomer Design" as we have now before us. The heading or arrangement of the classes is quite sufficient to shew that design could never spring from such puerility—"elementary and spring from such puerility—" elementary and outline drawing," to begin with, then "shading from the flat," "shading from casts," "drawing from the round," and "painting from the round," and such like. Any one would suppose that this collection of flat and round elementaries were for the pretty little dears of the suburban boarding schools. How the council could have sanctioned such unmeaning expressions to explain so grand a purpose, is inconceivable. However, we will look forward to a thorough reform, and which we trust will be set about in right earnest, when we shall have a real school of design, such a one as will be worthy of this nation, and to which its youth are justly entitled .- I am, Sir, &c., GEO. R. LEWIS.

Upper Norton-street, Aug. 30th, 1845.

BATHS AND WASHHOUSES.— There will be in the St. Pancras establishment about thirty single baths, fitted up in separate rooms, with all necessary conveniences, six vapour baths, and two plunging baths of large dimensions. The washing department will be quite distinct from the baths, and suitable accommodation is to be provided. The prices will be 1d. for a private cold bath, containing sixty gallons of water; and 2d. for a warm bath containing the same quantity. The establishment in Glasshouse-street, East Smithfield, for enabling the poor in that vicinity to use gratuitously an apparatus for bathing, and for washing and drying of clothes, is in full operation. The esgeness with which its benefits were availed of, far surpassed anticipation; 987 persons having used it in the short space of nineteen evenings.

PARISH CHURCHES. — Messrs. Brandon, authors of "The Analysis of Gothic Architecture," have announced a work consisting of perspective views and plans of parish churches, with descriptive letter-press. They propose to select such churches as from their beauty of design and peculiar fitness, seem worthy of being adopted as models by those who are engaged in church building.

ON EXTERNAL APPLICATION OF FORMS TO THE DISCHARGING OUTLETS OF BUILDINGS, AS THE MEANS OF EFFECTING VENTILATION.

In remarking upon the subject of ventilation In remarking upon the subject of ventilation by the application of any outward formation, much has to be taken into consideration, to which, in the majority of propositions, little or no regard has been paid. It is apparent, that where one particular form or combination of forms is proposed to attain this object, and is put forward as the only means, the assumption is, that there exists at all times ready for use the power to make such surfaces or forms available. That this can be any man's belief who reflects on it is impossible, for common observation alone contradicts it; but when hardly a week elapses without some new (?) nostrum appearing as the sine qua non-as the remedy for this now acknowledged necessity, it does but betray that the idea has taken pos session of the mind, that this power is at hand, session of the mind, that this power is at hand, and that we have lacked hitherto only the right application of the same. The fact is, however, that during the most calm, warm, and settled months of the year, we are the most deficient of this first requisite, without which all, and the most perfect applied forms, are mere useless material. Again, unless both the area of the exit from a building and the power used there to ventilate be carefully managed and properly proportioned, so as to produce in its progress through that building such currents as shall not be felt, ventilation will not be submitted to. The precise amount of air must be drawn in as is expelled or drawn out; and the currents which are produced by a power always varied and uncontrolled, are the several amounts of ventilation, sometimes inducing dangerous drafts, but offtimes when wind is wanting, no ventilation at all; so it is evident we cannot expect either constancy in action, or regularity in quantity, by depending on any outwardly applied form simply and alone for its attainment. In the summer months all are ready to acknowledge the necessity for perfect ventilation, and as common sense directs, we resort to the free opening of windows, doors, &c.; and for our usual dwellings there cannot be a more rational course. The more freely this is done, the less the danger of inconvenience by drafts; for as drafts are only caused by the difference of weight in the atmosphere within and without the house, depending upon the rarefaction produced in the chimneys by fires and other similar causes, so the more free and constant such openings are, the less will be the tendency to drafts, and the more pleasant and unobserved the ventilation. But during the winter part of the year, as these facilities cannot exist, this object must be effected by other means; and in looking to the wind for this power, as being that only by which out-ward formations can be acted upon, we exward formations can be acted upon, we ex-perience it at one time tempestuous, and at another powerless, but at all times vary-ing and uncertain, while we retain the same unchanging form to receive its action,—even admitting that form to be the most proper to induce the upward current. Now, allowing this action by wind to be at times effective to create this desideratum, we require at this season the addition of warmth in conjunction with ventilation: and this it is which makes it with ventilation; and this it is which makes it a complex question, certainly not to be solved by any outward application, because for every quantity of vitiated air withdrawn by any acknowledged power, we require a precisely similar amount at an agreeable temperature. As an illustration how little ventilation alone could be submitted to by some classes of society, we have but to turn our attention, and reflect upon the thousands now inhabiting the east parts of this vast metropolis, who are ill-fed, ill-clad, and worse housed (daily practically illustrating Hood's Shirt dirge), and consider that this ventilation would be death more hurried;-relieving from a more insidious, to expose them to a more acute, but a not less certain destruction.

But widely different is the question when it affects large or public buildings. "The temples of religion, palaces, or theatres are exceptions to this ban: the joint process is in them attainable and comparatively simple, for air can be introduced at such temperatures as we choose and combined too with moisture, not the arid breath of the torid zone, for we in them can imitate the climate of Madeira. To accomplish this three things are required:

lst. An air-warming chamber. 2nd. Minutely divided emitted currents from it into the building ; and, 3rd. A controlled external discharge for the vitiated air, ready, and capable of being made sufficiently active at all seasons. The practicable method of carrying out this combined operation is beyond consideration for ordinary dwellings, excepting in cases where they might be constructed as a block of building for a number of families, as has been fre-quently proposed."

The ventilation for common dwelling-houses can be carried no further, and need not be, in my opinion, than by admitting a regulated guantity of air by the upper sash, or by apply-ing in one of the upper panes some of the various guards to shield such apertures, as Fairs' Moveable Glass Louvres, Dr. Guy's Perforated Guarded Plates, or Bailey's Fixed Louvre, with a covering slide. Either of these will fulfil the purpose for the admission of air, and for the withdrawal of the same we have no means at hand so simple, so ready, and so costless as our usual chimney draught. Presuming the fire at the lower level to be capable of performing its part, viz. that of changing the lower stratum of air, there remains only to insert an outlet valve in the upper part of the chimney-breast communicating with the same chimney, to effect a ready and constant re-newal of the higher level of air sufficient to meet the wishes of the most particular upon this point.

Again, reverting to outward applications only, there is the following condition, to which our common dwellings are constantly exposed, which would totally defeat such ventilation. One part of a building, or one room is of greater altitude than another, and from the presence of an excess of heat in that portion over the other, or from its altitude, or from other causes productive of a like result, the current is from the lower or less rarefied portion to the higher or more rarefied; here, notwithstanding the outlets from each were furnished with similar perfect forms, yet it would be seen the ventilation would proceed from one of the two in the right direction upward, while the other would be the inlet for a reverse current, only excepting such times as when the power of the wind would be in excess over the rarefying power within the building. The one outlet fulfilling its intent independent of the original proposed outward form, but assisted by it in such times as supposed, and the other, although similar in every way outwardly, yet for any effect by it not only power-less but the actual passage of a reverse action. I think this will suffice to exemplify the

uselessness of depending for ventilation wholly upon any outward formation, as alike contrary to experience and entirely opposed to the usual conditions in which every occupied building exists. I have only one remark to make upon this point, viz. that whatever form may be applied at the external discharge of ventilators to keep out the rain, or guide the discharged current (for this is their legitimate use) in the direction of the prevailing wind, the plan of that form should be the circle, as being the only one equi-distant from the centre affording equal action in all winds. Drury-lane. G. B.

G. B. COOPER.

EXHIBITION OF ARCHITECTURAL DRAW-INGS. — The Association of Architectural Draughtsmen exhibited during the past week, at their rooms in Southampton-street, Strand, an interesting collection of their drawings, shewing that they have amongst them some very able men. We have not space to particularize, but we will mention with commendation the works of Mr. L. W. Collman (whose designs for decorations have been honourably designs for decorations have been honourably mentioned on several public occasions), Mr. Pritchard, Mr. J. R. Colling, Mr. J. D. Wyatt, Mr. W. B. Colling, Mr. Rodriguez, Mr. E. C. Sayer, the hon. secretary, &c. Architects requiring assistance will do well

to apply to the association. THE EMPEROR OF RUSSIA AND MR. SNOW HARBIS .- Through the medium of the Russian Ambassador, Baron Brunow, his imperial majesty has recently sent to Mr. W. Snow Harris, of Plymouth, a handsome porcelain vase, in token of the great estimation his majesty entertains of Mr. Harris's ability as displayed in his mode of constructing light-ning conductors for shipping.

MR. GRAINGER ON FORM OF SEWERS, DRAINS, AND SUPPLY OF WATER.

THE Health of Towns' Association bave published a lecture delivered by Mr. R. D. Grainger, of St. Thomas's Hospital, containing a general exposure of the causes of the unhealthiness of towns and its remedies. ing a general exposure of the causes of the unhealthiness of towns and its remedies. Foremost amongst the sources of disease in towns is defective drainage and sewerage. "It is impossible to exaggerate," says our author, " the defective state of the drainage generally found in towns: large districts, and those the most densely populated, entirely unprovided with these necessary outlets; sewers and drains placed on the surface, and constantly emitting pestilential exhalations; sewers, even in many of the principal districts in towns, so shallow as to be merely adapted to surface drainage, leaving the basement stories of houses and cellars where these are used for habitations, as in Liverpool and Manchester, altogether undrained, though in a special de-gree requiring it; sewers and drains con-structed upon wrong principles as to form, dimensions, and materials; a want of proper traps to prevent the escape of noisome stenches and effluvia; and, more than all these defects put together, a totally insufficient supply of water, without which, as Dr. Southwood Smith justly observes, ' not only is no good done by a drain, but the very evil intended to be avoided is positively increased and extended.' necessity of an ample supply of water, which ought to be as freely given as the air we breathe, meets the inquirer in every branch of the question; it matters not what you speak of -of house drains, court drains, street sewerage-of water-closets, privies-of wash-houses, baths, and personal cleanliness-or of decent habits and the comforts of home-to say habits and the comforts of home-to say nothing of the question of whole ranges of warehouses and the revenue of a principality annually destroyed by fire in some of our great cities; in all directions and upon all questions you are met with the want of water. As a complete and effective system of drainage, like so many other sanatory improvements, de-mands an ample supply of water, the two subjects may be advantageously considered in conuection.

The existing system would appear to indicate an expectation that the sewers and drains are to effect many things which it is quite certain they never have and never can accomplish; and, amongst the rest, that by impress-ing a kind of volition upon the more solid parts of their contents, these latter should obligingly carry themselves off, and in the case of Liverpool, for example, walk into the Mersey, or in that of Manchester, into the Irwell. But this is a kind of feat which matter, with its accustomed stubbornness, will not perform, however much desired. On the contrary, all liquids holding solids in solution or mechanical suspension, are so desirous of getting [rid of their burden, that they deposit it whenever and wherever they can.

Wherever there is any delay in the course of the filthy water of towns, there a deposit of offensive and poisonous mud takes place; in every angle and turn-on any the least in-equality of surface, an accumulation of solid matter does and must be formed ; and as much of this matter is in a state of minute division and moisture, and all of it, periodically, on the falling of rain, it presents precisely those phy-sical conditions which facilitate its escape into the air in the form of a poisonous vapour.

The great law, then, which regulates de-posits of matter held in solution, is, that whenever the current is retarded, the solid particles have an increased tendency to subside; or, to speak more exactly, the ordinary law of gravi-tation operates under more favourable circumstances. It becomes a point of consequence to know, whether there exist in our public and private drains and sewers, and in the surface of streets, courts, and alleys, any causes which will promote deposits according to the above principle. The answer has to the above principle. The answer has already been given in the invaluable reports and evidence of the Health of Towns' Commission. By their unnecessary size and defective form, most of the older sewers being flat at the bottom, they cause a retardation in the flow of their muddy contents, and thus, of necessity, produce a lodgment of putrefying animal and vegetable matter. Another source of deposit is the improper direction of these conduits, the sharp angles and curves of which, especially where the smaller sewers enter the main trunks, lead to obstruction, and to these must be added the various irregularities of surface connected with all masonry, especially when it is originally bad or gets out of order. construction of house drains is liable to the same remarks, all of them being built of porous materials, much too large for their contents, and ordinarily square, the worst of all forms for such a purpose.

The hest form of sewers and drains is a question of much moment. "If they are constructed with a flat bottom, an accumulation of animal and vegetable matter must take place; for in this form of drain the force of the water is weakest precisely where it ought to be the is weakest precisely where it ought to be the strongest, namely, at the bottom; and in ad-dition to this, the upright side-walls are liable to be forced in and destroyed. The best form of a common sewer is the egg-shape, which conduces to hydraulic pressure, and with this form and a plentiful supply of water, deposits would, to a great extent, be prevented, and whenever these did occur by increasing the whenever these did occur, by increasing the pressure of the water, which can readily be effected, they would be removed and the sewer scoured out. The egg-shaped sewer not only possesses the advantage of superior efficiency, but is likewise much more economical. It has been calculated by Butler Williams, Esq., one of the professors at the college for Civil Engi-neers, that by substituting this form for the sewer with upright sides and flat at the bottom, there would be a saving in the construction alone of 1,600%. per mile.

There is, however, a mode of drainage which to me seems infinitely preferable to any other— I mean the improved *drain tubes* recommended by Mr. Dyce Guthrie.[•] They are circular in form, and are made either of terra-cotts or of common brick clay; and as it is most desirable that all drains should be *impermeable*, to pre-vent their poisonous air escaping, Mr. Guthrie proposes that the drain-tubes should be glazed on the inside. "What !" some persons will exclaim, "would you glaze the inside of a drain as you would the inside of a basin to hold food ?" Exactly so; and in the end this tubular system of sewerage would be cheaper, for it is not only much less expensive as to material. but in construction and subsequent maintenance. The form being circular, combines these advantages: the drain is strong, and it would thus be enabled to resist the superincumbent pressure; it could be made of much smaller size than the ordinary drain; and it could be readily washed out by a flush of water; indeed, it is probable that the sewer would be kept cleansed by its own action. For house drains and smaller sewers, tubes of from four to six inclusion dismoster would be write while inches in diameter would be sufficient, whilst for larger sewers the size should be from twelve to eighteen inches or more. If this tubular system of impermeable drains could be introduced, with a sufficient supply of water for washing them out, so as to guard against ac-cumulations, the sanatory condition of a town would be immensely improved."

A copious supply of water is important in another respect. "By an improved supply of water in the city of New York, and a high pressure always being kept up in the mains, so that the hose can be directly supplied from them, the cost of insurance against fires has been reduced 25 per cent. Many who are pre-sent can form some estimate of the vast sum which such an improvement would effect in Liverpool, not only by a reduction of the yearly premium upon insurance, which, from the losses by fire, has been raised from 8s. to 35s. per cent.---the rate in London, for the same risks, varying from 2s. 6d. to 5s.,---but in the enormous amount of valuable property, which would thus be rescued from destruction. In Philadelphia, and in this country, in Nottingham and other places, corresponding benefits have resulted from similar improvements.

Economy would not only be consulted in this particular, by an ample supply of water, but in every other where it is concerned. It is found in the Holborn and Finsbury district, that by far the cheapest mode of cleansing the sewers is by washing them out, or flushing them, as it is called; in fact, the cost is about one-third of what it used to be: in one cleansing alone there was a saving of expense to the commis-sion of 1,2934. Again, the ordinary expense

> * See "THE BUILDEE," Vol. II. p. 632, Digitized by Google

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of cleansing those ever-acting foci of pestilence, cesspools, is, in London, 1/. to 1/. 10s. per annum, or from 5d. to 71d. weekly; whilst it is stated that water companies could construct and maintain in repair an apparatus in the nature of a water-closet and house drains for the removal of all refuse and waste water, two points of incalculable advantage in sanatory respects, for a weekly charge of 21d. to 3d. per house. Mr. Chadwick, in his admirable sanatory report, has shewn the great loss in other respects from a want of water, and he has rendered a great service to the community by demonstrating that all the manifold benefits which would spring from an ample supply of this prime necessary of life would each, and every one of them, be accompanied by a pecuniary cain."

Mr. Grainger urges, very properly, the ne-cessity of extending scientific instruction to surveyors, builders, and others, with whom much of the details must rest. "When it is recollected that all persons charged with great public interests are expected to undergo a long and extended course of study; that the clergyman, the medical practitioner, and, now, even the lawyer, must submit to a rigid ex-amination before they are permitted to under-take duties involving the well-being, the health, and the property of the community, I confess I do not see why another class of officers, to whose intelligence and zeal are committed interests not less momentous, should not also pass through a preparatory course of study, and have their knowledge tested by a proper examination. There is no art, scarcely even any business, in which an acquaintance with science is not necessary, or at all events ad-vantageous; and we may remark, that it is quite possible for a person to be fumiliar with all the technicalities of bricks and mortar, and to know the contents of a cube of stone or wood, and yet to be ignorant of those important principles which are essential to an en-lightened system of sanatory measures. There Inghtened system of sanatory measures. Inere are scientific questions concerned in all the business of drainage, ventilation, and the supply of water; and thus a knowledge of hydraulies and other branches of physics, as well as of chemistry, becomes indispensable to an efficient surveyor,"

QUESTION OF PATENTS,

AND PROPOSITION TO ASSOCIATE THEORY AND EXPERIENCE.

SIR, - I do not consider your columns should be used as a medium of compliments between those who may indulge in scribbling for them, but I am disposed for once to depart from this proposition by thanking Dr. Sutro for his kind notice of my article touching the occupation of newly-erected houses, and more especially for his sensible remark as to the tone "in which I should rejoice to see all scientific discussions carried on though in-terest or fame may be affected," that is, with out asperity or overweening vanity. I avail myself of this quotation as opening the discussion of the question of patents, upon which I have perhaps peculiar views; and Dr. Sutro's frank admission that science and practice should walk as sisters, hand-in-hand, appears to afford a fair opportunity of discussing the point. With respect to improvements emanating from individuals tending to benefit and improve the condition of society, I hold our talents are entrusted to be diffused to the greatest extent upon the principles of reciprogreatest extent upon the principles of recipro-city, as it is not given to the human mind each to grapple with every subject. This in-volves the right of patent, and I am not pre-pared to contend that an individual having bestowed vast labour, and, probably at great cost, produced that which materially adds to the comforts or elegencies of life about not the comforts or elegancies of life should not, by such protection, be enabled to reap the fruits of his labour by fair protected remune-ration: but by a parity of reasoning, the public offering this protection have a right to public offering this protection have a right to demand the greatest and most useful results by enforcing conditions not interfering with the admitted rights of this purty. I would therefore suggest that a party having (as at present) registered a patent, before it be granted, a proposition should be submitted to a busnit continue of a correlated and comp a board constituted of accredited and scien-tific men, with power to suggest and insist upon such alterations and additions as should apparently make it more perfect and applicable

to its proposed use. And that the party should then have it patented with these improve-ments, of course, greatly to his gain, as being thus accredited, and with saving of anxiety and further cost to the individual whose invention was not thus accredited as of benefit to the public. Dr. Sutro's remark — " that expetion was not thus accretited as or benefit to the public. Dr. Sutro's remark — " that expe-rience deserves greater appreciation in such cases than theory, and that nothing would be more dangerous than to sacrifice facts to speculation," implies that his mind is not im-bued with the pedantry (and I use not the term offensively), that too frequently is an ad-junct to science. We shall cheerfully accord to science the evidence of cause and effect, Junct to science. We shall cheering accord to science the evidence of cause and effect, but then it has to be practically applied; let us therefore by free discussion, ascertain the pro-bable result of any theory, the desirableness of which I will endeavour to illustrate thus:-In my youthful days when under mathematical discipline, it was accredited as proveable to demonstration, that the progression of a body could be correctly ascertained as to its velocity, taking into account certain data, viz.: im-petus, resistance by friction, atmosphere, &c.; the formula adopted was proposed to prove the positive results upon the data, and thus univer-sally *scientifically* accredited, until a practical question arose in regard to the form of car-riages, &c., upon the Great Western Railway, having reference to these points. The course adopted was to call in Dr. Lardner and other scientific men to meet Mr. Brunel (whom we sell recorring in the one as the other chaall recognize in the one as the other cha-racter), and *practical* men; the result of the inquiry being, as I am informed, that too much value had been attached to friction, and too little to the resistance of the caprices of the atmosphere. I hail your journal as the neutral ground between science and practice, for free communication, whereby much good might result if practical men would publicly give their theory and proposed mode of operative detail. The scientific man might be induced to reason upon certain ascertained facts controlling the proposed results, or as rendering them efficient. Par exemple : limiting the desperate long period of Dr. Sutro for the occupation of houses, might be appended to his proposal (upon ascertained principles) the all-important desideratum, proper and un-controlled ventilation of rooms. Having devoted some attention to, and to some considerable extent using a mode for curing smoky chimnies, which has been adopted by several of my professional brethren (or I should rather mode of avoiding them in construcsay a tion, thinking their existence has been a sad opprobrium to us), it has long been my inten-tion to intrude my views upon your readers, waiting only for leisure to make a few diagrams. If my principle of creating currents be admitted, I then have a crotchet of connecting the ventilation of a room with the positive adjunct of a fire-place, never, I hold, to be omitted in even the garret of a fourth-rate house. Here then I want the aid of science : not professing to understand the principles of currents, the caprice with which they take their course, and the mode of displacing or associating with fouler atmosphere, a proposition made in ignorance of these facts may positively tend to counteract well recognized principles of nature, which it happens to be aside my habits or pursuits to understand. G. R.

NEW CHURCH, HUNTINGDON.

This church was commenced last week, on the site lately occupied by the theatre. It is to be built in the Norman style of architecture. The contract is taken by Mr. Howard, builder, of Newington Causeway, London. The amount of contract is about 3,000%. The size of nave, in clear of walls, is 55 by 27 feet: it is calculated to seat 800 persons, including gallery; the greater part of the seats are to be open benches, and free. The walls will be of brick, and dressings of doors and windows Caen stone. There are at present only two churches in the town, which will together seat about 1200 persons. The population of Huntingdon, according to the census in 1841, was 3,507, thus shewing the great want of more church accommodation. This church is to be built at the sole expense of the Ludy Olivia B. Sparrow. The architect is Mr. W. G. Habershon, of St, Ncots.

RECEPTACLE FOR SEPULCHRAL MONUMENTS.

The notion of erecting a sort of "Campo Santo" at one of the entrances to Paris, which formed the subject of considerable in-terest some time since, has become now, according to the Illustrated London News, at matter of almost certainty. The glories of "Pere la Chaise," says a writer in that journal, will be thus considerably eclipsed. The cemetery is to be covered, after the models of those of Piss, Verona, Bologna, &c., which are now imitated in several cities of Germany. The cemetery will become in a few years a species of temple consecrated to the dead, and ornamented with all that art can imagine to honour and perpetuate the memory of man. In the long vaulted galleries will be ranged sculptured tombs, as in the ancient charnels of the cemetery of the "Innocens;" in the the cemetery of the "infocens;" in the superior stages, sepulchral chambers, destined for families, will be decorated with mural paintings. The grounds of this immense edifice will be planted with trees, shrubs, and flowers; the "Campo Santo," being covered, will the efford believe to attenue here infinit will thus afford shelter to statues, bassi relievi, inscriptions, cenotaphs, from the degradations that the hand of time, and above all those of man, have visited on monuments which have sphere, the insults of the profane, and the severest "ills that store is heir to." It is principally in an art point, of view that the foundation of such a covered cemetery is to be considered. It will afford to architects, to sculptors, to painters, an added opportunity for the exercise of their gifts; and there is no doubt, if fully carried out, it will ultimately become the most vast, the most curious, and the most magnificent museum in Europe. A similar scheme for London has been proposed by more than one person, and will doubtless be carried out here before long.

ABBOT'S LANGLEY CHURCH, HERTS.

THIS church, which is dedicated to St. Lawrence, consists of a nave, two side aisles, a chancel with a chapel on the south side, and a square embattled tower having a short spire of lead. The tower, nave, and chancel, are built chiefly of flint covered with plaster, with the exception of the chapel on the south side of the chancel, which is a very good specimen of stone and flint, disposed alternately in square compartments.

compartments. The clerestory wall of the nave is supported by Norman piers and arches of good execution and in a fine state of preservation; each of the capitals are of different design and handsomely sculptured. Upright pieces of timber which support the ends of the tie-beams rest upon grotesque heads serving as corbels, and are decidedly of Norman workmanship. The fon: is of good design, its age between the thirteenth and fourteenth centuries. The pulpit, which is situated at the extremity of the nave on the north side, has unfortunately been erected with less taste than bounty, and to a certain extent mars the tout ensemble of the interior.

The chancel is in the perpendicular style, and was wholly appropriated to the reception of monuments until latterly, when the present incumbent with a liberal hand restored that and other parts of the church to their original purpose-removing a handsome marble monament of Lord Chief Justice Raymond, that then completely filled up the space now occa-pied by the perpendicular window over the communion table, which window has been replaced and filled with richly-painted glass re-presenting St. James, St. Peter, and St. John, in canopied niches. The floor of the chanin canopied niches. The floor of the chan-cel has been laid with encaustic tiles of grood device; the numerous alterations and repairs have all been done at the expense of the vicar, the Rev. Mr. Gee. The church is now perfectly restored to its pristine form, the parishioners therefore owe for this reparation of their church a debt of gratitude to their minister, and may congratulate themselve that their church this time, at least, has escape d that destroyer of architectural remains, white-" wash.

Amongst other circumstances worthy of record, this parish is famous in history for having given birth to Nicholas de Cumeracommonly called Nicholas de Breakspear, the

only Englishman who ever had the honour of filling the papal chair. "There is a farm in this parish in the possession of R. Solly, Esq., which still preserves the name of Breakspear, and probably was the place of his nativity. He was the son of Robert de Camera, and when a youth endeavoured to gain admission into the monastery of St. Albans, where he wished to assume the monastic habit, but was refused admittance upon the ground of in-sufficiency in learning. The manner of his sufficiency in learning. The manner of his death is differently related by different authors. Matthew Paris says, he was poisoned because he had refused to make the son of a Roman citizen a bishop, from his being unworthy of that situation. The parish is in the liberty of St. Alban's,

The parish is in the interivery or St. Attau s, one mile and three-quarters S. by E. from Kings Langley. The Grand Junction Canal and the Birmingham railroad both pass through the parish. The ground for the contemplated Booksellers' Provident Retreat, which was presented to the charity by Mr. T. Dickinson, is situated in the parish at an easy R. B. W. distance from the church.

Correspondence.

BUILDING STORE.

SIR,-As your columns are open to what-ever may be useful or interesting to your readers. I trust you will not object to find a niche for the present very brief note. My object is to draw attention to a stone produced from a quarry near Leeds, and called the Otley Chevin stone, but which, though excellently calculated for architectural purposes, is less known to surveyors, builders, &c., than its merits deserve. T have seen various testimonials in its favour from some of the best judges, but the following extract from a certificate by Dr. Ure is so explicit as to its qualities as to render-any further-recommendation almost superfluous. The doctor states, "I have subjected a sample of it (the Otley Chevin stone) to the appropriate test invented by the celebrated French engineers of bridges and highways, viz., MM. Vicat, Billandel, and Courard, and find it to be capable of resisting the decomposing force of the elements for an indefinite length of time. It is, in fact, a silicious grit, so closely aggregated, and so devold of fissures, as to bid defiance to the corroding tooth of time, and to be, therefore, admirably adapted to every architectural purpose where strength and durability are the great requi-sites." To the above may be added, that it is sites." To the above may be added, that it is also capable of resisting great heats, and con-sequently is adapted for many chemical pur-poses. These few remarks are offered in the hope and belief that they will be found as conducive to the public advantage as to the private interest of any individual, and I conceive that by giving this publicity you will confer an obligation on many of your readers.

I am, Sir, &c., Amicus.

DISTRICT SURVEYOR ON THE THAMES.

SIR,-A case has recently occurred at Greenwich which is of very great importance to the trade, and seriously affects all persons holding water-side premises on the banks of the Thames from Wandsworth to Plumstead.

The follow-ing are the brief outlines :- A short time sirace I was employed to repair and reinstate a jetty or platform, and small erec-tion thereon, consisting of privy and small warehouse, the whole entirely upon the same site and dimension as before, not connected with the house which is upon the banks, but placed upon piles driven into the bed of the river Thames, around which the tide constantly flows

Mr. Brown, district surveyor for that locality, has laid an information on the ground of neglecting to give due notice, and demands treble fees. My reply before the magistrate, last Friday week, was, that not giving due notice did not arise from any neglect, but from a firm conviction that Mr. Brown, as district surveyor, had no authority to interfere upon the river Thames. The case stands over for another hearing on the 10th instant.

The 3rd section of the Building Act. p. 7, specifically refers to boundaries and to localities; the words of the Act are, "to all such parts and places lying on the south side, or right bank of the said river, as are within the ex-

terior boundaries of the parishes of Woolwich, &c. &c." " and to all places lying within two hundred yards from the exterior boundary of the district hereby defined."

The question I wish to be solved is, looking at the express words of the Act, has Mr. Brown, or has he not, any supervision in this case :

My firm opinion is, that the words in the Act, banks and sides of the Thames, mean and intend to denote the fixed or starting point, and the 200 yards only apply to the boundary south of those fixed points, as the river Thames cannot be called place or places, and more es-pecially as I believe the river is within the libertics of the city of London, consequently cognizant to the city authorities, for which I think the Act provides. I shall feel obliged if you or any of your correspondents will in your next publication give me their candid opinion upon this very important matter.

I am, Sir, &c., Thos. Smith, Builder, &c., Dock Head, Bermondsey.

Miscellanea.

THE EXCHANGE AT FRANKFORT .--- A COTrespondent of the Athenaum remarks that there are in Germany a vast number of buildings, of which no boast is made, which give evidence of what is so extremely rare else-where—originality. Walking along the streets of Frankfort, we were suddenly arrested by the sight of a building of great beauty and simplicity. Neither Grecian, Italian, nor Gothic; obviously neither a palace, a theatre, nor an hospital; handsome, substantial, and harmonious, in proportion, ornament, and coloursit was the Exchange. To be sure ; who would doubt it? It is just what the Exchange should be; and exactly the Exchange of Frankfort; not of vast magnificent London, the queen of commerce, or of showy brilliant Paris, ----centres of powerful monarchies, but, of the wealthy free city, the seat of a substantial bourgeoistic. The material is brick of two colours - the architectural resources of which Lord Lovelace has shewn in the pretty schoolhouses he has built at Ockbam. At Frankfort it is of course employed on a grander and more elevated scale, and therefore without those pretty fancies in the way of borders and ornaments, which are so appropriate and so cheerful in these cottage-like buildings of which the design is, in a double sense, so honourable to the noble architect. You must not ask me for details which I cannot give, partly for want of technical knowledge, partly of accurate recollection. But as to the general im-pression I can never forget how harmonious, how original and appropriate (zweckmussiy is the very word), this unpretending and uncopied building appeared to us. The London Ex-change I have not seen ; that of Paris is one of those ludicrous misapplications to common in England and France, and what is more, a very ugly one. One asks till one is tired, why is every thing to be feudal, or Greek, or Palla-We want none of these things. dian? The whole actual idea and purpose of a building should not 'jurer' with its traditional idea and purpose, like the beautiful Madeleine, where, after it was finished, it was discovered that this Catholic church had no place either for confession or belfry (!), or the frightful Bourse, the frequenters of which have nothing in common with Greece or Greeks, but a peculiar beard the Frankfort Exchange mentioned, nor can I tell you the name of the architect. All I know is, that he is one of the few people who can do any thing but imitate.

RANELAGH SUSPENSION BRIVGE. - A company is being formed, having for its object the erection of a suspension bridge across the Thames for carriages and passengers, from a point a little to the east of Chelsea Hospital to a point on the west of the Red House, Battersea. The estimated expense, inclusive of a steam-boat pier, approaches, &c, is 90,000/. Mr. H. H. Bird is the engineer.

BUCKINGHAM PALACE, during the absence of the Court from town, is to undergo various embellishments and alterations. The grand hall is to be decorated somewhat in the style of the Royal Pavilion in Buckingham Gardens; and in the north wing altera-tions are to be forthwith made.

WOBKS AT ST. MARY REDCLIFFE CHURCH BRISTOL.---We direct the attention of builders and contractors to an advertisement which appears in our columns, for tenders to exe-cute certain works at Redcliffe Church. Only a part of the restoration is to be now contracted for, but it may reasonably be ex-pected that the parties employed in the first instance will continue on the work till all is completed. We trust, now that operations bave commenced in earnest, that fresh sub-scriptions for this noble undertaking will be Too much praise cannot poured in. be given to the committee appointed to effect the resto-ration, for the zeal and ability with which they are proceeding. New PRISON AT CLERKENWELL. -

Middlesex magistrates have determined to pull down the present building, and to erect on its site one of larger dimensions, on the plan of the Model Prison at Pentonville; the work of demolition commenced during the present week. It is expected that the new building will be completed in about eighteen months.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For certain Masons', Carpenters', and Plumbers' and Glaziers' Work about to be performed in va-rious repairs and restorations to St. Mary Redcliffe church, Bristol.

For Paviors, and Masons' Works to be done to the foot and carriage ways of St. James, Westminster, for a term of three years.

For Paving and repairing certain carriage and footways in the parishes of St. Margaret, and St. John the Evangelist, Westminster, for one year, and so on from year to year until three months' notice shall be given by either party to determine the same.

For certain Works to be done adjoining the present workhouse premises at Lower Homerton, for the guardians of the Hackney Union.

For building railway goods' waggons, ballast waggons and horse boxes, and supplying carriage couplings according to plan, for the Great Southern and Western reilway (Ireland). For the execution of Works on the Dundalk and

Enniskillen railway, being a distance of ten miles.

For Lighting the public Lamps on the Lucas estate, St. Pancras, with gas, and kceping the same in repair.

For supplying the North British Railway Com-pany with 2,500 tons of Cast-iron Chairs, and 140,000 Larch or Beltic Timber Sleepers.

For supplying the Middleborough and Ridcar Railway Company with 36,000 Oak Keys. For the execution of Works on the Leeds and

Thirsk Railway.

For the execution of several lengths of Earthwork on the Aberdeen Railway. There are 5 separate Contracts, varying in lengths from 3½ mlles to 4‡ miles.

For the execution of the works on the Nottingham and Lincoln Railway, in two perts; 1 from Nottingham to Newark, being a distance of 17 miles: 2 from Newark to Lincoln, being a dis-

Notingnam to Newark to Lincoln, being a dis-tance of 153 miles. For supplying her Majesty's several Dockyards with Cast-iron Articles for twelve months certain. For supplying 300 Sets of Wheels, Axles, and Guard Irons to the Great Southern and Western Railway (Ireland).

For the execution of the whole works of the first ten miles of the Hawick branch of the Edin-burgh and Hawick Railway. For 500 Tons of Cast-Iron Socket Pipes with

bends, branches, syphons, &c., for the Com-mercial Gas Light and Coke Company, Stepney. For the construction of the Works at Gas

Wells, Norfolk, and all necessary apparatus. For the construction of Three Reservoirs for the Blackburn Waterworks Company: also, of Stone Culverts for conveying the water a distance of about 24 miles. The earthwork will amount to about 180,000 cubic yards.

For the erection of an Infirmary at the Lambeth Workhouse.

For the execution of works on the Manchester South Junction and Altringham Railway, in two parts: 1, being a distance of 1½ mile; 2, being a distance of 7½ miles.

For the execution of Works on the Manchester and Birmingham Railway in 2 parts. 1. The Ashton Branch, being a distance of about 4²/₄ miles. 2. The Macelesfield branch, being a distance of about 30 chains, including a tunnel of 330 yards in length.

For the repair of all the roads within the Bridgwater trust for a term of three years from the 6th of October next.

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For the execution of that portion of the Edinburgh and Northern Railwa Burntisland Pier to Kinghorn. Northern Railway, extending from

For supplying the Trent Valley Railway Com-any with about 200,000 sleepers of good sound n**y** with Baltic timber.

For supplying the Clydesdale Junction Railway Company with about 2,500 Tons of Rails, and about 600 Tons of Chairs.

For supplying the Leeds and Thirsk Railway Company with 100,000 Railway Slospers.

For the execution of works on the East Lanca shire Railway, viz., the Accrington Contract, being a distance of about 8 miles.

For the execution of that portion of the New-castle and Berwick Railway, extending from Netherton to Tweedmouth, being a distance of about 53 miles. To be let in four contracts. For the execution of works on the Leeds, Dews-

bury, and Manchester Railway, viz., the Churwell Contract, being a distance of about 2½ miles.

For supplying the Wakefield, Pontefract, and Goole Railway Company with about 7,000 tons of Malleable Iron Rails, and 2,000 tons of chairs.

COMPETITIONS.

The Committee for the establishment of Public Parks, Walks, &c., at Manchester, offer two prizes, one of 50 guineas and the other of 25 guineas, for the best and second best set of Plans (with estimates), for the laying out, &c., of the sites already purchased by them.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

Adjoining the entrance to the East Country Dock, Rotherhithe, about 85 loads of new East-India Teak, and 60 loads of sound African Oak Timber. BY TENDER.

In the Plantations of the Duke of Montrose, situate in the Parishes of Drymen and Buchanan, Stirlingshire : many Thousands of Larch Trees of some size, adapted for Railway Sleepers, Roof ing and Joisting, and other purposes.

TO CORRESPONDENTS.

" Constant Reader."-Notwithstanding our correspondent's objection, we know no better de-positary for his £15 than a Savings' Bank. It is

positary for his £15 than a savings Bank. It is difficult to employ advantageously a small sum. "A Subscriber."—Mr. Cockerell's Lectures are not published. Accurate reports of the last course will be found in the BUILDER, pp. 31, 38, 63, 73, 85, ante. The "Athenæum" contains very excellent and full reports of previous courses. "A. B."—The letter on Purity of Water is simply an advertisement.

"One of your constant Readers."—Replies to the whole of the questions put to students in Architecture at University College would form an elaborate treatise on the subject. We will see

what can be done. "J. Morgan." (School of Design); "T. A.," and "Amicus" are declined with thanks : we cannot afford space. "Ed. H."-Lax

-Laxton's "Price Book " will give the information required. "J. C."—We shall be glad to learn the de

"J. C."—We snaw of your to could not be cision of the commissioners. "A Youngster."—The Institute of Architects have published a valuable pamphlet on "Dilapi-dations," which may be had of Weale, Holborn.

There are several larger works on the same sub-ject. The most recent is by Gibbon. "H. A."—The block unfortunately arrived too lale for the present No. We shall be glad to avail ourselves of it next week. "Mestry Test's Glass Wampones" A seven

" Messrs. Testa's Glass Warehouse."--A cor-"respondent wishes to know where it is situated. "A. B."—We shall be glad to see the drawing. "W. J. S."—We cannot tell without seeing the

drawing. "A Young Builder."-If the circumstances were correctly stated to us, our reply may be safely acted on.

"Stained Glass Window in St. James's Church." -Correspondents must excuse us for not replying to the numerous letters we have received on this

to the numerous letters we have received on this subject. It is hoped that a change will yet be made.
"J. C.;" "W. H.;" "E. H.;" "J. L.;" "J. L.;" "J. P.," and various tenders, next week. Received: "Second Report of the Commissioners for Inquiring into the State of large Towns,"—"The Philathenic," No. I. (a Monthly Manariae connected with the Motamultize Views). Magazine connected with the Metropolitan Liter-rary Institutions),—" Dolman's Magazine," No. VII.,—" Old England," part 21 (Knight),— "Pictorial Gallery of Arts," part VIII.— "Illuminated Magazine," No. III.

THE BUILDER.

ADVER TREEMENTS

PRIZES IMPORTANT TO INVENTORS AND PATENTEES.

PRIZES IMPORTANT TO INVENTORS AND PATENTEES. A GOLD MEDAL, value 1007. and a SILVER MEDAL, value 501., will be given by Mr. M. JOSCELIN COOKE. The Gold medal for the best Patent, and the Silver medal for the best Design taken out or Registered at the OFFICE for PATENTS and DE-SIGNS, 20, Half-Moon-street, between the 1st of Novem-ber, 1844, and the 1st of June, 1846. The Prizes will be awarded by competent judges on the 10th June, 1846. The evanted by competent judges on the 10th June, 1846. The awarded by competent judges on the 10th June, 1846. The evant of the observed, together with instructions, charges, and every information for obtaining Patents in England or Foreign Countries, or Registering Designs, will be forwarded gratis, on application to Mr. M. JOSCELIN COOKE, at the Office for Patents and Registration of Designs, 30, Half-Moon-street, Piccadilly, London.

ROYAL ADELAIDE GALLERY, Low-R or Arcade, Strand. - ATMOSPHERIC RAIL-WAY daily, with a Lecture, at Two and at Half-past Eight. A series of Lectures, with Illustrations, on the manners and customs of the Ancient Egyptians, by Mr. E. Clarkson, every Monday Evening. Les Reunions Magiques, on Wednesday and Friday. Les Reunions Magiques, on Wednesday and Priday. Letture on Science, Daily, in-tion Staturday Evenings. Les Reunions Magiques, on Wednesday and Priday. Letture on Science, Daily, in-tion Staturday, and Staturday, at three o'clock in the afternoon; and on Monday, Wednesday and Friday Evenings at eight o'clock. A MAGNIFICENT EXTENSIVE and

on Monday. Wednesday and Friday Evenings at eight o'elock. A MAGNIFICENT, EXTENSIVE, and UNIQUE COLLECTION of TROPICAL FRUITS, modelled by Mons. Grimaud during his long Residence in the Isle of France. is just deposited at the ROYAL POLY-TECHNIC INSTITUTION. The ATMOSPHERIC RAILWAY is lectured upon by Professor Bachhofmer, and exhibited Daily, and in the Evenings. A NEW AME-BICAN INVENTION, COLEMAN'S PATENT LOCO-MOTIVE ENGINE for ascending and descending inclined planes on Railways without the aid of stationary power. SWIMING and DIVING ILLUSTRATED by the Son of Capt. Stevens, the celebrated teacher of Swimming, on Mondays, Wednesdays, and Fridays, at Tso o'Clock, and on the Evenings of Tuesdays and Thursdays, at half-past Eight o'clock. The other Exhibitions, &c., as usual.--Ad-mission, One Shiling ; Schools, half-price.

CAEN STONE. UARD and BEEDHAM have a quantity L of the above stone, of the hest quality, direct from their Quarries at Allcmange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particu-lars at Ma. G. GATES', 16, SOUTHWARK-SQUARE, SOUTHWARK.

BATH STONE. BATH STONE. T. E. WELLER, of STEEL-YARD WHARF (late Drewe's), begs to inform Stone Merchants, Contractors, &c., that he can supply them with best FARLEIGH-DOWN STONE on lower terms than ever before offered. — Dept for immediate supplies, DRUCE'S WHARF, Chelsea.

PIMLICO MARBLE AND STONE WORKS, BEL-GRAVE WHARF, PIMLICO-ROAD. SAMUEL CUNDY begs to inform Archi-tects, &c., that every description of Store Archi-AMUEL CUNDI Degs to inform Archi-and Granite work is executed at the cheapest possible rate. Estimates given for Mason's Work in all its branches. Gothic Work, Tombs, Monuments, &c. MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices. A large collection of Designs for Mural and other Monu-ments.

mente ents. CHIMNEY PIECES from Twelve Shillings upwards. Depôt for CAEN STONE, &c.

Depôt for CAEN STONE, &c. PAINTING BRUSHES OF SUPERIOR QUALITY. TO PAINTERS, BUILDERS, &c. J. J. K E N T A N D CO., MANUFACTURERS, 11, GREAT MARLBOROUGH-STREET, LONDON, Offer to Painters, Builders, &c. Painting Brushes of a quality far superior to those generally offered for sale, to which they beg to call the attention of all who prefer quality and durability to apparent cheapness. 000000.-7 in. duito, extra. 000000.-7 in. ditto, extra. 000000.-7 in. ditto, extra. 00000.-Ground Brushes. Plasterers' Brushes. Distemper ditto. Ground and Unground. Sash Tools, and Common Tools. Tar Brushes and Mason's Brushes, and of all other Brushes used by Painters and Artists. Lists of Prices of Painting Brushes, and of all other kinds of Brushes, forwarded on application. Established 1777.

TO ENGINEERS, ARCHITECTS, AND BUILDERS, MATENT METALLIC SAND CEMENT. -The Metallic Sand, from its chemical qualities, To ENGINEERS, ARCHITECTS, AND BUILDERS. **DATENT METALLIC SAND CEMENT.** -The Metallic Sand, from its chemical qualities, forms, when mixed with blue lias line, a metallic cement of great strength and density; the iron, which is one of its principal constituents, combining with the bed in which it a greater degree of hardness than can he obtained by admixture with any other known material. Concrete and mortar in which the metallic sand has been used are more durable than any other, continuing to indust with line, and not being affected by damp, otherwise than by increasing in hard-ness from the oxydation which is thereby occasioned. Employed as a cement to turn water from brickwork in tur-nels, sewers, and other underground works, the Metallic sub found cheaper, and from its eminent adhesive qualities to form a more solid and hydraulic body, in com-bination with the brickwork, than any other green the test substitute for pozolano that has ever been presented to the public. As an external stucco, the Metallic Cement assumes a rich stone-colour without the aid of paint or tint of any bind, does not vegetate, and is entirely free from eracks and urability by exposure to the weather. The Proprietors refer with confidence to works in which the Metallic Sand as been extensively employed as concrete and mortar, specified in the prospetus, where also will be found refe-rences to very extensive erections which have been stuccoed with the Metallic Cement. Further information will be given, and specimens shewn, on application to Mr. C. Dyer, 4, New Broad-street; and at the Metallic Cement Want, King's-road, opposite Prati-street, Camden New Town.

TO ENGINEERS, ARCHITECTS, AND CON-TRACTORS.

REAVEN'S LIAS CEMENT and GROUND BLUE LIAS LIME, at 2, South Wharf, Paddington, London, and Works, Southam, Warwickshire. Agent for Liverpool, Mr. WYLIE, 56, Gloster-street; ditto for Manchester, Mr. J. THOMPSON, Back King-street; ditto for Chaster, Mr. J. HARRISON, Linen Hall-street.

A TKINSON'S CEMENT.—The public is respectfully informed, that the price of this very ex-cellent Cement, which has now been in use for Architecture and Engineering works upwards of thirty years, is reduced to s. 3d, per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfrian-bridge. N.B.—This Cement being of a light colour, requires no arti-ficial colouring or painting, and may be used for stacco with three parts its own quantity of sand.

MARTIN'S PATENT CEMENT. TO ARCHITECTS, BUILDERS, AND PAINTERS IN FRESCO. STEVENS and SON, PATENTEES and SOLE MANUFACTURERS, beg respectfully to anounce that this beautiful Cement has now arrived superiority over every article hitherto in use; it is now being superiority over every article hitherto in use; it is now being superiority over every article hitherto in use; it is now being superiority over every article hitherto in use; it is now being superiority over every article hitherto in use; it is now being superiority over every article hitherto in use; it is now being superiority over every article hitherto in use; it is now being superiority over every article hitherto in use; it is now being superiority over every article hitherto in use; it is now being superiority over every article hitherto in use; it is now being superiority over every article hitherto in use; it is now being superiority over every article hitherto in use; it is now being being article hitherto in use; it is now being there used for many be painted upon dry work within four low of the prise fresco painting; and is additied to form the best ground for fresco painting; and is been used for many of the prise fresco painting; and is divestminater Hall. It will bear an intense beat without the equalla. 186, DRURY-LANE, LONDON.

186. DRURY-LANE, LONDON.

Agent for Liverpool and Manchester, Mr. B. Part, 11, Atherton's-buildings, Dale-street, Liverpool.

KEENE'S PATENT MARBLE CEMENT.—The Patentees of this composition beg to refer to the British Museum, the Royal Exchange, the new works at Bethlem Hospital, Greenwich Hospital, and the Co-liseum in the Regent's-park, as buildings finished or in pro-gress, in which Keene's Cement has been used as an internal stucco. Its superiority to common plastering consists in its extreme hardness, and the rapidity with which it dries, which qualities fit it to receive paint or other finishing searer than other water Cement. When employed for akirtings, architrave, and other mouldings, in place of wood, it checks dry-rot, is imperviews to vermin, prevents the spread of fire, and is more eco-nomical in its application than the material for which it thus becomes the substitute. Confirmation of these statements is to be found in the almost universal adoption of Keene's Cement for Skirting and Hall flooring in the new houses on the Hyde Park Kettake, where its application is to be seen to the fullest advan-tage.

tage. In Liverpool and Manchester, Keene's Cement has in several cases been used for the covering of the fire-proof warehouse floors, where its lightness and hardness give it the preference over tiles and flagging, which are much heavier, and necessarily leave the floor intersected with numerous joints, whilst Keene's Cement is laid down in one unbrokes surface

surface. The high polish and marble-like hardness of which this Cement is susceptible render it the most suitable material or the manufacture of Scagliola. Patentees, J. B. WHITE & SONS, Millbank-street, Westminster, Manufacturers of Roman and Portland

Cement. Depot in Liverpool, 35, Seel-street ; James Woods, Agent.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MER-CHANTS, BHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO JOHNS and CO.'S PATENT STUCCO CEMENT.-The following are the positive advantages possessed by this Invention over every Cement hitherto in-troduced:-It will defectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep frash and good in the cask in any Climate for any number of year. It is the only Cement that can be depended upon for export. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of we worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be used on the Inner Walls of new Houses, which may be used on the Inner Walls of new Houses, which may be used on the Inner Walls of new Houses, which may be used on the above-named extraordinary and attend with this Cement will remain undamaged by the severest Storms. Any Flasterer may apply it, the Instra-tions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement waluable advantages, nothing can approach it in point of commy. Architects and Builders who have used this Cement have

Architects and Builders who have used this Cemeer declared that it requires only to be known, to be univ at have

declared that it requires only to be known, to be universally preferred. Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a rolume of Testimonials from every part of the Kingdom, may be obtained on application to MANN and CO., SOLE AGENTS for the Patentees. 6, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had. JOHNS and CO.'S PATENT STONE-COLOURS STUCCO PAINT, expressly intended for Painting over ex-terior Walls of Houses that have been covered with Roman or other Cements, and which have been covered with Romas or other Cements, and which have been eitry and disco-loured. It is in every way better suited for this purpose than White Lend Paint, which will frequently come off in fakes, MESSIS. JOHNS and CO.'S PATENT PAINT having an affinity for Slucco, binds itself with it, stopping the auction, thereby rendering the wall proof against weather, and in the finish producing a pure stons-like effect, produccable by no other Paint whatever. It is cheap in its application, -and may be used by any Painter, in any climate, even in the most exposed Marine situations.

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SATURDAY, SEPTEMBER 13, 1845.



OR some time past, the whole weight of the business at the office of Metropolitan Buildings has rested on Mr. Hosking and the registrar (Mr. Symonds), in conse-

quence of the retirement of Mr. Higgins. It was considered desirable, in making a fresh appointment, to stipulate that the new referee should undertake no other business; and this, it seems, has caused some delay. One architect of high standing, who was a candidate for the appointment, refused it when offered to him with the condition named, and the vacancy bas only just now been filled up. Without any disrespect to the gentleman who succeeds him, we must express our regret that Mr. Higgins should have felt it necessary, so soon after the establishment of the office, to withdraw himself from it. Doubtless he found the post not an easy one; and we can well understand that, possessing a sufficient fortune (which all who know Mr. Higgins will say he has worthily obtained and richly deserves), he might feel disinclined to continue to perform its duties. For the sake of the public, however, we would have had him remain until the Act had been amended by the legislature, which will probably be done next session. As it is, we must simply offer him our best wishes for health to enjoy his ease, and express a hope that Mr. Hosking may find in his successor as excellent a colleague.

The mode of proceeding in the office has now taken a settled shape ; and although there are points wherein alteration is desirable, must, in the whole, be considered as satisfactory as could be anticipated. The referees have shewn on several occasions that their chief office is to protect the public, and the two or three district surveyors who don't know how to behave themselves, -- fortunately a very small minority, - have been properly punished in several cases, and so checked. The expense of application, too great at any time, is often increased by the want of precision and care on the part of the applicants themselves. We recommend such of our readers as have occasion to appeal to the referees to state their case clearly, and without verbiage, and to avoid unnecessary meetings and postponements, by which means the costs will be much lessened; but we nevertheless urge upon the referees the importance of an early revision of their scale of fees.

We have before us a number of awards and certificates recently issued by the referees, and proceed to lay the heads of some of them before our readers.

Timber in external Wall of House commenced before January last.—Mr. Martyr, district surveyor of Deptford, gave notice of irregularity to the owner of a house in St. Nicholasstreet, Deptford, on the ground that when he surveyed it in January 1845, the front external wall was supported on a breastsummer and story posts, and that since then the owner had determined to make it into a private dwellinghouse, and had filled in between the timber with brick work, intending to compo the whole surface. The owner had, further, given no notice, considering that the district surveyor had no jurisdiction in the matter; but joined him in the application to the referees, in order that the question might be decided. The award was,—" That inasmuch as the house in question was commenced before the 1st day of January, 1845, and inasmuch as the works in question do not constitute an enlargement or alteration of the said building so commenced, and remaining unfinished at the time such works were executed, the said works are not liable to the provisions, rules, and directions of the said Act." The expenses to be paid by the district surveyor.

BUILDER.

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Approach to Stone Staircase in old House .-The builder of a stone staircase in a secondrate house in South street, Park-lane (while in progress), contended that, as the house was an old one, he was not required to make the joists to carry the landings, and the other internal connections, fire-proof. The district surveyor, Mr. Foxhall, thought otherwise, and, mutually, they sent the case to the referees. The award was,-"That the stairs in question being of stone, the passage from the entrance-door to the side of the staircase furthest from the door must have its floor fire-proof, and wholly upborne and supported by fire-proof constructions, and also that the landings on the third or one-pair, and on the fourth or two-pair floors, connecting the flights of stairs between the several stories, must be also made fireproof, and be wholly upborne and supported by fire-proof constructions." The expenses of the office, and one guinea to the district surveyor, to be paid by the builder.

Underpinning Walls adjoining a new Erection .- Mr. Winsland, the builder of a church to be erected in Upper Charlotte-street, Bloomsbury, having excavated the ground immediately contiguous to certain dwelling - houses and workshops, to a greater depth than the flank walls of the said houses and premises, underpinned the said walls along their entire length, but not to the full thickness of the said walls, nor to the full depth of the excavations adjoining them. On the information of Mr. Baker, the district surveyor, the referees went into the case, and determined that the underpinning was to be amended and altered in a substantial and workmanlike manner, throughout the full thickness of the walls in question, and to the full depth of the excavations referred to (or to such less depth as in the opinion of the district surveyor will meet the circumstances of the case), and conformably in every other respect to the rules relative to underpinning in sec. 28 of the Buildings Act. The expenses of the office, and a fee to district surveyor, to be paid by the builder.

Recesses in Party-walls.— Mr. Harding, of Deptford, being about to build a fourth-rate house in Rotherhithe, of which two side or external walls would probably be used at a future day as party-walls, asked the special sanction of the referees, to form four recesses in the basement story of these walls about two-thirds their extent, leaving nine inches at the back of the same.

The refereces certified, that as the said recesses were proposed to be made in a partywall, and in the first or basement story, and so that the back thereof would be nearer than seven inches from the centre of the wall, the same were contrary to the rules of the Act in schedule D, part 3, under the head "Recesses and Chases," and that they, the said referees, had no power to consent to or authorize the same.

Overhanging Roofs.—The builder of a detached house in Gloucester Road, Paddington (not sufficiently detached to render it "insulated " within the meaning of the Act), sought the permission of the referees to construct the eaves and cornice of timber, as was commonly done before the passing of the Act. The application was grounded on schedule E, describing projections from face-walls to be of such (proper and sufficient) materials as the official referees may approve and permit.

After considering the application, the referees certified, that inasmuch as the proposed eaves and cornice were not formed of, or efficiently protected by, proper and sufficient fire-proof materials, they could not permit them to be so constructed.

It may be well to remark, that the awards are necessarily influenced, at times, by circumstances which would not appear in short abstracts of the cases; we would suggest, therefore, that parties who find in any case reported in our pages a resemblance to their own, and would be guided by the award, should consult the whole of the documents connected with it; which may be done at the Metropolitan Buildings Office on payment of six-pence.

ARCHITECTURE—THE EXPONENT OF NATIONAL CHARACTER.

To few individuals does the term "architecture " convey any impression of its comprehensiveness, of the multitude, and apparently opposite nature, of its details. In its full extent, it includes the matter of every art, which ministers to the comfort, or to the delight of man, and in its service may be enlisted every variety of imaginative effort, and every form of mechanical skill. Dating its history from the age of the creation, it was the originator of all the arts, and throughout its after progress, the state of all has never been so felicitous, as when the connection, each with the rest, was intimate and mutually influential. All the forms in which the arts of design are expressed, with the operative skill ministering to, or as-sociated with them, were once one art, and generally the pursuit of one individual. Every variety of building, every object of decorative art, every machine; works of construction, whether built upon the surface, excavated in the earth, or projected into the ocean; in fine, every work, almost, in which the caprices of hand or the domonstrative of coincide or handless of the surface of the surf fancy, or the demonstrations of science can be wrought into form, was once the offspring of one mind, and that mind the possession of the architect. If, in its more circumscribed aspect, architecture is the index to the modes of life, the condition and political state, and the scientific skill of different peoples, in its more com-prehensive meaning, it is the embodiment of their thoughts and opinions, of their exact intellectual condition. It is the figure, in which the history of imperial sway is mirrored, for the perception of those, who are not blind to its instructive teachings. It is the voice of centuries past, speaking from the mist of unrecorded time, and the lamp, which illuminates the learning of one age to the contemplation of another

Though the world has witnessed the prevalence of many modes in architecture, they are each highly expressive of the thoughts, and habits of their originators, and in some styles, the expression of those characteristics is so complete and evident, that we have considered, that some illustration of them would not be uninteresting. Merely referring to Egyptian architecture, as illustrative of the mysterious rule of a dominant hierarchy,* who succeeded in enslaving the thoughts of men, through the influence on the senses of a mystic ceremonial, in which the art played an important part; we pass to the style of the Roman empire. The architecture of Greece had borne the stamp of that refinement, which was the peculiar property of the Grecian nation; it was characterized by a noble simplicity of form, to which ornament was always held as se-condary. Mouldings, whether ornamented or plain, were few in number, but arranged and roportioned with elaborate skill. Optical illusions were overcome by minute alterations, in the form and proportion, intentionally de-

* At p. 181, ante, arc some remarks on this subject by the writer.

ceptive to the eye, and which long eluded the test of close examination, and measurement. Sculpture was called into exercise in an extent. and with a success, since unknown; and the subjects; which it illustrated were such, as brought the recollection of the beholder to the early history of his nation, and to the exploits of the deities of his country. The victory in the theatre, or the games, was commemorated in the monument, rather than the victory in the field of war: The Romans, subjugating Greece -struck with the beauty of its architecture, sought to transplant it to their own city. But with them, it was no longer the result of an accurate analysis, and balance of varying forms, and of their effect in juxtaposition, each upon the other. Not content with adopting the forms of Grecian architecture, and enlisting the ser-vices of its producers, they transported the buildings themselves to the capital of a subject world. Their earliest structures were in the main Grecian, and sometimes, as in the portico of the Pantheon, were very strongly expressive of that influence. But this comparative brilliant state of the art was of short duration, and soon the Grecian architects appeared to follow the blind dictates of a master, rather than the inward promptings of reason, and good taste. The national characteristics of the Romansthe love of empire, the pomp and vainglory of the triumphal spectacle; the pride of dominion, the opulence, the luxury, and the crime, changed the whole scope and expression of the orders of architecture became the art; more framework for extravagant enrichments, annihilating the graces of form, and the happy arrangement of contrast, and exchanging magic of art for the meretricious, and the grandiose. In the supplementary volume of "Stuart's Athens," Mr. Kinnard, speaking of the comparative merits of Grecian and Roman architecture, remarks that "the latter style corresponds with the ponderous bearing of a people, who had subdued the world by their arms; the former with the captivating influence of a na-tion, that had enlightened the universe by her literature." In Roman architecture, beauty disappeared under a load of riches. Mr. Gandy, in the "Pompeiana," says, "With the Greeks, architectural ornament may be compared with those parasitical plants, which, continually intertwining, climb to the tops of the loftiest trees, and pass from branch to branch without injuring the individual grandeur of character in the various species they embellish;"---"whereas, with the Romans, all distinction of surface was frittered away in an endless maze of fretwork." The love of splendour, identified with the Roman character, exerted its sway and the chaste principles of beauty, exemplified in the Pantheon, were no longer beheld during the pomp of the empire. . "Another enemy to the beautiful, and even to the sublime," says Mr. Forsyth,* " was that colossal taste, which arose in the empire, and gave an unnatural expansion to all the works of art. In archi-tecture, it produced Nero's golden house, and Adrian's villa; in hydraulics, it projected the Claudian emissary, and Caligula's Baian bridge; in sculpture, it has left at the capitol such heads and feet, as betray the emperor's con-tempt for the dimensions of man; in poetry, it swelled out into the hyperboles of Lucan and Statius. This exaggerating spirit spread even to the games. Nero drove ten horses yoked abreast to his car, and double that number appear on an ancient stone.

The distinctive peculiarities of national character are evident in every feature of Roman architecture: they are seen in the almost constant use of the Corinthian order, in the cornices, in which no moulding was without ornament, in the sculptured representations of triumphal processions, and in the construction of immense works for the amusement of the citizens. The cornice of the temple of Jupiter Tonans has a fillet, as the only unornamented moulding; in the arch of Titus the enrichment is of like extent; and in the temple of Jupiter Stator, and in other examples, hardly inferior. The triumphal arches, in every detail of ornament, record the purpose of their erection; they sustained the triumphal chariot of the victor, and shewed portions of the procession. At Baalbec and Palmyra, the resources of decoration were exhausted, whilst the works were of vast extent.—The amphitheatres are mementoes of Roman osten-

* "Remarks on Antiquities, Arts, and Letters, during an excursion in Italy, in the years 1893 and 1803."

tation and cruelty; they are of great size, the Colosseum being large enough to contain seventy or eighty thousand people, and that of Verona, twenty thousand. They were of an elliptical form, and consisted of the arena, where the combats took place, and ranges of seats surrounding it, easy access to every part of which was gained by numerous passages, and staircases. The outside exhibited several ranges of arches placed one above another. The arena was surrounded by a wall, upon which was the podium, a kind of projecting box, generally highly ornamented; there sat the *cditor*, the senators, the vestals, and the magistrates, attended by lictors, and seated in their curule chairs. There was also the suggestum, the seat of the emperor. The podium was never less than twelve feet high, but, as an additional security from the beasts, lattices and gratings were raised, and large rollers contrived, so as to turn, whenever an animal attempted to leap on to them. Afterwards trenches, or canals were dug round the arena. But beasts were not the only victims in the shows of the amphitheatre; slaves were matched against each other, and the Roman ladies were amongst the spectators of the sanguinary exhibition. The calling of gladiator at length became an honourable one, in which senators, and even women, were proud to enlist themselves. The Emperor Commodus was so often victorious in the arena, that he signed himself conqueror of a thousand gladiators. To how low an abyse of degradation must the empire have fallen, when these brutal spectacles became the favourite amusement the nation. The Romans introduced them into whatever country they subjected to their dominion, thus we find amphitheatres at Rome, Verona, Pompeii, Pola, Nismes, Rome, Verona, Pompeii, Pola, Nismes, Corinth, and other towns in Italy, Gaul, Germany, and Spain. But the most consider-able of all was the Flavian amphitheatre at Rome, and its vast size merits the name Colosseum. It occupies an area of six acres, and was in height nearly 160 feet. At its dedication, in the reign of the Emperor Titus,* the number of beasts destroyed was, according to one author, nine thousand, and after the combats, water was introduced and a sea-fight commenced. The form of the edifice is that of an oval, of which the longer axis is 620 feet, and the shorter 513 feet. The seats are raised over the staircases leading to the several divisions; and it is to be remarked, that the utmost care has been taken to secure the facile egress of a large audience. The building was four orders in height, and there were eighty arches in each of the three lower ranges, the arches in the second and third range being once ornamented with statues. In the upper order of the exterior are blocks for supporting the poles, which sustained the cords of the velarium or awning, the supporting of which over so vast a space, was often a work of extreme difficulty. This awning was work of extreme difficulty. sometimes of the richest materials, as of purple spangled with stars. Stupendous as was the fabric, it was constructed from a part only of the materials of Nero's golden house, which was demolished by Vespasian, as too sumptu-ous for the residence, even of a Roman emperor. Six hundred years had tried its stability, when it suggested the well-known say-ing "Quamdiu stabit Colisæus, stabit et

Roma; quando cadet Colisæus, cadet Roma; quando cadet Roma, cadet et mundus." "Here (says Mr. Forsyth) sat the con-querors of the world, coolly to enjoy the querors of the world, coolly to enjoy the tortures and death of men, who had never offended them. Two squeducts were scarcely sufficient to wash off the human blood, which a few hours' sport shed in this imperial shambles. Twice in one day came the senators and matrons of Rome to the butchery ; a virgin always gave the signal for slaughter, and when glutted with bloodshed, those ladies sat down in the wet and streaming $aren \alpha$ to a luxurious supper. As it now stands, the Coliseum is a striking image of Rome itself; decayed, vacant, serious, yet grand; half grey and half green, erect on one side and fallen on the other, with consecrated ground in its bosom, inhabited by a bedesman, visited by every caste; for moralists, antiquaries, painters, architects, devotees, all meet here to meditate, to examine, to draw, to measure, and to pray."

Scarcely inferior to the amphitheatres were the magnificent thermæ, which were so numerous, and of such extent, as would defy credibility, did not the remains of those works at present exist. They included apartments for the purposes of the bath, halls for friendly intercourse, academies, theatres, and libraries. They often stood amongst extensive gardens, and walks, and were adorned with all the richness, which art could lavish. They were and lined and paved with mosaic, or with marble stained in various hues, and were embellished with the choicest productions of painting and statuary. The life of the Roman citizen may be said to have passed within their walls, and they became a main cause of that enervating influence on the Roman character, which in volved the empire in its decline and fall. But it is not meant, that pride of dominion and wealth were the only qualities which the Romans possessed; their skill in the arts of construction was shewn in the sewers, the aqueducts, and other great works, which se-cured the comfort of the inhabitants of each city, and which are entitled to our admiration. They, also, carried the influence of the arts to the very confines of the empire, and by the Emperor Hadrian, Athens was enriched with many important buildings.

Much of the effect of Roman ornament is lost by the confusion, and jarring of mouldings in immediate contact, profusely decorated. The art of sculpture has the same character, as that of architecture. Unlike the sculpture of Greece, where the simple beauty of the "human form divine" was held superior to any adornment, they arrayed the figure in all the trappings and insignia of office. Their national characteristics alike influenced both arts, and are proved by evidence more convincing than written history, the evidence of thought, of language speaking through the tongue of art. E. H.

MODERN CHURCH ARCHITECTURE IN GERMANY.

THE following review of a recent work, derived from German sources, will serve as an exponent of opinion in Germany on the subject of style in church architecture. It will be seen that it is widely different from opinion in England on the same point.

Professor Semper, on the building of Protestant (Evangelic) churches-Uiber den Bau evangelischer Kirchen. Dresden, 1845, 8vo.

Under this title the Dresden professor has published a spirited and instructive little work, which is chiefly intended for developing and defending the principles, upon which his pro-ject for the rebuilding of the St. Nicolas church, in Hamburg, is based. It tarns on the dispute between the adherents to the pointed arches and round arches style, and the author proves by a few concise (vet, as it seems to us, conclusive) reasons, that the former is not adapted by its extent to the wants of Protestant churches, destined chiefly for preaching - that it is incompatible with the erection of galleried churches (emporkirchen); that, in fine, this style has been wrongly called the ex-clusively national-German. The pointed arches style, he says—and this is the main feature of Professor Semper's work-has neither been invented, nor exclusively developed in Germany; Italy, England, and France have also adapted this style, each according to their own mind and genius, as the Germans have to theirs. This sort of architecture, therefore, is no more exclusively German than the Byzantine-Roman, to which German genius has as much impressed the stamp of national character as to the Gothic. Just the same as the Nibelungen is nearer to the German mind than the Titurel and the songs of the thirteenth century - the character of the style of round arches is more congenial to our times than that of pointed ones, which is nigh becoming antiquated. The former is more analegous to our scale of civilization, on account of the more varied elements it has received within its sphere, and its principles having attained a more perfect harmony, more analogous to our social condition, containing as it does a sigthe Christendom, nificative symbolism of which has come to us from the East, superstructed on notions of antiquity. Our churches

[•] How a good and humane prince could preside at the opening of an amphitheatre, and derive pleasure from the slaughter of men and animals, we leave others to explain; for ourselves, we are doubtful as to the truth of the received opinion. Possibly a Spaniard might not question it.

says the author-have to be churches of the nineteenth, not of the thirteenth century; as in every branch of art, the artist has not to adhere to the works of a completely developed epoch, but rather to go back to the type, to the source, whence these artists also have re-ceived their impulse. The origin of all is the same, but the end and aim diversified according to the different epochs of history and art. The assertion raised on several sides, that churches and the church are not to be considered as a work for the present time, is based on a misconception, and implies either a condemnation of those patterns, which have been, after all, a product of their times; or an accusation of the present age, as one un-holy and unsusceptible of true Ciristian devotion. This imputation, says our author, is not true, our century is not worse than the thirteenth(?). This proves, that our author has taken up the subject from varied points of -and we shall find, that those discusviewsions, which predominate within the whole of the present epoch, intrude as well on the neutral and peaceable department of art. neutral and peaceable department of art. Hence, therefore it seems, that the discussion on the pointed or round arches style will not be decided merely on artistic grounds, but other disparate predilections and tendencies will be called into aid for one or the other of the contending parties. The technical ar-guments of the author turn mostly on the necessity of galleries (Emporen); but this is not supported but by the topical advantages of the hearers during the sermon. The prejudice, however, against galleries is not an unfounded one, because the objection of their imparting to the churches a theatrical appearance, is not so easy got over. It may be further said, that the aim of a congregation is to exhibit by that the aim of a congregation is to extinct of their very contiguity the image of internal unity and oneness; but churches constructed with galleries, impart to the attendance a vith galleries, impart to the attendance a character of separation and disunion. construct a church affording an ample dis-play for the oratorical power of the minister, build in the round arches style, without emporæ-this seems to us a scope worthy of a thinking architect. But if this be impossible on account of some artistic or acoustic inconvenience-still, the empore style of churchbuilding is not to be neglected; they may be constructed as flat as possible, and the archi-tect may endeavour by some clever combination of the area of the style of pointed arches, to accomplish some pleasing combination, for avoiding the above inconvenience of separa-J. L. ting the congregation.

DECORATION OF THE NEW HOUSE OF LORDS.

As a constant subscriber to your valuable journal, the article headed "English Decora-tors of the New Houses of Lords," of course came under my notice, and has induced me to send you some information on the subject, knowing the able manner in which you at all times expose injustice and advocate the cause of the artist. I hope the press generally will come forward and expose the injustice the exhibitors at King-street bazaar have been treated with. I feel confident that the public are not aware of the system carried on, and the exposure may prevent others from experiencing the privation and difficulties many have already done. In the first place, it was understood from the notice issued by the commissioners, that none but practical workmen were expected to compete, as no premiums were offered, but the parties selected by the commissioners, if proved that they executed the works themselves, would be employed; and further, that other exhibitors who responded to their call were to be selected to assist those who were first appointed, giving the whole of the practical men a chance. Now, if the commishad been open to shopkeepers or any sions one else, a tailor might have had specimens done by foreign artists, and competed, and there would have been a far greater number of exhibitors; few of the respectable masters attempted to send in specimens, although equally capable of contributing English or foreign capable of contributing English or foreign works as Messrs. Crace, but they were more honourable, not attempting to oppose the working artist. But have they not as good a right as Messrs. Crace to a share, who have now the honour and profit the industrious and injured exhibitors ought to have had? is it

because they can give credit and send in fifty or one hundred men without drawing cash? No one will venture to say these gentlemen can execute the works they exhibited and are now employed to perform.

Mr. Pugin says there is no native talent, and he is obliged to seek assistance from foreigners. Has he sought for it? if so, he would have found it. There are the Parrises, Trebleses, Goodison, Lamberet, Glover, Cutbush, Coultoon, Elliott, Jones, Saddler, Lloyd and Rice, of the School of Design, who executed the arabesques for the Prince at the Pavilion, Buckingham gardens, and many others. Surely, some of these could be found capable of working out the designs of Mr. Pugin. Messrs. Crace are now doing the painting, gilding, pricking in colours, and arabesque decoration of the House of Peers, having artists at work at his shop upon the decorations, and yet Mr. Goodison was told there was no scope in the House of Lords for his talent, it w as mere journeymen's work; then why should not the exhibitors have the benefit of this so-called journeymen's work rather than Mr. Crace.

well know that Mr. Goodison, and Coulton, and Elliott are practical men in all the branches, and if employed, could send in journeymen as well as Mr. Crace, yet none of the appointed can meet with any redress. Surely such things ought not to be allowed to continue, and I hope the public and press will raise their voice against it. Only put Mr. Parris's cartoon in against it. Only put Mr. Parris's cartoon in the first exhibition, and his fresco in the second, in comparison with Mr. Crace's fresco of Henry VII., done by his foreigners, and I think you will say, and the public too, that Mr. Parris is as far superior to Mr. Crace as Raphael is to Parris. The fact is that most of the exhibitors have worked for Mr. Crace; Mr. Goodison, the best English decorator we have worked for him for years, and of course is used to his style of work, but when he sent in specimens in opposition to Mr. Crace, his services were no more wanted. I do not mean to charge Mr. Crace with having injured any one, but two things are certain. He must either have great interest, or have spoken ill of the exhi-bitors. Mr. Goodison, Collman, and others bitors. already named, are as capable of carrying out Mr. Pugin's designs as any one that Mr. Crace has working for him, and they were specially appointed by the commissioners, therefore thought they had as good a right to a share as Mr. Crace. They consequently called on Mr. Barry for employment, but were politely bowed out with the remark that Mr. Crace was employed by Mr. Pugin, and he was not accountable for Mr. Pugin's acts. Goodison then wrote to some of the commissioners, but with-Goodison then out effect, clearly shewing that they are a non-entity, as you will further see. If the work entity, as you will further see. If the work at the new houses had been given to the parties selected, all the exhibitors might have been employed, which would in some measure have aid them.

Will not the public, if not the exhibitors, be astonished, when I tell them that the whole of the windows that are to be filled with painted and stained glass are given to Messrs. Ballantine and Allan, Edinburgh, glass-cutters, entirely through interest. The public are not aware through interest. The public are not aware of the trouble, difficulty, and the great ex-pense of getting up stained glass: taking the exhibitors upon an average, the cost was not less than 50% each. Six were officially ap-pointed, of whom B. and A. were one, and who have now got the whole with no practical knowledge of glass painting. We shall now have foreign glass to decorate the new Houses instead of English; and I defy the commis-sioners to know but what it is done on the premises,-the tedious process and the quantity required could not be executed in the time: the commissioners are hardly aware that there are not many more than fifty journeymen glass painters to be found.

I have been informed that the method pursued by the commissioners with respect to the carvers is not exactly as stated, but is as follows :-- The commissioners were determined to employ none but good practical workmen, and to have the work done on the premises. Mr. Rogers is a dealer in carvings of good judgment, but himself a very poor hand; many of his works after Gibbons, being executed by Brown, stained, pickled, &c. &c., to give the required appearances. Those practical carvers who live in town, and were exhibitors, have met with employment. Mr. Nash, an exhibitor,

although not appointed, is selected to superintend the works. Mr. Brown, one of Mr. Rogers' best men, and two or three others, whose names I forget, have appointments as foremen over certain departments, at a salary of 2l. per week. This is the only instance where the commissioners have given the exhibitors a chance: the same course ought to have been pursued with respect to the other works.

In conclusion, I hope the decorative artists and glass-painters will call a meeting, and, throwing aside the jealonsies which now exist among them, units together in a friendly and good feeling, to protect their rights and awaken the commissioners to their promise. I am. Sir. &c., JUSTIOE. 1 am, Sir, &ci,

TIMBER TREES AND THE VEGETABLE WORLD GENERALLY.

THE study of the vegetable world is full of interest, and tends not simply to make better architects and builders, but better men. The phenomena which it presents, the adaptation of means to obtain certain ends, and the manner in which it affects and is affected by the animal world, fill the mind with astonishment, while by the contemplation of them our views are enlarged and corrected, and our capacity for the enjoyment of nature is increased.

The effect of animal respiration, as our readers know, is to vitiate the atmosphere by the absorption of the oxygen it contains, and the production of carbonic acid gas, which is fatal to life. How beautiful it is to find that the vegetable world is always acting to restore the atmospheric air to its original composition of twenty-one parts per cent. of oxygen, by the absorption of the carbonic acid gas and the liberation of oxygen. The leaves of the common lilac placed in a jar filled with atmospheric air will raise the proportion of oxygen to 29 or 30 per cent., and by introducing several plants into the same jar in quick succession, the proportion may be raised from 21 (the ordinary amount) to 39 per cent., thus almost doubling it. The presence even of a small moss in a vase in which fishes are kept, aids so considerably in maintaining the supply of oxygen necessary for their respiration, that it is not necessary to charge the water so frequently as when no plant is present. The power possessed by plants of taking up carbonic acid gas seems analogous to that by which food is collected by animals; it is at first taken up more eagerly than afterwards; a keen appetite, it may be said, is in operation which flags when satisfied. It was formerly considered that this compensating action on the part of plants ceased at night, and that they also then evolved carbonic might, and that they also then evolved carbonic acid gas. A series of valuable experiments by Mr. W. H. Pepys, F. R.S.* has proved, however, that this is not the case. The proper action is accelerated by the aid of light but continues even during the night, although more slowly, and from healthy plants carbonic acid gas is never given off.

There is, nevertheless, one class of trees, the cypress, yew, cedar, and arbor vitæ, which, if they do not actually diminish the quantity of oxygen in the atmosphere (and this is not quite certain), at all events do not increase it. Dr. Dickson (of St. George's hospital) published an interesting letter last year on the trees and shrubs proper for cemeteries, t wherein he drew attention to the fact that the trees we have mentioned, "Dark trees, fuuereal, cypress, yew, and shadowy pine, and spicy cedar," which almost by prescriptive right are the occupants of the spots set apart for the dead, and cupants of the spots set apart for the dead, and give our burial grounds a gloomy and almost repulsive aspect, are precisely those that for the reason stated should not be placed there. Dr. Young's sketch of the functions and characteristics of the vegetable world is con-cise, and may be usefully introduced here. He

says :-- § "The vegetable kingdom presents to us a "the variety and spectacle highly interesting by its variety and

* "Provincial Medical Journal," March 9, 1844.
* All these trees belong to one class, termed non-reproductive, because when cut down, no shoots spring from the roots. This was one reason why the ancients selected the cypress to plant by the grave, which to them was the end of existence. Viewed in this light it has been well observed, "the cypress is no meet emblem of a Christian's grave."
§ Lectures on Natural Philosophy and the Mcchamical Arts," new edition, edited by the Kev. P. Kelland, M.A., Taylor and Walton, Upper Gower-street.

^{*} Published in "Philosophical Transactions" for 1843, p.

by its elegance; but the economy of vegetation appears to be little diversified, although little nnderstood. With respect to the apparent perfection of their functions, and the complication of their structure, we may consider all vegetables as belonging to two principal divisions, in one of which the seed is prepared with the assistance of a flower, having its stamina and its pistils, with petals or a calyx; while in the other, the preparation of the seed is less regular and conspicuous, and hence such plants are called cryptogamous. In some of these there is a slight resemblance to the resemblance to the flowers of other vegetables, but on the whole, the class appears to form one of the connecting links between the three kingdoms of ing links between the three kingdoms of nature; its physiology is probably simple, but it has been little examined. The herbs, palms, shrubs, and trees, which constitute the nu-merous genera of flowering vegetables, exhibit the greatest diversity in the forms and dispositions of the organs of fructification, while they have all a general resemblance in their internal economy.

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Every vegetable may be considered as a congeries of vessels, in which, by some unknown means, the aqueous fluids, imbibed by its roots, are subjected to peculiar chemical and vital actions, and exposed in the leaves to the influence of the light and air; so as to be rendered fit for becoming constituent parts of the plant, or of the peculiar substances contained within it.

The first process in the germination of a seed is its imbibing moisture, and undergoing a chemical fermentation, in which oxygen is absorbed, and a part of the mucilage contained in the seed is converted into sugar; a substance probably more nutritive to the young plant. The radicle shoots downwards, and the seed leaves, or cotyledons, which are generally two, although sometimes more or less numerous, raise themselves above the ground, till in a short time they die and drop off, being succeeded by the regular and more adult leaves.

In every transverse section of a vegetable, we commonly discover at least four different substances. The parts next to the axis of the substances. tree or branch consist of medulla or pith, which is supposed by some to be the residence of the vegetable life of the plant; but a tree may live for many years after being in great measure deprived of its medulla. The pith is of a loose and light spongy texture; it sends a ramification into each branch and each leaf, where it appears to serve also as a reservoir of moisture. The pith is surrounded by the woody part, composed of fibres more or less strongly compacted together, but not actually ramifying into each other in any great degree, there is reason to suspect some although lateral communications between them. are interrupted, at certain intervals, in many trees, by fibres, in a radiating direction, forming what is called the silver grain. Like the bones in animals, the wood constitutes the strongest part of the vegetable ; and, like them too, it is in a certain degree furnished with vessels. It has even been supposed by some, that the fibres themselves are distinct tubes, and by others, that the insterstices between them serve the purpose of vessels, but neither of these opinions is at present generally re-ceived. The wood consists of a number of concentric layers or strata, formed in successive years; the external part, which is last formed, is called the alburnum, or white wood, and this part is the most vascular. The bark encompasses the wood; and this also consists, in trees, of several layers, which are produced in as many different years; the external parts usually cracking, and allowing us at their divisions to observe their number, the inner layer only being of immediate use. This layer is called the liber, and since this material was once used instead of paper, the Romans called a book also liber. The bark consists of fibres of the same kind as the wood, but more loosely connected. It is covered by the cuticle, which extends itself in a very great degree, as the growth of the vegetable advances, but at last cracks, and has its office supplied by the outer layers of bark. Between the bark and the cuticle a green pulpy substance, or parenchyma, is found, which seems to be analogous to the rete mucosum, interposed between the true skin and the cuticle in animals. Mr. Desfontaines' has observed, that in palms, and

in several other natural orders of plants, the annual deposition of new matter is not confined to the external surface, but that it takes place in various parts of the plant, as if it were composed of a number of ordinary stems united together.

There are three principal kinds of vessels in the different parts of vegetables: the sap vessels, which are found both in the wood and in the bark, although their nature appears to require further examination : secondly, the air vessels, or tracheae, which are composed of single threads wound into a spiral tube, like the spring of a bell, and capable of being easily uncoiled; these, though they have been called air vessels, and supposed by some to serve the purposes of respiration, are described by others as containing, during the life of the plant, an aqueous fluid: and they are probably little more than sap vessels, with an additional spiral coat; they are not found in the bark, nor in all species of plants; and it has thence been in-ferred that they are not immediately necessary to the growth of the plant. The third kind are the proper vessels of the plant, which are generally disposed in concentric circles, and appear to be unconnected with the sap vessels, and to contain the milky, resinous, and other peculiar juices, which are found in different kinds of plants; for the sap is nearly the same in all, at least it is independent of the gums and resin, which often distinguish particular plants; it contains a certain portion of mucilage, and probably in some plants, as the

sugar maple, a considerable quantity of sugar. Mr. Mirbel[•] has also made a number of still more accurate distinctions respecting the structure of the different kinds of vessels. The circulation of the sap is not completely understood; when an orifice is made near the root of a tree, it flows most copiously from above: when near the summit, from below. Dr. Hope actually reverted the natural course of the juices of a tree, without changing its position; by inoculating a willow with two others, he completely united its existence with theirs, and then, removing its roots, he found that its vegetation was supported by the juices of the two others. A tree may also be actually inverted, and the upper part will strike root, the lower putting out branches and leaves.

Plants perspire very considerably, and also emit a quantity of gases of different kinds; they generate a slight degree of heat, which be observed by means of the thermometer, mav and by the melting of snow in contact with them. The growth of every tree takes place at the internal surface of the bark, not only the bark itself being formed there, but the wood also being deposited by the bark; for Dr. Hope separated the whole of the bark of a of willow from the wood, leaving it branch connected only at the ends, so as to constitute a hollow cylinder, parallel to the wood; and he found that new layers were formed within the bark : and in another experiment a part of the wood, deprived of the bark, although protected from the air, was also covered with new bark as it grew over from the old bark above and below. The layers of wood, which are added in successive seasons, and keep a register of the age of the tree, are very easily observed when it is cut across; sometimes as many as 400 have been found in firs, and oaks are said to have lived 1,000 years.

Mr. Knight+ has inferred, from a great variety of experiments, that the sap, either usually or universally, ascends through the wood into the leaves, and then descends through the bark to nourish the plant. The leaves seem to be somewhat analogous to lungs, or rather to the gills of fishes: for plants have need of air, and it has been found, that even seeds will not germinate in a vacuum. As the lungs of animals appear to be concerned in forming the blood, so it may be inferred from Mr. Knight's experiments, that the sap first ascends to the leaves through the external fresh wood or alburnum, and through the central vessels of the young leaves and branches, derived from the alburnum, and accompanied by the spiral tubes; and after being perfected by exposure to light and air in the leaves, it descends in the bark, and serves for the secretion of the alburnum, and of the internal lavers of the bark, being conveyed probably by two

distinct sets of vessels. The sap, thus prepared by the leaves in the summer and autumn, is supposed to leave its extractive matter in the tree throughout the winter, in such a state as to be ready to unite with the addeous juices, which ascend from the root in the succeeding spring. The internal parts of the wood, having served the purposes of vegetation, are hardened, and perhaps dried up, so as to be afterwards principally subservient to strengthen alone."

principally subservient to strengthen alone." Mr. Gwilt, in his "Encyclopædia of Architecture," has given much useful information on the subject of timber as used for building, already treated of at some length in THE BUILDER.[‡] We availourselves of a few notes from it.

" If the architect has the opportunity of selecting the timber whilst in a state of growth, he will, of course, choose healthy, vigorous, and flourishing trees. Those in which the trunks are most even are to be preferred. A mark of decay is detected in any swelling above the general surface of the wood. Dead branches, especially at the top of the tree, render it suspicious, though the root is the best index to its soundness. The notion of Alberti (De Re Ædificatoria) of using all the timber in the same building from the same forest, is a little too fanciful for these days, though we confess we have some miggivings in impugning an authority which, in most other respects, we are inclined to receive with the highest veneration.

In felling, not only the cak, but all other large trees, the great branches should be first cut off, so that the tree may not be injured or strained in its fall; and the trunk, moreover, must be sawed as close to the ground as possible. When felled, but not before, it is to be barked, trimmed of its branches, and left to season. Before, however, leaving it for this purpose, it is considered by workmen better to square it, which, it is thought, prevents its tendency to split. If to be employed for posts, boring it has been employed with success: but it is needless to observe, that in pieces subject to transverse strains such a practice is not to be spoken of.

The pieces selected for building most be chosen with the straightest grain; but there are pieces which are occasionally employed, as for knees and braces, wherein a curvilinear direction of the fibres of the timber is extremely desirable. It may, however, be generally stated, that, in the case of two equalsized and seasoned pieces, the heavier is the piece to be preferred.

In oak, as in all other woods, the boughs and branches are never so good as the body of the tree; the great are stronger than the small limbs, and the wood of the heart stronger than all. When green, wood is not so strong as when thoroughly dry, which it rarely is till two or three years after it is felled. It is scarcely necessary to say, that, containing much sap, it is not only weaker, but decays sooner. It is weakened by knots, at which, in practice, it is found that fractures most frequently occur; and it is important to the architect to recollect that he should always reject cross.grained pieces.

PRESERVATION OF TIMBER.

The preservation of timber, when employed in a building, is the first and most important consideration. Whenever it is exposed to use alternations of dryness and moisture, the pro-Whenever it is exposed to the tection of its surface from either of those actions is the principal object, or, in other words, the application of some substance or media to it which is imperviable to moisture; bat all timber should be perfectly dry before the use of the medium. In Holland, the application of a mixture of pitch and tar, whereon are strewed pounded shells, with a mixture of sea sand, is general; and with this, or small and sitted beaten scales from a blacksmith's forge, to their drawbridges, sluices and gates, and other works, they are admirably protected from the effects of the seasons. Semple, in this work on 'Aquatic Buildings,' recommended, that 'after your work is tied up, or even put together, lay it on the ground, with stones or bricks under it, to about a foot high, and burn wood (which is the best firing for the purpose), under it, till you thoroughly heat, and even scorch it all over; then, whilst the wood is hot, rub it over plentifully with linseed oil

2 See series of articles by Mr. Wylson in Vol. 11., and at pp. 13, 32, 86, current volume.

[•] Mém de l'Instit, i. 479,

Bullet. de la Soc. Philom. No. 60. Journal de Phy. lii,
 336. Anatomie et Physiologie Végét. 2 vols. Paris, 1815.
 † His papers are in the Ph. Tr. 1795, p. 290; 1799, p. 195;
 1801, p. 333; 1603, p. 277; 1604, p. 183.

and tar, in equal parts, and well boiled together, and let it be kept boiling while you are using it; and this will immediately strike and sink (if the wood be totally seasoned) one inch or more into the wood, close all the pores, and make it become exceeding hard and durable, either under or over water.' Semple evidently supposes the wood to have been previously well-seasoned.

If timber, whatever its species, he well-seasoned, and he not exposed to alternate dryness and moisture, its durability is great, though from time it is known to lose its elastic though from time it is known to lose its elastic and cohesive powers, and to become brittle, if constantly dry. On this account it is unfit, after a certain period, to be subjected to various strains; however, in a quiescent state it might endure for centuries. Dryness will, if carried to an excess, produce this category. The mere moisture it absorbs from the air in demonstrates of the state of the states dry weather is not sufficient to impare its durability; so, also, timber continually exposed to moisture is found to retain for a very long period its pristine strength. Heat, with mois-ture, is extremely injurious to it, and is in most cases productive of rot, whereof two kinds are the curse of the builder, the wet and the dry rot, though perhaps there be but little differ-ence between the two. They appear to be produced by the same causes, excepting that the freedom of evaporation determines the former, and an imperfect evaporation the other. In both cases the timber is affected by a funguslike parasite, beginning with a species of mildew; but how this fungus is generated is still a vexata questio; all we know is, that its vegetation is so rapid, that often before it has arrived to its height, a building is ruined. From our inquiries on the continent, we believe the disease does not occur to the extent that it does in this country; a fact which we are inclined, perhaps erroneously, to attribute to the use of the timber of the country, instead of imported timber. Our opinion may be fanciful, but there are many grounds on which we think that this is not altogether the case. Our notion is, that our imported timber is infected with the seeds of decay long before its arrival here (we speak of fir more especially), and that the comparative warmth and moisture of the climate bring more effectually the causes of decay into action, especially where the situation is close and confined. Warmth is, doubtless, known to be a great agent in the dry rot, and more especially when moisture co-operates with it; for in warm cellars and other close confined situations, where the vapour and which feeds the disease is not altered by a constant change of air, the timbers are soon destroyed, and become perfectly decomposed.

The lime, and more especially the damp brickwork, which receive the timbers of a new building, are great causes of decay to the ends of them; but we do not think that the regulations of the 19 Car. 11., chap. 3, which directed the builders, after the fire of London, to bed the ends of their girders and joists in loam instead of mortar, would, if followed out in the present day, be at all effective in preventing the decay incident to the ends of timbers. Timber in a perfectly dry state does not appear to be injured by dry lime, and, indeed, lime is known to be effectual in the protection of wood against worms.

Nothing is more injurious to the floors of a building than covering them with painted floorcloth, which entirely prevents the access of at-mospheric air, whence the dampness of the boards never evaporates; and it is well known that oak and fir posts have been brought into premature decay by painting them before their moisture had evaporated; whilst in the timber and pewing of old churches which have never been painted, we see them sound after the lapse of centuries. Semple, in his "Treatise on Building in Water" notices an instance of some field gates made of the fir of the place, part whereof near the mansion were painted. and had become rotten, while those more distant from the mansion, which had never been painted, were quite sound. After timber is felled, the best method of

preventing decay is the immediate removal of it to a dry situation, where it should be stacked in such a manner as to secure a free circulation of air round it, but without exposure to the snn and wind, and it should be rough squared as soon as possible. When thoroughly seasoned before cutting it into scantlings, it is less liable to warp and twist in drying. The

ground about its place of deposit should be dry and perfectly drained, so that no vegetation may rise on it. Hence a timber-yard may be may rise on it. Hence a timber-yard may be strewed with ashes, or the scales from a foundry or forge, which supply an admirable antidote to all vegetation. It is thought that the more gradually timber is seasoned, the greater its durability; and as a general rule it may be stated, that it should not be used till a period of at least two years from its being felled. and for joiner's work at least four years. Much, however, is dependent on the size of the pieces. By some, water seasoning has been recommended; by others, the steaming and boiling it; smoking, drying, charring, and scorching have also been recommended. The latter is, perhaps, the best for piles and other pieces that are to stand in the water or in the ground. It was practised by the ancients, and is still in use generally for the posts of park paling and the like. In Norway, the deal planks are seasoned by

laying them in salt water for three or four days, when newly sawed, and then drying them in the sun, a process which is con-sidered to be attended with advantage, but it does not prevent them shrinking. Mr. Evelyn recommended the water seasoning for fir, but we incline to think that gradual dry season-

ing is the best method. Notwithstanding, however, all care in seasoning, when timber is employed in a damp situation it soon decays, and one of the principle remedies against that is good drainage, without which no precaution will avail. It is most important to take care that earth should not lie in contact with the walls of the building, for the damp is quickly com-municated in that case by their means to the ends of timbers, and rot soon follows. No ex pedient to guard against this contingency is so good as what are called air or dry drains, which are areas formed by thin walls round the building, with apertures in the paving laid between them and the principal walls, so as to afford a constant current of fresh air. When the carcase of a building is complete, it should be left as long as possible to dry, and to allow to the timbers what may be called a second seasoning. The modern practice of finishing buildings in the quickest possible period has contributed more to dry rot than perhaps any other cause, and for this the architect has been blamed instead of his ementry as possible. After, however, the walls and timbers of a building are once thoroughly dry, all means should be employed to exclude a fresh accession of moisture, and delay becomes then prejudicial."

NATIONAL ENCOURAGEMENT OF THE FINE ARTS.

WE solicit our readers' attention to the

postponed the exhibition of historical paintings in oil until 1847, and announced instead, that specimens of fresco painting may be sent to Westminster Hall in 1846,—but observe, not for public exhibition,—great uncertainty must be felt by those artists who have, during now the last three years, answered the call upon their profession by the royal commission. The object of thus submitting specimens of fresco can only be to obtain employment in assisting the few selected artists in the execution of their works. Now, it may fairly be asked, seeing that public competition in cartoons and fresco appears to be ended, what is to become of the talent and the time bestowed on innumerable experiments in the difficulties and vexations of fresco painting by the other competitors? Is it fair, is it just towards those artists (many of whom have distinguished themselves, although they be not among the selected few), to suffer this amount of talent to be useless ?—for useless it must be, unless some method can be proposed to keep up their practice. Surely after the enthusiasm shewn by them in producing so many large works, at a great expenditure of time and money, something should be thought of. Are there no publie buildings, no colonnades, no halls available in London, where frescos could be exe-cuted? If no better plan can be devised, wall can be built up, and painted on both sides.

Cannot the Government be induced to run up seven or eight hundred feet of wall, built upon public land, for this purpose, and inclosed with shed coverings, such as we constantly see erected for masons and workmen employed on buildings. Were accommodation thus pro-vided for fresco painters, finer works would be produced than any we have yet seen, and no doubt most of the competitors would gladly avail themselves of the opportunity thus afforded. Artists have been so taxed in the late competitions, that it cannot be expected they could enter upon the further expenses of building wall and the proposed temporary coverings, paying also a rent for the ground, and all perhaps without a ray of hope that their efforts would be patronized as nativo efforts deserve to be. I do sincerely hope that the competitors will associate for the purpose of historical painting and the improvement of fresco practice, and, if possible, prevail on the proper authorities to grant them ground and materials for some temporary exhibition place, which may have the sanction and patronage of the Queen and the Royal Cominission.

Many of your correspondents will be enabled by their experience to suggest improvements on this plan and the mode of accomplishing it; such information will be highly valuable, and assist materially the object proposed.

It is intended at an early opportunity to call a meeting of those artists who have competed in cartoons and fresco during the last three years, when some plan, founded upon the above suggestions will be proposed, and any information your correspondents can afford will be highly esteemed by, Sir, your most obedient servant, A COMPETITOR.

Communications may be addressed to " B.", Institute of the Fine Arts, Newman-street, Oxford-street.

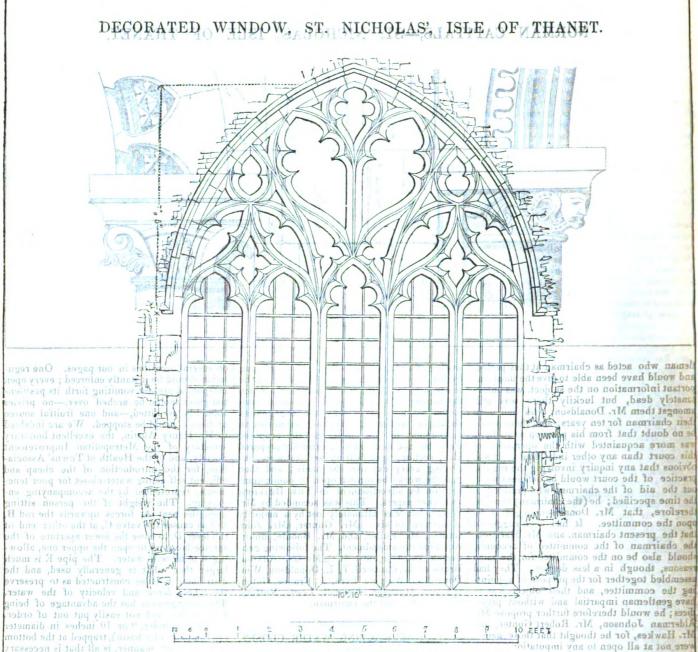
EFFLORESCENCE ON BRICK WALLS.

THE surfaces of new walls, especially those built of bricks, are usually spotted with a white silky efflorescence, of a fine crystalline charac-ter. It is also very light and pulverulent; has a cool acidulated, or disagreeable alkaline taste. It has much the appearance of snow, and gives to walls a rather strange and un-pleasing look. This flowery substance gathers soluble, on them very rapidly; but from being soluble, it becomes either melted or blown off by the weathering action of rains or winds; yet pe-riodically accumulates again. This saine efflo-rescence is produced through a chemical affinity which subsists between the acids of the atmo-sphere, and the acids and alkali contained in the lime and magnesia in the bricks, as well as in the mortar or cement which is used in bedding and connecting them together. Most brick earths or clays contain about 5; per cent. of carbonate of lime, and about 3; per cent. of carbonate of magnesia; but sometimes a large quantity of calcareous matter or chalk is added, in order to improve the character of the bricks which are to be made from it.

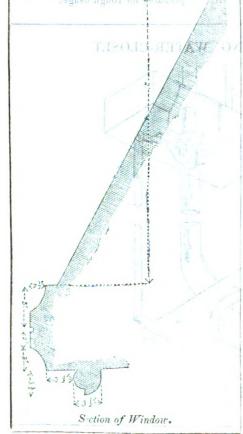
The water of the ocean is impregnated with muriate of soda to the extent of about one-thirtieth of its whole quantity; and the waters of many of our mineral springs are also highly impregnated with it, and likewise with a con-siderable quantity of carbonate of lime. The siderable quantity of carbonate of lime. efflorescence is generally composed of the nitrates of lime, magnesia, and soda; and sometimes of muriate of soda; and from the chemical action already noticed, these nitrates decompose or part from the lime and magnesia in the bricks and mortar or cement, and, by distillation, pass through the pores of the bricks, gathering on their exposed surfaces like spots and streaks of snow. It appears mostly on the surfaces of those bricks which have much chalk mixed with them, and which have When not been very much burnt or vitrified. mortars and cements are made with either sea or mineral waters, they give off, for some time after being used, in consequence of their alkaline character, considerable quantities of this saline efflorescence. It can very easily be washed away; but if it be allowed to crystallise, and be then heated and rubbed over the surfaces of the bricks, filling their pores, it will prevent them to some extent from attracting and absorbing moisture from the atmosphere. John Phillips.

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THE BUILDER



water-closet, requiring n



WINDOW AND CAPITALS

FROM ST. NICHOLAS' CHURCH, ISLE OF THANET.

RICKMAN describes this church in the following words :-- " It is a large church with a lofty embattled tower; most of the church is also embattled; some portions are early English, and there are some good decorated windows, particularly the east window of five lights."

To this slight notice much more might be added, but it will perhaps be sufficient to mention, that the church contains very excellent specimens of all the styles from Norman to perpendicular, and will be found well worthy of attentive examination. The subject of the illustration, fig. 1, is the east window of the chancel, already alluded to; it has five lights, and is of very fair design, its only fault being the meagre appearance of the mouldings. The illustration comprises an exterior elevation and the moulding of the jamb at large.

In this same church, there is a great variety of moulded and ornamented capitals to piers. Among the most curious are those represented by figs. 2 and 3, which are very excellent specimens of the transition from Norman to early English. The arch-mouldings and enrichments are also well worthy of notice, and are included in the illustration.

Margate. W. CAVELER,

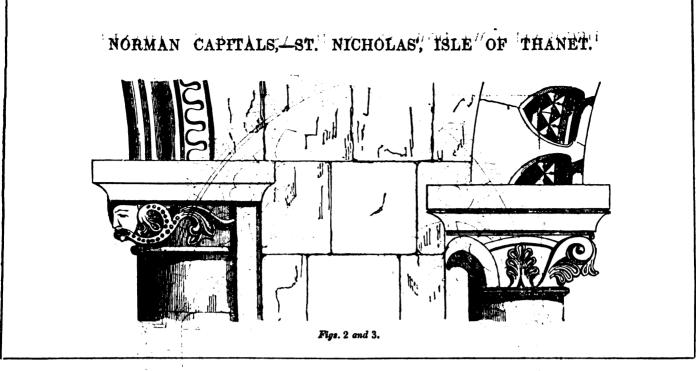
ASSERTED ABUSES IN THE WESTMIN STER COURT OF SEWERS.

AT a court of sewers for the city of We At a court of sewers for the city of West-minster, held on Friday, the 5th instant, Mr. Allason proposed a motion for the adoption of an amended mode for the construction of sewers, the one in operation at present being very deficient for that purpose. At the same time he laid upon the table three diagrams of the improved mode the improved mode.

The court ordered that Mr. Allason's motic

The court ordered that Mr. Allason's motion should be adopted, and that the diagrams should be lithographed and added to it. The chairman, Mr. Edward Willoughby, rose and said, they had now come to that part of their proceedings which related to Mi Leslie's pamphlet. In this case, at the lass sitting of the court, a letter had been sub-mitted from the Secretary of State, requesting them to favour him with any observations they would wish to make against the allegations of abuses in this court. It appeared that it was his desire to hear both sides of the question. He (the chairman) did not propose to invite He (the chairman) did not propose to invite the attention of the court to the pamphlet itself, but he would suggest that a committee be appointed to draw up observations upon it, and report them, at its earliest convenience, to a future court. The remarks in the pamphlet travelled ensure the pamphlet travelled over a large period of time, going to the year 1810, and from thence up to 1844 to the year 1810, and from thence up to 1811. It was quite clear, therefore, that the com-mittee would not be qualified to make thos satisfactory inquiries which were needed unless it contained in its composition some of those commissioners who took part in the pro-ceedings of this court at that fime. One gen-

* See p. 308, ante.



tleman who acted as chairman at that period, and would have been able to give the most important information on the subject, was unforfunately dead, but luckily there was still amongst them Mr. Donaldson, who had been their chairman for ten years, and there could be no doubt that from his position as such, he was more acquainted with the operations of this court than any other individual.' It was obvious that any inquiry involving the regular practice of the court would be deficient without the aid of the chairman who presided at the time specified; he (the chairman) thought therefore, that Mr. Donaldson ought to be upon the committee. It had been suggested that the present chairman, and Mr. Harrison, the chairman of the committee of accounts, should also be on the committee for the same reasons, though in a less degree. They had seemons, though in a less degree. I hey had assembled together for the purpose of appoint-ing the committee, and their object was to have gentleman impartial and without preju-dices; he would therefore further propose Mr. Alderman Johnson, Mr. Robert Gunter, and Ma Hawken for he theoret there there are Alderman Johnson, Mr. Robert Gunter, and Mr. Hawkes, for he thought that those names were not at all open to any imputation or fear that they would not form their judgment with fairness, and he (the chairman) would feel very much pleased to co-operate with those gentle-men. His endeavour was to appoint such a committee as would carry out their duty with fallity

fidelity. Mr. Gunter declined to act, his health not Mr. Gunter declined to act, his nearth not being sufficiently good to permit him to give the attention and application necessary for such an inquiry. All who are interested in the subject, and know Mr. Gunter's clear head and rigorous integrity, will regret that he was not induced to act.

obliged to decline, as he was going out of town. Mr. Hawkes also wished to withdraw, town. Mr. Hawkes also wished to withdraw, on the ground that he was not in office at the time alluded to in the pamphlet. Mr. John White was requested to join the committee, but he thought he ought not to do so, as he had often expressed himself strongly against the, proceedings of the court; afterwards, however, Mr. White consented to act. The. following gentlemen constitute the committee as ultimately formed : — Mr. Wil-loughby, Mr. Donaldson, Mr. Harrison, Mr. Alderman Johnson, Mr. Hawkes, Mr. John White, and Mr. Frederick Crace; three to be a quorum.

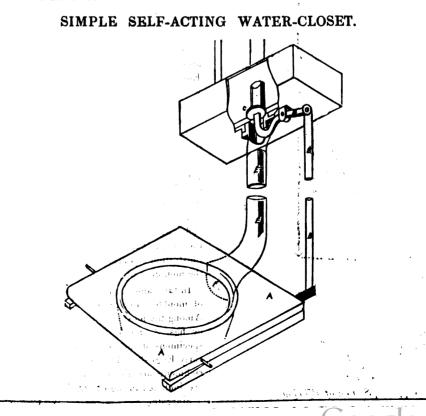
a quorum. On a notice being read of a motion to sanc-

tion an order of the court for building 450 feet of main sewer in Gloucester-road, Pad-dington, estimated at 1,2371. Mr. Leslie ob-jected strongly to certain proceedings by which an amendment on this motion moved by him an amendment on this motion moved by him at the last meeting had been set aside. He also accused the court of levying a rate upon the public in order to make a balance in the hands of the banker and whilst, he said, there were 20,0007, in the bank, not a single public

work was in hand. He objected to the abiding by the contract made for the building of the wer, urging the inefficient manner in which be the former part of the work had been com-pleted as the reason why the engagement should be broken off. He then submitted an amendment to the effect, that the proposed amendment to the effect, that the proposed work be not done until a carefully prepared plan, section, specification and estimate, in-cluding every expense, be made; and then that the works be thrown open to public com-petition by advertisement in THE BUILDER and other papers. This was seconded by Mr. White, but was ultimately lost by a majority of sixteen to six. Mr. Gunter, Mr. John Gunter, Mr. Fulker, and Mr. Boodle, junior, voted for the amendment. The following gen-tlemen voted against it : Messrs. Allason, Branscombe, Cantwell, T. L. Donaldson, Wm. Donaldson, Walpole Eyre, J. France, Gutch, Hawkes, Harrison, Kendall, Lewis, Nutting, G. O. Smith, and the chairman. G. O. Smith, and the chairman.

SIMPLE SELF-ACTING WATER-CLOSET.

on several occasions in our pages. One regu-lation should be instantly enforced ; every open cesspool at present vomiting forth its pestilencesspool at present vomiting forth its pestilen-tial gases should be arched over, —no privies should be permitted, —and one fruiful source of disease would be stopped. We are indebted to Mr. Henry Austin, the excellent honorary secretary of the Metropolitan Improvement Society, and of the Health of Towns' Associa-tion, for the introduction of the cheap and efficient self-esting water-cleast for noor tangefficient self-acting water-closet for poor tene-ments, represented by the accompanying en-graving. The weight of the person sitting upon the seat A, forces upwards the rod B, and so causes the valve C, at the other end of the lever D, to close the lower aperture of the service box, and to open the upper one, allow-ing it to fill with water. The pipe E is much larger than what is generally used, and the distributer F is so constructed as to preserve the whole force and velocity of the water. This arrangement has the advantage of being In a strangement in a the advantage of being inexpensive, and not easily put out of order. A metal cylinder, 9 or 10 inches in diameter (in the place of a basin), trapped at the bottom in an ordinary manner, is all that is necessary to make a complete water-closet, requiring no care, and prepared for rough usage. THE poisonous effect of the effluvia arising from decomposing matter has been adverted to



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WORKS IN THE PROVINCES.

THE proposal to enlarge the parish churchyard at Gainsborough has led to another which has met with far more general approbation, vis., the formation of a cemetery. Two meetings have already been held on the subject, and there is little doubt but at the next, active proceedings will be determined upon-great "Peter" bell in York Minster The bell in York Minster is now great " safely suspended in its own tower. It is placed (at a height of nearly 200 feet) diagonally in the tower, for the greater security to the build-ing, and above 300 cubic feet of timber have been used for its support. It may be rung with two wheels, and will revolve entirely if necessary.—The new district church, at Blaydon, in the county of Durham, has been consecrated by the bishop of the diocese. It is dedicated to St. Cuthbert.——Ground has been purchased in the parish of Bradpole, near Bridport, for the erection of a Roman Catholic church, and tenders for commencing the work forthwith have been advertised for.----The restoration of Sudely castle, which has been steadily progressing for some considerable time past is now nearly completed.——The tenders for enlarging St. Peter's church, Bed-Francis and Son, Taylor, and George Small, was accepted for the sum of 3511. The works will be commenced immediately.—At Bridg-water a Roman Catholic chapel is about to be erected. The site chosen is in St. John'sstreet.——Some pillars, and other remains of a Roman building, and two beautiful coins of the Emperors Antoninus and Domitian, have been discovered in High-street, Stamford.-At Hull, the Kingston Cotton Mill Company have procured a site for their intended works at Wincolmbe, on the west side of the river Hull. The purchase consists of upwards of twelve acres of ground.—The Government have it in contemplation to dispose of the prisons at Prince-town, Dartmoor. They cover a space of thirty acres, and during the late war 10,000 prisoners were lodged within them. -The Rev. Hugh M'Neile has commenced the erection of a very spacious residence for himself and family at Aigburth, Liverpool. Messrs. Samuel and James Holme are the builders. No time has yet been fixed for laying the foundation stone of Mr. M'Neile's church in the Princes park.---- The new new church at Milton-next-Gravesend, an account of which has already appeared in The of which has already appeared in The BUILDER (see p. 365 ante), was consecrated last week by the Bishop of Rochester. It is dedicated to the Holy Trinity.——The clear-ing of a site for the proposed Free Church College, Edinburgh, has involved the removal extensive cluster of houses, mostly of of an great antiquity, situate between the Castle-hill and the head of the Mound. This range of buildings includes the palace and chapel of Mary of Lorraine, widow of James V., and queen-regent of Scotland from 1554 to her death in 1560. A new police office is being erected in the High-street, Edinburgh, the design for which a local paper mentions in high terms of approval. — The first stone of a new church at Winchester is to be laid during the first week of October by the high steward of the city, the Right Hon. Charles Shaw Lefevre, Speaker of the House of Comns, assisted by the mayor and corporation. -The Rev. H. Fardell having at his own mons, expense restored the south porch of Wisbeach Church, the parishioners have determined upon defraying the cost incident to the restoration of the other parts of the building. It is proposed to bring the fabric as nearly 38 possible to its original condition. — The monument erected by the Marquis of Lans-downe on Cherhill-hill is now completed, with the exception of the steps which are to surround its base, Mr. James Simpson, the eminent water-works engineer, has been in Newcastle and the neighbourhood during the last week, taking preliminary stops for the execution of the works of the Whittle Dean Water Company.—A wooden chapel was opened last week at Hinton Dyrham, near Bristol. The building, which will accommodate about 150 persons, is 27 feet long, 18 feet wide, and 14 feet high : the cost is about 150l. Messrs. Foster and Mees, of Bristol, were the builders.builders.----Government has recently pur-chased twenty-one acres of land near the town of Tipperary, for the purpose of erecting pulous locality.

THE BUILDER.

barracks to accommodate 2,000 soldiers. They are intended for a general army depôt in that part of Ireland.——The old abbey church at part of Ireland.—The old abbey church at Dunfermline is about to undergo a complete renovation. Mr. Nixon, the crown architect for Scotland, has recently inspected the building by order of the Commissioners of Woods and Forests. The result is a determination to erect a new roof, to restore the windows to their former size and style, to beautify the old pillars, and to give the entire church an appearance similar to what it had when Malcolm, its founder, and his good queen, Margaret, trod its aisles. The expense is estimated at 2,000/.---- It is the determination of several railway companies whose lines pass through Wolverhampton, to unite in the erection of one grand station as near the centre of that town as possible. The bottom of Queen-street is the spot named for the joint terminus.

JOTTINGS ABOUT RAILWAYS.

MR. DE LA HAYE, of Liverpool, has just made public a plan he has long contemplated for the construction of submarine railways applicable to rivers and narrow seas. His pro-position is to construct wrought-iron tunnels in divisions of about 400 feet in length, and to place them on the bed of the sea. He submitted the idea and its details many months since to Sir Joshua Walmsley and Mr. George Stephenson, and in all probability it led to the project of the latter gentleman to cross the Menai Straits by means of a suspension tunnel. -Amidst the many projects connected with railways, we find one now in course of adoption for the establishment of a club-house in London, where gentlemen of all ranks may daily meet for the interchange of railway information. A mansion has already been taken at the West End. Another project of a similar character is an attempt to form a Railway Club-house Chambers and General Goods Depôt Company, the object of which is to provide a suitable fire-proof building for the general concentration of railway business, a portion of which to be converted into a commodious commercial club-house for the resort of directors and shareholders, a large hall for the holding of general and other meetings, suites of private offices for railway companies, and an extensive range of warehouses for the reception and transit of goods. The pro-posed capital is 300,0002. — A prelimi-nary announcement has been issued during the past week to the effect that a company is in course of formation with the object of establishing a complete system of telegraphic communication, connecting the metropolis with the different ports and cities of the kingdom Messrs. Cooke and Wheatstones by means of The 5 feet 3 inch gauge is the one universally adopted there. It was recommended by the Board of Trade in the case of the Dublin and Drogheda railway. The gauge of the Ulster line, which at present is 6 feet 2 inches, is about to be altered to the above standard, the expense of which will be shared in equitable proportions by the lines running northward. The conversion of canals into railways is becoming so general, as to leave little doubt that in the course of a few years the former mode of transit will be entirely destroyed. A group of canals having at one of their extremi-ties the Chester and Birkenhead railway, and at the other the London and Birmingham, are to be converted into one extensive London and Birkenhead line.——The Kennet and Avon canal is about to merge into the London, Newbury, and Bath direct railway. Mr. Blackwell and Mr. Maclean are the engineers. This conversion will be effected for about 414,800*l*., or about 7,500*l*. per mile.

STONE BRIDGE OVER THE RIVER TAFF.-Since the appearance of the article on this bridge which appeared in last week's BUILDER, we have learnt that in consequence of the inconvenience and danger attending the old structure, the owners of property in the neighbourhood of Newbridge contemplate the erection of a new bridge below the site of the present bridge, so as to afford better accom-modation for that rapidly improving and po-

ARCHITECTURAL PRIZES IN ROME.

Rome, 21st August .- The Papal Academy Rome, 21st August.—1 he Papai Academy of Arts San Luca, whose chair had been once filled by Thorwalsden, has proposed several great prizes, open to artists of all nations (and of all confessions). Those of architecture are the following. First class. Plan of a splendid royal residence in a large city. Its chief ap-partments to be hall of throne, chapel, library, museum, theatre surrounded by saloons, all adequately decorated. Besides, the building to contain the usual apartments of a has royal abode, for the cold and warm seasons (both the latter on the first floor). On the ground floor are to be the offices, guerd-rooms, bath, kitchen, and in the entresol quarters for the high officers of the court. The place for stables and the servants is also to be marked out. Before the palace a large square, with monuments of the two preceding monarchs. Behind the palace, the gardens with appro-priate buildings. There are to be seven designs accompanying this prize-viz. two ground plans, two sections, two elevt ions, and one view of any chosen part of the building. Each plan 0,840 metres by 0,576. Second class. Entrance gate of a large metropolis (not fortified), with adjoining edifices for the porters; the excise and the police soldiers(!) The gates to have three passages, for elegant curricles, waggons and carts, and beasts of bur-then. The room for the guard is to be calculated at twenty privates and one petty officer. The officers on duty to have an orderly room, a dining and sleeping room There it to be a ching and sicepting room in large in Q be another guard-house for a detachment of car-valry with dwelling for the officers, prison, stables, and other appurtenesses. The ex-cise department to comprise a public office, dwelling for two superior and two inferior officers, a barrack for two detachments of troops, foot and horse soldiers, a guard-house properly so called, stables, and other appur-tenances; prison, stores for struggled and tenances; prison, stores for smuggled and seized goods, a place for the strict examina-tion of the vehicles, room for porters, and a waiting-room, also a dwelling for the porcers. The police has a room for the revision of the post (!!!) Another place for the searching of persons and goods, a prison for both meses separately (!), also a dwelling for the officers of police. This prize is also to be accompanied by seven plans, triz., one ground plan, one plan of the upper rooms, two prospects taken from the inner and outer part of the town, one longitudinal section, one transversal section, and one plan of miscellaneous details. Size of plans as above. The competitors have to plans as above. The competitors have to transmit their works to Mr. Silvagni, secretary of the academy, on or before the 20th July, 1846, under the usual formalities of prize com-The prices of the first class are petitions. forty, those of the second twenty zechins. The crowned plans are property of the academy. [As an English artist has met with such success in the competition for the Hamburg great prize-we consider it expedient to make known prize-we consider it expension to all the world.] the above prizes, open to all the world.] J. L.

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ART-UNION OF LONDON.

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In the three weeks ending Saturday last, during which the prizes were exhibited to the subscribers and their friends by tickets, 150,000 persons visited the gallery. During the present week, it has been open to the public without any limitation.

On Monday the works of art become the property of the various prize-holders and will be removed to their several homes. If the Art-Union of Loudon did nothing more than provide this annual enjoyment for all classes of the community, it would be entitled to our gratitude.

The distribution of the outline illustrations In edistribution of the outline illustrations by Mr. Rimer, of Thomson's "Castle of In-dolence," due to all subscribers of the past year in addition to Doo's fine print of the "Convalescent" after Mulready, which is nearly ready for the press, commenced on Monday. They form an interesting series, and are likely to be popular.

are likely to be popular. Holloway, of Bedford-street, Covent-garden, has published at a low price, a very beautiful edition of the text, with additional iliustrations by the same artist.

COURSE OF STUDY IN THE SCHOOL OF DESIGN.

SIR,-The publication of those designs for which premiums have been awarded by the School of Design, is certainly the best way to enable the public to come to a right conclusion as to the capacity of the masters, their mode of instruction, and the progress made by their pupils. The public are certainly indebted to your paper (No. 135), for giving them so practical a proof of the incapacity of the masters, the little progress made by the pupils, and the wretched designs. The Illustrated London News has published several of these premium designs, and if we except some few sketches made by the female pupils, whose innate taste for what is elegant and beautiful enables them better to skip over the stumbling blocks placed in their way, the whole of them are of the same indifferent character.

You must be aware, Sir, that if the School of Design had proper masters-those who were able to illustrate the first principles of design on the black-board (the only way by which any great body of pupils can be taught)-the authors such designs would get more kicks than halfpence.

You know that I have no connection what-ever with the School of Design, and that what I have stated is an unbiassed opinion. I have had great experience in teaching youth, and I know it requires the unwearied attention of the most able masters to ensure the slightest success.—I am, Sir, &c., M. I. B. A.

. We have refused insertion to several letters on this subject in favour of the management, because they throw no additional light on the question; and we must pursue the same course with those of its opponents. We have received another communication from Mr. R. Burchett, bat for the above reason do not print it. As regards the present condition of the school, he

kept in the school, 220 students.

In the same month, March, 1845, after two years of Mr. Wilson's directorship, with the lare of 200 guineas then forthcoming for prizes, the number in the evening school was 210, being a decrease of 10; and in July last, at the time of the private pic-nick exhibition of prodesperately forced and fudged up ductions-so for the occasion-the evening school consisted of no more than 114;—shewing a falling off of 106 !! from the number in the evening school at the time Mr. Dyce was forced by persecution to leave the institution. There is no denying these facts. They can be verified by any student in the school."

BOOKSELLERS' PROVIDENT RETREAT.

On the 4th inst., the first stone of a structure for the reception of aged and infirm persons who are members of the Booksellers' Provi-Provident Institution, was laid at Abbot's Langley, Herts, by the Earl of Clarendon. The situa-tion is beautiful, overlooking the London and Birmingham Railway, and the interesting old church described in last week's BUILDER. The structure is to consist at first of seven houses, after a design in the early English style of architecture, by Mr. Cooper; and, in addition to the dwelling apartments in the cen-tral house, there will be a large room for the use of the committee, and a commodious hall as a place of general meeting for the inmates, which is also to be fitted up as a library. We have not seen the design; some who

have, speak badly of it.

ST. JAMES'S CHURCH WINDOW.

WE learn that the committee have sent special instructions to Mr. Wailes that he is to take out of his design every thing Gothic. As well might you tell a man who brought you a French book when you wanted an English one, to take out of it every thing French. The window is essentially Gothic,-wholly Gothic, and no alteration can possibly fit it for St. James's church. Can nothing be done to induce the committee still further to modify their original determination, and so avoid the lasting annoyance they will otherwise lay up for themselves? They know they are in error, yet fear to retrace their steps.

EFFLUVIA FROM SEWERS.

SIR,--It is with great pleasure I peruse your continual advocacy of that necessary and essential requisite for the health of towns, namely, proper and sufficient, as well as systematic ventilation ; there however appears me one grand thing yet wanting, to provide a more cleanly, wholesome, and unvitiated atmosphere without, the consideration of which I shall but slightly discuss in my present letter; but as soon as I shall be in possession of the requisite statistical data, I will enter more fully into the consideration of this important subject, a subject becoming every day more interesting, as the present system of sewerage and drainage becomes more extended or improved.

The powerful and requisite enactments contained in Lord Lincoln's Bill for "Improving the drainage &c., of towns," I need hardly quote, having already been conspicuously before the public, and most ably commented on by the different journals; suffice it to sav, the more such measures are enforced, the more favourable will be the result of the plan 1 am about to propose.

It is quite unnecessary to remind any person accustomed to traverse the streets and alleys accustomed to traverse the streets and alleys of this great metropolis, more especially the confines of the city, of the nauseous and of-fensive gases and effluvis, continually arising from the "gulley-holes" and other openings connected with the sewers; and to such an extent (especially before heavy rains) do these gases and effluvia arise, as to be perfectly visible under the form of a vapour, causing epidemy and not unfrequently the worst symp toms of malaria in the immediate neighbourhood. What I would venture to propose is as follows :--- " Let every man-hole, guiley-hole, or other open communication with the sewers be trapped, so as effectually to prevent any effluvia from arising therefrom ; but in order to get rid of the effluvia, which must necessarily arise from the vast accumulations in sewers, I should propose the erection of columns at large thoroughfares, or grand connections of sewerage (carried to a height above that of the surrounding neighbourbood), which are to be connected with the sewers, and let the gases which arise either be consumed by fire at the top by jets of gas, or be carried away by the influence of the atmosphere. I have thus briefly brought before your notice a plan, which I am confident, if brought fully and properly into operation, would greatly benefit all classes of the community, and cannot see any difficulty in the plan (saving the ex-pense), as the all-powerful Commissioners of Sewers have power granted them "to take any property, upon proper compensation, that may be deemed desirable for the improvements in sewers, &c.," added to which, these erections of columns might be turned to a variety of useful as well as ornamental purposes the consideration of which will form a part of my next letter. 151, New Bond-street. J. L.

NEW BUILDINGS ON HAMPSTEAD HEATH. -Sir Thomas Maryon Wilson having deter-mined upon erecting a number of villas on Hampstead heath, the ceremony of laying the first stone was performed last week by his sister, Mrs. Drummond, in the presence of a large party of friends and a considerable number of the inhabitants. The new buildings are to be distinguished by the name of "East-park." Mr. Gwilt is the architect. and assisted Mr. Gwilt is the architect, and assisted at the ceremony. It is said that East-park will not in any way whatever encroach upon the heath, or any of those portions of Hampstead to which the public are in the habit of resorting for recreation.

FATAL ACCIDENT IN SINKING A WELL. Accidents frequently occur to persons while employed in digging wells; sometimes through the gross ignorance or carelessness of the operative, at other times through the false economy of the master in not allowing sufficient timber to span the work securely. Α case occurred last week at Whitechurch, near Charmouth, when a poor man while pursuing his labour, was buried under upwards of ten waggon loads of soil and stones. Assistance was instantly obtained to extricate him, if possible alive, but the attempt was ineffectual; there is no doubt that he met with instant death.

THE FRUGAL INVESTMENT ASSOCIA-TION.

THE first subscription meeting of the shareholders in this association was held, pursuant, to public advertisement, at the Hall of Commerce, Threadneedle-street, on Tuesday afternoon, the 2nd inst. The meeting was very numerously and respectably attended. The president, Mr. John Neale, took the chair, and Mr. Edward Smith, the solicitor, explained the principles and proposed advantages of the association. It is based upon the pro-visions of the Friendly Societies, Act 4 & 5 Wm. 4, c. 40, and contemplates the following objects :-

1. Investment of capital in 100% shares, payable by monthly instalments of 1% per share. 2. Pecuniary advances to the members (only) on mortgage of real or personal security, (only) on morrgage of real or personal security, or both, accompanied by a life policy of as-surance, they paying a redemption or antici-pating fee of 8s, per share per month. 3. The advance of the whole 100% on each share to those members who anticipate the discount or bonus :-- that is, the amount agreed to be sacrificed by the member upon his share, as the competition bidding is not deducted from the 100% all at once (as in the case on a from the 100% all at once (as in the case on a sale of shares in building societies), but is spread over the whole period of the associa-tion by equal monthly instalments. 4. The certain termination of the society at the ex-piration of eight years and four months. 5. An annual division of the profits in which both borrowers and capitalists, namely both classes of the members, participate, so that the borrower is not prejudiced as such by availing himself of the society's pecuniary resources by anticipation. Various questions were asked by the gentlemen present to elicit further explanation, and several hundreds of the shares (which are limited to 2,000), were then taken, and the first monthly subscription of 1/. per share paid thereon. The next monthly subscription meeting was announced for the 2nd Tuesday in October, at the same place.

FREE ADMISSION TO PUBLIC BUILDINGS.

WE mentioned a fortnight ago, that a memo-rial had been forwarded to Sir Robert Peel. from Lincoln, praying him, in the appointment of the new dean, to have regard to the free admission of the public to the cathedral.* One of the parties to the petition has received a note from the premier, acknowledging the re-ceipt of the memorial. Sir Robert concludes his letter with the following sentiment :-- "It will be gratifying to Sir Robert Peel if the Dean and Chapter of Lincoln shall be enabled to give the same facilities for free admission to the cathedral which are given at Westmin-ster and Durham."

Relative to the insolence of the verger at St. George's Chapel, Windsor, alluded to on a former occasion, we have received a letter of thanks from an influential inhabitant of the town for the reproof of this man's conduct. His incivility, it seems, is complained of on all hands. We shall pay him a visit before long, for the express purpose of observing his behaviour, and shall hope, if only for his own sake, to find an improvement.

From Paris we learn, that the Prefect of Police, having discovered that money was exacted from the persons who came to view the different parts of the Pantheon by the parties who are paid for taking charge of it, has interfered, and insisted upon this abuse being ended.

CALCUTTA CATHEDRAL .-- From a statement put forth by the committee, we learn that this cathedral, of which the model is now on view at Guildhall, is 248 feet long, 116 feet wide at the transepts, and 206 feet high from the plane of site. It is further intimated that the whole body of the building, with the tower and spire, is erected, and that the roof is on, but that the internal fittings are yet un-finished. The choir, for the performance of divine service, is 131 feet by 61, and 47 feet high—spanned by an iron trussed roof, and capable of containing 1,000 persons. It is expected that the consecration will take place at the close of next year, or very early in the fol-lowing, should the state of the funds admit.



THE SECOND ARCH & OLOGICAL MEET. ING AT WINCHESTER.

THE SECOND ARCH EOLOGICAL MEET-ING AT WINCHESTER. The second division of the Archæological Association have met in great strength at Winchester during the past week. Lord Northämpton it seems came from abroad to preside; and was supported at the opening miceting; on Thesday; by Lord Ashburton, Sir Wm. Erle, the Count Mortara; the Right Hon. Shaw Lefevre, Sire J. Boilean, S. R. Glynne, M.P.; Wm. Heatheote, M.P.; and R. G. Simeon, Barts.; Sir Richard Westmacott, Knt.; the very Rev. the Deams of West-minster, Winchester, Ely, and Hereford; the Revs. the Master of the University and War-den of New College, Oxford; the Warden and Principal of St. Mary's College, Winchester; the Master of Trinity College, Cambridge; A. B. Hope, Esq., M.P., J. B. East, Esq.; M.P., E. P. Shirley, Esq., M.P., General Frederick, Colonels Vandeleur and Colville; Oaptain Pearson; Revs. H. Addington; J. G. Bedford, F. C. Blackstone, Dr. Bliss, &c. On taking the chair, the president said, "Ar-cheeology had been justly called the hand-maid of history; without it history would have been little more than a skeleton—it re-ani-mated, as it were, the marrow, the bones, and the colours of life itself. Without the disco-very of antiquity history would have failed to guide the path of the statesmen of former times. They must consider those changes which time and the progress of human in-genuity had produced. He understood that a notion had been entertained that this meeting was in some degree a political meeting; but such a proposition was so truly absurd, that he though he was not colled unor to doen in the

was in some degree a political meeting; but such a proposition was so truly absurd, that he thought he was not called upon to deny it. It had also been supposed that this meeting was of a polemical character—a supposition not founded in fact. When he saw himself surrounded by so many ornaments of the church of England, and in the midst of such ecclesiastical monuments, which adorned a city that boasted of William of Wykeham, as the founder of its college, and the church of St. Cross, it was evident that it was not for the discussion of any polemical subjects that they were now assembled. If there was a difference among the members of the established church of this country, however deeply it was to be lamented, that was a circumstance with which the society had nothing to do. All it called upon its friends to do was to join with them in lending their sid to maintain those sacred edifices dedicated to the service of God. Although they had met together on the present occasion for the consideration of archeological subjects, still there was no reason why they should not discuss the wars of the roses, while they abstained from discussing the religious differences of the nineteenth century. With differences of the nineteenth century. these differences the society had nothing to do. It was not its province to revive any unfor-tunate differences which might have arisen amongst archæologists. It stood by itself on its own merits, but holding out the hand of fellowship and friendship to every man who was willing to join its ranks.

The Dean of Westminster read an able paper in defence of Archæology. The an-tiquary was looked upon by some as at best a harmless creature, and to a certain extent the reproach and ridicule thrown upon him may have been deserved. How this had arisen they have been deserved. How this had arisen they might inquire hereafter, but at present they would turn to other matters. They would look to the noble fellowship of bygone ages, which had made them what they now were, a link in the golden chain from the beginning to the end. Time had been likened to an old beggar putting good deeds into his wallet. They would look with earnestness and love into the wallet to ace what those good deeds, really wallet to see what those good deeds really were, and how brought about. This, then, was their purpose, to reproduce old times, watch with care over them, as a witness of that which was and is not; not considering the dust as precious as the writing it bore, but setting upon it a true value; with a scrutinizing, but no irreverent eye, to open the barrow, the monument, and ancient grave, linger over their words and deeds, of the thoughts they were thinking, and help us to reconstruct the busy active past-thus linking past and present. The history of the past exhorts all to venture on like noble deeds. Marathon, Thermopylæ, Agincourt, Trafalgar, the bowmen of Henry V and Nelson's sailor, alike made example, and said, "Thou art the child of brave men, who

never feared, never yielded ;" who would say, "Kill me, but I never will be a slave." Come what danger there will, he was prepared to meet it. But there were also peaceful bonds-one language, one common history, one birthplace, were the sinews that bound the past to the present. There were the seed and the bud, the virtues and the vices. We must know our father lives ere we can live. Without the past there is no future. We see this even in infancy; to its unformed age all is present. It has no future till it has made a past, and it is on the mouldering monuments of antiquity making our past that we must build our future. of antiquity The man who is a trifler in antiquity would be a trifler still did his mind take any other turn. Servile he must have been whether he gathered rusted coins, or, being a bookworm, became a mere pedant. There are those who, while ages have rolled away, would cling to their forms, but the spirit having left them, we cannot go back to them; we maintain there is a life in the past and in the present which have linked them to each other. These false claimants deny faith in the present life-they point to the liberality of former times, and will not allow we have the same quickening spirit within us now. They would make us unreal; they would dress the old man in the clothes of his childhood, thinking with such would come back the joyous days of youth. How unlike the spirit of one of those revered ancestors who, if he could rise up among us, would feel compassion for such a one, who could degrade the man to the mere outside shell. We see in the arrangement of churches much to love and study in their minutest details; but while we notice the hagioscope, we cannot forget the ill view afforded to the spectator; and admiring the intersecting aisle, its external magnificence, and the beauty of the lengthened chancel, we cannot forget that it shut in the clergy and shut out the laity. Looking to ancient monu-ments and matters of history, yielding ourselves in the newser within us. Let us only use them as study in their minutest details; but while we to the power within us, let us only use them as incentives to action; let us view them not as worn-out customs, but that we may fashion for ourselves the outward circumstances we need. The Dean of Winchester, Professor Whe-

well, and others, afterwards addressed the meeting. Dr. Plumptre took credit to the Gothic Architectural Society, at Oxford, for being the first in the field to revive a taste and knowledge of architecture amongst the clergy. On Wednesday the cathedral and the church

of St. Cross were examined, and in the even-ing papers were read by the Rev. J. B. Deane on the early uses of Drondical temples, Mr. E. A. Freeman on the architecture of St. Cross, and the Rev. J. L. Pettit on Romsey church.

CONTINENTAL NEWS.

As II. M. the Queen is now one of the subscribers for the rebuilding of the dome of Cologne, everything connected with that grand conception of the middle ages becomes of still greater interest. The splendid painted glass windows, which the King of Bavaria has pro-mised to furnish, have already been begun at Munich, by the artists intrusted with that task, Professor II. Von Hess, Inspector Ainmüller, and Mr. A. Müller. The next works in extent and beauty, which are now in hand, at the royal establishment for painted glass at Munich, are the large windows destined for the new dome of Agram, and made by order of the chapter. The three chief middle windows of the great choir have to receive these rich ornaments. The chief picture will represent the transfiguration of the holy Virgin, aside which will be the two patrons of Hungaria kneeling. The smaller *lunctics* around will contain various archi-tectural ornaments. The glass paintings of the church of St. Mary, in the suburb of Munich, have been completed and placed some time aro time ago. J.L.

RESERVOIR IN GREENWICH PARK .--The authorities having given instructions to form the threatened reservoir in Greenwich-park for the purpose of supplying the hospital with water in case of fire, the work was commenced last week. Some of the residents of Greenwich look upon it as an encroachment upon the rights of the public; while others, viewing it as a necessary evil, suggest making it as orna-mental as possible, and propose erecting a large oval-shaped stone basin with a fountain in the centre.

PAYMENT TO BUILDERS FOR ESTIMATING WORK NOT EXECUTED

WE state the following case without comwE state the following case without com-ment, as we may be only partially in possession of the circumstances. Mr. C., a builder, was requested to estimate for the erection of a public-house with the understanding that the tenders would be opened in the presence of the parties. Having made his estimate and deli-vered it, he hears nothing more of it, but ulti-mately learns that the first intention has been abandoned, and that the surveyor is preparing plans for a smaller house. Thinking it unjust that he should lose his time and trouble, he applied for compensation, and was told that his tender was not the lowest, and therefore that he had lost nothing by the abandonment of the plan. Not considering himself bound to believe this, as the tenders had been opened privately, he claimed five pounds and sum-moned the party who employed him, to the moned the party who employed him, to the Court of Requests on his refusal to pay it. After two hearings a verdict was given, last week, in favour of the builder, and he agreed to accept three pounds, the employer paying the builder's witness and all expenses.

LIST OF NEW PATENTS RELATING TO ARCHITECTURE, ENGINEERING, &c., GRANTED FOR ENGLAND. Furnished by Mr. A. Prince, of the Office for Patents of Inventione, Lincoln's ins Fields, London.

[SIX MONTHS FOR ENBOLMENT.] [SIX MONTHS FOR ENBOLMENT.] William Young, of Paisley, manufactures and dyer, and Archibald McNair, of the same town, merchant, for certain improvements in the construction and means of manufacturing

the construction and means of manutacturing apparatus for conducting electricity. August 4. Charles Henry Joseph Forret, of Lille, in France, but now of 17, Great St. Helens, Bishopsgate, gentleman, for a new and im-proved Archimedean screw, which he calls "Davaine's Screw." August 4. Peter Francis Maire, of Mark-lane, mer-chant for improvements in combining iron

Peter Francis Maire, of Mark-lane, mer-chant, for improvements in combining iron and other materials for the purpose of con-structing bridges, roofs, arches, floors, and other similar structures. August $5_{A+1/2}$ Francis Taylor, of Romsey, Hants, surgeon, for improvements in giving alarm in case of fire, and in extinguishing fire. August 6. John Evans, of Kensington, gentleman, for a new perazotic product, and its application to the arts. August 7.

the arts. August 7. Henry Smith, of Liverpool, engineer, for improvements in the manufacture of wheels for railways, and in springs for railway carriages, and in axle guards for railway carriages. August 7.

Henry Emanuel, of Pond-street, Hampstead, gentleman, for improvements in atmospheric railways. August 7.

Peter Armand Lecomte de Fontainemorea u Feter Armand Lecomte de rontainemorea u of Skinner's place, Size-lane, for certain im-provements in apparatus for raising and sup-porting vessels and other floating or sunken bodies, and its application for the better pre-servation of life and property. August 7. Peter Higson, of Clifton, Lancaster, mining

engineer, for certain improvements in machinery or apparatus for connecting and discon-necting the steam-engine, or other motive power with or from the load, or other matter

Thomas Henry Russell, of Wednesbury, Stafford, tube manufacturer, for improvements in the manufacture of welded iron tubes. August 14.

Thomas Oxley, of Westminster-road, civil engineer, for certain improvements in constructing and propelling vessels and in the machinery connected therewith. August 22. Mathieu Francois Isoard, of Paris for im-

provements in obtaining motive power. August 28.

CHARING CROSS BRIDGE. — At the half-yearly general meeting of the proprietors of this bridge (better known at present as the Hungerford Suspension Bridge), it appeared from the report of the directors, that "during the period the bridge has been opened, nearly 14,000 persons daily have used it," and that "on two or three occasions there had been between 14,000 and 15,000 persons upon it, and it remained perfectly unshaken." It is in contemplation to lease the bridge to the Central Terminus Railway Company for the Central Terminus Railway Company for 186,000%, the proprietors to receive half their capital in cash, and half in shares in the new company,

Correspondence.

PREVENTION OF SOUND.

Sin,—An acquaintance of mine having a machine turned by hand for cutting meat, wished to have it inclosed, to prevent it from being a nuisance, the neighbours having complained of the great noise it made. I surrounded it with 9-inch brick walls, turned an arch all over in cement, lined the inside with patent felt, making it air-tight, and placed the feet of the machine on india rubber two inches in thickness. The sound, however, is only partly prevented by these arrangements; and I should feel obliged if some of your numerous correspondents will be so kind as to inform me, through the medium of your excellent journal, the best method which can be adopted to prevent the noise altogether.

I am, Sir, &c.,

W. H. '

Miscellanea.

THE "BAILWAY KING" OF FRANCE.-The "Bailway King" in France, the French Hudson, is an odd-looking, but keen-observing individual, of the name of M'Kenzie. He is a great favourite of Louis Philippe, at whose numerous and promiscuously attended soiries M'Kenzie cuts a droll and conspicuous figure. If not a native of Liverpool, he was at no dis-tant date a "navie" there, working—and no tant date a "navie" there, working-and no shame to him-in high-lows, ankle-deep at the dpcks in mud and clay. This gentleman, though entirely unclucated, and of brusque manners, is remarkable for his practical know-ledge of engineering; and it is proved by the flattering fact, that M'Kenzie is consulted by the Government authorities of France touch-ing the practicability of the various railway lines either in progress or contemplated; and this in preference to the engineers of Paris, who have long been celebrated for their knowledge in the science or art, for it partakes of both. McKenzje has a partner, named Barry, once-he may be so still-a gentleman con-nected with the Manchester newspaper press. These facts are highly honourable to all parties. M'Kenzie's oddity of manner and appearance present a curious contrast to that of the Pa-risians; malgré, he carries all before him, whe-ther on the Champs Elysées, where the railway shareholders, jobbers, &c., " most do congre-gate," or in the gilded salons of the Tuileries. *Livernool Chronicle*. The Mr. Wikenzie *Liverpool Chronicle.* [The Mr. M'Kenzie named above was a considerable contractor for public works in this country for many years. He was the contractor for the Junction Dock, at Hull, and other works there. Mr. J. D. Barry, who is stated to be his partner, was, subsequently to his connection with the Manchester press, editor of the Chester Chronicle. -- Manchester Guardian.

PICTURE GALLERIES.—It cannot but excite the surprise and regret of every person who has reflected on the subject, and been desirous of admiring and dwelling on finer works of art, whether pictures or sculptures, to find them placed in common rooms with several small windows directly opposite the subjects, and these windows indiscriminately facing either the east, west, north, or south; added to which disadvantages may be seen a total disregard to the colour of the walls, and to contiguous objects. After thousands of pounds have been expended on a collection, it is astonishing to find it thus sacrificed, thus immured, either in dark cells or exposed to the scorching and dazzling sun. Let us, however, hope that a better taste has commenced, and that the noble art of architecture will be liberally encouraged by the affluent, and skilfully employed by the professor to protect and adorn her sister arts.— BRITTON'S Illustrations of Fonthill Abbey.

WESTMINSTER BRIDGE.—From 1810 to 1838 this bridge cost in repairs, 83,097*l*. 6s. 94d. From 1838 to 1844 the amount was 82,661*l*., and a further sum of 52,879*l*. was required for further works. The property belonging to the bridge only realizes 7,464*l*. 11s. 8d. ayear.

MALT-HOUSE FLOORS. — A correspondent wishes to know the best material wherewith to construct malt-house floors. Either, faced slate slabs, or a coating of Roman coment on a solid foundation, will answer the purpose.

ORNAMENTAL CHAIR .- A very elaborately carved Gothic chair, in the style prevalent during the fifteenth century, has recently been placed in the vicinity of the altar of our cathe-dral. It is worked in oak, and the most striking feature about it, at first glance, is its high back, ornamented with rich tracery, and terminated by a crocketted gable, flanked by pinnacles. At each elbow or side of the seat, is the figure of an angel bearing a shield, and on the border of frieze beneath, is a scroll containing the following inscription :-- " PELLEW. DEC. NORWIC. DEC. ET ECCLIE. D.B. MDCCCXLV." This chair is for the use of the bishop, and another chair similar in general design, but differing in some of the details, has yet to be added for the dean. The chair which we have described has been executed under the superintendence of Mr. John Brown, the architect, by Mr. W. C. Vincent, a native of Norwich, but now carrying on business as an architectaral carver in London. He is ea-gaged in completing the chair for the dean, which, we understand, will be here shortly, and the effect of the two noble pieces of eccle siastical furniture in conjunction cannot fail to be not only rich and beautiful in itself, but also such as will materially enhance the appropriate character of that portion of the sacred edifice to which they appertain.— Norfolk Chronicle.

SPLENDID IRON BRIDGE OVER THE NEVA. -Messrs. Bury, Curtis, and Kennedy, the celebrated engineers, of Liverpool, have received instructions from the Emperor of Russia to construct an iron bridge of powerful dimensions to be erected over the river Neva at St. Petersburgh. This river is at present crossed by three bridges of boats only, and in the winter season the damage done to them by the ice is so considerable, that it has been deter-mined to erect the bridge in question; and it is probable at a future time the other two will be replaced by bridges of iron. The length of this bridge is 1,078 feet, and will consist of seven arches-the centre one being 156 feet span; and the three on each side, 143 feet, 125 feet, and 107 feet respectively. A separate arch at one end will be devoted to a swivelbridge, seventy feet wide, by which vessels can be admitted to the Custom House. The total weight of iron in this enormous structure will be nearly 10,000 tons, or about five times the quantity which was employed in the famous Mensi bridge; the cost of the iron alone will exceed 100,000*l.*—*Mining Journal*.

RE-OPENING OF COOMDE-BISSETT CHURCH. The parish church of Coombe-Bissett is an interesting one to the Ecclesiologist, portions of the edifice being as ancient as the early part of the twelfth century. The interior exhibits distinct features of the Anglo-Norman and early English styles-the font being of the latter class; and these features have been pre-served in the restoration which the building has undergone. Open sittings, of very sub-stantial oak, are liberally distributed on the floor, and have been fashioned from an ancient pattern of similar seats formerly existing in the church. The new roofing is formed of polished oak, with the ancient corbel heads restored. Appropriate texts of Scripture, in the illuminated style, are placed on the walls and pulpit. The exterior repairs have also been very considerable-large portions of the walls having been entirely rebuilt. Previous to its repair, the church was in a most dilapidated condition, and afforded miserable accommodation for about 150 persons; now at least 300 may find sitting room.

ADVICE TO GOTHIC ARCHITECTS, BY SIR WALTER SCOTT.--In his novel of "The Pirate," in reference to the Cathedral and Earl's and Bishop's Palaces at Orkney, the author of "Waverley" remarks, that "Several paris of these ruinous buildings might be selected (under suitable modifications) as models of a Gothic mansion, providing architects would be contented rather to imitate what is really beautiful in that species of building, than to make a medley of the caprices of the order, confounding the military, ecclesiastical, and domestic styles of all ages at random, with additional fantasies and combinations of their own device, 'all formed out of the builder's brain.'"

RISE IN THE PRICE OF IRON.—Several of the largest houses in South Staffordshire have issued circulars, quoting the price of bars at 20s. and pigs at 10s. in advance of the prices we recently published.

INCREASED VALUE OF HAND. If proof was wanting to show what an extraordinary increase has taken place in the value of land in this country during the last half century, wa might point to the great price which the sale of each successive estate brings that is, put into the market. In the "Scots" Alagazine," of 1792, it is stated, that the getater of Kelly, in Renfrewshire, was sold in that year to May John Wallece, for 10,7501. The same estate when sold the other day, brought 65,0001, cillough denued of a waluable part of the shore ground, which has been retained by the late proprietor. There is no other commodity in this country which is at all to be compared to land for an increase of value, especially if that land has received proper attention in agricultural improvement similar to the estate of Kelly.—Glasgow Chroniele.

JARROW COLLIERY EXPLOSION.—Sir H. de la Beche and Mr. Playfair have been appointed by the executive to make a searching investigation into the causes of the explosion at Jarrow Colliery.

Tenders.

For the rebuilding of the Parochial School-rooms, Bethnal Green :---

| Vargan | £2,297 |
|--------------------|--------|
| Crowhurst | |
| A. Wilson | 1.597 |
| Simmons | 1,580 |
| J. Goss | 1.545 |
| Cubitt | 1.500 |
| Smith | 1.470 |
| Charnock | 1,447 |
| Cooper | 1.398 |
| Cooper Lockwood | 1,387 |
| Geary | 1.360 |
| | |

For the erection of a New Infirmary building to Lambeth Workhouse; Mr. W. Rogers, archi-

| | 1.1 |
|---|-----------------|
| Macey | |
| Messrs, Ward., | |
| Robson | |
| Robson 1,590 Plaskett and Shelton 1,580 | •* |
| Thompson 1.550 | 11 11 |
| Plaskett and Shelton 1,580 Thompson 1,550 Gerry and Son 1,534 Burtenshaw 1,529 | 1974 - 1 |
| Bustanshaw 1.529 | (1,0,1) |
| Smith 1917 525 | 10 01 |
| Smith | SIGR |
| Barr Harris H. Barr | رويادر |
| Cooper and Davis Sales 110-13496 | them |
| Crowhurst | 11162 |
| Mason | Str. A |
| Midson | |
| Cubitt | -6-9-9-C |
| Ryder ut .e. v. Saula 1113005 | 010119 |
| Willson and Son w. out | 10-514 |
| Cuttress and courses to an ord of the 200 g | 1.1.1 |
| Wilson as distance on 1 1,244 , | $e^{i\phi}$ b |

Not opened in the presence of the parties; Cati tress's Tender accepted. The quantities were full nished by Mr. Massiand.

For building Six Houses and One Stable, in the Bow-road, for Mr. William Mott :---

| nd Son | | | 84,180 |
|-----------|-----------|-----------|--------|
| n and Sor | | | 0.000 |
| | | | 3,998 |
| | | | 3,622 |
| | | | 3,590 |
| | | | 3,503 |
| | Ke | (6 | A |

For erecting School-rooms at Chatham on the British system; Mr. Edward Gotto, architect :---

| Permole Aller and a second | | | • |
|----------------------------|------|----|---|
| Pemble guarante | | | 0 |
| Foord | 611 | 11 | 0 |
| Bush | | | 0 |
| | 000 | 14 | - |
| Dødd | A50 | 14 | 0 |
| Robins | 685 | 4 | 7 |
| Beveridge | 702 | | 0 |
| Clements | 120 | | |
| Dangiey | 800 | Ā | 0 |
| Langley | 728 | 0 | 0 |
| Andrews | £863 | 14 | 0 |
| | | | - |

All the Parties tendering, except Mr. Pemble, were supplied with the bills of quantities by the architect.

Tower Hamlets Sewers: Homerton to Claptonsquare, 4 feet by 2 feet 6 inches; length, 415 feet: Church-street to Clapton-square, 4 feet by 2 feet 6 inches; length, 330 feet: total length, 745 feet :---

| Curtis Livermore Stewart | . 617 |
|--------------------------------|--------|
| | |
| DICW#10 | . 600/ |
| TTAL | |
| Crook | . 598 |

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, & c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For certain Masons', Carpenters', and Plumbers' and Glaziers' Work about to be performed in va-rious repairs and restorations to St. Mary Redeliffe church, Bristol. For building railway goods' waggons, ballast

waggons and horse boxes, and supplying carriage couplings according to plan, for the Great Southern

and Western railway (Ireland). For the execution of Works on the Dundalk and Enniskillen railway, being a distance of ten miles.

For the execution of Works on the Leeds and Thirsk Railway.

For the execution of several lengths of Earthwork on the Aberdeen Railway. There are 5 separate Contracts, varying in lengths from 3¹/₂ miles to 4²/₄ miles.

For the construction of Three Reservoirs for the Blackburn Waterworks Company: also, of Stone Culverts for conveying the water a distance of

about 23 miles. The earthwork will amount to about 180,000 cubic yards. For the execution of works on the Manchester South Junction and Altringham Railway, in two parts : 1, being a distance of 14 mile; 2, being a distance of 78 miles distance of 74 miles. For the execution of Works on the Manchester

and Birmingham Railway in 2 parts. 1. The Ashton Branch, being a distance of about 4³/₄ miles. 2. The Macclesfield branch, being a distance of about 30 chains, including a tunnel of 330 yards in length.

or the execution of that portion of the Edinburgh and Northern Railway, extending from Burntisland Pier to Kinghorn.

For supplying the Clydesdale Junction Railway Company with about 2,500 Tons of Rails, and about 600 Tons of Chairs.

For supplying the Leeds and Thirsk Railway Company with 100,000 Railway Sleepers.

For the execution of works on the East Lanca-shire Railway, viz., the Accrington Contract, being

a distance of about 8 miles. For the execution of that portion of the Newcastle and Berwick Railway, extending from Netherton to Tweedmouth, being a distance of To be let in four contracts. about 53 miles.

For the execution of works on the Leeds, Dews-bury, and Manchester Railway, viz., the Churwell

ontract, being a distance of about $2\frac{1}{2}$ miles. For the performance of the several Works necessary in the erection of a Wesleyan Chapel at Alton, Hants.

For the execution of a portion of the Edinburgh and Northern Railway, being a distance of about 8 miles; to be estimated for in two lots.

For the execution of the Richmond Branch of the

Great North of England Railway. For supplying the Eastern Counties Railway Company with 100 Goods' Waggons, agreeably to

specification. For supplying the Eastern Union Railway Com-pany with 8 First Class, 12 Second Class, and 8 Third Class Carriages; to run on six wheels, the gauge being 4 fest 81 inches.

For supplying 15,000 Sleepers of Larch, 7 feet 6 inches long, and 7 feet 31 inches at the small end; to be delivered at the Menai Bridge, Holyhead, within the next four months.

COMPETITIONS.

The Committee for the establishment of Public Parks, Walks, &c., at Manchester, offer two prizes one of 50 guineas and the other of 25 guineas, for the best and second best set of Plans (with estimates), for the laying out, &c., of the sites already purchased by them.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

Adjoining the entrance to the East Country Dock Rotherhithe, about 85 loads of new East-India Teak, and 60 loads of sound African Oak Timber.

On the Alderholt Park Estate, near Fording-bridge, Hants: about 500 Oak Trees, and about

100 Fir Trees; all of large dimensions. The remaining portion of the Old British Museum, consisting of the centre building, the entrance Hall and Grand Staircase, &c.

Adjoining the Canal Bridge, Kingsland-road: a very large quantity of capital Timber in all lengths and thicknesses; 10,000 feet of 11-inch warehouse floor-boards, &c.

BY TENDER.

In the Plantations of the Duke of Montrose, situate in the Parishes of Drymen and Buchanan, Stirlingshire : many Thousands of Larch Trees of some size, adapted for Railway Sleepers, Roof ing and Joisting, and other purposes.

TO CORRESPONDENTS.

"Italian Alabaster."-A subscriber wiskes to know where the white Italian alabaster can be obtained, and what is used to give it a smooth face after it is cut with the tool.

"A Man with many Hands."—After Mr. Crace's distinct assertion, that not a single foreigner is or has been engaged on the decorations of the

House of Lords, the question is unnecessary. "E. H." (Woodford).—Complains justly of the dilapidated state of the parish church of Chingford, near Woodford, Essex. We will recur to his

letter. "J. W." (Liverpool).-We do not know "any institution where architecture is taught in the day Drawing-schools are to be found, but the time." is no place in which to acquire the routine of business but an architect's office.

"A. C."-We shall mention the new works at

the Tower next week. "W. W." (Slough).—Thanks for the drawing

We cannot at present promise to engrave it. "J. C." (Hants), will find an answer in another

page. "T. C." (Slough); "H. L.;" "E. N." next

week. Received. — "A Constant Reader of THE BUILDER" (Farm Buildings).

ADVERTISEMENTS.

A MAGNIFICENT, EXTENSIVE, and UNIQUE COLLECTION of TROPICAL FRUITS, modelled by Mons. Grimaud during his long Residence in the Isle of France. is just deposited at the ROYAL POLY-TECHNIC INSTITUTION. The ATMOSPHERIC RAILWAY is lectured upon by Professor Bachboffner, and exhibited Daily, and in the Evenings. A NEW AME-RICAN INVENTION, COLEMAN'S PATENT LOCO-MOTIVE ENGINE for ascending and descending inclined planes on Railways without the aid of stationary power. SWIMMING and DIVING ILLUSTRATED by the Son of Capt. Stevens, the celebrated teacher of Swimming, on Monday, Wednesdays, and Fridays, at Hos o'Clock, and on the Evenings of Tuesdays and Thursdays, at half-past Eight o'clock. The other Exhibitions, &c., as usual.-Ad-mission, One Shilling; Schools, half-price. MAGNIFICENT, EXTENSIVE, and

PATENT OFFICE, 5, CHANCERY-LANE, NEAR FLEET-STREET.

FLEET-STREET. INVENTORS requiring protection by LETTERS PATENT should apply direct to the PATENT OFFICE, as above, where Patents can be speedily procured for the United Kingdom, &c., and by which a great saving of expense will be effected. CAVEATS are en-tered at this office, fee 11. is. DESIGNS of all kinds are REGISTERED. Apply at the PATENT OFFICE, 5, Chancery-lane, near Fleet-street.

NOTICE TO INVENTORS. OFFICE FOR PATENTS OF INVEN-TIONS and REGISTRATIONS of DESIGNS, 14, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Design Acts, may oe bad by applying personally, or by letter, pre-paid, to Mr. ALEXANDER PRINCE, at the office, 14, Lincoln's-inn-fields.

Lincoln's-inn-fields. PRIZES IMPORTANT TO INVENTORS AND PATENTEES. A GOLD MEDAL, value 1007. and a SILVER MEDAL, value 501., will be given by Mr. M. JOSCELIN COOKE. The Gold medal for the best Patent, and the Silver medal for the best Design taken out or Registered at the OFFICE for PATENTS and DE-SIGNS, 20, Half-Moon-street, between the 1st of Novem-ber, 1841, and the 1st of June, 1846. The Prizes will be awarded by competent judges on the 10th June, 1846. The every information for obtaining Patents in England or Foreign Countries, or Registering Designs, will be forwarded gratis, on application to Mr. M. JOSCELIN COOKE, at the Office for Patents and Registration of Designs, 20, Half-Moon-street, Piecadilly, London.

TARNISH.—It has long been a desideratum VARNISH.—It has long been a desideratum amongst the consumers of Varnish to obtain a good and genuine article; brilliancy, facility of drying, hardness, and durability are the qualifications necessary, but these are seldom if ever found united. The experience of a life-time devoted exclusively to the manufacture of this article, the great and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled Messrs. George and Thomas Wallis to produce Varnishes (both oil and spirit) unrivalled in every respect, and they confidently recommend them to the trade, as deserving of notice both in price and quality. Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unadulterated article. Fine Oil Varnish, from 10s. per gallon; best White Spirit Varnish, 21s. ditto; Best Spirit French Polish, 20s. ditto; White Lead, Oil, Turps, and Colours of every description at the very lowest prices.—WALLIS'S Varnish, Japan, and Colour Manufactory, 64, Long-acre, one door from Bow-street. Established 1730.

WALLIS'S PATENT LIQUID WOOD ALLISS PATENT LIQUID WOOD WOOT Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the im-portant qualification of effectually stopping Knots in Wood, however bad, and preventing them cating through and dis-figuring the paint above. Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much plea-sure in offering to the public an article so long and anxiously called for.

ire in offering to the purite an entropy of the problem of the application, skill is not required; a boy can use it is well and effectually as the best workmen: it is put on to a work with a brush like common paint, can be used in all limates and situations, and does not require heat. Sold wholesale and retail, by Messrs. G. and T. Wallis, farniah, Japan, and Colour Manufacturers, No. 64, Long acces. Price 20s. per gallon.

TO ENGINEERS, ARCHITECTS, AND CON-TRACTORS.

REAVES'S LIAS CEMENT and GROUND BLUE LIAS LIME, at 2, South Wharf, Paddington, London, and Works, Southam, Warwicksbire. Agent for Liverpool, Mr. WYLIE, 56, Gloster-street; ditto for Manchester, Mr. J. THOMPSON, Back King-street; ditto for Chester, Mr. J. HARRISON, Linen Hall-street.

A TKINSON'S CEMENT.—The public is respectfully informed, that the price of this very ex-cellent Cement, which has now been in use for Architecture and Engineering works upwards of thirty years, is reduced to 23. 3d, per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackform bridge

Blackfriats-bridge. N.B.- This Cement being of a light colour, requires no arti-ficial colouring or paining, and may be used for stucco with three parts its own quantity of sand.

MARTIN'S PATENT CEMENT. TO ABCHITECTS, BUILDERS, AND PAINTERS IN FRESCO. FRESO. STEVENS and SON, PATENTEES and EOLE MANUFACTUREBS, beg respectfully to announce that this beautiful Cenent has now arrived at a degree of scellence far surpassing their most surguine superiority over every article hitherto in use; it is now being used extensively by Government in the British Museum and other public buildings. IT DOES NOT THROW OUT ANY SALT, but presents a beautifully pain and perfect surface, which may be painted upon dry work within four days without peeling. It is equally applicable for walls or hat for mouldings, architrave, skirting, or flooring; and is been used for many of the prise freeces peinting, having been used for hardness, darability, ind scores, cannot be qualled. 166, DRURY-LANK, LONDON.

186, DRURY-LANE, LONDON.

Agent for Liverpool and Manchester, Mr. B. Part, 11, Atherton's-buildings, Dale-street, Liverpool.

KEENE'S PATENT MARBLE CEMENT.-The Patentees of this composition beg to refer to the British Museum, the Royal Exchange, the new works at Bethlem Hospital, Greenwich Hospital, and the Co-liecum in the Regent's-park, as buildings finished or in pro-gress, in which Keene's Cement has been used as an internal stucco. Its superiority to common plastering consists in its extreme hardness, and the rapidity with which it dries, which qualities fit it to receive paint or other finishing sooner than other water Cement. When employed for skirtings, architrave, and other mouldings, in place of wood, it checks dry-rot, is impervious to vermin, prevents the spread of fire, and is more eco-nomical in its application than the material for which it thus becomes the substitute. Confirmation of these statements is to be found in the almost universal adoption of Keene's Cement for Skirting and Hall flooring in the new houses on the Hyde Park Estate, where its application is to be seen to the fullest advan-tage. EENE'S PATENT MARBLE

where its application is to be the several cases been used for the covering of the fire-proof several cases been used for the covering of the fire-proof warehouse floors, where its lightness and hardness give it the preference over tiles and flagging, which are much baswise, and necessarily leave the floor intersected with numerous joints, whilst Keene's Cement is laid down in one unbroken surface.

surface. The high polish and marble-like hardness of which this Cement is susceptible render it the most suitable material for the manufacture of Scagliola. Patentees, J. B. WHITE & SONS, Millbank-street, Westminster, Manufacturers of Roman and Portland

Depôt in Liverpool, 36, Seel-street ; James Woods, Agent.

O ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MEE-CHANTS, SHIPPERS, AND THE PUBLIC IN то CHANTS, GENERAL.

CHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL. JOHNS and CO.'S PATENT STUCCO CEMENT.-The following are the positive advantages possessed by this Invention over every Censent hitherto in-troduced:-It will diffectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone caning to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sond than any other Cement. It matures by age, and be-comes perfect when other Cements begin to perisk. It may be worked through the Uniter, as frost has no effect Upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the serverst Storms. Any Plasterer may apply it, the Instru-tions for use being very clear and distinct. The first cost of this material does not exceed that of the chespest Cement naturable advantages, nothing can approach it in poant al conomy. Method freshing can approach it in poant al conomy. Method freshing for mery part of the Kingdom, may be obtained on application to MANN and CO., SOLE de OTAINT, expressly intended for Painting over ex-torior Walls of Houses that have been covered with Ronna, may be obtained on application to MANN and CO., SOLE de OTAINT, expressly intended for Painting over ex-torior Walls of Houses that have been dirty and disco-loured. It is in every way better swited for this purpoe than which have beerome dirty and disco-loure JOHNS and CO.'S PATENT STUCCO



SATURDAY, SEPTEMBER 20, 1845.



HE practice common in our law-courts of referring matters to arbitration after the causes are ready for the causes are ready for trial, has been recently severely reprobated by the

press, and with great justice. "All the expenses," says the Times, " have been incurred, the pleadings gone through, counsel fee'd, witnesses in attendance, the judge ready, the jury in the box; and then there is enacted a grave farce,-wigs converge, some whispering goes on, some flourishes of protestation follow ; and the client, nolens volens, is told to attend on such an evening at Mr. Emptybag's lodging; who is entirely ready and excessively willing to serve as judge and jury-for a consideration." This is epecially the case with matters connected with architecture and building ; so much so, particularly as to the settlement of accounts, that it seems surprising parties do not resort to reference in the first instance, and avoid the delay and additional expense caused by going into court. Our object in remarking on this subject is, not to induce parties to refuse to refer, because in nine of the cases out of ten to which we allude, a more just conclusion will be come to by able arbitrators than by a jury, but to point out to them the advantage of adopting this course without the interposition of a judge, the expenses of barristers, and, in many instances, a special jury. The saving of expense, moreover, is not the only advantage that will be gained by at once agreeing to refer a dispute, rather than commencing or defending an action at law. When a reference is ordered by the court, a barrister is always appointed referee, and that, too, without any regard to his knowing any thing about the matter. Generally speaking, he knows nothing about it whatever, and must depend on the statements of others rather than his own knowledge : he is necessarily less able to appreciate the merits of the case than one who does; and may be influenced by a legal quibble to commit injustice. Neither plaintiff nor defendant has a voice in the appointment, and the selection falls on Mr. Sharp or Mr. Dull, as friendly feelings may happen to dictate : the only hope contending parties can reasonably entertain is, that the referee so chosen may adopt the too common custom of his brethren in the same position, and "split the difference; "-a custom so general, indeed, as to have made this mode of settlement, namely, the division of the amount in dispute, synonymous with a "barrister's award."

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We do not for a moment deny the ability of the English Bar,-it is as unquestionable and as great, as the insolence, in court, of many of its members; but it cannot be expected that one man can know every thing, and as there is an educated and able class of persons who have paid undivided attention to the one subject in question, it is from this class that referees should be chosen. | We have seen evening after evening wasted; in satisfying a barrister-referee on points which an architect in that position, would have decided of his own knowledge in five minutes. We address these brief remarks more especially to two correspondents who have asked our advice in cases of apparent complexity, and we seriously advise them to

avoid the expense and great uncertainty (under such circumstances) of the law courts, with the probability, when the expense has been incurred, that the matter will be referred to a barrister, and to assent at once to leave it to the arbitrement of properly qualified persons.

WORKS IN THE TOWER OF LONDON.

On the 14th of June, the first stone of the Waterloo Barracks was laid by the Duke of Wellington, on the site of the small armoury, destroyed by fire in 1841.• It is placed at the north-east corner of the building, and is thus inscribed :---" This first stone was laid by Field Marshal the Duke of Wellington, K.G., G.C.B., G.C.H., Constable of the Tower, and Commander-in-Chief of H.M. Forces, on the 14th of June, 1845."

Since then the works have been proceeded with vigorously, and the building is now nearly one story high throughout. The structure was originally proposed to accommodate 826 men, but recent alterations have fitted it to receive nearly 1,000. The length in front is 288 feet, and at the back 271 feet 8 inches. The width of the main building is 65 feet, but at the flanks it extends to 82 feet. The size of the principal rooms is 23 feet by 24. The floors are to be formed with iron girders and brick arches, so as to render the building firebrick arches, so as to render the building fire-proof. The style of the building is castellated Gothic of the fifteenth century: the walls are faced with Kentish rag, and the dressings of windows, doors, &c., are of Anston stone. Major Hall, as chief of the engineering de-partment, is the director of the works; Mr. W. Harrison, the contractor for masonry, brickwork, &c., and Mr. John Harrison, for the carpenter's work. The total cost is estithe carpenter's work. The total cost is esti-mated at nearly 50,0007.

Many other works are contemplated in the Tower involving a very large expenditure. We should be rejoiced to hear that they included the restoration of the keep, known as the White Tower, which is at present a dis-graceful monument of ignorance and want of taste. This interesting structure is called taste. This interesting structure is called by many writers, "Cæsar's Tower." Shaks-peare says, in Richard II.,

- "This is the way To Julius Cæsar's ill-erected tower."

And Gray apostrophises,

"Julius' towers! London's lasting shame, With many a black ad midnight murder fed."

In Richard III., as Mr. Godwin pointed out in his "Churches of London," Shakspeare seems almost to discuss the question. The seems almost to discuss the question. The Prince of Wales says, when Gloster is about to send him to the Tower :-

Did Cæsar build that place, my Lord ?

Gloster. He did, my gracious Lord, begin that place :

Which, since, succeeding ages have re-edified. Prince. Is it upon record? Or else reported

Successively from age to age, he built it? Buckingham. Upon record, my gracious Lord. Prince. But say, my Lord, it were not registered :

Methinks the truth should live from age to age, As 'twere retailed to all posterity. Even to the general all-ending day.—Act iii., s. 1.

The present keep was built by William the Conqueror, under the superintendence of Gundulfus, Bishop of Rochester (originally a monk of Caen, and one of the best architects

of his time),‡ and contains one of the very few of his time),‡ and contains one of the very few • A procession was formed across the parale, having the troops on the right, to the foundation of the barracks, and which proceeded in the following order :- The chief warder, Mr. Lund, in advance, followed by the whole of the Tower Yeomen of the Guard on duty in their coronation dresses, hearing halberts, walking two abreast; Serjeant Major Howe, the master-gunner of the Tower. Then came the Government contractor, bearing the plummet, and also the clerk of the works with the mallet. Mr. Stacey and Mr. Barratt, of the Ordnance department, carrying the coins to be deposited beneath the stone. Next followed the officers of the Royal Artillery, and the Royal Sappers and Miners quartered in the fortress. Major Hall, the commander of the Royal Engineers, with the plans of the ordnance Depart-ment; officers of the Grance Depart-ment; officers of the garrison. Field Marshal his Grace the Duke of Weilington, accompanied by the Right Hon. Sir George Murray, M.P., Mlaster General of the Ordnance. Major Elrington, Col. Gurwood, the Chaplain of the Gran-misor, and a staff of officers as guard of honour bringing up the rear. The Rev. Mr. Mclvill offered up a praver; coins were deposited beneath the stone, and the Duke, having first spread the mortar, finished the ceremony by striking the stone several times with a mallet. • Vol. 1. Account of St. Peter's in the Tower. **‡ He also built Rochester cathedral.**

ecclesisstical examples of the Conqueror's time at present in existence. The chapel within time at present in existence. The chapel within the keep* is near the top of it, and though ponderous and rude, is a very interesting remnant. The roof is of singular construction. It is a barrel vault composed of small flat stones fixed wedge-wise in a bed of cement; and must have been supported by a wooden framework till it acquired consistency.⁴ This chapel for-tunately escaped the hands of the barbarous orbhlors who destroyed the outside.

coblers, who destroyed the outside. The Tower contains a second place of worship, the church of St. Peter ad Vincula, erected in the reign of Edward I., which nearly adjoins the west end of the new barracks.

Restorations have been in progress here for some time past under the direction of the office of works. The masons are now putting up a new three-light window at the west end, for the design of which we cannot give much praise. It may be apparently like the original window, but slight differences, almost inde-scribable, sometimes produce a striking change in the effect. It seems just possible that they

in the effect. It seems just possible that they have restored a restoration. The tower is to be recased, and a new bell-turret constructed. This church is re-markable as the burial place of the greater number of distinguished persons who were executed for treason during the sixteenth and seventeenth centuries. We avail ourselves of the following notice of them in a work before alluded to.t before alluded to.1

before alluded to. In one place rest the remains of Gerald Fitzgerald, Earl of Kildare, the Lord Deputy of Ireland, who, being committed to the Tower on suspicion of treasonable practices, died there of a broken heart, in 1534. In another were placed the worthy, the witty, but bigotted Sir Thomas More, and his friend, bighter bighter of Pochester who were has Fisher, Bishop of Rochester, who were be-headed in 1535. The body of the former, it is said by some, was afterwards obtained by his said by some, was afterwards obtained by his excellent daughter, Margaret Roper, and was re-interred in old Chelsea Church, in the chancel of which he had caused a vault to be made some years previous to his death. Faulkner, in his "History of Chelsea," how-ever, supposes that this could not have been the case from the circumstance that Birker. ever, supposes that this could not have been the case, from the circumstance that Bishop Fisher's body, which was originally placed in the Church of All Hallows, Barking, was re-moved to the Tower by Margaret, in order that it might be interred according to his re-quest, near her father. In front of the altur lies the ill-fated Anne Boleyn, the second wife of the abandoned Henry VIII.; and immediately adjoining is the resting-place of her unworthy adjoining is the resting-place of her unworthy successor, Catherine Howard; the brother of the former, George, Lord Rochfort; and the venerable Margaret, Countess of Salisbury, who was the last descendant of the Plantagenet family.

Near this group was placed the body of Thomas Seymour, Lord High Admiral of England, who was beheaded in 1549, under a warrant from his own brother, the Protector Somerset; and between the two queens lies the Protector himself, brought from the scaffold a few months afterwards. John Dudley, Duke of Northumberland, the rival of the latter, also decapitated, rests here, as do the unfortu-sete Left large Grave on a multiple unsure of a throne, and her husband, Lord Dudley. Thomas Howard, Duke of Norfolk, his son

Philip, Earl of Arundel, and the impetuous Essex, the favourite of Queen Elizabeth, were buried here during her reign. In 1685, tho body of James, Duke of Monmouth, the pro-fligate son of the "merry monarch," who was beheaded for high treason, was placed beneath the communion table; and at the west end of the church, beneath the gallery, are those of Lords Kilmarnock, Balmerino, and Lovat, leaders in the rebellion of 1745. Nor should us communication of the second second second second to the second se we omit in this mournful catalogue the name of Thomas Cromwell, Earl of Essex, who was originally a blacksmith's son, but raised him-self by his talents to be the first minister of king Henry VIII. and was his chief agent in the overthrow of the papal supremacy. Having offended the king, he was committed to the Tower on a charge of high treason, and not-withstanding the most humble supplication for mercy, was beheaded in 1540."

• "Dum idem Gundalfus, ex preceptis regis Gulielmi, prieesset operi magnie Turris Londonike." Textus Roffensis, Quoted by Mr. Gally, knight, in "An Architectural Tour in Normandy," &c. p. 225. † "Architectural Tour in Normandy," ut supra. ; "The Churches of London." Digitized by

CONSTRUCTION OF WASH-HOUSES AND "OTHER SMALL BUILDINGS. WESTVICATION OF METROPULITAN BUILDINGS ACT.

Unput the clause in the Buildings Act. which gives her Majeety's Commissioners of Works and Buildings power to modify any rules thereby prescribed, on the representation of the official reference that the objects of the et would be sitteined better for as effectually by the adoption of mich alteration, the fol-

Whereas the official referees have by their report in writing, bearing date the Sth day of August, 1845, certified to us, that with regard to wash-honses, privies, and other small at-tached or datached buildings, as offices to dwelling-houses within the limits of the Act before mentioned and referred to, it is their opinion that the rule of the said Act, in schebuildings or Offices," videlicet: "With regard to buildings or offices now built, or horesflor to be built (except green-houses vineries, aviaries, or such like buildings) and that whether such buildings or offices be at-tacked to or detached from the buildings to tached to or detached from the buildings to which they belong, every such building is to be desmed in respect of the walls thereof and all scher requisites as a building of the rate to which it would belong if it had been built separately,?' is inapplicable to such wash-houses and other small attached or detached buildings, as offices to dwelling-houses, and that by the adoption of the modification here-inance direction of the modification hereinafter directed of such rule, the objects of the said Act will be attained as effectually. And whereas the official referees have also stated in such report the grounds of such their opinion, and on the investigation thereof it appears to us, the said commissioners, that such opinion is well founded. Now, we the undergned, two of the Commissioners of Works and Buildings, pursuant to, and in exercise of the power in that behalf given to us by the said resided Act, do direct that such modification may be made in the rules prescribed by the said Act; by inserting after the rule of the said Act, in schedule e, part 7, under the bead "At-tached Buildings or Offices," above quoted the following mainter in the same state following words, videlicet :

"Provided siways, with regard to wash-houses, privies, and other small attached or detached buildings built as offices to dwellinghoness in the reference to the external walls

"Phat if any such office building do not excood in area one equare, nor in height eight fact, then the same must be built of brickwork at the least of the thickness of four inches, or bills briek, except the quoins and the jambs of allodog and window openings, which must be at the least eight and a half inches in thickness for a length of eight and a half inches upon every quoin and upon every such jamb, and the same must be built upon footings at the least four inches wider than the wall standing thereon.

And further that if any such office building consisting of one story, and not exceeding eight feet in height, and not exceeding half square in area, be detached from any other building and from ground not in the same oc-cupation to an extent equal at least to its own height from the ground, then the external walls thereof may be of any materials whatsoever.

But that every such office building must be built in every other respect in conformity with the rules and directions of the said Act.

Which modification being made in such rules, will, in our opinion, give effect to the purposes of the said Act.

As witness our hands this 5th day of September, 1845.

ber, 1845. (Signed,) LINCOLN. (Commissioners of Works A. MILNE. and Buildings.

NEW EXCHANGE AT AMSTERDAM .--- This building was opened with great ceremony on the 8th inst. The dimensions are much more considerable than those of the old Exchange as the following particulars will shew :--- Area of the new Exchange 2,833 square ells.; ditto of the old Exchange 2,156 ditto; the new Ex-change covered part, 2,043 ditto; ditto, un-covered 790 ditto; the old Exchange, covered I,163; ditto, uncovered 987.

" MAGNESIAN LIMESTONE, WITH REFERENCE TO ITS PROPERTY AND FITNESS FOR THE COMPOSITION OF MORTAR.

The magnesian limestone formation, from its resisting and extremely durable character, is exceedingly well adapted for a building stone, as well as for making mortar after it has been well as for making mortar after it burnt to a lime, and consequently is a great acquisition for building purposes. Its hardacquisition for building purposes. Its hard-ness appears to be a mean between the extreme haidness of the granitic formation below; and the freedom and softness of the collte above; and its superiority for architectural purposes is moreover considerably enhanced from combining in its formation great strength, com-pactness of texture, and facilities for working; and it is also remarkable in checking and pre-venting vegetation from gathering on its surface, owing to the presence of the magnesia. This stone is found in abundance in several of the northern counties of England, where it is net with in beds sometimes of considerable thickness, alternating with the new red sandstone formation, which, in several places, lies immediately above the coal deposits; and it also appears occasionally resting upon and travers-ing the mountain limestones. When observed by a magnifying power, the aggregated par-ticles of many varieties of this stone appear to have been crystallized into fine rhomboidal shapes, and, from this cause, it has generally the appearance of a very fine sandstone; indeed, it has very frequently been taken for such.

colour of this limestone The being of a pale yellow, light or dark cream, sometimes having a reddish appearance, but commonly of a yellowish brown. It is slightly impregnated with silics, oxide of iron, and alumina, but is almost entirely composed of carbonate of magnesia and carbonate of lime : the relative proportions of these ingredients varies very considerably, the carbonate of lime always predominating, there being from fifty-six to sixty-five per cent. of it in combination with from thirty-five to forty-four per cent. of carbonate of magnesia. Many varieties of this stone are, in their natural state, very hard, much more so than calcareous spars, and sparks of fire are usually emitted when struck with a steel instrument.

When a piece of this stone is expased to the simple test of diluted nitric or murlatic acid, the action of effervescence and the dissolution of its parts are extremely slow and feeble. Pure caustic magnesia, when water is thrown on it, does not become heated and fall to a hydrated powder like other limes; nor does it absorb carbonic acid gas from the atmosphere; but it has a remarkable affinity for silica. During calcination the carbonic acid contained in the magnesia is evolved with greater ra-pidity than it is from the lime; and when mortar is made from this lime it does not harden and indurate near so quickly as some other mortars, owing to its power of absorbing carbonic acid from the atmosphere being extremely slow; for the *lime*, having a much atronger affinity for this acid than the magnesia has, not only absorbs carbonic acid from the air, but attracts and deprives the magnesia of the greater part of that which it itself absorbs.

The setting property of common mortarthat made from nearly pure carbonate of lime, such as chalk— is dependent upon the slow absorption of carbonic acid; and when mortars absorb this acid with great rapidity, they do not attain to so great a degree of hardness as those which absorb it slowly and regularly; therefore from the very slow attraction be-tween the lime made from this stone and the carbonic acid, mortars made of it become very hard and strong, and are not so liable to decay as some which are made from other limestones: for the action of driving rains and the acids of the atmosphere upon the magnesia is so slight, that it affords a powerful protection to the composition; and, in fact, this mortar usually becomes so hard, strong, and resistable, that the exposed joints are often seen projecting before the bricks and stones—where these have been worn down by atmospheric influencesthe mortar being, as it were, untouched or unacted upon. After having been exposed to the action of the atmosphere, even for months together, the calcined stones will still be found in a caustic state; and owing to the great quantity of magnesia in their composition, they

do not slake when water is thrown on them near so readily as those limestones which contain a superabundance of carbonate of lime.

From the magnesia in the lime having a considerable affinity for the silleones and the calcareous sands" mixed with it, during the composition the heat obtained by the admixture of water in slacking, as well as from the chemical attraction between the ingredients, causes the exide of iron and alumina, but more especially the magnesia, somewhat to dissolve, and from the affinity already alfaded to, the ingredients, while in this state, in some degree enter into chemical combination with each other, and therefore these mortars possess the peculiar property of hardening and indurating when used in wet situations or under water. But still the degree of hardness under water. But still the degree of hardness to which they are susceptible of attaining is not extremely great when used in the latter situation; and if the best and most durable mortar is particularly required for hydraulic purposes, this, from the foregoing reason, is not much to be depended on without the addition of an aluminous or oxidating substance capable of improving its hardening and indu-

The properties. The properties. Quisite for proper admixture with this lime depends of course of its attorn and quality, and the sort of work for which it is intended to be used; but from observing the action, and from the appearance of a variety of mortars composed with this indepas well as from several experiments which I have made with it, one pair of lime to two parts of clean coarse sand appears to be the best, as sho the most usual proportion for "try bri damp situa-tions; but when "tijs" moitar "is used and and water, the process of induration is "tweeding by slow, and for this kind of work the propertion of sand to the lime should be something less than for the former purpose, or two parts of sand to one and a half of lime.-John PRILLIPS.

THE SECOND ABCH & OLOGICAL -MBET-ING 'AT' WINCHESTER. "Date

A wAR of words has again commenced ba-tween the friends of the respective divisions. The mighty Times has opened its page to the disputants, and while it batters both associa-tions, with too little consideration if we may venture to say so, for the ability and Tearhild which were unquestionably displayed in both meetings, leans clearly to the side of Lott Albert Conyngham's party, as comprehending the majority, of the original promoters and workers. With the various statements of the two parties our readers have been long ac-guainted: our own opinion, too, upon the ori-ginally insignificant squabble, and the present much-to-be-regretted position of attairs, has been several times expressed; we herefore shall not trouble our readers with any remarks of our own on the present occasion, but pro-ceed to place before them the heads of those papers read at the meeting which relate to A wan of words has again commenced bepapers read at the meeting which relate to architectural antiquities, and will at the end report briefly the ultimate result,

ROMSRY ABBRY ORUBOR.

The following is an abstract of a paper of this structure by the Rev. J. L. Petit.

this structure by the Rev. J. L. Petit.† This ecclesiastical edifice is valuable as pre-senting more completely the outline and general aspect of a purely Norman convential church, than any building of equal dimensions in England. For although a considerable portion of the nave belongs to a later style, still, if the whole is compared with the Norman parts that remain, and we notice how carefully the later part of the work is made to harmonize with the earlier parts, it will fead to a conclusion that the dimensions and proto a conclusion that the dimensions and pro-portions intended by the original architects are preserved throughout; and in fact the whole design followed as nearly as the dif-ference of styles would permit. The choid, transepts, and tower, evidently retain their original plan of elevation, changed only by the depression of roof and gables, and occa-sional alterations in the parapets; these are trifling when compared with those which almost every large Norman church in the country has undergone. Many have their choirs extended, or rebuilt on a different to a conclusion that the dimensions and prochoirs extended, or rebuilt on a different

plan, as Carliele, Ely, Southwell, Selby, Christ Church, in this county, and others. Some have a large superstructure on the old choir, as Tewkesbury, Gloucester, and Nor-wich, which completely changes the character, even if it be accomplished with little deviation from the ground plan; and the erection of later towers, or the addition. of a story to the older ones, as at Kirkstall, or of a spire, as at Norwich, however little the rest of the church may have been changed, gives the whole a totally different aspect from that intended by, the builder. The church, which is cruciform, has a low massive tower at the intersection. The internal arrangement of the east end is remarkable, as it is divided by a central pier, to which a flat external buttress corresponds, having on each side of it a window. The eastern himb of the cross exceeds only by a few feet the length of the transepts. This peculiarity the length of the transepts. This peculiarity is almost universal in pure Norman buildings, though at a very early period in the succeeding style the part eastward of the tower was much lengthened. The choir is a fine Early-English one of seven bays. The Norman part of the church seems to have been commenced a little before the middle of the twelfth century, and it would be difficult to find a purer or more characteristic specimen of the style. The central tower was evidently open as a lantern, and must have had a fine effect; for although perfectly plain on the outside, it is ornamented in the interior with two ranges of arches, in the lower one of which may be noticed a the lower one of which may be housed a peculiarity which shews, how carefully the medieval architects studied position and point of view. Few buildings tell more plainly the atory of their progress to completion. The of view. Few buildings tell more plainly the story of their, progress to completion. The choir, central tower, and transpots, were built in the Norman styles, which they still retain in the Norman styles, which they see small throughout, with a comparatively, a small number of subsequent insertions. The four first bays of the nave (from the tower) were also completed in the same style as high as the string under the clerestory range, though an increased number of mouldings in the triincreased number of mouldings in the tri-forium shew that the transition was in pro-gress, and this was probably the limit of the actual Norman work; but probably the Norman design comprehended the whole length of the present building. The elerestory of the four first hays belongs to that style of pointed architecture called the transition, dis-ing some characteristics of the Norman, espe-eially the square abaque. The three western bays of the nave are purely Early English; a very small interval of time must have elapsed between the completion of the former part, and the commencement of these. But though distinct in style, this new portion is made to distinct in style, this new portion is made harmonize as much as possible with the old. In the west front itself, the architect was altogether absolved from the necessity of con-forming to Norman proportions, and how he felt and appreciated his emancipation from the restraint, he has proved by a composition not exceeded in grandeur by any structure of similar dimensions. A vast triplet of lancet windows, the principal one of which must be near forty feet in height, occupies the central compartment; these are comprised under a wide pointed arch, reaching into the gable; in the head of this arch is a cinque-foiled opening. There is no western door, there being fine Early-English doors in the fifth bay of the There is no western door, there being fine Early English doors in the fifth bay of the nave (from the tower) on the north and south sides. This fine edifice is rather distinguished by massiveness and simplicity, than by pro-fusion of ornament; yet its enrichments are not wanting either in variety of design or delicacy of execution. The corbel tables alone would form a valuable study. Romsey Abbey is a remarkable proof how readily the pure Norman and the completely developed Gothic may be made to assimilate with each other. The transition, in fact, is gradual. I have now (continued the rev. gent.), after expressing my thanks for the assistance rendered me by Mr. Carter, in furnishing me with drawings, plans, Carter, in furnishing me with drawings, plans, and measurements, to trespass upon you for a short time langer. You will agree with me that none of our edifices have suffered more from neglect or from inadequate or injudicious repair, that our large, conventual churches; and this from no fault of those to whose care they are committed, but simply from the want of sufficient funds. Such buildings as those to which I have called your attention, are national monutaents; and eight not to depend

upon single parishes, or the exertions of a few individuals in one locality. In the present case private liberality has done much; the fabric is now undergoing a most careful repair. If we who are assembled here in consequence of the interest we take in this and similar objects, encourage by our assistance those engaged in the work (and it has been suggested to me that a proposal has been made to this effect) we shall prove that our interest, does not spring from motives of mere curiosity, but from admiration and affection; that we are in earnest when we profess to cherish those monuments which are most valuable as historical records, as developments of genius, and as legitimate aids to devotion. It is not my office now to appeal to higher feelings and motives; I rest the claim upon the mere value, as an architectual specimen, of the building in question; yet we shall not contribute the less readily from the certainty that while we are gratifying our own feelings, and presenting a suitable testimony to individuals whose work we approve, we are also conferring a benefit of the highest order. (70% were subscribed in onsequence.) Mr. E. A. Freeman read a paper on

THE HOSPITAL OF ST. CROSS,

of which the following is an outline:-In-teresting as are the remains of antiquity with which the city of Winchester abounds—poor fragments though they be of its ancient great-ness—none, perhaps, at all equal the charm at-taching to the hospital of St. Cross. Whether, among the numerous similar societies which fell beneath that spirit of sacrilegious rapacity which could not spare the very rosting places of aged poverty, any at all existed which ap-proached St. Cross in its wealth and splendour, protected St. Cross in its weathr and spiendour, is doubtful. It stands incomparable among its own class—the "roof and crown" of such foundations. No one can pass its threshold without feeling himself landed, as it were, in without feeling himself landed, as it were, in another age—the ancient features of the build-ing, the noble gateway, the quadrangle, the common refectory, the cloisters, and, rising above all, the lotty and massive pile of the venerable church; the uniform garb and re-verend mien of the aged brethrep, the com-mon provision for their declining years the verend mien of the aged orethren, the com-mon provision for their declining years, the dole at the gate house — all lead back the thoughts to days when men gave their best to God's honour, and looked an what was done to his poor as done to himself; and were as lavish of architectural beauty on what moas lavish of architectural ocating on and dern habits might deem a receptacle for beggars, as on the noblest royal palaces. The hospital was founded in 1136, by Henry de Blois, Bishop of Winchester, to whom also is attributed the design of the Abbey Church of Romsey. Like that church, it seems to have been built from one uniform plan, but being erected at the time when Gothic architccture was beginning to be engrafted on Ro-manesque, the details of the different parts of the church vary, so that, though in an inferior degree to Romsey, it affords a valuable lesson in the transition from Roman to Gothic architecture. It does not indeed exhibit some change in detail at almost every step, and some parts are apparently actual alterations, still the transition is well and plainly marked, and the idea of the whole church and many of the details are admirable. The church is cruciform, possessing, small as the building is, all the features of a conventual or collegiate establishment— that indescribable something which distinguishes the minster from the which distinguishes the minster from the parish church: no one, even were the hospital buildings not attached, could mistake it for a mere parochial edifice. The church is re-markably lofty for its other proportions, a great merit, as I think, English buildings, of whatever rank, being, with a few exceptions, ordinarily too low. Mr. Freeman gave a minute description of the church. The eastern end, which is the most ancient portion of the building, is a fine specimen of Roman-esque in all its purity and majesty. The west front is also advirable. It is well finished esque in all its purity and majesty. The west front is also admirable. It is well finished, with buttresses and strings, and this elegant doorway, with the splendid western window, the graceful lancets at the ends of the aisles, and the small gable lights, collectively form a mort house in a comparison. most beautiful and simple composition. The west window and clerestory, all fully deve-loped Decorated, are the latest portions of the original church, which seem to have been erected at intervals during a period of more

then a contury. On entering the church at than a contrys: Any warring our sum on any point, two: particulars are, abserved, in which English churches are, for the most part but too deficient—height and vaulting, the latter continued throughout the claroby. The choir and transpots are transition, and af-ford a vast mine of Romassaute ornaminat but, where the work remains, have death more of 'a Romannsque charaoser, ienbept in the pointed pier, and vaulting tambes, isid in the tendency to rounds and hollows in the mouldings; the abaoi are still isquare, fand all the capitals and fornamental surfaces mouldings retain the character of the late highly enriched retaining engraces, or and may my my entrunes. Norman style... But it is very remarkable that the original Norman piers; have either been cased or size removed, and have given way to have outgonal ones of perpendicular style. The choir seems, like that of Romsey church, to have been surrounded by a solid, wall as a screen. Some of the shafts are of marble, but screen: Some of the shafts are of marble, but their/tints, as well as those of the ancient: paintings; which seem nearly to have covered the chancel wall, are ruthlessly smothered by a dingy yellow wash. Above the pier arches is the celebrated triforium of intermeeting arches, to which Dr. Milner stributes the origin of the pointed style. It becomes as to speak gently of one who, though of course far behind the present advance of architectural knowledge, was certainly far before meet of his own are equally in knowledge, 'taste, and reverence; but it will be hardly necessary to do more to allude to this as s mere sepleded' theory. Probably the windows, which have been the occasion of so much controversy and theory, were merely out through the elder theory, were merely sut through the elder openings for the purpose of giving additional light, at the same time that the roof of the aiale was lowered, most probably during the fifteenth century. In the nave the rapid pro-gress of the transition 'may be easily traced. The first pier, reckoning from the easily is a half cluster, retaining the Romanesque capital and abacus; the reat may be considered as Early English, the final pier being a very graceful half cluster. The font remains in the neve, a Norman basin mounted on a later vise, as at Dorchester. The church appears to have suffered very much as to its arrangements, by being made a place of parochial worship for the parish of St. Faith, the arrangement of some of the stalls has been altered, and pawas and other incumbrances introduced. The doimestic buildings are said to have been originally situated on the south side of the church. and to have been rebuilt on their presentiate to the north, by the second founder of the hea-pital, Cardinal Beaufort, The most prantiment objects are the noble gate boute and the daily with its elegant windows and hold apent raded The whole retains, nearly " throughout and ancient air. be at the Tourt . The art to

THE ARCHITECTURAL HISTORY OF THE CATHEDBAL

vas undertaken by Professor Williss and was was undertaken by trotestor with stand was looked for anxiously by those whe had heard of his discourse last year at Canterbury. For the report of the professor's present remarks, we avail ourselves of the notice of it, in the Athenxum (where it appears evidently "by authority"), in preference to our own notes. He here had

He began by regretting that Winchester had not, like Canterbury, a Gervane for its histo-rian. The references to its early history were a few detached notes contained in two of our old chronicles, and in these cases unfortunately the name of the individual who furnished the funds was given, and not the individual who designed the building. It was his wish to com-pare these detached notes with the existing pare these detached notes with the existing building, and to assign the several portions to the probable period of their erection. Much had been done in this way by the late Dr. Mil-ner, the able historian of the city, and one of the fathers of the present race of architectural antiquaries. But Milner had still left someantiquaries. But Milner had still left some-thing for succeeding antiquaries to accomplish. "I will not detain you," he suid, " with the legendary history of the cathedral, but select only those parts, as I go on, which relate to the architecture of the building. The present transepts were thought by some writers to be of Saxon workmanship, but there was no por-tion of the edifice older than the Norman Con-quest and the period of Bishop Walkelyn. The excessive rudeness of the architecture of the transents has led people into this intenable. transepts has led people into this untenable opinion. Now we know for certain that the

centre tower of the building fell not long after the interment of William Rufus, in the choir the incoment of winnam funds, in the choir of the cathedral, and that the tower was rebuilt immediately, after this disaster. The tower-piers of the present edifice are the largest tower piers in England; they are a great deal too large for architectural elegance and for the weight they were required to carry; and I am inclined to think that they were erected by a people labouring under a kind of panic — a people determined to erect an edifice not likely to fall for a long time to come. Now the tower that fell he helieved to have been the work of Bishop Walkelyn, a Norman bishop, and this was partly confirmed by the circumstance, that the tower of Ely Cathedral, built by the Bishop the tower of Ely Cathedral, built by the Bishop of Ely, the brother of Bishop Walkelyn, foll in also, though, it is true, at a period somewhat later. But the brothers, it appeared to him, worked with the same school of masons, and probably with the same design. The plan of Bishop Walkelyn's building was preserved in the crypt of the present cathedral, and he would direct the attention of all who are curiwould direct the attention of all who are curi-ous in the progressive history of our architec-ture, to a careful study of this crypt—an ex-amination easy at this time, from the liberality of the dean and chapter, who had thrown open every part and recess of the cathedral to the machine of the Ambralogical Association members of the Archæological Association. And here he would wish to call attention to a curions discovery that had been only recently made, viz., that a bed of concrete foundation, extending to a distance of about fifty feet from the western portion of the edifice, had been laid there, evidently with the intention of carry-ing two large towers. The limits of this con-crete foundation had been laid open by the liberality of the dean and chapter, who were anxious to render every assistance in their power likely in any way to illustrate the his-tory of their cathedral. Bishop de Lucy, who died in 1204, was the builder of the low-roofed aisles and chapel, and the east of the choir, which are in the so-called Early-English style of architecture : and this he did without disturbing the walls of the Lady Chapel, as was evident from the distinct seam of masonry between them. Hereford, Salisbury, Chiches-ter, St. Albans, Wells, Exeter, and Romsey, afforded similar instances of the aisles to the amorded similar instances of the aisies to the east being lower than the choir itself. He would now make a jump from 1204 to 1370, from Bishon de Lucy to Bishop de Edington, Wykeham's predecessor in the see of Winches-ter, William do Edington left certain moneys for the completion of the anthedrel, but no one ter, William do Edington interesting on one for the completion of the cathedral, but no one determined what portion of the mas mapping determined what portion of the edifice was erected with this money. The whole of the nave and of the west end of the cathedral, were built, either by Edington or Wykeham, and it now became desirable to dis-tinguish the work of Wykeham from the work of his predecessor in the see. After a very careful examination of the whole of the area careful examination of the whole of the nave for this purpose, and after an equally careful examination of the two passages in Wyke-ham's will, which relate to the works at Winchester, he had come to the conclusion that the great west window, and a west window in each of the side aisles, were the work of Eding-ton. The curious observer might remark this ton. The curious observer might remark this for himself, by contrasting the coarse mould-ings of Edington's work with the more delicate mouldings of Wykeham's workmanship. Wil-liam of Wykeham was a very practical man, and was, moreover, the architect of his own cathedral. But Wykeham rather re-adapted the Norman work, than rebuilt the whole of the new from the foundation. The Norman the nave from the foundation. The Norman nave originally consisted of a low pier arch, nave originally consisted of a low pier arch, a triforium, and a clerestory; the nave of Wykehum (the present nave) of a high pier arch, a balcony (rather than a gallery), and a lofty clerestory window. The difference be-tween the two would be seen at a glance by the sections he had prepared for this purpose. William of Wykeham scraped and reduced the old Norman piers—shaped their square edges of masonry into ornsmental monIdings—three of masonry into ornamental mouldings-threw the triforium and small clercstory windows into a handsome balcony and lofty clerestory windows, producing in this way the style dis-tinguished as Perpendicular. It would be, perhaps, sufficient evidence of this view of what Wykeham did, to refer solely to the Norman character of the masonry, so distinctly "observable in the piers of the nave; but, hap-nully for this wind there was a further and still plly for this view, there was a further and still stronger evidence in the original Norman

arches of the triforium, which still remain, left there by this great architect, to strengthen and support the work he had reduced from rude strength into work equally strong, and far more elegant and graceful. From the work of Wykeham he would then pass to the choir, the work of a later period, for which there was no other than heraldic evidence, and the infor-mation derived from the study of the several eras of architecture which it exhibits."

In comparing this account of the cathedral with that by Mr. Cresy, which appeared in our pages a few weeks ago,[•] the main point of difference is seen to be the existence of any part of the Saxon structure. We may hereafter discuss this question.

Professor Cockerell followed Mr. Willis with some cbservations on

THE WORKS OF WILLIAM OF WYKEHAM.

He said, "As a professional architect, ac-customed to contend with the difficulties of uniting in an extensive and therefore, necessarily a complex plan, the paramount conside-ration of convenience and economy of distribution with proportion and beauty, I have been ever impressed with the great merit of William of Wykeham in these respects, and with the lessons of wisdom and of taste which his works display. As the deviser of the Kings's Buildings at Windsor and at Queen-borough, versed in military no less than in civil architecture, Wykeham acquired all the sagacity of an experienced tactician in the management of the accidents and advantages of site. His works at Winchester and at Oxford will well repay an attentive examination; by such an examination the architect will be enabled to appreciate the skill of a great master in the science of his art, while they reveal to him the leading motives which guided the economy and the style of monastic and ecclesiastical buildings in a very interesting period in the history of English architecture." The professor then explained the course pursued by William of Wykeham in enlarging

and rebuilding the grammer school where he received his education, and described the various portions that he erected :-

"The chapel is a very fine one. The chief ornaments of this noble chapel are the groined ceiling in wood, perhaps the most elegant spe-cimen of groining in its day, and, at the same time, a most carious specimen of the carpentry of the period. It has been erected at greater cost and in better taste than the roof of the chapel of the same great architect at Oxford, which is a mere hammer beam roof. We are to attribute this superiority, I presume, either to the affection of the architect for the scene of his early education or to the greater funds at his command when his college at Win-chester was built, for New College, Oxford, is a building of an earlier date than the noble college in this most interesting city. The second glory of this elegant chapel is the contemporaneous east window describing the genealogy of our Saviour. Near the head of Jesse are three small figures kneeling. These three figures are in the highest degree interesting-representing, as they do, the effigies of the surveyor, carpenter, and glazier of this most noble edifice.

I wish I could extend my commendations to the small chapel and oratory at the west end of the building as you enter, and to the bell tower, built simultaneously against Wykeham's Chapel, seventy years after the death of the founder. But I cannot. These works, however tasteful they may appear in their external forms, have proved alike ruinous to the work of the founder, and the architectural reputations of all concerned. The bell-tower of this interesting chapel is now in a most hazardous condition, and will undoubtedly entail considerable expense before many years

are over. The proportions of Wykeham's chapel, at Winchester, are infinitely superior to the pro-portions of his chapel at Oxford. The chapel at Winchester is three diameters in length, and not quite two in height. The chapel at Oxford not quite three. I wish I could explain to you the superior beauty of the three diameters over the not quite three. The comparative drawings which I have had made for the purpose of illustration, which are open to your inspection, will best explain to you the superior beauty of the Winchester proportions,

* See p. 386,

and I shall be happy to answer, to the best of my ability, any questions which you may please to put to me on the subject of the architecture to put to me on the subject of the architecture of Wykeham's College, in the college itself, which it is your intention to examine this afternoon on your way to the cathedral. The perception of proportion seems to be the last acquirement of the student of architecture. e begin by admiring ornaments, details, and forms, but it is at a more advanced state that we make all these considerations subordinate to that sense of rhythmical proportion, that harmony of dimensions, which affects the mind through the eyes, like a mathematical mind through the eyes, like a mathematical truth, and like a concord of musical sounds is perceived and confessed by the ear as obvious and unalterable."

It is pleasant to find the professor, notwithstanding the expressions of contempt with which he occasionally alludes to Gothic architecture from his chair at the Academy, expa-tiating eloquently on the genins of William of Wykeham.

Mr. E. Smirk offered some remarks on

THE COUNTY RALL. 1 /

THE COUNTY HALL. The late Dr. Milner, and others who pre-ceded him, have stated as a fact beyond con-tradiction, that the Assize Hall of Winchester had been a chapel dedicated to St. Stephen, and coeval with the king of that name, by whom they suppose the castle to have been built, and the round table of Authur made. In consequence of this conrest belief, a con-troversy has lately arises at Winchester, and the county has been charged with the descra-tion of an ecclesiastical building. The object of the paper was to shew that it was an ancient hall of the castle eracted, or rather rebuilt, by Henry III. The arrangement and, plan of the hall of the castle crected, or rather rebuilt, by Henry III. The arrangement and plan of the building indicate that this was its original destination, being wholly unlike those of any sacred edifice. The windows and scats under them, and the position and form of windows shew this. Nor is it probable that so large a chapel existed where there was no collegiate or conventual establishment. The contem-porary records shew that there were, four chaplains and chapels in, or attached to the castle, who were paid by elecanosynary stipends out of moneys that annually came into the sheriffs hands, and there was no endowthe sheriffs hands, and there was no endowthe sheriffs hands, and there was no endow-ment or provision for an establishment ade-quate to the service of so magnificent a chapel. These presumptive proofs against its dedica-tion as a chapel are confirmed by the Pipe Liberate, and other rolls and accounts, extend-ing through thereigns of Henry IIL, Edward L, Richard II., and Henry VI., in all of which the "Great Hall" is constantly referred to and no such chapel as St. Stephen ever men tioned. The castle was probably spected by tioned. The castle was probably erected by the Conqueror, and there was a hall before the time of Henry III., but the latter sovereign was doubtless the substantial founder of the present hall, which was perhaps based on the old one. Numerous entries in contem-porary rolls point out the gradual progress of the work, and the expense of the carriage of stone for the columns is mentioned in detail in detached accounts. The hall was probably always used for the administration of justice. There is a striking instance in the reign of Henry III., mentioned by Matthew Paris. In the reign of Elizabeth it was in a decayed the reign of Elizabeth it was in a decayed state, and underwent repairs by the corpora-tion and the crown; and the local records of the county, which begin in the 16th century, shew its constant designation as "the Great Hall," and constant use for the purposes of sectors and essertions assizes and sessions.

EAST MEON CHURCH, HANTS.

Was chosen by Mr. O. B. Carter for illustration. He said, a correspondent in the Gentleman's Magazine of 1816, states thus—It is a well-authenticated fact that Wolkelyn, the cousin of the Conqueror, evinced his liberality and taste by the erection of this present fine church. Be this as it may, this parish appears church. Be this as it may, this parish appears to have engaged his special attention, and this circumstance may, perhaps, be accounted for by the close connection between the parish and the see of Winchester. The church, as it at present exists, presents a fine specimen of Norman architecture in its lower and principal doorware. It was conjudently a considered doorways. It was evidently a cruciform structure in its original state, lighted by small windows, of which one only at present remains. and is shewn on the north-west angle of the

pave. The south aisles, both of the nave and chancel, are evidently additions in the early part of the thirteenth century, and the manner in which the communication with the south transept is effected, under the flying buttress, is worthy of notice. The east and west windows present indications, in their joint mouldings, of having been insertions of the same period, but they have been subsequently sltered, and are, at present, in a very anoma-lous condition. The straight-sided arch of the south transept is well worthy of notice, and is particularly effective. The pulpit is of stone, and is a very good specimen of perpendicular work. It remains merely to notice the font.-It is of the same date as the fonts at Win-chester cathedral, and St. Michael's church, Southampton, and is the work of the same in-dividual. The material of these fonts has been described as black marble, but I have been informed by a competent authority that they are of blue lias. The spire is of lead, and from the character of the corbel table which finishes the tower, and is, probably, of the same date, I should assign its erection to the early part of the thirteenth century, the same date already montioned as that of the aisles. In the south-western window of the tower is still suspended the tintinabulum or saint's bell, by which appellation it is still distinguished.

The Rev. C. H. Hartshorne contributed the following paper on

PORCHESTER CASTLE.

The natural position of Porchester rendered it eligible as an early fortress so soon as the Romans had gained a fonting in Great Britain; the precise age of it is uncertain, but probably bater than the works at Richborough, Peven-sey, and Dover. The inhabitants of Hamp-shire having assisted those of Brittany in their revolt against the youthful Crassus, urged Cæsar the following year to undertake the conquest of Britain, His landing-place doubtful, but effected exactly 1900 years back. In the uncertainty as to the precise dates of the different Roman fortresses on the southern coast, it is essential to examine the modes of construction employed in the works themselves, since this plan will exhibit the close analogy and characteristic marks of Roman architecture in England, with what is observable on the opposite coast; and shew that all the military works of that age are precisely the same in their principles. The works on the coast are the earliest; and as the conquest of the country extended, the same quadrangular forms of en-campment followed its progress. The foundations of these buildings, npon examination, shew them to have been laid in conformity to the rules given by Vitruvius. The towers on the walls, the modes adopted to give them the walls, the modes adopted to give them stability, and the method of binding them to-gether, by means of Roman brick, the bad building materials employed in the work, are all in obedience to the precepts of this great architect, as shewn at Leicester, Lincoln, Wroxeter, Burgh, Richborough, Dover, Por-chester, and other places. The same system, in fact, prevails from Caenwent and Caernaryon to Dover and Silchester: and from Lillhonne to Dover and Silchester; and from Lillebonne and Soissons to Autur in France. The dura-bility of these tiles is occasioned by the clay having been thrown up a long time previously to its being used. The more important question of cements was next entered upon, from which it appeared that by a careful analysis having been made of several, they were found to agree with the rules of Vitruvius, and, moreove , to shew that their peculiar hardness depends upon their coarseness, which hastens crystallization, and causes the latent cohesives of the slaked lime to be brought into neas of the slaked lime to be brought into action, so that the mass became more perfectly carbonated. By the application of this kind of inquiry it is proved that Porchester still exhibits, notwithstanding the continued repairs it has undergone, from the reign of Henry II. to the present day, indisputable marks of its high antiquity. But there is no connecting link between the genuine Roman work of the link between the genuine Roman work of the second century and the Norman keep of the twelfth. This keep, which was the temporary residence of King John on nineteen different occasions, gives a curious insight into the do-mestic inconveniences of the early English monarchs, who, when compelled to stay within doors, must have passed much of their time in murky twilight,-a gloom they tried to dissi-

pate by the great quantity of wine that was These always ordered to precede their visits. castles were always held by constables under the crown, and garrisoned by its tenants, who were bound to perform service here during time of war, on which tenure they frequently held their estates. During the prevailing taste for the outdury of concentration architecture, it for the study of ecclesiastical is to be feared that the military remains of England, which do not make the same sacred appeals for preservation, do not receive the attention that patriotism should excite, and are suffered to perish without any exertions being made to record their character. Yet they must ever be dear to the history of our country, as having been at once its terror and safeguard. Structures, it is true, that rose at the bidding of ambitious rulers, and at a time when the upper classes tyrannically repressed every exertion that aimed at extending the natural rights of society, yet are still to be preserved as the memorials of a despotism which civilization has overthrown, to shew posterity that the misery and rapine inseparable from feudalism has been transferred from bitter endurance to the pages of history, or the records of national injustice, and to teach them how dearly those privileges should be cherished which a gracious sovereign has ratified to a united people. Stained as these fabrics may be by the deeds of unrelenting and merciless men, still let their tottering walls be kept from entire destruction, were it only to afford a sequestered spot where the unlettered hind may gaze in mute astonish-ment and moralize, where the painter may gather up those broken lines of beauty that charm and captivate the eye when traced upon his canvas, and where the exploits of chivalry - the songs of wandering minstrels - the fictions of legendary lors — and the charities of holy men may become idealised by the crea-- and the charities of tions of poetry.

Our notice of the papers read already engrosses more space that we can spare, and only leaves us room to mention briefly, that at a general meeting held on Monday last, Lord forthampton in the chair, the name of this division of the old society was changed to "The Archeological Institute of Great Britain and Ireland." Lord Northampton was elected Lord Northampton was elected and Ireland." Lord NorthBurgers, and York was president for the ensuing year, and York was fixed on as the next meeting-place. highly applaud the committee for the alteration in the title, and trust that the two societies will now separately pursue their important objects each in their own way and without collision.

ENGLISH CARVINGS.

WE have recently examined with much gratification a number of beautiful carvings by Mr. Rogers, of Newport street; the more so because some of them are executed for a foreigner, and are to be sent to Paris. We allude particularly to the decorations of a ca-binet for the new mansion of Signor Mario, in The frieze is composed of grotesques, Paris. masks, the infant genii sporting in the foliage; the tablets below have boldly sculptured trophies of the sports, shields, and monograms. Above the cornice are six Fiamingo-like boys half life size, representing the seasons, another room is an enriched border for a pichalf life size, representing the seasons. &c. In ture, from "Spenser's Faëry Queen," 8 feet high, 6 feet wide, projecting about 16 inches; this is composed of the lightest Venetian foliage, bound together with garlands of flowers, in which are gamboling boys with musical in-struments, mounted with the bust of Queen Elizabeth, and a scarf to be chased in the manner of the old Venetian work.

Mr. Rogers has addressed a letter to us denying the truth of a remark on him in the communication signed "Justice," which ap-peared in our columns last week. As to his personal skill in carving (a matter with which, excepting in connection with the terms of the Government competition, we should not sllow any remark in our journal), Mr. Rogers re-marks that he "served seven years to it with it with the late David Mc Lauchaulan, and therefore ought to know something about it. I have created, by my own industry during the last twenty years, a *large* business, and have been rewarded by liberal patronage from almost every capital in Europe, as well as in my own country, where her Majesty's Commissioners awarded me the most unqualified and marked approbation.

In reference to the workman whose name was mentioned as one of my best men, I never had a man of that name in my establishment; but in looking over my books, I find in 1837, during an excess of business, that several outdoor journeymen as supernumeraries were em-ployed, and that one of that name had three weeks' work. What impression that could have made on the carvings sent to St. James's Bazaar (as their value was six or eight hundred pounds), I leave you to judge."

MACHINE FOR MAKING BRICKS FROM UNTEMPERED CLAY.

A PATENT for this purpose has lately been granted in America to Mr. Benjamin H. Brown. The following abridgment is from Mr. Keller's reports in the Franklin Journal.

The clay, as it is taken from the bank, is deposited in a hopper by elevators, and from the hopper it passes between two rollers, that move with different velocities, by which it is drawn through in thin cakes, and thrown on to a set of permanent teeth, and there cut up by the action of sets of teeth on a roller that works between the permanent teeth. It is then conducted by a spout into a moveship mould which, when filled, slides under a piston, actuated by a cam, to be compressed and formed into a brick, which is then discharged by a follower, actuated by another cam that forms the bed of the mould.

Claim .- " I do not claim the use of the cams for operating the pistons in pressing brick, nor do I claim the manner in which the bricks are received, compressed, and de-livered; but what I do claim as my invention, and which I desire to secure by letters patent, is the arrangement of the two cams for effecting the pressure and delivery of the bricks, in combination with the pistons and moveable mould. I also claim the combination of the rollers and pins for pulverizing the clay as above described."

SETTING OUT CURVES ON RAILWAYS.

SIR,-Permit me, through the medium of your valuable columns, to express my obliga-tion for the very useful information given by Mr. Hawkins respecting the setting out of curves on railways. Although I have never had any practice in railway surveying, yet I have taken considerable interest in the subject; it may not, therefore, be deemed presumptuous in me to offer the following method (in addition to those already given by Mr. Hawkins), for setting out a new tangent to the curve, which presented itself to me whilst investigat-ing the formula given in your journal.

Referring to the diagram (in BUILDER, July 26th), let D be the last ascertained point in the curve from whence it is required to set off the new tangent. From A, lay off on A T A $B + B D^2$

a line equal to $\frac{\overline{A B}}{2}$ a line from the point

thus determined ranged forward through D, will be the tangent required. E. Ordnance Trigonometrical Survey Office, Preston, E. NUGENT.

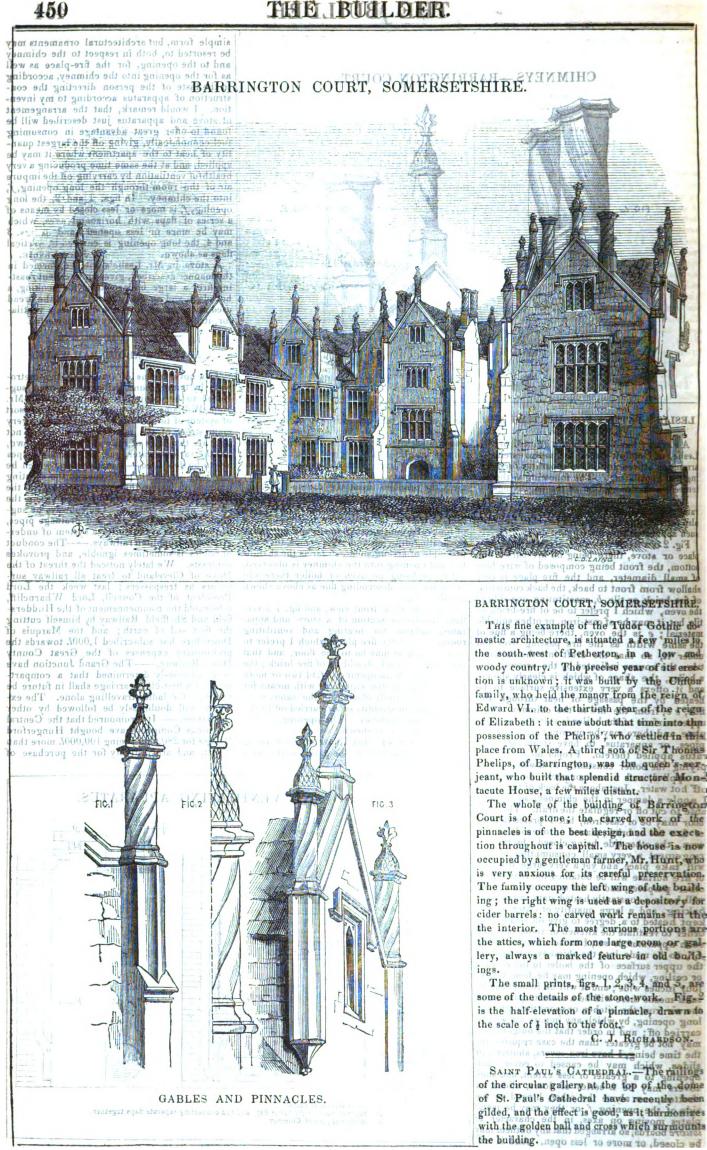
. If our correspondent will reconsider the formula given by Mr. Hawkins, he will find that it is a reduction from the above impression.

ARCHITECTS' DESIGNS.

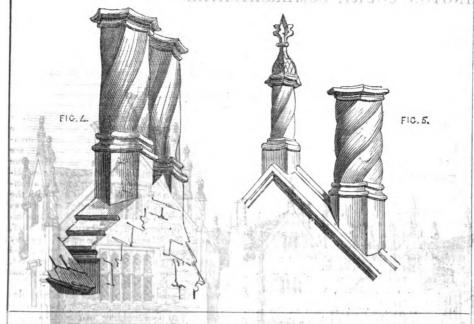
WE have received a letter from Mr. Cooper, rchitect of the "Booksellers' Provident Architect of the "Booksellers' Provident Retreat," referred to in our last number, complaining, as we had not ourselves seen the design, that we had inserted the opinion of some who had. If architects will not furnish us with information of their works, or afford us opportunities for judging of them by litho-graphs, &c., when published, and in some cases even neglect to reply to a polite inquiry, they must take the chance of being misrepre-sented in ignorance. We have yet to learn, however, that our informant's opinion of Mr. Cooper's design is unsound.

ABUNDEL CASTLE.-The Duke of Norfolk has given permission to view the exterior of Arundel castle, and the keep, on Mondays and Fridays during the season.

THE BUILDER.



CHIMNEYS, BARRINGTON COURT.



LESLIE'S PATENT FOR HEATING AND VENTILATING.

A PATENT has been recently granted to Mr. Leslie, of Conduit-street, for improvements in arranging stoves and other apparatus for heating and ventilating. The following is the patentee's own description of the engravings :-Fig. I shews the section of a stove and appa-

Fig. 1 shews the section of a stove and apparatus for heating a boiler and an oven, and also for ventilating a kitchen or room, in which such apparatus may be employed. Fig. 2 is a front view thereof; *a a* is the fireplace or stove, there being no fire-bars at the cottom the for the being no fire-bars at the

bottom, the front being composed of wire-bars of small diameter, and the fire place is very shallow from front to back, the back consisting of fire brick or tile, b, constituting one side of the oven, which I prefer to be of fire-brick or tile, but it may be of cast iron, or other suitable material; e is the oven, there being a flue of the same width as the fire passing over and under 'it, so that the draft into the chimney takes the course indicated by the arrows; d is a boiler, the shape of which is clearly shewn, and it offers a very extensive surface to be heated by the passage of heat through the flue, e e, from the fire to the chimney. The piper surface of the boiler is suitable for a hot plate, and there may be openings with suitable pipes, or apparatus, to have steaming appa-ratus applied thereto. Proper means of sup-plying the boiler constantly with water are to be applied, and a cock or cocke for drawing upper surface of the boiler is suitable for a hot e applied, and a cock or cocks for drawing off hot water. Just above the back of the boiler I apply a damper in the chimney, so as to be able to cut off or regulate the draft. The oven door may be of cast-iron, but I prefer it to be of fire tile or brick, placed on one side of the oven, the other side being closed; by this arrangement a very small consumption of fuel will take place, and yet a very large frontage of fire surface will be obtained for roasting or other purposes, and at the same time the oven will be in a constantly heated state suitable for baking, and a large quantity of water will be kept heated to a degree to give off steam. In order to ventilate the kitchen or room in which such apparatus is set, I cause a long opening, f, to be made into the chimney, rising from the upper surface of the boiler to the cornice or ceiling, which opening may be from two to four inches wide; and it will be found that by such means there will be a constant passage of the size form the bitchen or room through such the air from the kitchen or room through such long opening, by which any impure air will be carried off; and in order that the outgoing air may not be greater than the case requires for the time being, I have iron covers, shutters, or slides, which may be caused to cover such opening to a greater or less extent, and such covers may be a series of doors, slides, or shutters, one above the other, hinged to the side of the opening, f, or they may be metal plates moving on axes, in the character of *louvre* boards, so arranged that any of them may be closed, or more or less open. And it will

be found by this arrangement of apparatus there will be no tendency for the smoke or vapours passing up the chimney from the fire to pass into the kitchen or room, but there will be a constant draft from the kitchen or room up the chimney, which will not only carry away the products from the fire up the chimney, but also the air from the room or kitchen, thus producing any desired degree of ventilation, as well as an advantageous consumption of fuel. In constructing stoves and apparatus for heating drawing and other rooms, the same principle of arrangement, so far as the shallow fire and opening into the chimney is observed, but there being no oven or boiler there will be no tortuous descending flue as above shewn and described.

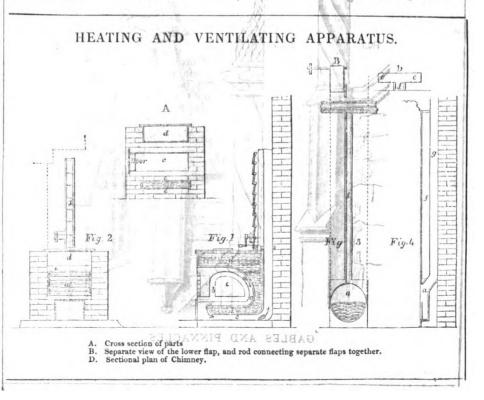
Fig. 3 shews a front view, and fig. 4 a vertical transverse section of a stove and apparatus, suitable for heating and ventilating rooms; a a is the fire-place, which I prefer to have as near as may be to the floor, and that the sides and back should be of fire-brick; the chimney, g, has an opening, ff, of two or more inches wide in the chimney, with means for closing or partially closing of the same, so as to regulate the quantity of air carried off by the draft up the chimney. The opening, f, rises to the cornice as is shewn.

I would remark, that I have in the drawing shewn the apparatus in the plainest and most simple form, but architectural ornaments may be resorted to, both in respect to the chimney and to the opening, for the fire-place as well as for the opening into the chimney, according to the taste of the person directing the construction of apparatus according to my invention. I would remark, that the arrangement of stove and apparatus just described will be found to offer great advantage in consuming fuel economically, giving off the largest quantity of heat to the apartment where it may be applied, and at the same time producing a very healthful ventilation by carrying off the impure air of the room through the long opening, f, into the chimney. In figs. 1 and 2, the long opening, f, is more or less closed by means of a series of flaps with horizontal axes, which may be more or less opened; and in figs. 3 and 4, the long opening is covered by vertical flaps as shewn.

and 4, the long opening is covered by related flaps as shewn. JOHN LESLIE. A stove in Mr. Leslie's kitchen, formed in the manner described, gives an excellent roasting fire, a large boiler, steam for cooking, a hot plate, and an oven that bakes all the bread used in the house, for 7d. a day. As a ventilator, its effect is necessarily very powerful.

JOTTINGS ABOUT RAILWAYS.

The novel means of traversing the metropolis by underground railways has been suggested to her Majesty's government by a Mr. John Williams. He proposes to make a sort of system of tunnels under and through every main street of the metropolis; in which not only are two lines of railways to be laid down, but the various water, gas, and drainage pipes are to be deposited — a matter alone which he has long urged in preference to the existing practice of laying the water pipes, &c., in the earth, inaccessible except by breaking up the streets and pavements. The subways he suggests for the water, gas, and drainage pipes, are to be made available for a system of underground metropolitan railways. — The conduct of nobles is sometimes ignoble, and provokes contrasts. We lately noticed the threat of the Duke of Cleveland to treat all railway surveyors as trespassers; last week the Lord President of the Council, Lord Wharncliff, celebrated the commencement of the Huddersfield and Sheffield Railway by himself cutting the first sod of earth; and the Marquis of Downshire has subscribed 1,000%. towards the preliminary expenses of the Great County Down Railway. — The Grand Junction have very judiciously determined that a compartment of a first-class carriage shall in future be reserved for ladies travelling alone. The example will doubtlessly be followed by other companies. — It is rumoured that the Central Terminus Company have bought Hungerford Bridge for 280,0002, being 100,002, more than it cost, and are in treaty for the purchase of



the market itself as their station .--- A correspondent of the Rost has suggested that at might, or during fogs, when signals are not wisible, the signal man should reply to the whistle of the angias by some sound—a large bell, for instance, giving thereby an assurance The savans of the French that all is right.-Academy are busying themselves with rail-ways. M. Laborde proposes an electric tele-graph, which is to tell its signals by sounds. M. Ruaux has a plan to substitute horse power for steam in locomotives.----The immediate effect of the opening of the railway to Guildford has been to reduce the prize of coals 10s. per ton-an effect which has had a sensible influence in smoothing away the prejudices with which the advent of the railway was regarded. Three months ago there were three coaches between Guildford and London daily. There are now trains ten times in the day.-Perhaps the most startling project in modern times, is the attempt to establish a Great European Railway Company, whose object is to supply railway accommodation to a popula-tion of only 236,000,000 of human beings. From their prospectus now before us, we learn that the portion of the earth comprehended stitution have procured the model of a novel invention recently brought from the United States ; the object of which is to enable trains to ascend acclivities or steep gradients on railroads. It has an Archimedean screw between the axles of the carriage, which comes in contact, when required, with a series of friction follers, placed between the rails; and by means of this contrivance the carriage and train attached to it are forced up the incline. The apparatus is brought into action without delay or stoppage, and in the model mounts a gradient of about 1 inch in 6. Two gentlemen, claim the merit and the patent-right of the invention, the one is Mr. Coleman from America, whose model we have just described; the other is Mr. Templeton, who we under stand obtained letters patent for this and other improvements in railway propulsion some time previous to those of Mr. Coleman. Messrs. Bailton and Son, of Manchester, in their circular, make the following remarks on their circular, mane the longering for the she present day for becoming railway directors in a many companies as possible. "From an many gompanies as possible. "From amongst many who eminently figure as aspirants for railway fame, we matching figure as aspi-rants for railway fame, we may quote a gentle-man lauded in the *Hampshire Independent* as the railway vice oy, and who vertainly seems as worthy of extensive fame as any literary or scientific D, D., M.D., or F.R.S.; and, if ab-breviated titles of honour mean any thing, this gentleman is entitled to the following appendages to his name, as signifying the relation in with one London and Windsor railway are nearly completed. We understand the line decided upon is through Knightsbridge, Kensington, Hammersmith, Turnham-green, Brentford, Hounslow, Bedfont, Staines, to Windsor, by a tunnel under the Long Walk, with an alternative line from Staines to page with an alternative line from Staines to pass by Datchet, and enter Windsor by a bridge at Black Potts.—The following is the course determined upon for the Richmond railway. The terminus will be in the Broadway, Richmond. The line will then run nearly parallel with the Richmond-road, as far as East Sheen, leaving Kew a mile and a half distant on the left. It will afterwards cross Barnes-common, having a station as near to the high road leading to llammersmith bridge as convenient, and ing to Liammersmith-bridge as convenient, and funning alongside the Upper Richmond-road, will cross Putney High-street by a cutting of from 12 to 18 feet in depth, over which a bridge will be thrown, to continue the old thoroughfare. This cutting will be continued to North-fields, Wandsworth, where a viaduct will be commended and as the will be commenced, and carried across the road leading from Wandsworth to Putney,

THE BUILDER.

through a row of houses called Point-pleasant, across some marshy land to an extensive osier bed. Here the excavation will have to be carried 18 feet deep before a foundation can be obtained for the viaduct, and in consequence of the tides overflowing this part, it will be the most difficult undertaking on the whole line. Continuing the viaduct, a double arched bridge will cross the Wandle, after which the works, meeting with littleengineering difficulty, will be continued to their termination at Falcon-bridge, Battersea, where men are already at work. There will be stations at Putney and Wandsworth, and it is expected that the whole line will be opened on the 1st of May next.

CHURCHES AND CHAPELS, UNDER METROPOLITAN BUILDINGS ACT.

THE following application and certificate serve to shew the requirements of the official referees on this subject, and may enable other parties so to arrange their drawings and statements when applying as to prevent delay. Messrs. Locke and Nesham being about to build Trinity Church, in Wenlock Barn, Cityroad, submitted the drawings to the refereos, and asked for their certificate.

In reply to the application, the following letter, from the registrar, was received by them :---

"GENTLEMEN,-With respect to the proposed Church at Hoxton, I beg, on the part of the official referees and myself, to inform you that it appears to the official referees upon careful consideration of your drawings, that the spread of the concrete under the footings of the tower is too much restricted, and that you have not indicated in detail the mode of springing the walls of the tower from the inerted arch, or of abutting them against that arch; the mode of tying in the sides of the spire has not been indicated, and the northern buttresses of the tower are not shewn upon the plan as to be built from the foundations with the walls in the same manner as the other It also appears, that timber plates buttresses. are intended to be inserted into the walls of the tower, which the official referees consider objectionable, and in opposition to the rule in schedule D, part 2. It is also to be observed, schedule D, part 2. It is also to be observed, with reference to the roof of the nave, that no efficient means appear to be provided for preventing the roof from spreading ; and with reference to a gallery indicated on the plan, that none of the drawings submitted show the manner in which it is proposed to be con-structed. Under these circumstances the official referees request that you will be so good as to state whether you would prefer to supply the deficient information before they proceed to certify, that any conditions upon the points alluded to may be avoided in the certificate, or that the certificate should be prepared with such conditions as the official re-ferees may deem necessary to secure sufficient strength in the construction throughout."

The builders stated that the architect preferred the official referees should add their requirements to the certificate, rather than that the drawings should be withdrawn and altered.

The sides of spire would be ticd in by a strong chain bond—stone and iron. The northern buttresses would be made to project above the body of the church and not built from foundations.

The timber plates the architect will omit and carry on stone or iron corbels.

The architect considers the roof of nave not likely to spread, especially as the roof of the side aisle abuts against it.

With regard to the concrete for the tower and body of church, the architect would leave it to your discretion to award as much beyond what is shewn as you please. We herewith send you additional drawings shewing the gallery."

The following is the certificate :--

"With regard to a certain church proposed to be built in Wenlock Barn, City-road, Hoxton, in the parish of St. Leonard, Shoreditch, in the county of Middlesex, and in the district of St. Leonard, Shoreditch, within the

limits of the Metropolitan Buildings Act, 7 & 8 Vict. cap. 84. Whereas the Official Referees of Metro o-

Whereas the Official Referees of Metro olitan Buildings, daly appointed in pursuance of the said Act, have received and duly considered certain particulars and drawings of the said church, submitted to them by Messrs. Locke and Nesham, builders, of Theobald'sroad, London, copies of parts of which drawings, representing the foundations, walls, roofs, and other constructions, are hereto annexed, and marked respectively A, B, and C.

Now the said official referees do hereby certify that (it being understood that no excavations for graves or otherwise are to be made at any time within the said proposed building, or within ten feet of the footings on the outside thereof,) the heights, thicknesses, and dimensions, shewn in the said annexed drawings, are approved by them, except in so far as the same may be inconsistent with the following conditions, and that the works may proceed in conformity with the said conditions and with the said drawings as modified thereby, subject, as to the soundness and sufficiency of the foundations, and of the work in every part thereof, and as to its accesses and stairs, and in every other respect, to the provisions, rules, and directions of the Metropolitan Buildings Act, and to such supervision and special espervision as are therein prescribed in that behalf. And the said official referees do hereby de-

And the said official referees do beroby determine and declare that the said church is to be deemed to be a building of the extra firstrate of the third class within the meaning df the said Act. — Dated this 16th day of August, 1845.

Conditions referred to in the foregoing certificate.

That the concrete foundations of the tower extend at the outer sides at the top 6 inches beyond the toes of the footings, and at the base 6 inches more for every foot beyond the first foot that such concrete foundations may be in depth.

depth. That the walls of the tower be built of regularly coursed and bonded brickwork or masonry over the concrete bed, throughout the spandrels of the proposed inversed wrokes as well as above the springings upon: these arches.

That the two buttresses on the north side of tower be built up from the foundations; coursed and bonded with the walls in such manner that no part of the superstructure shall overheag the substructure thereof.

That the sides of the towerst the springing of the spire be efficiently tied.

That no timber as bond or as plates be laid into any wall upon the face of a wall, and that all beams, girders, joists, or other bearing timbers requiring a bearing upon any wall, rest upon a stone template of not less length than twice the thickness of the timber to be borne.

That the bearings of the breastaummer beams of the gallery do not exceed 10 feet, unless their scantlings be increased to justify longer bearings.

That some more efficient means be applied than the drawings indicate of preventing the roof over the nave of the church from spreading."

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VENTILATION,—Amongst the new systems of ventilation is the plan proposed by Mr. Wroughton, which consists of a mercurial valve acting upon a spring, and opening a portion of a window in such a way that the room will always remain at the temperature desired, and the foul air be replaced at every instant by a supply of pure air from without. Mr. Wroughton's plan is indeed but an extension of the principle of the mercurial self-acting valve of Dr. Amot's stove, but the application of it to the purposes of ventilation is new.

EXHIBITION AT THE ROVAL INSTITUTION, MANCHESTER.—The exhibition of paintings this year is universally admitted, says the *Manchester Guardian*, to be the best we have ever had. The number of pictures already sold is eighty-three, and the aggregate amount received for them is greater than the total amount of sales last year, including even the thirty-six pictures taken by the holders of prizes in the Art-Union. The exhibition is to be opened in the evening at a lower rate than at present on and after the 29th instant.

WORKS IN THE PROVINCES.

Ar Canterbury a company is being formed baving for its object the establishment of a general genetery without the walls of, but contiguous to the city. The capital required is 15,000%.——The present extravagant price of gas in Wolverhampton has suggested the project of a new company, with a capital of 30,000%. When the situation of the town is considered, its proximity to the coal-fields, and its cheap water communication therefrom, it cannot but be matter of surprise that gas should have retained a higher price, ranging from twenty-five to thirty per cent., than what is charged in many towns of inferior local advantage.~ -A new corn hall has lately been opened at Bungay. The Ipswich Eapress opened at Bungay. The Institute Lapress says, it is scarcely possible to speak too highly of the liberality with which the proprietors have endeavoured not only to accommodate the persons attending the market, but also to beautify the town, by the erection of this building. May There Exercise The top 3,0004 towards the restoration of the Bishop of Exeter's Palace. Considerable progress has recently been made towards completing that magnificent and colossal undertaking the Queen's Drive, Edinburgh. The portion which runs through what was formerly a marshy meadow, and a great nuisance, is finished, and joined at the one end to the portion com-mencing opposite the foat of Arthur-street, and at the other end to the outlet at Parson green, so that the low lying portion of the carriage-way and footpath is now finished and more elevated section of the drive, com-mencing at Mushat's Cairn, and terminating at St. Leonard's, the operations are in a for-ward state. Workmen have lately been em-ployed in throwing down the old city wall on the west side of Bristo-street, Edinburgh, for the purpose of widening the thoroughfare in that part of the city. This old wall, which is now fast disappearing, is a venerable relict of past times, having been crected immediately after the battle of Flodden Field, and has, therefore, stood upwards of 300 years. There is still a considerable portion of it standing in the north of Drummond-street.----- Extensive improvements are now in progress at Dun-robin Castle. The John o' Groat Journal says, when they are finished "the old castle will have to boast of some rooms as noble as any of which our southern nobility are proud. Its antique character will also he preserved ; and the magnificent snito of spartments (marked in the architect's plan as "The Queen's Rooms") will harmonize, at least - bees externally, with the ancient feudal towers of Dunrobin, that have braved fully five centuries." A new bridge of a neat and substantial cha-racter is being erected at Widford, near Chelms-ford.----The new Catholic church in Coventry, the nave of which was opened for public worshi about twelve months since, is now finished. The ceremony of consecration took place last sweek.----.An attempt is being made at Yar-month to raise by subscription 5,000/., for the purposes of restoring the parish church of St. Nicholas, and of establishing a national school in connection therewith. With respect to the restoration, the committee say, "As a parish observed, it is one of the largest in the kingdom, and has many parts of great architectural interest. Its present aspect is extremely mefancholy, but as there is now a strong desire throughout the kingdom to render churches worthy of the high and holy purposes to which titley are devoted, it is hoped that the voice of the prophet of old, which says, "Is it time for you, O ye, to dwell in your ceiled houses, and *Mis house* lie waste ?" will now be heard, and that a building which in former ages appeared "exceedingly splendid and solemn, may once more assume its pristine grandeur."-Lord Mostyn has given the munificent donation of 2001. towards rebuilding the ancient church at Flint, which has now fallen into great decay. The Hon. E. M. Lloyd Mostyn has also given 1000."in furtherance of that desirable object. It is proposed that the new church shall afford accommodation for 800 persons.—A tempo-tary building in the New London-road, Chelmsford; designed for the Roman Catholic service, is nearly completed, and will shortly be opened. It is built within an enclosure,

purchased for the erection of a more extensive building, on the completion of which, the to proceed with the excavation for foundations forthwith, and the buildings are to be completed by Lady-day, 1847.— The Rev. Mr. Smith is building new schools at Taunton, entirely at his own expense. There will be two rooms of 50 by 20 feet each, with sliding doors, the whole room when the doors are slid back being 102 feet 6 inches. At the southern extremity is the master's cottage, behind which are to be ample courts. The style chosen is that of the collegiate and domestic edifices, of the latter part of the fifteenth century, having large transomed and mullioned windows, and steep gable ends to the roof. The school-rooms will accommodate 420 children, and are designed for Sunday and day schools.--The old poor-house, Walcot, new theatre at Manchester is nearly completed. The stone façade in Peter-street will be finished by the opening day, the 29th instant. The marble statue of Shakspeare, which is to occupy the niche in front of the building, has not yet arrived from Italy.——For a long time nothing has remained of Panxworth Church but the tower, standing in an arable field, a reproach to the parish and the neighbourhood. ----Lately, h owever, efforts have been made for the restoration of the edifice; and as a compara-tively small sum, 500% is required, several gentlemen have resolved to raise the necessary funds. Mr. Watson, of Norwich, whose plan will probably be adopted, has offered the east window, equal in value to 25% subscription. The design is in the style of the fourteenth century, with a pave and chancel .--The Barl of Ripon is rebuilding his family mansion, at Nocton, destroyed some few years back by fire.----Extensive alterations and improve ments are in progress at Hatfield House. At Birmingham Street Act have expressed themselves in fayour of the plan proposed by the Birmingham, Dudley, and Wolverhampton Railway Company, of erecting a capacious station in the centre of the town. — The Dock and Harbour Commissioners at Leith have closed the lower drawbridge for the purpose of levelling the bridge and other-wise improving this extensive and increasing thoroughfare. The work will be one on group expense, and will, it is expected, occupy three in the execution.—. The Hull Dock Company are prosecuting their various, exten-sive, and highly important works with a vigour and dispatch rarely witnessed. The railway dock, the great east dock, the warehouses, the iron yards, &c., are now in course of rapid construction, and when completed cannot fail to raise Hull far above her present position.

EFFLUVIA FROM SEWERS.

SIR,—I was very pleased to observe the letter of "J. L." on the important subject of "effluvia from sewers" in your last number, letter of and I believe that whenever this matter is taken up in good earnest, a remedy will not be long wanting to lessen, or altogether get rid of, the mischievous effects of the postiferous gases continually rising from our subterranean drains or sewers. You are of course aware that the subject has engrossed the attention of persons connected with these matters for many years past; and with respect to the plans pro-posed by "J. L.," I believe the first of them can lay no claim to originality; in fact, the idea of "trapping," in connection with our street can lay no claim to originality; in fact, the idea of "trapping," in connection with our street sewers, has been proposed and laid aside as futile and visionary long since. The remedy for this serious grievance appears at first sight so simple, and at the same time so effective, that no doubt it will strike some persons as strange that it has not been applied to some extent before this time. I am not prepared at this moment to assert that it has, but I am in-clined to believe so. The bar, however, to its introduction, you are no doubt aware, has been the danger and serious injury that would result

by the explosions and bursting of the several the natural consequence of shutting the safety valves-for in such relation may the gulleyholes be considered to stand with reference to the main sewers. Your correspondent's plan, however, of meeting this difficulty is not so common, and in some measure provides a remedy for the danger to be appreheaded from explosion, although here spain many difficut-ties would present themselves in obtaining sufficient, safe, and convenient sites for the "columns," or vitiated alr flues; as they should recur very frequently, not only to insure the stability of the sewer; but also the lives of persons whose duty it is occasionally to pass through them for the purpose of examination or repair. The experiment, however, in the manner proposed — that is the combination of a system of "traps" and "columns," may, I believe, be tested without any enormode outlay; and with regard to the mode of destroying the gasses on their emerging from the columns, chemistry would lend us innumerable aids, and, I believe, might be made an indux whereby to shew the amount of vitisted sire consumed under the various changes of the seasons and atmosphere, and other circumstances, and which we are now compelled to inhale in our daily search after London fresh air. I am also of opinion that the system could be made more complete by the introduction of draft-creating machinery on the principle of the wind grards and ventilators. This would, I believe, prevent much of the annoyance felt at times, within doors, from the back or down-drafts in the sewers in windy weather.

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Before concluding these few remarks on a subject, perhaps one of the most useful 'that can occupy the varied pages of your paper, let me ask your correspondent whether he has conceived, and is prepared with, the detail as regards the "traps" which he proposes to regards the "traps" which he proposes to use; as on this point much of the successful working of the system would depend. These traps must of course always contain a'suffitraps must of course always contain a suffi-ciency of whice, and they must be continuitify replenished and cleansed, or they would in time become themselves the receptacles (in a more prominent position) for stagnant matter, and thus increase the evils which they were designed to remove. Nothing, it appears to me, would so effectually conduce to the 'con-stant efficiency of the " traps ³¹ as a 'shift branch from the " water main," furfied at will, so as to keep up a greater of less flow of water so as to keep up a greater or less flow of water down the sulleys, " share of d / and to guods down the guilleys. State of the states of your restlicits

who take an interest in the subject to give us the benefit of their opinion thereon, a distant

the benefit of their opinion thereon, and there I am, Sir, &c.; and the trade is the state P.S. It just occurs to the the treformation, like charity, should begin at home; and there fore it behaves us before crying too loadily against "public" sewers, to put a proper "trap (not on our months only) but on our own priorite drains and cesspools; for I feel persuaded that mach of the annoyance before adversed to proceeds (from inattention to this latter point), from the vaults and areas of our houses, and not entirely from the gulleys of our public scherk,

DRAIN TRAPS .- Contrivances to prevent the escape of foul air from drains often fail to produce the intended effect, and great expense is often incurred in attempting to apply a ra-medy in the wrong place. 'The drains smell, we shall have rain,' is a common expression, but perhaps few inquire why drains send forth their peculiar intimation of a change in the state of the atmosphere. It has become the practice to the almosphere. It has become the practice to trap drains where they leave the house to prevent the ingress of rats from the sewer, so that a large quantity of air is inclosed in the drain between these large traps and the smaller ones, at the sinks in the house. Now, this air being liable to expansion from various courses (one ranking high to expansion from various

.... BARLY DOMESTIC BUILDINGS.

By the restorers of sucient architecture chimney shafts, though mecessary, were con-sidered to be excresseness on the design. In edifices draigned in forms darived from temples, theatres, and other ancient buildings, with their parapets and roofs decorated with vases. their purpose and point to be introduction of chimney shafts destroyed, in the eye of its te, the antique impress attempted to be given to the composition. A shaft rising from the apex of a pediment, or from the cornice of a façade, on coping of its parapet, would have been an ensione like a cooked hat placed on the Apolio Belviderey - To avoid the mecessity for this barbarous combination, the Italian sichlisets formed the hearth recess in the internal walls, and by this disposition, brought the chimney shafts into a situation where, if they could not be hidden, they could be grouped and disguised to have the appearance of something they were not, and be thus made to harmonize better with the general character of the building. It was rarely that the hearth recess was made in an external end wall, and then it was seldom indicated by any projection. The chimney shaft was placed on the parapet as a base, or ap-peared to rise from a phinth or pedestal placed on the corriges of roof. At this period, when the Italians were raising palaces and villas an-equalled for their beauty, the English archi-tects, whose eye had been educated amid combinations seen in buildings of the pointed style, practised a maanles of design most extraordinary in its display of magnificence in plan, and Wandafism in the tuste and application of decoration. "Lumence windows and an absord while static of infittees while while with a local and a second made their edifices uppear better adapted for aviaries, that protection from a cold humid variable climate like that of England. + In variable climate like that of England.⁺ In such houses, Lord Bacon said, one did not know where to be out of the sun; and maugre their great fire-places, and blazing logs, he might with equal truth have added, nor where, in winter, to be out of the solid unless one stood within the chimney. In buildings erected, from the Conquest to the close of the reign of Heary MIAI, the rule appears to have been to make the hearth recess in the outer wall, and hearth and havindown.

and between the windows. When three or four hearths were thought sufficientin a large mansion, their position and form were of minor importance; but whan, in the progress wfiimprovement, a chimney had to be commasted an each of a number of apartments, they became objects of much con-sequence, both in the interior and in the aspect of the building:" The chimney stacks were stranged in two ways on the exterior, one by attaching them like towers to the walls as at Bilthefield and Costasy, the other by resting them on the parapet, as at Thornbury. The first, though not the most frequently practised, is the most ornamental. It is difficult to say which is the most ancient. The single chimneys of the upper floors often rose like a column stached to the walks, supported by a corbel. The form given to the shufts was the same, whether they rested on a projection or on a parapet ; sometimes they were carried up from the perspet like separate calamas, in imitation enetical chimbeys -or they were united at top by a cornice....or appeared like a group of pillars attached to each other. A third manner was practiced when architects, in the reign of Elizabeth, discarded the ancient rule, and in imitation of the Italian practice, placed the hearth recess in the inner wall, and opposite, instead of between, the windows. The shafts were then sometimes made to assume the appearance of a parapet, ornamented in different ways, rising above the roof; but their shafts ceased to be so ornamental to the building as in the earlier fashion. The chimney piece, however, in its, turn became an object on which much architectural decoration was lavished.

But, if their fireplaces and windows were faulty, the sound judgment and good taste of Druelt, Moston, Percy, John off Padus, Mascelt, Havens, Hoite, Thorpe, and other architectorof this period, were, in one point, worthy of infinite praise and admiration. Feeling that houses were made to live in, as well as to look "Beep. 415, some. Notes from Bernan's "History of Warming and Venithating." " Carber's Views of Tudor Houses, and Britton's Arch. Mathemist." THE BUILDER

at:mand that, from the nature of the climate, and habits and wants of the inhabitants, fireplaces in rooms were essential to enjoyment and comfort, they were not ashamed, like the "artists? who snaceeded them; to let the chimney shafts appear in their designs, but, on the contrary, by ornament and position, they brought them forward as essential parts of the fabric, and pleasing and picturesque objects in the composition. This was in trath the period of the triumph and glory of the chimney shaft. Invention was racked for variety of form, and novelty and elegance of decoration; Dorio, Corinthian, composite, and other sorts of columns, fluted, twisted, square, polygonal, and elliptical; single, clustered, and in groups; crowned with pediments, scrolls, and vanes; obalisks, altars, vases, all covered with roses lozenges, frets, guilloches, festoons, armorial bearings, heads of monsters, initials, figures, and a host of other devices, combined with a most fantastic and capricious imagination, gave a superlative lightness, and grace, to the parapets and roofs of Tudor houses.

With the exception of regal and baronial mansions, the greater part of the houses throughout England were mostly one story high; except in towns, a two storied habitation was a mark of distinction, and were constructed of timber, but in parts of the west country, they were built of stone, and some few houses in London were of brick. This partiality for wood was, however, as much from taste as economy, for Holinshed says, they might have been built at nearly the same expense of one material as the other. In the woody districts, fabrics were strong, and so well timbered as not to have more than six or nine inches between stud and stud. But in tracts, such as the fens, where wood was scarce, no studs were used, but only "raysins, groundsells, transomes, and upright principalls, with here and there an overthwart post in the walles, whereunts they fasten their splintes and radles, and then cast it all over wyth clay to keepe out the winde," or strike them over with a rough plaster, which was afterwards whitened, and ornamented with a fine mortar, often beautified with figures and other curious devices. In other cases, instead of clay, bricks were used to fill in the spaces between the timbers; and instead of being plastered over, they were laid so as to form sig-sag, lozenge, and other simple patterns on the face of the wall. This was a very common method in Kent and was a very common method in nent and Essex. They had large porches before their entrance doors, and generally one large hall, or parlour, or kitchen, the other rooms were comparatively small. Town houses, more pleasing to the painter's eye than comtortable for habitation, were built with one story jutting over the other so that when the atreets were over the other, so that when the streets were narrow, the people in the upper stories on opposite sides of the street might not only converse with each other, but shake hands if so minded. The fashion was carried to an absurd excess; Ray saw an old house at York, of which the upper story projected fifteen feet beyond the foundation. In towns, more especially in London, where the houses were generally three or four stories high, + they were full of rooms with low ceilings, built at random, without any thing of contrivance, having steps from one to another, and blind staircases. Although their fronts were nearly composed of glass, with the windows projecting, the apart-ments were dark, as if the inhabitants were afraid of light and good air, and loved to play at hide and seek.1

The pompous mansions of the Tudor period are deplorably deficient of all that comfort and convenience arising from a plan suitable to the wants and habits of an improved state of society. The whole interior was sacrificed for a certain display in a small portion of it. In a mansion consisting of eighty apartments, as at Leckinfield, four or five rooms only, says Bishop Percy, were adapted for the use of the noble owners and their guests, the rest were cheerlees cabins to sleep in, coarsely plastered and white-washed, with ill fitted doors and imperfect glasing, or they were appropriated for offices.⁶ In houses of this class, the presence or privy chamber, my lady's chamber or bower, and two or three bed-rooms, form the list of what would now be called, from their finishings and furniture, habitable apartments. In the presence another the walk arere hung to a part of their height with tapestry, or they were lined with papelled weinsect, ornemested with a profusion of earved braaments, that often also envered the ceilings, or with stamped leather having gold devices on coloured grounds, that came into fashion in the time of Henry VIII. The doors were clumsy, and still coarsely Minged and fastened. It had shutters secured by rough bolts and padlocks.

shutters secured by rough bolts and padlocks. These evils were tolerated from habit, not from ignorance, for the public was familiar with the most judicious precepts for the preservation of health, and the construction of buildings. For health's sake, says Lucar, one of the neglected monitors, "let the principal doors and windows of your house be doen to the north-east, south-east, south-west. Moreover, make all the rooms within your house lightsome, of a convenient height, and of a laudable largenesse. Build in every chamber within your house a chimney. Lodge always in a high phanbar, that is severed from the roofe with a floore betweene, rather than in a roome belows, and hease you do not sleepe at any time in a close place nor upon the ground. And in no wise suffer. as stable, ax stall, standing poole, filthy dicth, or stinking sink, to be mear your house or garden."

Sush windows, that were introduged shout the time of the great fire, were very common. The upper valve was fixed, and the under one, The upper valve was bred, and the under, such the upper valve was bred, and the under, such as when raised, was, kept at various, heights by a means of a series of notches, and a satch to hook into the m, ..., The next, improvement, iartroduced with, King, Willium, is resorting to be a Dutch invention, ..., in this the under, such was suspended by a weight and line, and moved over a pully. . The wood work of these sushes was very massive and from the was very massive and clumsy, and, from the thickness and width of the astragal, a, large window had much the appearance of a portcullis filled with glass, of a very indifferent quality. The sill of the window frame was most imperfect. Shutters were common and corresponded in clamsiness with the same same They had not yet, however, become necessarian in bed-rooms, except in the best, chambers of great houses. Rebated doors, were also another contribution to comfort at the Revolution ; and carpenters now began to tongue and groose the flooring boards, which prevented personal in the chamber overhead seeing what was going: on in the room under, where the ceilings, were on in the room inder, where the ceilings, were, not plastered. Tongueing and growing, boarded partitions was apother clever innova-tion which shut, up, a multitude of holes, that made as many crevice, winds as there were deals used. When I compare, says Neve, the modern way of building with the old way. the modern way or building what the old times. I cannot but wonder at the genius of old times. Nothing is, or can be, more delightful, and convenient than height, and nothing more agreeable to health than free air; and yet one would think the people of former ages were afraid of good air and light, whereas, the genius of our, times is altogether for light staircases, fine sash windows, and lofty cellings. And such has been of late our, builders' in-dustry, in point of compactness and uniformity, that a house after the new way will afford an the same quantity of ground many more con-veniences. The contrivance of closets in most rooms, and painted wainscot, now so much rooms, and painted wainscot, now so much used, are also two great improvements, the one for convenience, the other for cleapliness and, health; and indeed for so damp a country as. England nothing could be better contrived than wainscot to keep off the ill impression of damp walls. In short, for handsome ac-commodation and neatness of lodging, London has undoubtedly got the pre-eminence. The greatest objection to its buildings, mostly of brick, is their slightness, occasioned by the fines exacted by the landlords, so that few of the common houses are built to last longer, than the ground lease, which runs from fifty to sixty years. In the meantime, however, if there happens to be a fit of excessive heat or cold, the tenant must needs be uneasy at it. The plustered ceilings also, so much used in England beyond other countries, make, by Ine plastered cerings also, so much used in England beyond other countries, make, by their whiteness, the rooms much lightsomer, and are excellent against raging fires; they stop the passage of the dust, lessen the noise overhead, and in summer time the air of a room is something the cooler for them, and in the winter something the warmer, because it

Itincrary, p. 166.
 Hentzner. Travels, p. 89.
 Neve. City and Country Purchaser, art. Building.
 Strutt. Horda, vol. jii. p. 101.

The excellent arrangement introduced by Jones, Wron, and behore into houses, greatly improved every thing connected with comfort imblonge entry and provide the second

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Correspondence. 1117 mest Charles and the d

COLOURING FOR GRMENT Winslany of your practical readers ablige mey and I may say hundreds besides, with a receipt for the above purpose, that will whind inta bleuk situation and not wash off ? it would be a most desirable thing to know, as ali I bave bitherto tried only last a few months I am for, see, A But new few

• Johns' patent stucco paint is strongly recommended. :: 11-111-

Miscellanea.

.

÷. THE SMOKE NUTSANDE - Seven persons and Max Thomas (Ogden, the chimneys of whose works have king set an example to the district. "Mr. Holdstop this lated, and, as far as such matters can be proved in a court of justice, proted, that the means essential to an almost perfect combustion 'of smoke were by no means costly; that, in ordinary cases, they might be applied at a cost of 10% or 15%; and that the result, while it secured all that could be desired in the removal of the nuisance, was in this case attended with a saving in his consampfloir of fuel of not less than 18 per cent. In the three years, 1838-1840, his consumption of cost was one ton per hour; in 1841 the antible consuming "apparatus was adapted to his furnisher and in the three following years, 1842-1843; his consumption of coal was re-duced to 16 36 10 the cwt. per hour. The general accuracy of these statements impugned by Mr.! Armstrong was confirmed by Mr. Fullbarn, O.E., who stated that two simple efements only were needed to ensure the construption of smoke, a sufficiently high temperature and the admission to the furnace of a sufficient quantity of atmospheric air. " Abyission To Public Buildings. - We

are happy to state that it is her Majesty's intention to abolish the office of state housepensation to the lady who at present holds the office, and thereby getting rid of the unpopular tax upon the public in the shape of house-keeper's fees for shewing the state spartments at Windsor, which will in future be placed under the custody of the Lord Chamberlain. We feel traly grateful for this concession to public opinion, and since rely hope that this excellent example will be followed in all public places where fees have been hitherto

HULL GLASS WORKS .- A company is being formied at Hull for the manufacture of glass The prospectus, which is now before us, states that " the reneal of the data and the repeal of the duty on glass, and its consequent reduction in price, must necessarily occasion an immense increase in the demand for it, not only as concerns such portion of its manufacture as relates to domestic and horticultural parposes, but in the higher and more elaborate branches of its manufacture in plate and flint glass, as well as in the hitherto un-known articles of water-pipes, drains, and roofing." The capital required is 200,000*l.*, which it is proposed to raise in 10,000 shares of 20% cach.

MALT-HOUSE FLOORS. - Mr. Livesey, architect, of Portsmouth says, Claridge's Seyssel Asphalte, laid on a sound concrete bottom, makes the best floor for malt.

King's COLLEGE, LONDON. — The classes r engineering, architecture, and manufac-ring art will be re-opened on Wednesday, for turing art will be re-opened on Wednesday, the 1st of October next. Houses of PARLIAMENT. - Rumour says Mr. Gwilt has been appointed to examine and

report on the present state of the building.

· Country and City Purchaser. Art. Building.

BLEOT BIUTT. --- A cobrespondent of the Mining Courset states he opinion this the simultaneous and instantaneous ignition of gas lamps in bities and towns by weats of elecu trieity wild ere long be substituted for the presentelow and irregular method. He further states, "I confess that I am astonished that electricity has nover been cullsted into the servive of the steam-engine, when every sound reflecting mind, and clear intellect, must relidity perceive that it must ultimately do away with the present employment of fuel and boilers, and their auxiliaries. I have no pretensions to the vision of the prophetic visits, when I verture to predict that the time is not far distant when the globe will be circum-navigated by the agency of electricity." "

Tenners.

13

For building St. Mary's Parish Schools and Teachers' House, Chester; Mr. James Harrison, architect :-

| Messrs. Royle and Son | £598 - |
|--------------------------|--------|
| Mr. Wm. Evans | 585 |
| Mr. Wm. Andrews | 575 |
| Thomas Gill and Co | 570 |
| The latter was accepted. | |
| | |

Tower Hamlets Sewer : At the last meeting only one small sewer, in Devonshire-street, was submitted to public tender; the dimensions were 4 feet by 2 feet 6 inches, length 320 feet. The amounts were as follows :-

| Liverm | ore | | ••• | | • | • • | ••• | £245 | 0 |
|--------|------|----|-----|----|----|-----|-----|------|----|
| Crook | | | | | | | | | 0 |
| Curtis | •••• | •• | •• | •• | •• | •• | ••• | 236 | 10 |

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the execution of Works on the Dund alk and Enniskillen railway, being a distance of ten miles.

For the execution of several lengths of Earthwork on the Aberdeen Railway. There are 5 separate Contracts, varying in lengths from 31 miles to 43 miles.

For the execution of works on the Manchester South Junction and Altringham Railway, in two parts : 1, being a distance of 14 mile; 2, being a distance of 7[‡] miles. 12

For the execution of Warks on the Manch and Birmingham Railway in 2. parts. 1. The Ashton Branch, being a distance; of about 42 miles. 2. The Macclesfield branch, being a distance of about 30 chains, including a tunnel of 330 yards in length.

For the execution of that portion of the Edin-burgh and Northern Railway, extending from Burntisland Pier to Kinghorn.

For supplying the Leeds and Thirsk Railway Company with 100,000 Railway Sleepers. For the execution of works on the East Lanca-

shire Railway, viz., the Accrington Contract, being a distance of about 8 miles.

For the execution of that portion of the New-castle and Berwick Railway, extending from Netherton to Tweedmouth, being a distance of

Action to I weedmouth, being a distance of about 53 miles. To be let in four contracts. For repairing the Footways of the Streets and Public Places within the liberty of the Bishop of Winchester, Manor of Sonthwark on the Clink, for one, two, or three years. For the execution of Works on the Syston and

Peterborough Railway, in 2 parts : part 1 being a distance of about 94 miles ; part 2 being a distance of about 12 miles,

For supplying the Liverpool and Bury Railway Company with Sleepers, conformable to specifications.

For Re-building the White Hart Inp, at Beaminster, Dorset.

For supplying the Parish of Christ Church, Surrey, with Guernsey Granite of the best quality, and broken to a two-inch ring.

For the execution of works on the Leeds, Dews-bury, and Manchester Railway, viz., the Churwell Contract, being a distance of about 22 miles.

For the execution of a portion of the Edinburgh and Northern Railway, being a distance of about 6 miles; to be estimated for in two lots.

For supplying the Eastern Union Railway. Bor supplying the Eastern Union Railway Com-pany, with 5 First Class, 12 Second Class, and 5 Third Class Carriages; to run on six wheels, the gauge being 4 feet 84 inches.

For the Erection of Stone Booking-offices for Sheffield and Manchester Railway Company.

APPROACHING SALES OF WOOD, "C.

At the Ship Yuld, Thewton in the particular At the Ship Yuld, Thewton in the particular At the Ship Yuld, Thewton in the particular At they capacity Wilds to about \$1,000 years of At Hey capacity, Wilds to about \$1,000 years of 1-methy and \$-inch Oth Other Boarday Yyseo 301 \$4.16.001 14-metry and 11 Arich Oak Quarter Board - from 2,900 to 3,000 for of Englishing the and other Board of various thickbesey/900 feet ofe 2, 3 and 4/ocho One Banki ; 08,000s Sets of Okrosshi indo Bhas Quaster and Plank, from 2 to 4 sinches thick wind

Abilitie Bantley Hill, "Emerated, 509 montionlarly straight and good Larch Financial of the formal At the Star Jan, Fordingbridge: 670 good Oak. 286, large Fir, 19 clean Ash. 19 year, fine Bench.

240 Arge rir, is clean samples, the read from 4 Elm, and 4 Aspen Trees. In the brick fields adjoining the read from. Folkstone to Cherrington: 56 clamps of Bricks, contaiping about 3,000,000. At Wirenhoe, near Colchester: a quantity of Oak, Ash, and Elm Timber, 50 Oak and Elm Follards, and a lot of Elm Seconds:

ERRATUM .--- In our statement last week of the Tenders for erecting a Nam Infamers at the, Lembeth Workhouse, we affined the sum of 1.244/ar against Mr. Wilson's name , it , heald have home 1.5444 whose everbad beer

-- TO COBBESPONDENTS Jung al is

"H. L." (London) will find the information he aieben, on cast-iron Acount, in 1 Holdsineen's "Beperimental Researches," forming Pant II. to, Tradgoid's "Preciscal Resay on Mr. Strength of, ant iron " Cast-iron," "G. C."---

We believe that Mr. B. Green has

chitect.

chileet. J. W. Y (York) must pardon 'ks' for 'ndt rey' plying. 'We will' do so shortly. 'S' 'D' 'ndt 'n' "T. T.''' (Ringwood). Jeffery's Marine "Chus" Works are at Limehouse. 'By addressing a Veneral the information, may be obtained. Bildense of

the information may be obtained. ... Sevenance --strong in the fatorical - and allocal out of share of "W." (Reading).—Dr.: Gay's: Vontilator blea described and Hissirated, p. 21, unto all allocal "Thomas Smith." (Bermondyng).——Wenstalle be glad to have the reput of the last havings) We are disposed to think the distribut out of stall no right to interfere. Bridge sea under operation

trict surveyor will vermit the front ground fa be, built on, and the proper steps be taken party walls

built on, and the proper steps be taken party walks may be raised. "Comus." — A beginner campol an better, than "Comus." — A beginner campol a better, than Ouested. (Relfe and Fletcher, I, Cornhill) "T. L. C." will find Rickman's "Attempt 'to Discriminate the Styles of Architecture," a very useful work. Ask for the last edition." "T. C." (Slongh).— To fasten the environment together in lining old pictures, épunt dennitifies of coddler's paste and guie, applied hos, may be used a few drops of croozole should be alleed; to prevent

glad to receive additional information:

tions it contains should be authentibuled by the name of the writer.

"W. H. T." will see we have availed ourselves of his note. "A Rester of your Publication, "----We are un-

"A Hoster of your Publication, "-We are un-able to give the direction required. If our corre-spondent will fanaux us with his address, we will write to him on the other point, "Self-acting Water Closet." - We will learn for parious inquirers where this can be had, "Dr. L." - We will write in a day or two. "Received. - "" H. J. L.;" W H. Baines (" M A' Shopkeeper."

ADY EXTERNAL ANTES

ADV VERTTISSETUM TE-DOVAL AD BELAIDE GALLEBY. De MOVES BRIDENIA NATENT-Atmosphario Baile vay daile, mith asplanatory lecture. The New Zealand, Chief, Paher a Bange, will give a bottie of Lectures on the Bankers and Gustomic of New Zealand, in the sweetings of the Mankers and Gustomic of New Zealand, Mr. Based, ean-timeday, Weddiedby, and Friday, meat. Mr. Based, ean-times to deliver his unequalled Lectures on Character, Teresing, Thumaing, and Batunday, Veningw. Lectures on Science, &c., Daily, including Mass Deniewski's Artificial Mannary : Beald's Lectures Bitessensengue & Kolmany, Lectures on Science, & C., Daily, including Mass Deniewski's Artificial Mannary : Beald's Lectures Bitessensengue & Kolmany, Lectures motive Engine for ascending inclines on railways, Lyope rate talent, both vocal and instrumental.

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The PATENT ALBERT WEATHER BAR for simpli-tity and effect superselsa any thing of the kind yet offered to the public. The expense varies from 184, to 254. Invented and manufactured by T. WILKIN-SON stad Co., Iremmongers, 77, Boyent quadrant. T. W. also excentes all kinds of fron-works, Biaircases, Warming by Hot-water, Fitting up Stores and Ranges of all kinds; size Bell-hanging extensively executed. Estimates given.



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elsewhere, for every variety of Boohng, and other purposes, where a strong, light, chesp, and durable material is re-quired. It has been found by experience that this article is beyond all comparison superior to sinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whils it is free from the very serious objection which applies to sinc, vis. its contraction and expansion, consequent upon every change of temperature, and from whick elemenatance leakage must of course result. This material is not likely to be destroyed by fire, as is the case with rinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more forcely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chinney-tops, gutters, sponting, and out-door work generally, possing the strength of ron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength as it may be laid without boards, and upon the lightest rafters. This mode of preserving matal from rust does not only ap-

as it may be laid without boards, and upon one inguess-rafters. This mode of preserving mstal from rust does not only ap-ply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c. For full Particulars apply to S. HOLLAND, 34, Grace-

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Phurch-street. PERSONAL Sectors of the sector of the sect

rust. Amongst outer transmission (Copy.) Lloyd's Register of British and Foreign Shipping, 2, White Lion Court, Cornhill, February 7, 1848. This is to certify that the undersigned surreyors to this society did, at the request of Messrs. Malins and Rawlinson, eramine the Patent Galvanised Iron Sheathing upon the bottom of the Mary Stewart lying at Messrs. Curling, Young, and Co.'s Dry Dock, Limehoute, and lately returned from a voyage to the Island of Ichaboe, on the coast of Africa, and found it unbroken and perfect throughout the ship's bottom, and no supearance of corrosion, or oxide of iron upon its surface. This iron that had been exposed by puncturing the nail holes had become coated with sinc; the sheathing was nearly clean and free from marine gross and animalculze. It appears to have answered very well during the before-mentioned voyage, and the ship has sailed without its being found necessary to do sny repairs to it. PETER COURTENAY, J.

PETER COURTENAY, J. H. RICHIE, JAMES MARTIN,

Agents - Liverpool, John Hamilton, Jun., Esq.; Ply-mouth, Fox, Sons, and Co.; Falmouth, G. C. and R. W. Fox and Co.; Bristol, Morgan M'Authur and Co.; Glou-cester, Cook and Butt; Bremen, Widow J. Lang, Son, and Ca.; Hamburgh, Higson, Brockman, and Co.; Venice, F. Zuchelli, Esq.; Antwerp, W. Turner, Jun., Esq.

THE BUILDER.

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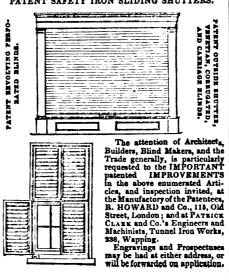
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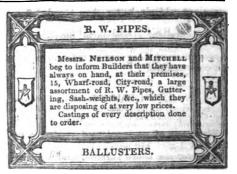
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SATURDAY, SEPTEMBER 27, 1845.



VERY architect in practice has cause to complain of the want of skilful and earnest operatives,-men who understand the trade they profess to practice, find plea-

sure in the exercise of it, and are anxious to produce good work. We have; before this, commented on the decline apparent in many of the constructive arts, and shewed that it proceeds from excessive competition, which induces the master to require a certain quantity of work from a man without reference to its quality: he cannot afford to develope a man's ability, but demands the greatest amount of work in the smallest space of time : "superior work wont do; work that will pass is all that he can hope to give ;" and the natural result is, that our workmen, as a body, have gradually "lost their cunning," and that the majority of operatives now employed are incapable of exconting work which is at all out of the common way. Our bricklayers and smiths afford the most striking example of this decline; the old enthusiasm, which still lingers, though feeble, amongst other trades, especially with the masons, seems to have departed from them : they do their work as mere labourers, and have no pride in the result. There are, of source, many elever exceptions; but we speak of the mass. Very glad should we be if we could induce a different feeling on the subject, at all events in the minds of the rising operatives, and induce them to strive to excel. and to find their chief pleasure in the exercise and exhibition of their skill. The earnestness of the ancient workers is figured in the following curious passage from the "Apocrypha:"

"The smith sitting by the anvil, and considering the ironwork, the vapour of the fire wasteth his flesh, and he fighteth with the beat of the furnace : the noise of the hammer and the anvil is ever in his ears, and his eves look still upon the pattern of the thing that he maketh ; he setteth his mind to finish his work. and watcheth to polish it perfectly."*

It has been justly observed that, there is nothing so inconsiderable which may not become of importance when made an object of serious attention. An operative who applies an intelligent mind resolutely in the practice of his craft, elevates both the craft and himself, and will pass a much happier life than one who drudges through his day's work without excitement or feeling of interest.

To insure improvement in the constructive arts, it is of importance to obtain for the able and ingenious artisan a better place in society than he now holds. The intellect required is much greater than is wanted to form a very smart shopman, for the disposal of goods from behind a counter,-yet in the opinion of the world, the former holds a much inferior place to the latter; and is excluded from society to which the other would be admitted. This is not us ft should be, and we would anxiously assist in bringing about a change of opinion in this respect. As matters now stand, an intelligent, well-informed youth has no inducement to apply himself to the practice of the constructive arts; as instead of gaining position by so doing,

* Ecclesiasticus, c, xxxyill. v. 37. Written shout 200 years

he will lose it, and the course is therefore left to men of less ability and lower grade.

We should be right glad to see all the master-builders following the good example set by a few of their body, and taking every means to increase the comforts, and raise the character, of the operatives in their employ. They would themselves find advantage in it, and we earnestly call upon them to commence the attempt forthwith.

To workmen we would say,-put your own shoulders to the wheel; become masters of your trade — artisans, not mere labourers artists if you can, able to give a "because " for a "why,"-make your work your pleasure. An upright man who will do this cannot fail to rise, and better still, will pass a more useful and happier life, other things being equal, than one who has not pursued this course. Able workmen,-men with heads on their shoulders. are not plentiful, and are far two valuable to be disregarded. Notwithstanding an old writer 5878 :

"A cunning workman fine in cloister close may

And carve and paint a thousand things, and use both art and wit; Yet wanting world's renowne; may 'scape un-

sought or seene : It is but Fame that outruns all, and gets the goale I weene;"

Such a workman may depend on securing re-

munerative employment, the good will and respect of his fellow citizens, and the applause of his own mind.

ST. MARY REDCLIFFE, BRISTOL.

THE restoration of this justly celebrated parish church is now to be commenced in earnest. Tenders for certain portions of the cavator, bricklayer, and mason's work; Grif-fiths for carpenter's work; Fears for plum-ber's work; Edbrookes for smith's work; and Parkers for glazing. The ground is to be lowered all round the church, and a system of drainage introduced the charcel is to be drainage introduced; the chancel is to be new rosfed; the east window, long since bricked up, is to be opened, and the external masonry of this end of the chancel with certain parts on either side from the bottom to the top, including some of the beautiful flying buttresses and pinnacles, is to be wholly renewed. We sincerely hope that the masons will now never leave the ground till the whole building is restored, and the finial affixed to the spire which is to crown the glory of this noble pile. Mr. A. B. Hope, M.P., suggests that a separate subscription for the tower and spire should be made, and has forwarded a donation in furtherance of it.

Over the altar screen of the church as some of our readers will remember, there are three large paintings by Hogarth, "The Ascension of Christ," "The three Marys at the Sepul-chre," and "The High Priest and Servants Sealing the Tomb." Being quite out of place here, though year valuable as zero examples here, though very valuable as rare examples of the master in a different line of art from that which he generally pursued, it is to be hoped they will be purchased for some public institution, and the proceeds applied to restore the ancient altar-screen, now hidden by a *pseudo* classic composition, and to bring into the general view of the church the ladychapel, seen through the Gothic panelling of

the screen. These pictures were put up in 1755, at an expense of 7611.* It is worth remark that, if instead of expending this sum in a manner not consistent with the character of the church, the money had been invested and the interest allowed to accumulate, it would now amount to 50,000*l.*, or more than enough to restore to the whole church its original stability and beauty, and give to modern Bristol one of the most perfect and noble monuments in Europe.

* Hogarth received for them 5451. The frames and fit-tings swallowed the remainder.

This fact might be usefully reflected on by committees in the present day. A similar statement will perhaps be made fifty years hence (or less), when subscriptions are soli-cited to defray the cost of restoring the homo-geneity of St. James's church, Piccadilly, by tak-ing out and changing the stained-glass window which they are now about to erect there at an expense of a thousand or two sources of states. expense of a thousand or two pounds. Further, they will say, this was done by the men who called their grandfathers barbarians, for place ing Italian fittings in Gothic churches, and and spent enormous sums of money in correcting the mistake, and rendering their ancient buildings in some degree consistent! It would seem after all, that we are little wiser than our forefathers.

THE EVIDENCE OF ITALIAN INFLUENCE UPON ELIZABETHAN ART.

THE increased desire for the preservation of national antiquities must afford extreme or national antiquities must afford extreme gratification to all in whose pursuits the science of archæology takes part. The histo-rian, and archæologist, and the lover of the picturesque, now represent a large section of the people, whose interests, and whose tastes; not less than those of the agriculturist, or the manufacturer, might fairly demand recogni-tion, and aid from Goverament. That there is no national institution, by which the review tion, and and from Government. That there is no national institution, by which the rapid course of decay and spoliation, may, at once, be put an end to, is in truth a national dis-grace, and the occasion of losses irreparable; made manifest in the continuance of much unmade manifest in the continuance of much un-certainty in points of social and political his-tory. Works of art are the archives of a country, of which the annals of history are impressions; whilst as the "exponents of national character" and manners, they are the crystallizations of thought, and the silent teachers of instructive lessons.⁶ If the re-mains of churches and monastic buildings are valuable, and interesting for the light they shed valuable, and interesting for the light they shed upon the religious element of the state ; the examples of domestic architecture give the picture of that history, which of all others is supremely valuable, least understood, and most in need of such illustration, the history of social life. Therefore it is deeply to be regretted, that they hand so often stretched out, successfully, for the preservation of a parish church, has been withheld from the less conspicuous, but not less important castle or manor-house.

It is not our intention to give a history of domestic architecture in England, though in its connection with political events, and with the economy of private life, it would afford a most extensive field for research, and illustra-tion. But, there was one period in the history of Evolution of the hist of England, of which, more than any other, we of brighter, of which, inder than any other; we can say, that we feel the influence; an age, in which literature was in an extraordinary state of brilliancy, — the truly glorious period of English history; and at that epoch it will be interesting to examine into the influence of architecture, of literature, and politics, each upon the rest. The time of Elizabeth is one, which, viewed

in every aspect, stands boldly conspicuous. The resistance of liberty to foreign aggression, and to papal influence, was then most powerfully developed, and the country placed in a high position in the scale of European nations. Literature and art shed a halo round the court of the British Gloriana: Shakespeare, Jonson, Spenser, and Sidney were the great "not for this age, but for all time." The link between the chivalry, that had gone before, and the refinement, that was to succeed; the Elizarefinement, that was to succeed; the Eliza-bethan age was the creation of most, that, at this day, we contemplate with pride, as Englishmen, and with gratification, as lovers of literature and poetry. The state of the art of architecture of that day was singular, the state of the build. yet, in some respects, prosperous. The build ing of palaces was a passion, singularly pro-lific. The settled state, into which the kinglific. dom came after years of bad government was a circumstance favourable to the display of genius, and to the appreciation of its works. At this juncture, it will be our object to consider what circumstances, in the state of art and literature, were mutually influential, and are explanatory of each other. The earliest remains of English domestic

• Vide "Architecture-the Exponent of National Cha-racter," p. 433, ante.

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architecture, were rather strongholds in time of war, than buildings, which represent the neual residences of the people. The most ancient of such fabrics, traceable in this island, are the circular towers rejsed upon a mound of earth—which was either natural, or artificial—with little provision for convenience, but ingeniously contrived, for defence. Many of these, remain, in Scotland, and Conis-borough Castle, Yorkshire, and Castleton Castle, Derbyshire, are examples in England. Both these were inclosed by a court or bal-lium, with a fortified entrance, as usual in Norman fortifications; though it has been thought, that these castles were erected, at an earlier date. In the naxt stage of, pro-gress, the keep was relinquished, as a place of residence, except during actual asge; whilst more convenient apartments were con-structed over the great gateway, which led to the inner ballium, or courtyard, as at Top-bridge, in the thirteenth century. Subsequent architecture, were rather strongholds in thus bridge, in the thirteenth century. Subsequent to this arrangement, were the Edwardian castles, of which Caernaryon and Conway, in Wales, are examples. In these, the keep Wales, are examples. In these, the keep was done away with, or rather expanded into a circuit wall, which contained the apartments, and was fortified with towers, at short distances. The next step was to the castle-palace, leaving us the older parts of Windsor, Alnwick, and Warwick. These belong to the fourteenth century, and shew the progressive desire for comfort and ele-gance, induced by the cessation of the baro-nial wars. The long slits, which, except in the upper, story, had been the only windows, were often replaced with larger, and more splendid openings, as in the halls. Haddon Hall, Derbyshire, is an example of a castel-lated house of the fifteenth century, in which convenience was greatly considered; and which, though fortified in the gate-house, and other, parts, was almost powerless to resist a other parts, was almost powerless to resist a protracted siege; though during the Parlia-mentary wars some of them were successfully defended. Succeeding these were the quaddefended. Succeeding these were the quad-rangular houses of the time of Henry VIL, in which the old form of buildings, surrounding a court, was still preserved, as indeed, in many parts of the country, it was till, a very late period. — In the fifteenth century, the arrangewent of the house was of the most simple character. An entrance passage, with a ball on one side, a parlour beyond, and the kitchen one side, a parlour beyond, and the kitchen and offices, opposite, and an upper story of domitories, such was the ordinary manor-house of this entury, and the sixteenth. There were few writcles of furniture, or other conve-nieuces. Of less important habitations the records are very scapty, but leave no doubt as to the slight adjuncts to convenience.—Tim-her was the ordinary material for a new conto the slight adjuncts to convenience.—Tim-ber, was the ordinary material for a very con-siderable period; the earliest houses being, each a huge frame, independent of walls, resembling the inverted hull of a ship, and forming, as it ware, the skeleton of a Gothic hall. The principal beams, springing from the ground, curved, forming a Gothic arch over-head; and the intervals of these were filled up with borizontal planks. At a later period, the hull was raised on walls, the intervals of the woodwork being filled with stones, or plaster, and strengthened by braces. In the reign of Henry II, stone had sometimes been used, but probably merely loose rubble, ce-mented. Brick was introduced, early in the fourteenth century, probably from Flanders; mented. Brick was introduced, early in the fourteenth century, probably from Flanders; but did not come into general use till the reign of Henry VI. During the reign of Edward IV. brick was much employed; but there are few buildings remaining, of the fif-tearth early in However, at Eton college and there are few buildings remaining, of the fif-teenth century. However, at Eton college, and some other places, are portions in hrick; --it was most used in the eastern counties. In in-teriors, walls were commonly bare, without wainscot or plaster; though some great houses had hangings, subsequent to the time of Ed-ward IV. Plate was uncommons, and all other conveniences were of another when the terms conveniences were of small number. Larger structures than these were built by men of property, during the reigns of Henry VI. and Edward IV., but few are traceable much higher; and it would be difficult now to name a house-not castellated-older than the time of Henry VII.; though it is true that frag-ments of doors and windows are found, of earlier date.

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UILDEK

The accession of Elizabeth 1558, and it was subsequent to this period, 1555, and it was subsequent to this period, that a vast majority of the residences in Eng-land were erected. The style of building as we have seen, had regularly progressed, in-fluenced, only in such features, as we should expect from the usual adaptation, to circum-stances, of material and convenience; being in fact the castellated, or domestic variation from the coelesiestical erebitecture. But a new the ecclesiastical architecture. But a new ingredient was now to alter the whole face of nogregient was now to alter the whole face of architecture; applied rather in the mansion than in the church, but producing a revolution, the effects of which have never been entirely got rid of. By what circumstances was this change occasioned?

Flanders had probably, considerable in-fluence upon the style of architecture of Henry VIII.'s reign. Brick had been imported from that country, and Holbein was the ed from that country, and Holbein was the architect of many important buildings. The connection of the two countries was intimate, and continued so under Elizabeth. Garden-ing, by which we may understand flower-gardening, was introduced from the Nether-lands about 1509; the previous gardens in England, being formed of arbours, hedges, and trees. But, what most of all led to the change in taste, was the extinction of the old style of architecture by the Reformation. Its eccleaiastical semblance was done away with ecclesiastical semblance was done away with, during a period, in which no churches were erected. The art had small means of display-ing itself, during the progress of calamities, which made the name of religion a pretext for massacre. Elizabeth was hailed as a deliverer, and the progress of society received a new im-petus. Men looked to the future, rather than back to the forgotten past, and were in this state, best calculated to receive new impressions. The first half of Elizabeth's reign was too much occupied in the cares of Government, to find room for other matters; but that period over, the age commenced, of which no Englishman can ever think without pride, and admiration

The influence of Italian architecture in England, was soon apparent in the numerous palaces, crected at this period. But, it was not only the influence of architecture, but also that of Italian literature, and manners, which that of Itslian literature, and manners, which accompanied, or rather created the first.— In Italy, during the *fifteenth* century, domestic architectore had not attained the elegance, which might have been expected from a people, usually so attentive to the refinements of life. In several towns, the houses were covered with thatch, so that fires were of common occurrence. But the change was not the less rapid, and complete. Costanzo, a Neapolitan historian, writing towards the close of the sixteenth century, remarks upon the of the sixteenth century, remarks upon the change of manners, since the time of Joanna II., 150 years before. The chief families had expended all their wealth upon their retainers; and the house of Caracciolo, high steward to the queen, having fallen into very inferior hands, had to be enlarged, being ininferior hands, had to be enlarged, being in-sufficient for customary accommodation.* But there is no reason to doubt, that before the reign of Elizabeth, churches, and houses in Italy alike exhibited that splendour which is now the admiration of Europe, and could not fail then to make a lasting impression upon travellers, and would be imitated by them in their own countries at least where them in their own countries, at least, where ever the national architecture, through any circumstances, had fallen into comparative disuse. But, it is also necessary to consider, whether other circumstances may not have exerted an influence upon the architecture of England, leading those who were about to build, to desire a style of architecture, remind-ing them of the literature, with which they had already become familiar.

The general spirit of the fifteenth century, was one of decided progress.† Education was cultivated, and academical foundations instituted in England. In Italy, the Italian language gained great elegance, and the Medici were the munificent patrons of art, and letters. Printing was invented; and architecture was remaining was invented; and architecture was never fa a more prosperous condition. Albert Durer was born 1470; Holbein in 1498; in Italy, Michael Angelo in 1475, Giorgone in 1477, Tritan in 1477, Raphael in 1483, and Curreggio in 1494. In the commencement of

Hallam's, "State of Europe during the Middle Ages,"
 to. 3 vols. 1818.
 † Sharon Turiser's History of England.

drew to Italy the eyes of fore that time, the periodical drew to Italy the eyes of Europ fore that time, the permains is an had direct influence, upon Gothic in our own island. The love of the sixteenth century, the tang her poets, and the spiritdonr added to the eminence of the of Bologna, Fiss, Fadda, and Italy with vieitors. New College and erected in a symptroit the increasing love of letters Collections of antiquities were the study of numismatica, beet The obligation of a new profit Rome, and the journeys to that a of the clergy, in the hope of et the seat of patronage, had configure latter part of Henry VIII. A set velled to Italy, greatly polities who introduced blank to the had heard of the fame of Rampin hith a stronage of had heard of hear had heard of the fame of Rampin hith a stronage of hear the fame of Rampin hith a stronage of hear the fame of Rampin hith a stronage of hear the fame of Rampin hith a stronage of hear the fame of Rampin had hear the stronage of hear the fame of Rampin hith a stronage of hear the fame of Rampin hear the stronage of hear the fame of Rampin hear the stronage of hear the fame of Rampin hear the stronage of hear the fame of Rampin hear the stronage of hear the fame of Rampin hear the stronage of hear thear the stronage of hear thear the stronage of hear the stronage and invited them to his little patronage of learn the universities were of seeds of knowledge we learned men; and EU2 wrote several languages, succeeded in reviving th of the institutions. Dy of the institutions. D Elizabeth's reign, ther though that period was in indifferent ones. amatory poetry formed Italian writings. The works of Wyatt, and in 1557, and about this the English court u change. An increased viously interfered with viously interfered with by the causes of trouble, which is part of Elizabeth's reign, yea duced by the most brilliant d imagination, that sper surprise of a monarch, tinged, withall and pedantry. "It was about Sir Walter Scott, " that the bis time the with the star his time, the witty, comic and quickly fagetious Joh at Apollo's table, and to y at A pollo's table, and to when wreath of 'his own bays without he, in short, who wreit, the comical work, called of England, was in the table absurdity and reputations. In dunnatural style, which a his 'Anatomy' of Wit' had as it was momentary all the c his scholars, and to parter be those of understanding how to or to dance a measure. "But this writer was more potents. this writer was more potent, continuance, than above repr the character of Sir Piercie the character of Sir Plercia has given somewhat of a car manner of speaking. It had at the court of Elizabeth, not public taste, and is frequent the literature of the sge. "Co expressed, in the form of h style, devoid of simplicity, bea its assumed ingenuity, and the writings of Sir Philip Sk him, it was removed." This him, it was removed.? This is dividual, whom Elizabeth striker her dominions," had an infini-than that of his predecessor," but more solid foundations, and "the ore, permanent. His " Defen-was written 1581-6, and the Pembroke's Arcadis" appendent the author's melancholy death the author's melancholy death the author's melancholy death to,5 " appear so well fitted to be to admiration as that of Shi the Uniting all the accomplishments Uniting all the accomplisit ment of the accomplisit of the account and universality, of the acquire or bestow, delighting mentality * "Such," says Seatth in the point of the satter and to this anther the compliments paid to this anther the satter is the satter of the satter

Blount." "The Manastery,", Spir Siz Wilton i t "The Manastery,", Spir Siz Wilton i Eunhaes is in two parts : Arst, "Emphases I Wit; " and second, "Euphness and the Thir ; Ballam's " Introduction to Wilton in the 15th, Ifthe sec. 710 (Spirusion 's) for a 15th, Hich, and 17th Gen in the "Retrospective Reiten avitete alle, silan , site

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Huime Hall, Manchester, was an example of a late half-metric house, surrounding a court.
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ad. bits ichery of his powers, and courts with the fraction of his address, leaving the served astonished with his proficiency, and be ladies encaptured with his proficiency, and the ladies encaptured with his prace, and com-municating, wherever he west, the love and purit, of gladness—he was, and well deserved to be a good in which all nations foundered to be a good in which all nations foundered themselves to be interested—not apticate and sole property and product of preserved to be a good in which all nations foundered themselves to be interested—not apticate and sole property and product of the people, but an universal benefaction, given and intended for all, and in the glory and product of which all had a right to be partakers. The death, therefore, was lamented by every hour, he had visited; and, to do honour to his memory, kings clad themselves in the habili-ments of grief, and universities poured forth the foule of academical sorrow." The destain in the glory is publica-tion of the author, his rank, his bravery, his maniform of the author, his rank, his bravery, his and the real Fied witchery of his powers, and courts with

permission of the author, his rank, his bravery, his informinate and premature death, and the real availance of the work. The ladies were de-grous of perusing what might be considered as his testament of so accomplished a courtier; her populity regarded with eagerness the pro-metion, of him who was their model and pat-terns and the activities turned with respect to the words of one who was equally qualified to a words of one who was equally qualified to a words of one who was equally qualified to a words of one who was equally qualified to a words of one who was equally qualified to a words of one who was equally qualified to The shad the scholars turned with respect to the words of one who was equally qualified to the scholars of the scholars. Thus the Ar-endia became the favourite promptuary and fart book of the public: from it was taken the anguage of compliment and love: it gave a unge of simulitude to the colloquial and courtly and for the firm, and from thence its influence in the biskorian, and the divine."

The communicated to the lucubrations of the poet, the bistorian, and the divine." If the conceits and quaintnesses of Sir Philip Biney a, language had their origin from the Indian school, "Spenser, who died in 1598, was great, and immediate. In his "Epi-inal of the "Faery Queen" was unani-tic and enthusiastic. "It became," says a sepised critic, "the delight of every poet, printed greateman, the model of every poet, printed greateman, the model of every poet, printed a, remarkable fondness for music. Hanger was translated by Chapmau, and Tasso by Fultax. But it was in the drama, that this midd was most distinguished. The Italian rematic literature of the 16th century, accord-ing to hir, Hallam, was deeply imbued with the borrible; spectral apparitions, murder, and gruetiy were the ingrediants; and the same was eminent, in pastoral poetry. "The in-langue of Italian literature is strongly evident a Shakespeare, and the plots of several of his was ware taken directly from the Italian. The pedantry of the day indulged in quotations. The period of the second of th

The second secon to besting, of ols country; and the imitations to besting, orders were uncouth, and without -3 min. cuprendue forms, and curves without -3 min.cs; bunches of carrots for ornament, band, windows, bearing an immense proportion -aro, he aize of the front, were the striking cha-venteristics of Elizabethan architecture. Where - I talian architects were employed, they seem to binare been the worst, that could be selected, or and have entirely forgotten the details of their

with even areas with elegance and refinement, the Italian im-press of the Elizabethan age, were but partially architecture: the skill of the bartistic first day was instificent to execute, the shift day was instificent to execute the shift day was instificent to be shift day was in

wind their patrons, contemplated. They sucat pedantic affectation, that love of the quaint and the singular, which was but one of its characteristics. E. H.

ENGLISH' AND FOREIGN COTHIN ARCHITECTURE COMPARED. BY SIR JOHN AUDREY."

MR. RICKMAN has attributed more pure simplicity and boldness of composition to Gothic architecture in England than elsewhere. My acquaintance with Continental models is (I regret to say) very slight; but I think I can see that he is right, and can point out one or two leading points in which our architecture is more pure, and one or two ex-ternal circumstances which, though they could not create the genius or the taste, might leave them more free to work out the unadulterated result of their own principles. I do not speak of the Romaneaque period, during which our Norman architects were probably, both in art and in time, behind their countrymen on the Continent; nor (on account of my own ignorance of the Flamboyant) of the latest period, when I must think that architecture, however increasingly subservient to use and luxury, after the day of Wykeham, was on the decline as an Æsthetic art. For the peculiar prin-ciples I only refer to the Master of Trinity, in whose observations on Rickman I shall strictly concur when, but not before, I have added to them, that it was himself who inspired with a living soul the nascent body produced by the patient and acute inductions of Rickman, and which has since advanced so far towards adolescence.

The favouring circumstances which strike me are, first, the comparative freedom from private war and local disorder, and, secondly, the comparative want of Roman works. Private war and local disorder would have far greater tendency than public, even though they were civil conflicts, to waste and destroy local monuments, and consequently, to cause that sense of insecurity, which will prevent their frequent and familiar construction: hence, to prevent the art from becoming inbred in the minds, and apparently indigenous in the soil of the country. One who twenty years soil of the country. One who twenty years ago had the early thin edition of Rickman in his pocket wherever he travelled, has a right ay that every little village church, which to has been spared by time and churchwardens, proves such to be the case in England.

The same insecurity which would prevent the frequent construction, would thwart that construction when it took place, Protection construction when it took place, Protection would be necessary, even to the defriment of their architectural ends. This requires no proof, but I imagine it to be illustrated in passing along the high road through Hereford-shire and Western Shropshire-border counties, where, I fancy, I see more than their pro-portion of rude and naked bulk in Early-English and Early-Decorated towers; but where, when the victories of Edward I, had given free scope to the arts of peace, I cer-tainly observe more than I have myself been elsewhere used to of the prevalence of quiet and humble structures of the Decorated style. It may be objected that the turbulent reign

of Henry III. was that which produced the glory of our native art, the early English, so glory of our native art, the early English, so pre-eminently, if not quite peculiarly our own. The reign of Henry III. was turbulent; but not so much so as it appears to posterity, in whose eye its half century appears as a unit by the side of shorter reigns. Nor were its wars private, whatever human intermixture of private violence they may have involved. They were wars of furblic privale. were wars of public principle. A weak reign afforded the opportunity, whilst it succeeded united weakness and violence to one whose called forth the necessity of claiming that in-creased public liberty, for which the social improvement of the nation was ripening it. The age of Magna Charta is no less appropriately the age of early English art, than the matured excellence of decorations coincides with the settlement of our Parliamentary constitution under Edw. I.

The student of Hallam and Fortescue, the best concise expositors of our laws and liberties, and our consequent national greatness, will probably, with me, divide the actual pro-duction of our happier state of things between duction of our nappier state of things between Norman prerogative and Saxon liberty—the superincumbent pressure of the crown baving prevented the well-compacted social economy of the humbler frames from being broken up as elsewhere (if elsewhere hit existed) by the

all-pervading violence of the military tenants It being important to the to assume the fact, "I may be excused in thus digressing to account for it; m order to make it credible to those impressed with a general idea of the lawless-ness of that age. s of that age.

The favourable effect of the absence of Roman works of art will be two-fold. The eye will be less distracted by a beadty depend-ing not only on different but on anatomist principles , and the wrentied will not be principles, and the architect will not be tempted, or required by his employers to un-pair the free and pute development of his own style, by the use of insterials (particularly old columns) too precious to be rejected, yet difficultito be adapted.

These two drawbacks have effectually pre-These two drawbacks nave enecually pre-vented the formation in Italy (except, perhaps, at Naples) of a school, though there was long a fashion, of pointed Gothic architecture in that country. This is conclusively shewn by the splendid work of Gally Knight—the more conclusively, as it was not his object to draw conclusively, as it was not his object to draw the conclusion. I must not be considered as undervaluing, except in the single particular of the *purity* of Gothic art, the edifices of other countries. I can there there who may consider the French of German, who make nearer approaches to puffy than the Italians, as on the whole our superiors in great edifices; and even in Italy I can admire great edifices; and even in Italy I can admire sometimes even more than my judgment can approve; and I may both approve and admire a work not Gothic, but still generis. The matchless splendour of Milan' pleases a cultivated taste the less because it is mani-festly intended to be, what yet it' is not, purely Gothic. That gen, the Capella defla Spina, at Plea, wants in its outlines the truth-fulness of Gothic art; but he must be such a master of language is I at not, who can find words adequately, yet soberly, to extol the cathedraf of Florence. It is neither classical, nor Romanesque, nor modern Roman, nor Gothic; but, with much of the breadth and expansion upon earth of the school founded on classic wit; it earries the eye and the mind up expansion open early of the school lounded on classic art; it carries the eye and the mind up to beaven; and onward towards the unseen, in the truest spirit of the romantic. We scarcely need be told that its wonderful capita is the first, in order to look upon it as the most admirable of its kind which the country most admirable of its kind which the country produced. Yet we must come home to Salis-bury, Beverley, Westminster, Tintern, Lin-coln, York, and Winchester. I place them in the chronological order of the style to which (of the many which must of them coin-tain) I attribute in each the leading effect. Early English pure Early English, with all the later styles admirably harmonized to it-Early English, verging on Decorated, Decorated and Perpendicular. and Perpendicular.

and Perpendicular. I must not be supposed to be laying down rules without exceptions, that what I have been impressed with on the prevalent taste ought to be admitted by others, to be so. I have not time, not indeed materials to prove have not time, nor maced materials to prove —perhaps I may be wrong; but if I am not, it is still a chance—whether their 'recollections of objects seen without any such idea baving been suggested to them, will bear me out, or whether if my observations should be honoured with a place in their recollection, they will be confirmed by their future experience. In En-glish Gothic we have scarcely any where but at Canterbury the column substituted for the pier. Now, in every one's eye and mind, whether he have expressed it in words or not, pier. the pier is subordinate to the arch, but the column cannot be made subordinate to the intercolumniation. The column, where it exists, is always the thing dwelt upon, and the intercolumniation, be it arched or not, dwindles into the mere form which the column does not fill.' This is contrary to the primary canon that Gothic is the architecture of interiors, in which the supporting parts are subordinate to the contained space.

In the eastern apso which our pointed ar-chitects scarcely ever constructed except at Westminster, or even adorned except at Tewkesbury, I am inclined to admit that where it does not lead to narrow and wire drawn pro-portions, our continental neighbours have an advantage over us; but in the long west window, so comparatively rare in the French west fromts, we have an immeasurable advantage---it makes our great front more one, more ascending, more indicative of the con-

^{*} Read at the late Winchester Meeting.

THE BUILDER.

tained nave than the window either circular or in which the circle is the prominent object.

m which the circle is the prominent object. Some of the most admired French fronts have also a great prevalence of horizontal lines carried through the two towers. Notre Dame is a known instance, as far as I recollact, Amions, Abheville, Troyes, Sens, and many others may be referred to, to show the prevalence of the tasts. I am by no means disposed to treat as a fault the almost Gracian ground plan of many of these buildings, but it certainly tends to produce a form in the profile of which horizontal lines shall be conspicuous. Now in the great breadth of the west front of York, though some may disapprove the low pitched roof, or others the general proportion, yet the lines of buttress and window preclude any such effect. Salisbury, though without towers, is in some degree open to it. Lincoln is worse than any French building, but the fault is in the Norman work.

In richness and depth of moulding, and in the progress of roof tracery, I believe that foreign buildings are oftener behind what would be suitable to the general advance of enrichment than English. Canterbury has much which I do not think English in character.

If a horizontal effect has been often directly given to French fronts, an opposite cause has in some admirable German buildings impaired the effect of the division into bays vertically divided. The office of the buttress with pinnacles not only to be the truthful index to the essential support of a Gothic building, but to carry up the eye in vertical lines, and to divide the structure to the eye according to its enclosed parts, as admirably arranged on the north aisle at Winchester, cannot be overrated. But such is its office, and if from its too great projective proximity, and want of set-off, the line of buttress form to the eye the outline of the building, as occurs in the glorious Cathedral of Colegne, it wells instead of exhibiting the form and character of the contained spaces.

The great height, and consequently relative narrowness, of the parts of this structure, has much tended to this effect; but where there is much flat wall often full of highly enriched parts, but still one wall with many enrichments instead of a series of bays grouped inte ope harmonizing whole. This often, with a marrow strip of window too insignificant in breadth to give individual character to the acyaral bays, is, I believe, seen to prevail in the architecture of Nurenberg. It is more necessary to be guarded against, as it is the very fault into which many of our recent attempts have fallep. They have walls pierced with windows, they have sometimes three windows under one gable, which never can satisfy the eye, though it may not know the nature of the objection.

I must regard the ostentatious disproportion of the most celebrated steeples of Germany to the rest of the building as a fault. I can hardly regret that Ulm has never been carried up, yet who can object to Freyburg, completely as it overpowers the church.

Yet more questionable is the gorgeous open-work of Strasburg and others of these structures. A pinnacle, which is an excrescence, may be open, but not a leading member of the edifice itself, which ought to resist the weather and shoot off the rain; and there is a further objection where the tower is crowned with a spire — a spire, whose silent finger points to heaven, has that silence broken over by the beautiful addition of crockets. How much more by a surface broken up in all its parts. I believe in all these points the prevalent taste in English architecture has the advantage in purity. It is no part of my object to attempt any comparision in point of positive excellence.

DECORATIONS OF THE HOUSE OF LORDS.

Sin,—No one comes forward to release the Royal Commission from the dilemma in which your correspondents show them to be placed. The Commissioners can alone extricate themselves by doing justice to the English decorators, and giving them a fair trial, as they appear to be doing with the painters and sculptors. And unless they do so they have only to choose upon which horn of this dilemma they are to be impaled; whether they will consent to be reproached with breach of faith to the decorators, or submit to have their power and influence set at nought, and their intentions frustrated.

The statements made in your columns by Mr. Pugin and Mr. Crace were ingeniously framed, so as to let it be inferred that Mr. Barry makes the designs of all the ornaments both for the carved and painted decorations; Mr. Pugin being his draughtsman for the carved work, and Mr. Crace for the painted work. Mr. John Crace's declaration, that he drew with his own hands the sketches of Mr. Barry, is calculated to excite some ap-prehension for the execution of the painted decorations amongst those who are conversant with Mr. Crace's powers of delineation; and though it is possible that Mr. Crace may have taken lessons in drawing lately, so that his performances may no longer elicit such shouts of laughter from his foreign artists as they used to do, still the difference between Pug in and Crace is rather too great for their performances to be on a level. If Mr. Barry finds it necessary to engage such valuable as-sistance as Mr. Pugin's for the carved work, where the feeling and skill of the carvers would supply some deficiency; how much more important is it to have the working drawings If Mr. Barry for the painters made by a masterly draughtsman.

Mr. Crace's statement, that "not a single foreigner is or has been engaged upon the decorations of the new House of Lords," is at variance with Mr. Pugin's observation in his letter to Mr. Herbert on the School of Design, that, in consequence of not finding English artists competent, he was obliged to send for decorators from abroad. And since it is part of Mr. Pugin's daty to engage the most skilfal workmen, it is surprising that he should never have thought of those especially recommended by the Royal Commission. Mr. Barry professes to prefer practical men, and regrets that the Commission did not confine the competition to working artists; yet the first thing he does is to employ a dealer in decorations—telling Mr. Goodison that there is nothing worthy of his ability in the House of Lords !

The architect, of course, ought to have the control of the building, so far as regards the general character and effect of the deco-rations; but surely the details should be left to the decorative artists to invent. It is for the decorator to send in his designs, and for them to receive the architect's sanction; but there should be no need for the architect to design every scroll or ornament, nor do more than suggest to the decorator, and exercise a veto over his designs. An accomplished, practical decorative artist should be a clever designer, draughtsman, and painter; able to conceive the plan of a decoration and fill in the details, with a knowledge beforehand of the effect of the whole when completed. But there is no such artist employed in the House of Lords. It is all done by guess, bit by bit. There is no complete design settled before the work is begun, as there ought to be ; but first, this notion is tried, then that, and then another.

The ceiling is moulded in compartments; and these are filled with decorations. Now, I have heard for a fact, that as many as forty different designs have been made for one compartment before the architect was satisfied; and then, when the work had been proceeded with, the effect proved disappointing, and there was a change from coloured figures to gold, or from diaper to plain grounds. Then the ornaments, instead of being exe-

Then the ornaments, instead of being executed on the ceiling, are painted on strained linen, and stuck up alterwards ! And this in a national work that is to last for ages ! But that plan is most convenient for the jobbing patchwork that is being perpetrated; when a design for the compartments is settled, one is

finished in colours, and a set of mechanics are employed to copy it from pounded putlines. Their work will, of course, have all the tame, timid, characteriess servility of copyints afraid to go beyond the tracing, and even to come up to the line. And this is the sort of work that is to adorn the Houses of Parliament. are to But if the new Houses of Parliament. are to

But if the new Houses of Parliament are to be made a senio of old flothic patterns, where is the promised encouragement for British talent? Why are not Messre. Goliman, Jobastone, and Goodison—who are all designers, though only the latter is a practical painter also—why are not these and other decorators competent to invent and execute, allowed the opportunity of exercising their talent? Nour correspondent "Justice," speaks disparsingly of Mr. Rogers as a carver, but I are pennoaally acquainted with his talent as a designer, and his skill as a carver. I pride myself on possessing a little specimen of his work that he executed for me more than twenty years ago, that is equally beautiful for taste and execution. Besides, Sire, we want directing minds as well as skilful hands in each a building as this.

Since the Government has sanctioned the very laudable scheme of making this building a monument of the present state of the arts of the country, it behaves these in authemity fo see that this purpose is accountry processes in that the best talent the country processes is employed in contributing to it. This will be done in the case of painters and scripton; why should it not be done in the instance of decorators? The talent of Givinling Gibbons was brought to light by Sir Christophers. W with in St. Paul's. Did that great amhiteet fatter the fertile fancy and consempate shill be the famous carver in wood and stone R is N's, be gave scope for the genus that he footered and appreciated. Let us hope bis examplemile he followed in the Parliament knows in the rate.

Ir is very desirable that guarde should be able to communicate with the driver of a train while it is travellingt Practical men are well aware that cords, flage, or signal lights, enh never be depended upon; and "even whistles under existing circumstances are petfectly useless for this purpose. The most prictically plan is to reduce the noise of a wain ; it's well known that while steam is blowing of from a safety valve (which is nearly sivers the case when an angine is running), engine drivers are 'quite unable on account' of the great noise thereof, to hear any other sounds beyond those made by their engines. It has been proposed instead of letting the supplus steam escape from the valve directly into the open air, that it be made to pass from the valve through a gradually enlarged tube and allowed to escape upwards through an aperture of about the same diameter and height as an engine chimney; this plan would cause the steam to expand very considerably before striking the external air, and would consequently produce comparatively little noise; were this method adopted, it is the opinion of several practical men that engine-drivers would then have no difficulty in hearing a guard's whistle provided the guard was scated upon one of the foremost carriages.

As respects the guards, the one placed near the end of a long train cannot at present make the front guard hear even a very powerful whistle, owing to the excessive noise of the carriage wheels, but this difficulty may be obviated by enclosing the sides of the wheels, as before mentioned in our pages, so as to confine a quantity of sawdust in contact with their spokes; sawdust having the effect of enabling them to roll without noise.

UNIVERSITY COLLEGE, LONDON: The classes for civil engineering and erchitecture will be re-opened on Wedneeday, the 15th of next month.

NAMES OF STREETS.—A correspondent of the Morning Herald makes the following useful suggestion. When abroad I observed a practice, particularly at Liege, which, if adopted in our large towns, might, I think, be attended with beneficial results. It is simply to have the name of each street on one pane of glass, transparent, in the first lamp at each end of every street. It may be remembered what confusion there was last winter when the fogs set in, by people losing their way in the streets, and being misdirected by pickpockets and other designing persons.

LESS NOISE AND MORE SKIET C

COMPETITION FOR LAXING-OUT GROUND, BICHMOND. — The Bichmond vestry have awarded the premiums for laying but the land at Queen's-road, Richmond. The first to Mr. Edward Sherrard Cole (in Mr. Moentta's office), and the second to Mr. Gifford, of Pimlico. Several architects of standing were competitors.

HEALTH OF TOWNS' ASSOCIATION.

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On Friday evening last, a lecture was delivered at Croeby Hall, Bishopsgate-street, under the sanction of this useful association, by Dr. Guy. The lecture occupied two hours, but was throughout listened to with marked attention by a large and highly respectable audience.

After a short explanation of the objects of the association, the lecturer proceeded to establish, one by one, the several positions put forth in its prospectus; and fortified them by spt quotations from the evidence laid before the Health-Commission. The waste of life in England and Wales, which was estimated at 30,000 a year, and was stated to be accompanied by about 750,000 cases of unnecessary sickness—a similar waste of life in the metropolis of 10,000, with a quarter of a million cases of unnecessary illness:—The low average age at death of the labouring class and of tradesmen, compared with the gentry inhabiting large towns, the striking but now familiar fact that the mortality increases with the density of the population; the filth and wretchedness in which the lower orders live corresponding to their low duration of life; the unbealtby condition of their houses and workshops, depending on want of water, drainage, and ventilation; the expense insurred by the public for unnecessary sickness and premature death; the burden imposed on "rate-payers' by the diseases created by the imediate of these simple measures:—were the isopics which the lecturer discussed and illustuated. The locture will probably be published by the association, when the public will be able to judge of the success with which its objects ware explained and advocated. Wé subjoin the following extract, which we

think worshy of the attention of our readers. Allading to fever, Dr. Guy says :-- " It loves the banks of rivers, the borders of marshes, the edges of stagnant pools; it makes itself at home in the neighbourhood of cesspools, and badly constructed drains, and takes especial delight in the incense of gully-holes. It has a perfect hower of freeb air, eap, and white-wash, but when left to itself will linger for years amid scence of filth and corruption, and fold in its deadly embrace all human beings who have the same depraved taste, or are so anfortunate as to he thrown into its company. It, is the favourite child of laissez-faire (in plain English let alone) and hears the same relation to filth, as crime does to ignorance. Unfortubately for us, it has kept the same Unfortubately for us, it has kept the same name for a long time past, and has grown so familiar, that no one minds it. When the cho-lera did us the favour to pay us a visit, we made preparation for his reception. We cleaned out many an Augean stable, set the scavengers to work in right earnest, white-washed sundry houses, and shewed a whole-some respect for the threatened invader. He came at last, and he was too strong for us; he landed, and took up his quarters where we should expect to find him, on the banks of rivers, in low marshy spots, in the crowded, filthy, and ill-draind districts of large towns; and wherever we had either made no efforts to remove accumulated filth, or where the long neglect of years admitted of no immediate reparation. I saw sundry cases of cholera my-self, and they all occurred (they were the first in that neighbourhood) in a quarter of the borough of Southwark, hopelessly sunk below the level of the surrounding district, and which set at defiance all attempts at drainage.

Now, it is a strange example of the effect of habit, and the influence of names, that this formidable stranger should have produced such a sensation, and roused us for a time into so much activity, and yet this domestic pestilence should be allowed to go on poisoning and killing year by year thousands of our people, without setting a broom or a brush in motion.

When the cholers was on his way to us, and while he was among us, we were really up and starring, and waging a not unsuccessful war against the causes of disease, but no sooner did he take his departure than we lapsed into our accustomed negligence. The Commissioners of Sewers laid down their trowels, the scavengers walked away with their brooms in their hands; there was a madden falling off in the consumption of soap and whitewash; the boards of health closed

their books and their labours; the Government fell into its habitual state of calm repose; all things returned under the sleepy rule of *laisez-faire*; and filth, with its attendant train of disease, and misery, and crime, resumed his empire."

We must not omit to state the gratifying fact that there were present at the lecture several members of the "Metropolitan Working Classes Association for Improving the Public Health," of which we are happy to see that the Bishop of London has consented to be president. An abstract of their prospectus was read in the course of the lecture.

CHINGFORD CHURCH, ESSEX.

SIR,-Knowing your readiness at all times to give publicity to whatever may interest either the architect or antiquary, I venture to trouble you with the following note. Strolling from Woodford the other day I came to the parish church of Chingford, and was agreeably surprised when, on entering the churchward it proved to be one of these

Strolling from Woodford the other day I came to the parish church of Chingford, and was agreeably surprised when, on entering the churchyard, it proved to be one of those venerable piles that some centuries back were to be found in most towns in this country. It cannot boast of great beauty in its design, but is valuable by reason of its great antiquity. It is situated on a slight eminence commanding a good view of the surrounding country, the scenery of which is very pretty, and much superior to what you generally see in Eases.

a good view of the surrounding country, the scenery of which is very pretty, and much superior to what you generally see in Essex. The church itself is covered with ivy, especially the tower, which is completely hidden from view, with the exception of the pole, on which a weathercock has heen placed. I am very sorry to say that the shurch is in a very dilapidated and ruinous state; in fact, so much so, that if timely assistance is not given, it will, in the course of a short time, fall to pieces. Many of the windows are either broken or cracked, and pieces of board in some places are nailed across to supply the deficiency, and in others the vacancies are left uncared for, and through which the wind howls mournfully through the aburch. The remains of the reading deak are just visible, and where the pulpit used to stand is now actually one mass of bricks and mortar, which have fallen from the wall. The rough and is dare say, in a very short time, will be seen to decorate what remains of the paws. I have seen many fine specimens of the ivy in different parts of England, but I never saw a finar than the one which is here. The state of repair of the tower, I could not, with any certainty, ascertain, as it is so overgrown with ivy as to be almost hidden; the part I could manage to get a glimpse of appeared to be pretty sound. The body of the church is beginning to decay, and the walls are cracking very fast. The small gallery is falling to pieces. The aisle(?) where the communion-table is, is by far in the best state of repair. Several large coats of arms and tablets are hung on the walls. Service has notbeen performed for

Stopping at a wayside inn, on my return, I entered into conversation on the subject with a person who was connected with the parish. When I lamented the state of the building, he very abruptly said that the parish had no money to throw away on such tritles, and that they had enough to do to support the poor. Finding words were of no avail, I very soon after left him. I am afraid from what he said the church may fall to pieces before they will render any assistance.

WHITE-ENNIGHTS ESTATE, READING.—We are glad to learn that the directors have already received applications for more than the whole number of shares, and, moreover, that building operations will go on immediately. The lodges are in progress, and some new roads are about to formed. The Berkshire Chronicle, speaking of this beautiful locality, says truly, that it "will afford to Reading a suburb of unrivalled attractions and value, and we see no reason why a residence there should not become quite as eagerly sought as at Cheltenham, Bath, and many other inland towns, which must ever want that most desirable advantage possessed by Reading—a close proximity to London, the great centre of wealth, pleasure, and business."

FRANCIS BAILY, F.R.S., &c., &c. A PORTRAIT PAINTED BY T. PHILLIPS, R.A.; ENGRAVED RY T. LUPTON. (Private Plate.)

THE life and writings of this emittent astronomer and estimable man, as well as the origin of this portrait, are matters of history, as well as of deep interest to lovers of science, art, and philosophy. To Mr. Baily the British public, and indeed all Europe, are indebted for the formation and permanent estalishment of the Royal Astronomical So-ciety. Feeling this debt of gratitude, some of the most active and sealous members con-sidered it due to him and to themselves to produre a good portrait of their friend, to be preserved in the meeting-room of the society. The late Mr. Phillips was selected to perform this pleasing and honourable task; and he produced a picture and a likneness, which, whilst it conveys a vivid record of the fine personal features of the individual, gives evidence to the casual spectator of an intellectual and thoughtful man. Never was the human face more faithfully depicted on canvas than in the present instance, for the picture seems to live and breathe, and even prepared to speak. As long as it be carefully preserved by its guardians, it will be viewed with melancholy pleasure by all the sincere friends of its once living prototype, and with admiration by all lovers of art. In this picture, and in others preserved in the meeting-room of the Royal Society, Phillips has leit behind him proofs of his own professional qualifications as well as graphic memorials of men who have enlightened and adorned the hemisphere of science. These pictures may fairly rank and compete with the many exquisite portraits by Vandyck and Revnolds.

The late Mr. Baily bequeathed a very handsome fortune, — nearly 100,000*L*, — amongst his relatives and friends; one of whom, the **Rev.** Richard Sheepshanks, has most liberally and nobly applied his legacy to the production of the engraving now under our notice; and he has presented proof impressions of the plate to the intimate friends of the deceased astronomer, and to a few distinguished men. It is but justice to Mr. Lupton to remark, that he has reduced the picture, and translated it into black and white, with the utmost fidelity; and that the engraving is characterized throughout by skill and taste.

We are informed that two other legatees of Mr. Baily,—Sir John Herschel and Lient. Stratford, the scientific author of the Nantteal Almanac,—are about to have a bust of their late estimable friend executed in marble for the Astronomical Society. Sir John Herschel has written and published a very interesting memoir of the life of Mr. Baily.

COLOGNE CATHEDRAL

WHEN the Queen was in Germany her Majesty gave about 560% to the fund for restoring this wonderful building. The committee, it is said, propose to return it, considering the sum too small. An English provincial paper objects to the donation, that it was hardly judicious or well principled; and says, "for the Protestant monarch of a Protestant nation to give so munificent a sum to a Popish cathedral does not seem to our comprehension altogether right." We are disposed to think the writer's comprehension must be very small.

THE ASPECT OF THE CATHEDRAL ON LEAVING COLOGNE.

Like a dismanbered stone God thou appearest, Knowing the course of ages will restore The giant limb and front divine thou rearest,

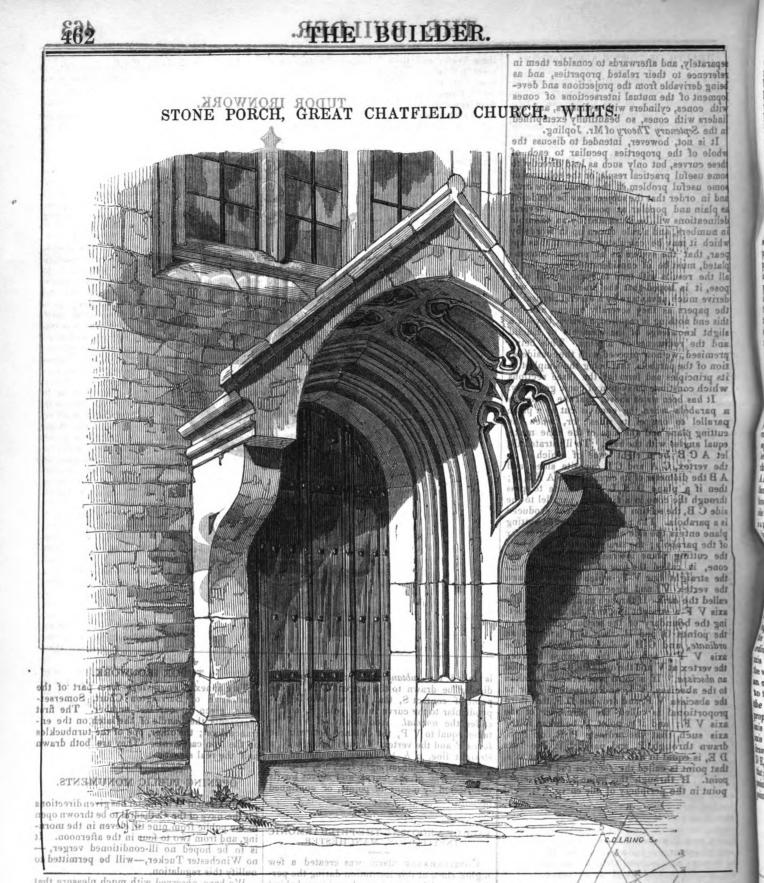
As the great Titan proudly did of yore;

And even now is thy abasement o'er, For man admits thy long-neglected right,

Resolving to endure the shame no more; ----Lo! where the weed had growth, the owl delight, Again the chisel clinks with hundred-handed might. J. ELLIS.

NEW RESERVOIR AT HIGHGATE.—The New River Company are constructing, under the superintendence of Mr. W. S. Mylne, their engineer, a large reservoir upon flighgate-hill. Messrs. Mansfield and Sons are the contractors.

^{*} Amongst the numerous novelties of the age, we should be glad to see a spacious Gallery of British Worthics



mSTONE PORCH AT GREAT CHATFIELD s doith yd stCHURCH, WILTS. burgh, burgh, SEVERAL of the churches in Wiltshire, possess porches of a singularly picturesque character, quite unlike those which are to be found ind other dparts of England. It These porches are of very late date, mostly of the periods of Henry VII. and VIII. In the first wolume published by the Wiltshire Topographical Society the one at Grittleton church is given. the followin ormation.

The porch at Great Chatfield church is about the time of Henry VIL ; the church, dedicated to All Saints, is a small but, beautiful structure. "It has been fally described and Hustrated by Mr. T. L. Walker, who devotes no less than eight plates to it, in his little volume on "The Manor House and Church at Great Chatfield."

To this work I recommend any of your readers to refer who may require the details of con-C. J. R. struction

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THE CONIC SECTIONS CONSIDERED IN REFERENCE TO THEIR PRACTICAL APPLICATIONS.

THE conic sections being of considerable utility in the various departments of the constructive arts, it is a matter of the utmost imscructure aris, it is a matter of the utmost im-portance to practical men that they should be familiar with the fundamental properties of these curves, and the methods by which they are generated or described; it is therefore proposed to give a brief exposition of the different sections, and to illustrate the method of applying them to varions useful practical purposes,

Conic sections are usually defined to be " the figures formed by the mutual intersection of a cone and a plane," and according to the dif-ferent positions which the cutting plane as-sumes, there are formed five figures or sections essentially distinct from one another; namely, a triangle, a circle, a parubola, an ellipsis, and a hyperbola, but because the triangle and the circle are ranked amongst the figures of elementary geometry, they are excluded from the conic system, and the remaining three only are strictly considered as *conic sections*. The manner of their formation by cutting the cone

manner of their formation by cutting the con-is as follows: — When the cone is cut by a plane parallel to one of its sides, or when the cutting plane and the side of the cone make equal angles with its base, the section is a *parabola*. When the cutting plane passes obliquely through both sides of the cone, or when it meets the base produced in a less angle than the side of the cone does, the section is an *ellinsis*.

the side of the contrast, when the cutting plane makes a greater angle with the base than the side of the cone makes, the section is a hyperbola; and if all the sides of the cone be produced beyond the vertex, constituting an equal and an opposite cone, the intersecting plane being also conti-nued to cut this cone; the section is an opposite hyperbola, and this, together with the former, are denominated opposite sections; or apposite hyperbolas.

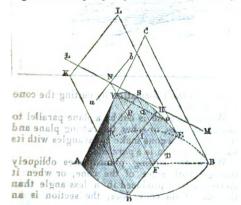
are denominated opposite sections, or opposite hyperbolas. A line and of size of the section of

THE BUILDER.

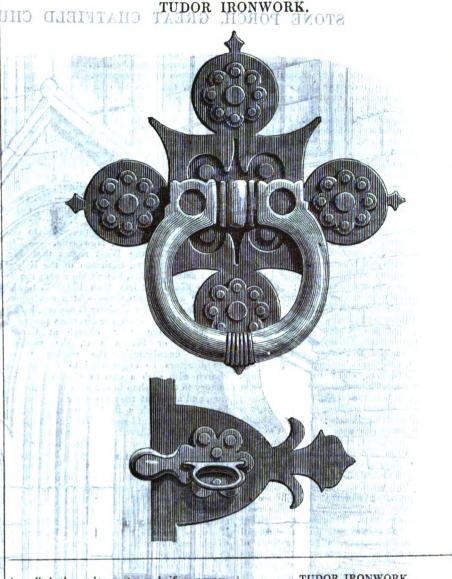
separately, and afterwards to consider them in reference to their related properties, and as being derivable from the projections and development of the mutual intersections of cones

lopment of the mutual intersections of cones with cones, cylinders with cylinders, and cy-linders with cones, so beautifully exemplified in the Septenary Theory of Mr. Jopling. It is not, however, intended to discuss the whole of the properties peculiar to each of these curves, but only such as lead directly to some useful practical result, or the solution of some useful problem in the constructive arts, and in order that the subject may be rendered as plain and popular as possible the several and in order that the subject may be rendered as plain and popular as possible, the several delineations will be illustrated by an example in numbers, and a rule drawn up in words by which it may be calculated. It will thus appear, that the system as at present contem-plated, must be of considerable extent, but as all the results will tend to some useful purpose, it is hoped that the practical man will pose, it is noped that the practical man will derive much advantage by a careful pernsal of the papers as they severally appear, and for this end nothing is required, *á priori*, beyond a slight knowledge of the elements of Euclid and the rudiments of algebra. This being premised, we now proceed with the considera-

slight knowlenge of the elements of Euclid and the rudiments of algebra. This being premised, we now proceed with the considera-tion of the parabola, that being the simplest in its principles and form of the three sections which constitute the system of conic geometry. It has been stated above, that the section is a parabola when the cone is cut by a plane parallel to one of its sides; or, when the cutting plane and the side of the cone make equal angles with the base. To illustrate this, let A C B be a right cone of which C is the vertex, C A and C B opposite sides, and A B the diameter of its circular base A E B D; then if a plane D K L E be made to pass through the cone in a direction parallel to the side C B, the section D V E thereby produced is a parabola. The point V, where the cutting plane enters the side of the cone is the vertex of the parabols; the straight line D E, where the cutting plane intersects the base of the cone, is called the base of the parabola, and the straight line V F, which passes through the vertex V, and bisects the base in F, is called the axis. If through any point, I, in the axis V F a straight line, G H, be drawn, meet-ing the boundary of the section both ways in the points G and H, then G I is called an *ordinate*, and G H a *double ordinate*, to the axis V F; and V I the distance between the vertex at V and the ordinate, G H, is called an *abscissa*. If a third proportional be taken to the abscissa, V F, and ordinate D F, that third proportional is called the *parameter* of the axis V F; and if a point, P, be taken in the axis V F; and if a point, P, be taken in the The abscissa $\forall F$, and ordinate D F, that third proportional is called the *parameter* of the axis $\forall F$; and if a point, P, be taken in the axis such that the ordinate P R, or P S, drawn through P, and parallel to the base D E, is equal to half the parameter of the axis, that paint is called the force or the describing that point is called the *focus* or the *describing point*. If through the point S, or any other point in the periphery of the curve, a straight



line S T be drawn parallel to the axis V F, **the line S T** is called a *diameter*, in contradis- **line to the principal diameter** V F, which **is laways** called the axis. If a straight line, **is Low** to teach the curve in S, at the vertex of **iany** diameter as S T, without cutting it, that **line is called a** *langent* to the curve at the **real** S, and if through any noint in the June is called a *tangent* to the curve at the point S; and if through any point in the diameter S; T, the straight line V O be drawn parallel to the tangent L M, and intersecting ithe diameter S; T, in the point Q, the straight line Y O, is a *double ordinate* to the diameter S; T, and Y; Q, or O Q, an *ordinate*. If the many F||V be produced beyond the vertex, m to meet the tangent L, M, in the point N, P N,



is called the subtangent; and if a perpen-dicular be drawn to the tangent L M, in the point of contact S, that line will also be per-pendicular to the curve in the point S, and is called the normal. And finally, if V N be taken equal to V P, the distance between the focus P and the vertex V, and through N, a straight line, a b, be drawn parallel to the ordinate R S, the straight line, a b, is called the directrix of the curve, and serves for its description by means of points, or continued description by means of points, or continued motion.

FALL OF A ROOM AT THE PHILHARMONIC INSTITUTION, MANCHESTER.

CONSIDERABLE alarm was created a few nights since at this institution during the per-formance. A loud crash was heard from behind the scenes and great shricking, and noise of falling bodies. Immediately afterwards, Mr. Weston, the musical director of the institute, Weston, the musical director of the institute, came forward, and explained that a plank or two had given way, and caused more alarm than danger. He subsequently stated that only one person was much hurt, but the nature of his injuries he had not learned. The *Manchester Guardian* says, "From an in-spection of the place, we may state that the accident consisted in the giving way of the planke or refers supporting a dressing way of planks or rafters supporting a dressing-room, in which a great number of the male chorus were congregated taking refreshment. The were congregated taking refreshment. The weight being greater than the beams could support, they gave way, and fifty or sixty persons were at once precipitated to the stage, a fall of about 12 feet. It is really wonderful looking at the place, that an occurrence so alarming in appearance and in reality, should have been attended with so little serious in-Only one person, so far as we could jury. ascertain, was much hurt, and he was conveyed at once to the infirmary, to have his injuries examined.

TUDOR IRONWORK.

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THE annexed engravings form part of the illustration of Barrington Court, Somerset-shire, given in our last number. The first represents the handle of the latch on the entrance door; the other, one of the turnbuckles on the iron casements. They are both drawn half the real size.

OPENING PUBLIC MONUMENTS.

THE Dean of Winchester has given directions for the nave of the Cathedral to be thrown open to the public from nine till eleven in the morning, and from two to four in the afternoon. It is to be hoped no ill-conditioned verger, -no Winchester Tucker,-will be permitted to nullify this regulation.

We have observed with much pleasure that the Trustees of the Royal Institution, Edin-burgh, have made arrangements by which a large, varied, and valuable collection of paintings, marbles, and bronzes are now thrown open twice a week for the gratuitous inspec-tion of the public. This collection now contains the paintings bequeathed to the Univertams the paintings bequeathed to the Univer-sity by the late Sir James Erskine, of Torre, Bart, comprising specimens of the genius of the Carracci, Guido, Vandyke, Rembrandt, and other celebrated painters. The Edin-burgh Advertiser, in making known this in-formation, has the following remarks on the general question of gratuitous admission to works of art. "It is often said of this country that it provides little or no means of rational amusement and beneficial recreation for the amusement and beneficial recreation for the working classes; that, in short, the principles of conservation and exclusion are too strictly applied to institutions which ought rightly to be open and accessible to all classes, and more particularly to that class which within them-selves have little or no means of cultivating a taste for the sublime and beautiful, although it is admitted on all hands to be a most effectual

means of elevating their thoughts and habits. We hail with pleasure the facilities which the board of trustces have afforded, and trust that the boon will be exgerly embraced, and that the visitors will show their grateful acknowledgments by in no way abusing the privileges so generously granted to them.

privileges an generously granted to them. The Hull Advertiser, in an article on Mr. Joseph Hume, M.P., refers with just praise to his endeavours to obtain for the humbler classes free admission to our national monuments, with a view to enlarge their sympathies, purify their tastes, and exalt the standard of their moral feelings; and, we are delighted to add, with most gratifying success. Principally through the exertions of a society of which he is chairman, and which numbers amongst its members Lord Francis Egerton, Lord Low-ther, Lord Worsley, Lord John Manners, Mr. Huit, and others, many of the national edifices hitherto closed against the working classes, by reason of the fees charged for viewing them, are now either wholly or partially open for some days of the week free of any charge whatever. For instance, the British Museum is open free three days in every week; the National Gallery is free four days; St. Paul's and Westminster Abbey (exdays; St. Paul's and Westminster Abbey (ex-cept the chapels) are free every day; the Society of Arts is free five days; Hampton Coart Palace six days; the Woolwich Models every day; the Norwich Cathedral an hour daily; the Bath and Wells Cathedral every days; the Dath and Wells Cathedral every day; the Durham Cathedral (except the chapel of the Nine Altars) every day; and the whole of the treasures of the Tower of London can now be inspected for one shilling, instead of eight times that sum. Liverpool admits its mechanics to its Botanical Garden two days in the week, free of expense; the Royal Botanical Garden of Edinburgh is open free to all applicants; and the Dublin Botanical Garden is accessible to the peasantry, free of charge, two days in every week. Mr. Hume urges that fifteen years' experience has satisfied him that the people, when adhas satisfied him that the people, when ad-mitted free to cathedrals, museums, and gar-dens, uniformly conduct themselves with the greatest propriety; and that the effect upon them, mentally and morally, is of the most gratifying description. They acquire habits of personal meatness in dress, politer forms of speech and deportment, a greater love of order, and a general desire to extend the boun-dering of upbatwark power low may neases. daries of whateverknowledge they may possess. The more imperfect their own acquirements may appear, the more eager are they to obtain a better education for their children.

-y + Amaria Line

JOTTINGS ABOUT RAILWAYS.

1 A maw project has been started during the past week, having for its object the supply of city and West-end accommodation to pas-sengers arriving in London by the existing railways, as well as by several projected lines when finished. The plan contemplates the erection of an explanade on the site now occupied by the coffer dam in front of the New Houses of Parliament : we copy the following relating thereto from the prospectus :--- "It appears that some who have not sufficiently studied the matter think that it is impossible to pass before the New Houses of Parliament without eliciting the opposition of the several branches of the legislature. No objection branches of the legislature. No objection can be more futile. On the contrary, when the project is fully developed by the plans and sections, the support of both Houses may be confidently calculated upon. It will give to the building a grand esplanade of 70 feet in width in front of the towers, and 100 feet in the contra instead of a nearest indexed alia the centre, instead of a narrow inclosed slip 30 feet wide, confined between the two projecting towers, to which the public can have no access. Here is a facade, the grandest, for its extent and beauty, in the world, elaborately sculptured by artists of the first ability, at an enormous expense, which, if the present ter-race be not widened, will be lost to public ob-servation, inasmuch as the only place from which a sight can be obtained will be from the centre of the river, where the beautifully finished carving cannot be appreciated. To accomplish this object it is proposed to carry out an esplanade on the site now occupied by the coffer dam. The esplanade will be on the same level as the present terrace, and below this terrace the railway will be inclosed in a tunnel 14 feet in height, made perfectly]water-. 1 ..

tight below, and lighted in front by openings

above the water level. This tunnel will, of course, be out of sight, and there will be no rouse, be out of sight, and there will be no noise or smoke to indicate the passing of the train; in fact, no member of either House will be aware of the progress of the carriages. In the same manner the Marquis of Westminster's property may be passed, the top forming a grand terrace, 70 feet wide, next the river, which cannot be otherwise than a great desideratum to the property. As to the wharf property, that will also be greatly improved. It is not proposed to interfere with the water-way at all. The railway will be some distance from the present frontages, and carried upon arches of from 60 to 100 feet span. It is only necessary to add that all these great objects may be accomplished without taking down ten may be accomplished without taking down ten buildings, either dwelling-houses or ware-houses." The project has been named the Surrey Grand Junction Railway, and the capital required is 500,000?. — Mr. Hud-son has promised that any antiquities dis-covered in constructing the Newcastle and Berwick Railway shall be presented to the Society of Antiquaries, Newcastle. — The local papers of the West report that Mr. Frederick Ricketts, chairman of the Bristol and Exeter Railway, has within a very recent period added not less than 160,000?. to the balance at his bankers. — At a meeting of balance at his bankers.—At a meeting of the Grand Junction Railway Company, held a the Grand Junction Kallway Company, held a few days since, when the directors proposed to endow the new church at Crewe with 60*l*. or 80*l*. a year, the meeting carried unanimously the motion "that the directors be empowered to endow the church with such a sum as should be satisfactory to the bishop in order to its consecration, and also that they pay the clergyman to be appointed such a further annual sum, so that he receive not less than 2007. per annum." The Railway Chronicle, in commenting on this exemplary and munificent proceeding, well observes :- This liberal act is one among well observes :many signs-the testimonials to Stephenson. many signs—the testimonials to Stephenson, Hudson, Saunders, and others—which seem to foretell that great, noble and national deeds and works, incidental only to railways, will come out of railways; such works as may chance to compete with our ancient cathedrals. Railways are the corporations of our time, which have the most real life and energy in them, and, like the corporations of olden time, will do noble deeds. Though their first object is professedly a selfish one, the selfishness very soon ceases to be paramount, and becomes assoon ceases to be paramount, and becomes as-sociated with larger and nobler objects.— The Tunbridge Wells line, a new tributary to the traffic of the South-Eastern Railway, of about five miles in length, was opened last week. At present the line extends only to the temporary station at Jackwood Spring. The permanent station will be in the centre of the town, and will be approached by a tunnel 800 yards long. The works are heavy. There have been half-a-million of yards of earthwork chiefly in rock. An elegant viaduct, 254 yards in length, with 30 arches, carries the line over Powder mill valley. The line is a curiosity in railway construction, from the fact of its having been commenced twelve months before the Act was obtained, and of its being completed within a few weeks from receiving the royal im-primatur. It is a double line; has cost, in-cluding land, 100,000%, and the extension to Funbridge Wells will be 80,0007. more. Mr. Hoof is the contractor, and Mr. Barlow, son of the Professor, has the credit of having carried through the engineering department in a satisfactory manner. — The greatest novelty in railway literature is a pamphlet entitled "New System of Locomotion, without Tunnels, Bridges, Rails, Steam, and Accidents, by Thomas Parkin." The Times having ventured to treat the New Sustem as a hear the suttor to treat the New System as a hoax, the author, full of conscious innocence, has referred for the contrary, "to all the periodicals of London and Paris, as well as to all the ambassadors in Paris, and fifty mayors in France."—A special general meeting of the Regents' Canal Company is called, to take into consideration a proposal which has been made to this company, for the purchase of the canal property, with a view to the construction of a railway

Hague and Rotterdam railway this is entirely prevented by very simple means. In addition to the usual lock, each door is provided with a stout bolt or lever, working on a joint, which, when the door is closed, drops into a socket attached to the door-facing. This simple apps-ratus provides an almost certain preventative against accidents from the cause we have mentioned, and ought to be adopted on all railways, ——The model of a very simple but ingenious contrivance for the purpose of enabling the contrivance for the purpose of enabling the guards of a train to communicate instantly with the engine driver, in case of any danger being perceived, was exhibited on Saturday evening last, at the Bristol terminus of the Bristol and Birmingham line, by its inventor, Mr. J. K. Williams, the superintendent of the line. The Williams, the superintendent of the line. The machine consists of a large box having on its top a sonorous bell, which is struck like the bell of a clock. Within this box is a piece of clock-work, precisely similar to that of an alarum, and a red lamp for foggy weather or night; and from the box, which is intended to be affixed to the nearest carriage to the nearest carriage to the engine, ropes proceed over the roofs of to the engine, ropes proceed over the roofs of the various carriages to the guard's box, who, upon perceiving any signal of danger or ob-struction on the lines, has only to pall the cord, and the large bell is instantly rung, and the red lamp shown, if at night: or a large board with the word "stop" upon it flies up. and Cheshire ; and we understand, that; under certain restrictions, the telegraph will be made first time by the ministers proceeding to Os-borne House, to form a cabinet council on Saturday last. The cost is under \$,000. See benefits which Mr. Hudson, by his energy and talents, has conferred upon the public fa regard to railway matters were not fikely to remain unacknowledged and unrewarded. The committee appointed for carrying sit the proposed testimonial to that gentleuran, have announced, that in pursuance of resolution passed at meetings recently held of the Mid-land, York, and North Midland, Newessle, and Darlington, and Great Newoastle and Berwick Companies, that they have deter-mined that the best mode of offering a sufficiency testimonial to Mr. Hudson, in acknowledgment of his services to the public and the railway of his services to the patho and the raises, world, is to raise a fund by individual subscrip-tion, rather than by grants of money from the public stock of the companies." Nearly 5,0004. public stock of the companies. Iscarry of has already been subscribed amongst forty of the shareholders, subscribing 100%, each, and three of them 200%, namely—Sir John Lowthree of them 2001., namely-Bir John Low-ther, Bart., M.P., Mr. Alexander Danlop, Largs, and Mr. Graham Hutchinson.

WORKS IN THE PROVINCES.

Powder-mill valley. The line is a curiosity in railway construction, from the fact of its having been commenced twelve months before the Acti in a few weeks from receiving the royal imprimatur. It is a double line; has cost, including 1and, 100,000, and the extension to Tunbridge Wells will be 80,000. more. Mr. Hoof is the contractor, and Mr. Barlow, son of the Professor, has the credit of having carried through the engineering department in a satisfactory manner. — The greatest novelty in railway literature is a pamphlet entitled "New System of Locomotion, without Tunnels, Fridges, Rails, Steam, and Accidents, by Thomas Parkin." The *Times* having ventured to treat the *New System* as a hoax, the author, full of conscious innocence, has referred for the contrary, "to all the periodicals of London and Paris, and fifty mayors in France."—A special general meeting for the Regents' Canal Company is called, to take into consideration a proposal which has been made to this company, for the purchase of the canal property, with a view to the construction of a railway on the same line.— There have been lately some narrow escapes owing to the doors of against, in consequence of defects in the locks which fasten them. In the carriages on the

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Field, Essex, was signed last week, by Mr. Winsland, of London, and Tuesday next is fixed upon to break ground. The commencement of operations will be the erection of the apartments for females and debtors, and the chaplain's and governor's houses. — The Edinburgh Advertiser states that the Provost of Kirkwall lately received a letter from the Duke of Sutherland, intimating that Sir Robert Peel had agreed, on the part of the government, to grant a sum of money for putting the ancient and venerable Cathedral of St. Magnus in a state of efficient repair. The Scottish Railway Gazette says that some of the railway companies contemplate ment of operations will be the erection of the parish church of Turrant Gunville, rebuilding under the direction of Mr. Wyatt, the diocesan architect, is nearly completed, and will very shortly be consecrated by the Bishop of Salis-bury. — The new church at Wilton, near Salisbury, built at the sole expense of the Hon. Sydney Herbert, and to which we have more then once draws attention, is to be consecrated on the 9th proximo, by the Bishop of Salisbary-mullady Emma Pennant has not only contributed handsomely towards the rebuilding of the aid church at Whitford, near Holywell, but undertaken to build a new sisle at her own expense.-----Cottingham Church, situate in the East Riding of Yorkshire has recently undergone very extensive alterations and im-provements. Three hundred additional sittings have been previded, Among the many improvements, that have of tate been effected in the port of Hull, may be mentioned the graving Son. site dock of Mesers. Edward Gibson and Son, situate on the ganrison side of the town. The works have been carried out on a liberal inciple, and the space so much extended, path in length and breadth, and depth of water, as to insure the commodious recention of the largest ships navigating the Humber, whether under narves or impelled by steam.......A cor-respondent of the Hull Packet has revived the project, which, has more or less slumbered since 1843, of creeting an additional bridge across the river Hull. He says, every one who has frequent occasion to cross the Old Dack or North Bridge, must be fully aware that an additional bridge is now much wanted, and its formation will soon be indispensable to accommodate the additional traffic of the east dock defences of Portsmouth Harbour. The improvements at Blackhouse Fort are also rapidly progressing, a large number of men being now employed under contract for that work. The fort is being made into a two-tier battery of fifty guns. At the northern part of Blockhouse Point a new battery or circular fort is being formed, which will flank the entrance of the harbour. Between this new battery and the Blockhouse Fort a new barrack battery and the Blockhouse rolls new contained of the restoration of the ancient church of St. Mary de Crypt, Choncester, is nearly completed. This inter-Gloucester, is nearly completed. This inter-esting specimen of ecclesiastical architecture contains several examples of the earlier styles. The Norman doorway at the west entrance, and the Early-English window in the southeast aisle, are deserving of especial notice .-A, few days since the workmen employed in excavating for the new branch railway which is intended to run from the Stratford station of the Eastern Counties line to the mouth of the river Lea, near Blackwall, lighted upon some curious and interesting remains connected with the Benedictine monastery. About 2 feet below the surface a sort of chamber presented itself, of an obload shape, rounded at one end and square at the other, about 12 feet long, 8 feet wide, and 5 feet in depth. The outer wall, which is of strong masonry, is about 6 inches Within that is a layer of cement, which thick. is again lined with thin red tiles of peculiarly close texture. It is clear that this chamber, which, when whole, must have been a very handsome one, was intended as a lavatory, for which purpose a well, that was discovered two or three feet of it, furnished an within abundant supply of water. A few yards lower down towards the Thames the workmen broke into an archway very strongly built, somewhat after the Danish manner, (?) which has given rise to much conjecture.

SUBABCUATION AND WILLIAM OF WYKEHAM.

At the recent meeting of the Archæological Institute at Winchester,* the following interesting letter, addressed by Dr. Ingram to Dr. Williams, Warden of New College, was read, but seems to have escaped the London reporters:---

" Monday, Sept. 8.

"MY DEAR WARDEN,-I thank you much for your kind letter received yesterday. • • You flatter me too much by supposing my presence at Winchester to be of much importance, though I am placed in the Architec-tural Section. It is now nearly half a century since I used to pace the gorgeous aisles of Winchester Cathedral, and make the Church of St. Cross the object of my almost daily walks. Since that time I have been gratified to find how universal almost has become the correct taste and knowledge, as well as admiration, of medieval architecture; and there cannot be a better school for it than the various portions of Winchester Cathedral, the churches of St. Cross, Romsey, &c. The gradations and transitions of the art are numerous, but easily traced; from the plain crypt of St. Ethelwold under the presbytery of the cathedral, and the Norman transept of Wal-kelyn, to the splendid works of Edyngton, Wykcham, Beaufort, Fox, and Langton. The members of the Architectural Section should particularly notice and examine the manner in which William of Wykeham carried on the work which his immediate predecessor, Edyngton, had begun at the west end of the nave. A difference is observable not only in the windows, but in the mouldings and tracery of the panel work below in the interior. Perhaps w sketches in detail of the respective works of these two prelates might be interesting and useful, as tending to illustrate the progress and advancement of architectural taste and science, during the long and brilliant reign of Edward the Third, under the auspices of such patrons as these; the one the King's Treasurer, and the other, constituted by letters Treasurer, and the other, constituted by letters patent, Surveyor of the King's Works. The large church which Bisbop Edyngton erected from the foundation in his own native place, in Wiltshire, from which he de-rives his name, is well worthy of the attention of the archeological antiquary and the artist; some details of which, at least, might be considered as not unconnected with the examination of his other works at Win-chester. In the same manner, if the various works of William of Wykcham, executed at Adderbury, King's Sutton, Oxford, Bishop's Waltham, and Winchester, were placed in juxta position with each other, it would be found that he began with the Decorated, and ended with the Perpendicular, according to the nomenclature of the late Mr. Rickman. There is one point which deserves particular attention in the late architecture of William of Wykeham. No other architect before his time so well understood, and practically applied, the principle of subarcuation; that is the mode of constructing two inferior and subordinate arches under the third or main arch. They both seem to rise naturally from the middle stem, or principal multion in the centre of the window, diverging at a certain point with an easy sweep or curve, so as to form two independent arches, filled with corresponding tracery, and serving to strengthen, at the same time that they adorn, the master This principle, arch that contains them. This principle, which is so obviously predominant in all large windows, was not unknown at an earlier period, and was practised to the latest; but the arches were often lost in the intersection or crossing of the multions; and sometimes, as in the windows of the clerestory of St. Mary's, at Oxford, the diverging point is so unscientifically chosen, as to produce the worst pos-sible effect. The best examples of this principle of construction, therefore, I have no hesitation in ascribing to the superior taste and skill of William of Wykeham; and of those examples, perhaps, no better can be found than in the windows of New College Chapel. I call this the principle of subarcuation; and the arches themselves, in the memorials of Oxford, I ventured to call subarches; but I observed some writers since confounding them with the soffits of arches. As the subject,

* See pp. 442-446 ante.

therefore, appears to be new, if any thing in architecture can be so, J. have submitted it now to the consideration of the architectural section of our society...I semain, my dear Warden, yours truly, in basto, ...J. UNSMARS

WESTMINSTER COURT OF SEWERS.

Ow Friday, the 19th instant, a meeting of the commissioners took place at the Court House, in Greek-street, Soho, when a great deal of mere routine business was transacted. Mr. J. Ponsford having petitioned the court to allow him to build 840 feet of 24-inch barrel drain in the old line of the Bayswater stream, and the following letter on the nuisance caused by the diversion of the sewer having been read:—

"62, Moorgate-street, 4th Sept., 1845. Sin,—Mr. Kerr, of Kensington Gardens Terrace, has consulted with us on the subject of the nuisance to which he and his neighbours have been subjected in consquence of the arrangement made by the Commissioners of Sewers in turning the course of the rivulet which ran at the back of his house; and as the inconvenience is so great, that he is gearcely able to live in the house, it becomes necessary that the commissioners should take the necessary means for removing the ansoyance complained of; or if they fail to do so, we shall be compelled to adopt such steps for, gompalling them as our counsel may advice.

ling them as our counsel may solvies. When Mr. Kerr took the house, he was subjected to no such inconvenience, which we understand it is admitted has been, produced by the act of the commissioners; and if this be so, we are sure that so respectable a body will lose no time in taking the proper steps to remove it.

steps to remove it. Had the present summer been as hat on usual, it is frightful to imagine what might have been the consequence; but having now formally called your attantion to the subject, we are sure that it will be removed at bound

The Gourt refused to grant Mr. Possford a petition, but allowed the permission formalength of third size sever, instead soft the barrel drains. The only other question of the portance during the day was Nos 6 in the business paper, "To consider the steps to be taken for new contracts for the works. Identical Mr. Ledie moved and Mr. Robert Gurtage

Mr. Leslie moved and Mr. Robert Ganter seconded a motion, in nearly the same words: which we have before given, that all works exceeding 50/. be carefully prepared for by estimates, plans, and specifications, i and besequently advertised for in the deily papers and in this journal.

An amendment was moved by Mr. William, Leverton Donaldson, and seconded by dire-Gutch, "That the present system of contracting for works be pursued." For the amendment, three :--Messrs. Frederick Crace, Wa-L. Donaldson, and Gutch. Against the amendment, ten :--Messrs. Baylis, Cantwell, Clowser, Fuller, J. Gunter, R. Gunter, Leslie, Marriott, Unwin, and Wood. The original motion was then carried by twelve to one.. The court adjourned to Friday, the 3rd October.

PLYMOUTH BREAKWATER. — We understand that the attention of the Board of Admiralty has been again directed to the important question as to whether or not Ply, mouth Sound has lessened in depth of water by reason of the construction of the breakwater. It will be recollected that about four years since accurate soundings were taken throughout the Sound, and the result marked upon a chart constructed for the purpose. During the present week, similar soundings have been again connenced, and we doubt not, that when complete the result will prove of the most satisfactory description. It is intended that the bottom of the Sound shall be examined with the aid of the diving-bell, and arrangements are now making for that purpose. Connected with these proceedings Mr. James Walker, the engineer, arrived here on Thursday.—Plymouth Times.

FAILURE OF WOOD PAVING IN THE STRAND. —The authorities of St. Clements Danes bave is advertized for sale as fire-wood about 500 yards: of wood paving, now laid down between the top is of Arundel-street and Norfolk-street, and in a top is tend to replace the same with stone as before.

THE BUILDER. BUILDER THE

THE LIVERPOOL ASSIZE COURTS. both Saturday we took a harty glanice at the interior of this make pile of buildings, and fond that the work continues bill to make Wind this the work continues suit to make borry, slow progress. The sound of the ham-inet and chirot is to be heard ab overy angle ; shill we have nd doubly, from what we saw and learned an equ. visits, slibough the walls are bare, and the building 'testif is wetther russes bare, and the buildings itself is wetther roofed non figured, Alar a very remainership partien of the preparatory part of the wetkenenship has been accombined of the wetkenenship framise columns, which are a structure four granife columns, which are a structure of the decree of the instantiation of the first of them hits he position will take place forday. The cor huma will take place forday. The cor huma will take place forday. The cor huma will take place being of the fields foring effect the grante being of the fields point we were before had the opportunity at the sine were before had the opportunity at the siscific? "The only dher columns in the kingdom which bear any comparison to them are the four in the British Museum in London. There the columns are each hearn from the one block, and, present to the eye of a py-bolder in very elegent appearance. Here, in order to eave expense (each column will conaist of five or air different pieces, and the join. aist of five or aiz different pieces, and the join-inge must necessarily detract to some extent from the general effect. Still, viewed from sither and of the magnificent hall, which will be 199 fest in leogth, the grandeur and mas-siveness of the sight will be unequalled. The columns for the front entrance are also nearly columns for the front entrance, are also nearly ounpleted, and so are the sixteen Corinthian capitals! The capitals are from the design of Mr. S. C. Relacy, of London, who has been superintending sheir execution; and some ides of their massiveness will be gathered from the fact, that each of the orrelar ones weighs 9 tons, and wach of the orrelar ones weighs 9 tons, and wach of the square ones 11 tons. May of the internal embellishments, though not yet faced in their respective places, are either completed or in a state of creat forwards not yet fixed in their respective places, are either completed or in a state of great forward-hess, and we may add, as a proof that Mr. Ringe, the architect, is availing himself of the present, and we ther, that he has at present Jul workmen daily simployed. There ap-pears to be very little difference of opinion, howaver, on this important point. that it will take from two to three years, at the very least, to finish the pulding. But, however distant the meried of its completion may be, it will, when which dt be set and to Liverbe 498 feet. The length of the hall; as we base orbids, will be 199, for the start of the set of th **Demonstrate** will be a being the set of the

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PIRACY OF PAPER STAINER'S DESIGNS.

and Moon to answer an information, filed on behalf of Mr. Boswell, a paper-stainer, in Dublin, for selling a fraudulent imitation of a

the provisions of the Ast respecting the registration of certain original designs, and that Mr. Bowell registered a new pattern for paper-hangings on the 8th of February, 1843. "Affer some time he found his pattern had been The product of the second of the protection of the second of the second

. History of England, Appendix to the reign of James I.

manufacturing it. The defendent wrote back. a letter, in which he said ha could prove that the pattern had ben appled from a prior to the pattern and ben appled from a prior to the pattern and yes and original original original to the public original original to the second of the second o registration. a notadi tranteo'

Mr. Aldernan Moon asked ifethis wan not property a question for the Court of Oliancery P Mr. Clarkson said he was sure the alders wis, like bimself, one of the last persons who would advise anybody to get into Chandery who could possibly keep out of it. 'The very would advise anybody to get into Chandery who could possibly keep out of it. The very object of the law was to give a small trades man a speedy relief at a small, expense, in gases of piracy upon some invention or im-provement he had registered. Exidence was then adduced to prove had

The defendant had printed, and sold paper exactly corresponding in design with the de-sign, registered, by the complainant; after which Mr. Alderman Kelly and Mr. Alderman Muon consulted together, and pronounced the defendant's paper a fraudulent imitation of Mr. Boswell's, and fined the defendant 5/.

Mr. Denton promised he would sell no more of the paper.

Correspondence.

WORKS IN THE TOWER OF LONDON.

Sin,-Permit me to correct one or two trifling inaccuracies in your account of the works at the Tower, in your last number. Under ordinary circumstances they may not be of much importance, but as you have been particular in giving inches, the statement in some measure particles of the appearance of an official one; it is therefore, I think de-sirable that the correction should be made. The length in front and at the back is as you state 288 foot and 271 feet 8 inches respectstate 288 fort and 271 feet 8 inches/respect-ively. The width of the main building is 87 feet 6 inches, but at the flanks it extends to 65 feet 8 inches. The extreme width in the centre including the projections of the towers is 82 feet 9 inches. The size of the princi-pal rooms is 28 feet 25 inches. The total cost is estimated at little more than 30,000%. in-stead of 50,000%.

regret to say, the other works contemplated in the Tower do not include the restoration of the White Tower, which is at present, as you justly observe, a disgraceful monument of ig-

STRAM FROM COMBUSTION OF GAS.

Sin,-I am teased to death every winter with a nuisance, the cause of which I dare say some of your intelligent readers may be able to point out, and tell me how to remedy. As soon as, or at least very soon after, the gases are lighted, the windows of my shop are covered with damp. It is in vain for me to put any thing tempting into them, for no one can see what some remedy, you would greatly oblige, Sept. 17, 1845. A SHOPKEPPER.

BOCHESTER CATHEDBAL .-- One who has lately been staying at Rochester says, the roof of the nave has been stained, and the side aisles have been newly roofed. The increased darkness of the roof (the effect of staining) will throw out to a greater degree than formerly the magnificent Norman architecture of this portion of the cathedral, the massive columns and arches of which, supporting an elegant amoulatory, are, I believe, unequalled in antiquity by those of any other cathedral in England. The nave and western transept are England. The nave and western transept are also being repayed with stone; the old red tiles, which were so great a disfigurement, having been taken up. The choir, too, which is an excellent specimen of pure Early-English anybitecture (built in the thirteenth century), is undergoing great alteration, the fronts of the gews, as far up as the pulpit and bishop's thrase, which were formerly stained deal, and oute plain. having been removed, and caryed quite plain, having been removed, and caryed Gothic panelling being introduced in their stead. Four additional pews are also erected. Act (1 & 2 Victoria, cap. 117) control al. Man Act to abridge APARALIZZING to be even pomitte, and to make bottom provision for the re-

on wit wit noteiver a set of som of the , this "An a constant the Ex result Mail Anniaging 173," Fore-strett: (And Aldennin: Phillipsi's which Bouse "K"s of and a forg "age a 1836; being in a vinous coalition; and anter the sales down; and will about the interview modern constructs with a born bel rebuilt one modern constructs of the born bel rebuilt of the bla meseral mananes of by goos can be an everal mananes of by goos can be an everal mananes of by goos can be an everal mananes of by goos can window that verified the interview of the sages that lead to nothing;" being so fully of window that verified the interview of the sages that lead to nothing;" being so full of state the bla an event of the state of the so window that verified the interview of the sages that lead to nothing;" being so full of state without a guide to the interview fully of the bla an event of the sold the interview of sages that lead to nothing;" being so full of state without a guide to the interview of the booth the unanger might be low in the mass. The one of the parlows the source of Martin of plaster, bearing the amorial of Martin of Excise 77 argunt two hangines, this initials T. Ma below: On the concentration of the second ma quonses. Unitae: anaerea massi di ditto dis-phine naiant, crest a squirrel seiant, propao; below M:M.*. In digging undefittib house, as in other parts contiguous, reinfitts of Ro-man occupation presented themiselyes. — Western Limmary.

PARSE The Journal des Detais announces that three members of the municipality of that three members of the municipality of Paris, the chief of the prefecture, and archi-tect, and an inspector of market places, have started for London, for the purpose of gather-ing hints for the new grand market in Paris. After, having wisted our principal premoval fowns, they propose to warry do which adjoints in Holland and even the Burney of the instead cathedral of St. Denis, new characteristic schedule to seasive a spontore in the formation of the repairs of this building, which means began by Mapleon-parsing marks to provide the theory of the Bator in Tarkas Work in Tarking with the Nepoleon, are inevited

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Baton LAVERS' WORK'IN TONICLE WS reprint the following from a common leated by Mr. Simms to the Raiwas Chronick .- The average time taken to turn twelve feet leading lengths at Blechingley tunnel, four hucklayers and seven labourers being employed of mas follows :---

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ing the arch ... reduced Burnet Branco of the arch of the arch of the rest of the arch of any injury likely to happen during the approaching repairs, to apply to Mr. Gritten,

proaching Tepalits, to apply to Mr. Gritten, architect. Who apply to Mr. Gritten, THE ROYAL PROBABLE of TEA, Work-men have been employed during the post work in fixing the perturbation of the south em-trance of the Exchange, facing Bartheleman-lane. They are wide to four the south em-trance of the Exchange, facing Bartheleman-lane. They are wide to four the south em-ance of the factor of the four function of the decorations being in base to how the source of the City of Londow and of the Mercets' Company, with the cipher of Sir Thomas Greating, T. C., very ingeniously introduced. The the ornavery ingeniously introduced. In the orna-mental heads of the gates, the rose, thistle, and shamrock appear entwined.

ARCHITECTS IN IGRLAND --- At a meeting st week of the Royal Irish Architectural Is -At a meating sast week of the Royal Irish Architectural la-stitution, an address was voted to the Margues of Claarius de, the president, and sheir non of the day, and a resolution post destruction of a desire for some modification of the Board of Works, so as to admitted it fait participation By the architects of the metropolis and Lookid generally in the construction of public build-ings.

* This proves, most probably, the builds is have been builte by Thomas Marcin, mayor, 1581, who smarthe mission of Richard Marcin, built by Thomas Marcin, mayor, 1581, who smarthe mission of Richard Marcin, bis second wife. Margaren, daugher of William Hurst. He married first Alice, daugher of Soct, and four previous Porther details of the Actine the management HIM. The discussion of the Actine the management of the discussion of Soct, and four previous Porther details of the Actine, pre-ulty, with projecting fronts of large bracking and it has a peculiarity once weighting and it has a peculiarity once weighting, carred, and apartment, with corbel heads and pecules uncould carred a set the promote fifth, if the instance, there was mosther ground flow, take the second flow, the dot of the way good and at the base is set to be the promote flow, the set of the instance, there was mosther ground chamber also above, on the second floor.

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D.D Act (1 & 2 Victoria, cap. 106) entitled, "an Act to abridge and falling christenesices in plu-Act to abridge and fielding by buildenice, and rality, and to make better provision for the re-sidenne of the campy? Atter bishop as a roid-area, of the subarback to send a more the build one by manifered to since more builden years. By the subarback to be shown to build one by marifere of glabs, how the shirty the years. By the subarback to borrow (of Guess, Ampe's build, is persisted, to borrow (of the germers) three grant, income (or four with germission of the dioress), at four per cant to be repaid by the dioress), at four, per cant to be repaid by the diores of thirty years by how diminishing; every year. . Of this Aster which attends to 33 monione, thistom an perchick with the subject. I in the roid of the substant of the subject. . -----

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ison Wheeh, 't is the Cork and Bandon Railway Companyin it grows approximate Spanion Railway of Forthe ensembles of the Warley, in two divisions, and the Babina and Relfant during on Railway. The chird division being a distance of S miles and about \$ make, and shout A ASI werley, being a distance of S make, and shout A ASI yarls. The intermediate of the State of the State of South in State of the State of South As and a shout the Edinburgh and Northern Bailway. For the Supply of about A 000 Tons of Rails for the Edinburgh and Northern Bailway. The Edinburgh and Northern Railway.

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For the execution of the Richmond Branch of the Great North of England Railway. The Streets and the liberty of the Streets and mathing schemes within the liberty of the Bishep of two schemes within the liberty of the Bishep of two schemes within the liberty of the Bishep of two schemes within the liberty of the Bishep of two schemes within the liberty of the Bishep of two schemes within the liberty of the Bishep of two schemes within the liberty of the Bishep of two schemes within the liberty of the Southwark on the Clink, the scheme within the liberty of the Southwark on the System and "Returbertuge in the Works, in 2 parts : part 1 being a distance of Maximum Work, to be done at the "Workfurder of the White Input Union."

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APPROACHING SALES OF WOOD, aby BY AUCTION. At Heytesbury, Wilts: about 4,000 feet of 1-inch and 3-inch Oak Boards; 1,260 of 1-inchi, 14-inch, and 14-inch Oak Quarter Board; from 2,000 to 3,000 feet of Elm, Ash and other Board of various thickness; 900 feet of 2,8 and 4-inch Oak Plank; 3,000 feet of Oak, Ash, and Elm Quarter and Plank, from 24 to 4-inches thick. In the brick fields adjoining the road from Folkstone to Cherrington: 56 clamps of Bricks, containing about 3,000 feet of nrime, well-

containing about 3,000,000. At Bedminster; 20,000 feet of prime, well-seasoned Oak Plank, varying from 2 in. to 4 in. thick; a few logs of Cedar and Pine, &c. At 57, Worship-street, Shoreditch; 3,000 feet of very fime Spanish Mahogany Boards; 6,000 feet of Spanish Mahogany, in Planks, Boards, and Squarea; 3,000 feet of fine Wainscok; a quantity of Reserved Bird's we Manho. Ac. of Rosewood, Bird's-eye Maple, &c.

TO CORRESPONDENTS.

"H. M'Cornas, M.D." now! week ; we offer

"Mr. P." will see un i have ganiled entreches, af

bis computinication. "A. M." - We will look for ton, papers, sent, Our correspondent should have forwarded his letter to us direct, not through the columns of another journal. In reply to our correspondent's second letter, we shall be glad to receive informa-

number of correspondents, Mir. Sustained, corner of Summer-street, Southwark-stidge-machiestantu-facturing the closet under the investor's directions.

tions. "Apprentice," (Norfolk). — Nos. 2 and 3 of THE BUILDER are out of print. "The Manual of Writing and Printing Characters" would be very useful to a person employed in the way men-tioned. The work on ornaments mentioned is not first-rate, but it is cheap, and may be usefully conmilted.

"Lovelling, &c."—A young man, whose time is engaged in the day, wishes to know where we can be laught the theory of levelling and surveying,

use of instruments, &c. 21 1999 "Bishop." — A correspondent inquirer for a person of this name, who gave attention to warm-

ing and ventilating roome. "Dr. L." postponed till next week by accident.

C. B." (Wood-carving). -- Bvery architect's clerk who makes a drawing from his employer's sketches has as much right to claim public achieve-

sketches has as wurch right to claim public achieve-ledgment. If his share in the work, when com-pleted, as "C. B." weens to have in the case mon-tioned. What works has "O. B." produced of himself? Will held us see them ? "C. H." (Shephard's Bash).... Fork Mineter elands on smach ware ground than Weinsinster abbay Church. The grees covered by the former may be roughly stated at 86,000 square foot thy the latter, isoluding chapter, 67,000, The Chapter-house, oloisters, 80, are, not, included, in either case. aither case.

"Juvenis."-There is no circulating architec tural library. We wish there was. Students at the Institute of Architects have access to a good library, open all day, and three evenings in the week.

sock. Received: "The Rev. J. F. W. H." (Bei-mondsey); ". E. ?" "J. L.?" (Band-street); "An Observer ?" "A Non Pariationer ?" "Double Entry Elucidated," by B. F. Postor (Souther and Law, Fleet-street). Law, Ploot-street). e done og skælde skæle. Le och slær forskog i Le ster vikker træv f La thing Lower ! The two to be the

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A TKINSON'S CEMENT. — The public is respectfully informed, that the price of this very ex-colleat General, which has now been in use for Architecture and Engineering works upwards of thirty years, is reduced to s. sd. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland street, Surrey side of Blackithärs-bridge: N. B. — This Cement being of a light colour, requires no arti-ficial soluting or painting, and may be used for stucco with three prints its ewn quantity of sand.

ARTIN'S PATENT CEMENT. MARTIN'S PATENT CEMENT. TO ARCHITECTS, BUILDERS, AND FAINTERS IN PRESCO. IN SOLE MANUFACTURERS, beg respectfully to and SON, PATENT TEES and. SOLE MANUFACTURERS, beg respectfully to ansounce that this beautiful Commt has now arrived st a degree of excellence far suprassing their most sanguing expectations. For all internal work it possesses a great supergingty oper every strieds hitbert on uses; it is now being used extensively by Government in the British Museum and other public buildings. IT DOES NOT THROW OUT ANY SALT, but presents a beautifully plain and perfect suffice, which may be painted upon dry work within four days without peeling. It is equally applicable for walls or lath, for mouldings, architpaves, skirting, or flooring ; and is demitted to form the best ground for freese plaining, having been used for mark be best ground for freese plaining, having been used for mark best ground for freese plainting, sharing been used for mark best ground for freese plainting, the sum Westminster Hall. It will beer an intense heast without creaking, and for hardness, durability, and economy, cannot be equalled. 196. DEURY-LANE LONDON

- 186. DRURY-LANE, LONDON. Agent for Liverpool and Manchester, Mr. R. Part, 11, Atheston's-buildings, Dale-street, Liverpool.

Kinercon's-ballange, Date-street, Laverpool. KEENE'S PATENT MARBLE CEMENT.-The Patentees of this composition beg to refer to the British Museum, the Royal Exchange, the new works at Bethlem Hospital, Greenwich Hospital, and the Co-liseum in the Regent's-park, as buildings finished or in pro-greas, in which Keene's Cement has been used as an internal stucco. Its superiority to common plastering consists in its extreme hardness, and the rapidity with which it dries, which qualities fit it to receive plant or other finishing sconer than other water Cement. When employed for akirings, architrave, and other mouldings, in place of wood, it checks dry-rot, is impervious to vermin, prevents the spread of fire, and is more eco-nomical in its application than the material for which it thus becomes the substitute. Confirmation of these statements is to be found in the almost universal adoption of Keene's Cement for Skirting and Hall flooring in the new houses on the Hyde Park Estate, un Lingerpool and Manchester, Kaene's Cement's Cement's the in In Lingerpool and Manchester, Kaene's Cement's the in In Lingerpool and Manchester Internation in Internation in the internation in the material in Internation in the new internation in the new internation in the internation in the new internation in the new internation in the new internation in the nemployed

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Joints, water notice a communication of the surfaces. The bigh polish and marble-like hardness of which this Cement is pusceptible render it the most suitable material for the magnifacture of Securital. Patentics, J. B. WHITE & SONS, Millbank-street, Westminuter, Manufacturers of Roman and Portland

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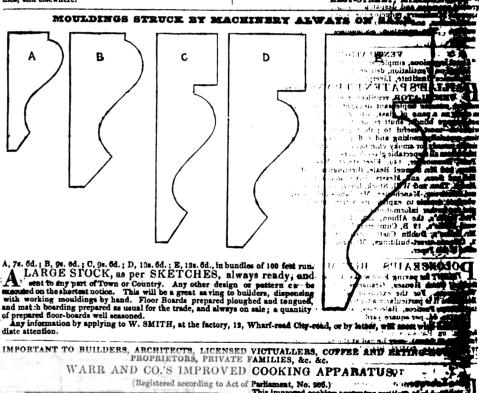
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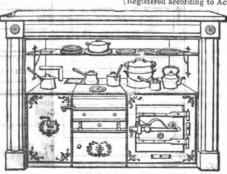
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SATURDAY, OCTOBER 4, 1845.



EW street-fronts are now raised, either in London pr the provinces, without an attempt to render them in some degree ornamental, and it is undeniable that the

aspect of our streets is considerably improved. In all the new thoroughfares recently opened, pains have been bestowed, if not always sucsafally, to produce elevations novel and pleasing, shewing a regard for the beautiful as well as the useful. A hundred years ago Savage said in his poem "Of public spirit in regard to public works :"---

- "The' no proud gates, with China's taught to vie, Magnificently useless strike the eye; (Useless, where rocks a surer barrier lend, Where seas encircle, and where fleets defend) What the' no arch of triumph is assigned To laurell'd pride, whose sword has thinned man-
- kind : The' no vast wall extends from coast to coast,
- No pyramid aspires sublimely lost; Yet the safe road through rocks shall winding tand.
- tend, And the firm causeway o'er the clays ascend: Lo I ample streets, Lo I ample squares invite, The salutary gale, that breathes delight; Lo ! structures mark the charitable soil
- For casual ill ; maimed valour ; feeble toil :"

Since then, although a dark period intervened, our streets have been getting wider, our squares more ample, our roads and ways improved to an extent at that time not dreamt of, and withal there has been a growing desire to combine ornament with utility in the houses of the commonalty, and improve appearance without lessening convenience.

The fears expressed by Pope to Lord Burlington were not wholly vain when he said :

- " Yet shall, my Lord, your just and noble rules Fill half the land with imitating fools; Who random drawings from your sheets shall
- take,
- And of one beauty, many blunders make. Load some vain church with old theatric state,
- Turn arcs of triumph to a garden gate ; Reverse your ornaments and hang them all
- On some patch'd dog-hole ek'd with ends of wall.
- "Then clap four slices of pilaster on't, That, laced with bits of rustic, makes a front."

What Pope feared, did really take place, and this recipe to make an elevation, under various disguises, was followed until it ceased to have effect. The public, however, having become accustomed to external adornment, looked to have it, and continued efforts have since been made to improve street architecture. If we compare the new squares and crescents in the neighbourhood of Hyde-park, Pimlico, and Brompton, for example, with the "Paragons," &c., of thirty or forty years ago, we shall be compelled to acknowledge that a considerable improvement has taken place. Colman, in his "Eccentricities." has some lines on suburban architecture, under the title of "London Rurality," which recur to us so strongly, and are so accurate, that, in our present quoting mood, we cannot refrain from giving them.

" Stretching, round England's chief Emporium, far, (No rage for Building quench'd by raging War,) What would be Villas, rang'd in dapper pride, Usurp the fields, and choke the highway side !

He says :--

• Printed for R. Dodsky at Tulley's Head in Pall-Mall, folio, 1737.

BUILDER. THE

Peace to each swain, who rural rapture owns, As soon as past a toll, or off the stones ! Whose joy, if buildings solid bliss bestow, Cannot, for miles, an interruption know Save when a gap, of some half dozen feet, Just breaks the continuity of street; Where the prig Architect, with style in view, Has dol'd his houses forth, in two by two And rear'd a Row upon the plan, no doubt, Of old men's jaws, with every third tooth out. Or where, still greater lengths of taste to go, He warps his tenements into a bow; Nails a scant canvas, propt on slight deal sticks, Nick-nam'd Veranda, to the first floor bricks; Before the whole, in one snug segment drawn; Claps half a rood of turf he calls a lawn; Then chuckling at his lath-and-plaster bubble. Dubs it the Crescent,-and the rents are double.

We hope before long to commence a series of notices of the new parts, and to follow out the foregoing brief remarks.

We have lately received communications from several correspondents on the want of attention generally manifested at this moment to classic architecture,—gothic architecture engrossing it wholly. The most recent of them, who signs himself "A constant reader and admirer," says :--

"Can you inform me whether there is any publication giving plates and descriptions of the works of Sir John Vanbrugh? Surely the architect of Blenheim is as well deserving of paper and printing as many whose works are in the hands of all architects. We have a 'Glossary of Architecture' (so called), which is simply a collection of Gothic details; but we have no work giving in an equally accessible form the beauties of Italian architecture, as exemplified not only in the works of artists in Italy, but also in those of the master minds of our own country, such as Jones, Wren, Van-brugh, Burlington, &c. Without intending to deny the beauty and merit of Gothic architecture, I cannot but regret that so little pains should be taken to popularize the other and purer styles. The mania just now is for Gothic architecture only; and this may be (and doubtless is) greatly owing to the circumstance, that the only books on architecture which are sufficiently cheap, and sufficiently brief, to suit the means and time of the general reader, are on that style. The consequence is that as he knows nothing of any other styles, he is glad to assume that there is nothing worth knowing therein.'

We cannot shut our eyes to the fact, as stated, that little or no attention is paid at this time by writers, investigators, or students in England, to any style but Gothic; and are disposed to think, notwithstanding the great admiration with which we regard the works of the middle ages, and our conviction of the great superiority of gothic architecture for ecclesiastical purposes over all others, that harm will be done by pursuing this course.

In reply to our correspondent's very pertinent inquiry as to Vanbrugh's works, we are ashamed to say there is no book which adequately illustrates them. Vanbrugh was illappreciated, and most unjustly treated by his contemporaries. Walpole's strictures on him, unjust, and reprehensible as they were, passed current for some time. Judge :-

"What Pope said of his comedies," wrote Walpole, " is much more applicable to his buildings :

How Van wants grace !

Grace! He wanted eyes, he wanted all ideas of proportion, convenience, propriety. He undertook vast designs, and composed heaps of littleness. The style of no age, no country, appears in his works; he broke through all rule, and compensated for it by no imagination. He seems to have hollowed quarries, rather than to have built houses; and should his edifices, as they seem formed to do, outlast all record, what architecture will posterity think was that of their ancestors? The laughers, his contemporaries, said, having been

• There is a work consisting of sixteen large engravings, by Vandergucht, Rigaud, and Baron (may be had of Weale), to illustrate Blenheim and Stowe, "with costume, &c." of the time.

confined in the bastile, he had drawn his notions of buildings from that fortified dungeon. That a single man should have been capricious, should have wanted taste, is not extraordinary. That he should have been selected to raise a That he should have been selected to raise a palace, built at the public expense for the hero of his country, surprises one. Whose thought it was to load every avenue to that palace with inscriptions, I do not know; altogether, they form an edition of the Acts of Parliament, in stone. However partial the court was to Vanbrugh, every body was not so blind to his defects. Swift ridiculed both his own diminutive house at Whitehall, and the stupendous pile at Blenheim; of the first he says :

At length they in the rubbish spy A thing resembling a goose pie.

And of the other;

That if his grace were not more skill'd in The art of battering walls than building, We might expect to see next year eer." A mouse-trap man chief engin

Vanbrugh was himself a wit, made many enemies, and was further attacked from party feeling. Pope, amongst other things, said, in allusion to his works.

Lo ! what huge heaps of bitterness around, The whole a laboured quarry above ground."

Abuse in rhyme lasts a long time. Posterity, however, view his works differently, and almost unanimously assent to the opinion of him expressed by Reynolds in one of his discourses :--- "he had originality of invention, be understood light and shadow, and had great skill in composition." Vanbrugh composed like a painter and produced most artistlike effects. His style was his own, and displays consummate knowledge of perspective, and the power of producing picturesque outline, combined with the regularity and elegance of Italian architecture. There are few works of the same class that excite a longer succession of new ideas (a great test of excellence) than Blenheim and Castle Howard; and it certainly is extraordinary, that there are not good and accessible illustrations of them, for the use of the student and the admiration of the professor.

NEW WORKS AT WINDSOR AND ETON.

RESTORATIONS are going on gradually at St. George's chapel. The open-work parapet, which is at present of compo, is to be rein-stated in stone; Pratt's carving machine is to be employed on it. By the way, Hollar's print of the chapel (1663) shews every one of the ninnecles surmonized by a vene: these the pinnacles surmounted by a vane; these should be restored. Additional stained-glass windows have been recently inserted in north and south aisles. Henry VIII.'s gate-way opposite the chapel is under repair, and "Solidbury Tower is being rebuilt. Locke and Nesham are the contractors. Caen stone is used. A new sewer has been constructed in Windsor by the Government; the course of it is, from Frogmore to Sheet-street, and thence to the cavalry and infantry barracks, with a branch to the castle. It was proposed at fir -st to construct a more extensive line, and that the town should contribute a portion of the cost. At a public meeting, however, which was called on the occasion, the inhabitants unwisely, as it seems to us, refused to co-operate in the matter.

At Eton College great alterations have been adc. The noted long dormitory has been made. divided into separate apartments, and extensive ranges of chambers built in Werton's yard, so as to afford a separate sleeping room to each scholar. The new rooms are all heated by hot water. An apartment has been built to serve as a library for the use of the pupils, and is a handsome room with a large stained-glass window by Willement containing the arms of ther Majesty, the Prince, the Duke of New-castle, the College, &c. The fittings are of deal,—they should have been of oak. Mr. shaw is the architect, Mr. Burton the con-tractor. The selected drawings for the re-storation of the chapel are exhibited with the

view of inducing subscriptions. The design doe not present suy remarkable features. If the rejected designs had fewer points of value thin this, they must have been very "Indifferent untits indeed." According to the propused new arrangement, the organ is to be propheted new arrangement, the organ is to be propheted in an apartment on the north side of the building near the east end. The chapel is les be valided with month and the body of it "Alled with scalls' and other sixings." "The old chirch ist Upton, near here, re-mative in the same deplotable and disgraceful the set availed with the same the it so A an

since as it was when we described it." A sum of money, however, has been promised in the way of subscription, so that we may hope before long to hear of some steps being taken to restore it's being the being taken

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THE report of the select committee appointed to consider the expediency of erecting a building in the neighbourhood of the inns of courts of law, in lieu of the present courts adjoining Westminster Hall, together with the minutes of avidence, is now before us, but from press, of matter we can only allude to it briefly at this moment, and must return to it next week. The, witnesses, scammed were Mr. Burry, Mr. B. L., Jenen, Mr. William Cadogan, Mr. J. Parkipson, and Mr. R. Maugham. The chief point, ini, it is, the resommendation by Mr. Barzy, of, site that, might be obtained by the clearance of a low neighbourhood between the Strand, and Carey-street, a little to the sense of St. Glement's Church, and which he justly considers, would of itself, irrespective of the fature appropriation of the site, he a great public, improvement. The area con-semplated would be 700 feet from east to west, and 480 feet from north to south; bounded press, of matter we can only allude to it briefly and 480 feet from north to south ; bounded and 489 feet from north to south; bounded on the north by Carey-street, on the east by Chargery-lang, on the south by the Strand and Riggt-street, and on the west by Clement's-lang and Plough-court. The actual cost of the site, deducting ground-rents, which might be obtained from part of the space let for ghandbare, is estimated at 258,2244.

THE BUILDER.

BATHS AND WASH-HOUSES IN ST. PANCRAS.

THE committee of the society for establishing these baths and wash-houses have, during the past week, invited inspection of the works in progress. An excellent site has been ob-tained, both as to extent and situation, consisting of the greater part of the vacant ground at the base of the reservoir of the New River Company, in the Hampstead road. The directors have generously let the ground at a nominal rent, and offered the necessary supply of water, without charge for the first six months of the society's operations, and afterwards at the lowest possible cost. The space of ground to be occupied is about 7,000 square feet. The entrance is in George-street, leading from the New-road to the Hampstead-road. It is intended to provide thirty single baths (twenty for men, and ten for women), five vapour baths, and two large plunging baths. In the washing department there will be sixty-four washing-tubs, with coppers for boiling such articles as may require it, a drying-room, ironing-board, and irons. To a poor man or woman the charge for a separate cold bath, containing sixty gallons of water, will be one penny, and for a similar bath, warm, two pence. Fresh water and a clean towel will be supplied to each bather. A few higher priced baths, differing only in having more expensive fittings, are to be provided. The use of a double washing-tub, with an ample supply of hot and cold water, of the coppers, drying-room, and ironing apparatus, will be allowed at the rate of one penny for three hours.

The subscriptions amount to about 600%, and it is estimated that an additional sum of 300% will enable the committee to bring a part of the establishment into immediate use. Among the contributors we notice 1001. from Lord Southampton, a similar amount from the Commissioners of Woods and Forests, 501. from the Duke of Bedford, and numerous other sums, varying from 251. to ten shillings each.

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- The Morning RAILWAY BALANCES. -Herald states that Messrs. Masterman and Co., the bankers, have had a million sterling of railway deposits lodged in their hands for some time past.

CARL HEIDELOFF AND GERMAN ARCHITETURE,

Tas Art-Union journal of the pres month contains, anongst other valuable matter, an interesting hotice of Professor Heideloff's most recent, work, "The Architectural Ornaments of the Middle Ages, in the Byzantine and Gothic Styles,"" illustrated by a humber of engraviligs made from the Work. By the liberality of the excellent conductor of the journal in question, we are enabled to lay these specimens of German Cothic practicit before our readers ; and to close the description of them with a biographical notice of the professor.

Fig. 1 (on p. 472) is a Byzantine ernement over a church gate at Neissin, in Satony, and apparently of the eleventh scotury. It is ac-companied by a frieze painted in france, and from the same interior--that of the Moinstery from the same interior-that of the Moinstery of the Hely Rood. Ornaments of this kind are very rare in Germany on second of their

Fig. 3 is a keystonic ornanic in a vault in St. Schald's, Nuremberg, representing the cross and the triangle, mysticilly combined. Fig. 3 is a fragment of a decorated shield, of the period of the Holenmuthum formation

of the period, of the Hohenstaufun; found in the ruins of the cloisters of the Monastery of

the rains of the cloisters of the Monistery of Reinhardsbrann, in Thuring's, three leafues from Gotha. It is in the Sysantime style, in are generally the container of this monastery. Fig: 4 is a fragment left stifting, Stibobes high, in a beautiful kingel saturable 2 style monastic church of Alpirspeak; the Monistra zig, built by the Hohensollern finnity, za member of which provided over this heads as first abot. This curious origination while write of early German Arks of this term.

of early German Aste and fine room state Fig. 5 is a relief decention don the suitede of the Murrhard Comstery church. Ets richness reminds us of the acroteries of ancient balustres. The relief is about Bi inches, and shews the bold and diegin fostyle sal the thirteenth century. It is skilfallynes dented in grey sandatone, and served to fill the larch above a Constant won very bever tes mod

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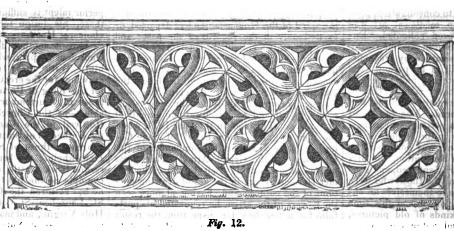
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Fig. 11.



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Fig. 6 is and of a parter, taken from the apartment called the Saloon of Rosettes in the ancient Castle of Osburg. These ornaments, which are of the fourteenth century, have been removed and replaced by others - new, but in design exactly like the earlier ones.

which are of the fourteenth century, have been removed and replaced by others—new, but in design exactly like the earlier ones. "Fig. 7 is a fragment of beautiful pletced fullage from the brandy of Counts Bbernard, of Warnanthurg, is the ancient church of St. Armand at Urach, before he removed to Shittgardt in consequence of the treaty of Munlingen. It is of the linest tak, and one of the most beautiful refles of these "times!" This throng-like dratory was iconstructed by order of .Count Eberhard four years after his return from Palestine, in 1472. "Fig. 8 is a fragment of a stone gallery in the monastic church of Blaubeuern. It is in

Fig. 8 is a fragment of a stone gallery in the monastic church of Blaubeuern. It is in the German Gothići style, and accompanies fragments from the odlebrated tomb of: Sc. Sebeld, aften a drawing by Veit Voss, in the possession of the author, which serves to illustrate the chabatter of this onebrated artist, and the shew his participation in the endeution of St. Sebeld's sepulchre:

The ornamenta represented by figs, 9 and 19, are empised smarthy from a kind of gallery, in the house of Herr Welkinger, member of the town council of Nurstaberg.

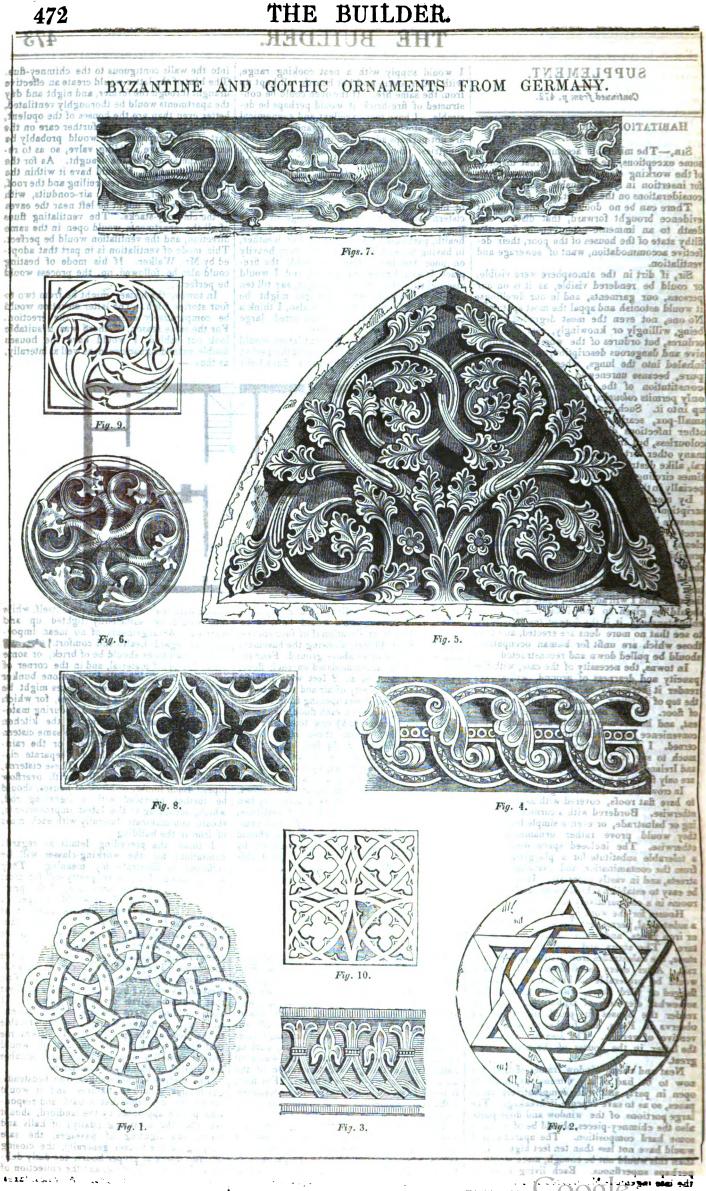
the Right Like and L2 are the primments of a falsiony in front of the House of Herr Gessell, at Nanambergi Although it is not in the plin of the work to admit designs substant to 1520 -- became which that think the relive are by no means comparable to those the date ansuccepted the works and front inipassible to have succepted the works and front inipassible to have accepted the works and the inipassible to have accepted the works and the inipassible to have succepted the works and the inipassible to have accepted the works and the inipassible to have accepted the works and the inipassible to have accepted the works and the inipassible to have succepted the works of the best inipassible to be

excetited: moltownic." And adversity is the festeremether of excellence ; and the proverb is most strikingly mempilies in the life of an artist, when a period ged struggie appliest apponent chromistances tends only to support the main which wister superior to misfertunity. By the dist of the filturities with an energy be mind which wister superior to misfertunity. The field of the filturities men who have at the dist of the filturities men who have at the dist of the filturities men who have born at Statignethies in spite of difficulties may be midded the near of Carl Heideloff. He was born at Statignethies of which dutted, in 1714, the kingdom of Hanover, and settled in England. His father, Victor Heideloff, who was educated as an artist in the same institution which reckoned among its, pupils Schiller, Cuvier, and other confined then, succeeded, on his return from making the tour of France and Italy, to a professorship of painting in the same city. The subject of our notice became a student of this celebrated school, and remained so until its deplored dissolution. In addition to the valuable precepts of his father, he enjoyed also the instruction of Atzel Thowfet, the architect--the sculptor Scheffauer---the celebrated Danmecker--the engraver Conthard Muller-of

Instruction of Alzel Thomset, the architect— the sculptor Scheffauer—the celebrated Dan-mecker—the engraver Gotthard Müller—of Alois Keim—and the painter Von Seele. But Heideloff was naturally gifted with a deep love of mediæval att, which, being fos-tered by the study of history and archæology, was cherished by him in direct opposition to providing to the study of prevailing tastes ; - he thus acquired a strong aversion to the styles of his masters, who, for the most part, eschewed all patriotic allusion-glorifying in their works the character of other nations. All his efforts were exerted with a view to contribute to the honour of the genuine art of his own country; and he was sustained by the hope of raising it to consideration, even at a time when German mediæval art was utterly neglected, and even ridiculed. En-thusiastic in the prosecution of his views, the young architect began his career by frequent-ing, much against the will of his parents, the ancient churches, monasteries, and abbeys of Old Wurtemburg—a country rich in relics of this kind—and visited successively all that had so long been left unexplored. The results of these expeditions were a series of drawings, of a style perfectly new in the ateliers of his masters. When Germany was convulsed by the wars of the French Revolution, the arts of that country necessarily suffered, and con-tinued to be cultivated only by those who were so fortunate as to secure to themselves an un-molested retreat. Heile off was at this time busied in collecting all kinds of old pictures, wood-cuts, carvings, and antiquities, which were then held in little estimation. He thus

became possessed of specimens of German art which fully described the chivalrous and religious feeling of the middle ages, and, at the same time, acquired a store of information which qualified him to take a distinguished part in the efforts of those who had resolved upon the restoration of German art; and it has long been acknowledged that Heideloff is one of the most famous champions in the cause of the rights of ancient German art. His exer-tions have won for him the illustrious title of restorer of the art of his country; and the many sacred edifices which have been confided to him for restoration proclaim the honour of the man who has thus raised himself to distingtion as the vindicator of the early art of Germany, which had been trampled upon by foreign invaders, and repudiated by a native fashion which prevails in art as in all else. In accordance with the usual routine, he visited Rome and Paris; but nothing that he saw at either place could in anywise shake his resolution of devoting himself to the style which he tion or devoting nimself to the style which he had embraced with such fervour. Dannecker spoke of him is such terms, that his father de-spalled of ever stelling his son acquire even the name of an artist. But calamity is someine hame of an artist. But calamity is some-times the first step to prosperity; and so it was in the tase of Heideloff, for his father having suffered injury to his eyesight, inso-much at 10 incapacitate him from the ex-ercise of his profession, he relinquished to his son and to Herr Keim his appointment as deworator of the royal theatre of Stuttgardt. And now it was that an opportunity was presented of shewing talent of a kind very different from that assigned to him by Danseker. This branch of the profession requiring a perfect kinowidene of history and antiquity, the young artist enjured upon a field which had been lying faint for centuries; but, with the in-valdable stores of which he had made himself perfectly acqueinted, so that never before were the draman of Schiller, Goethe, and other ce-lebrated authors brought forward with such effect. Heideton, in addition to the reputation which this employment procured for him, had which this employment procured for him, had also opportunities of displaying his superior powers on the occasion of the many festivals at which Frederick I., King of Wurtemburg, entertained his numerous illustrious guesta. entertained his numerous illustrious guests. In grand ideal composition he was inex-haustible—each successive essay declared his deep learning in matters of German antiquity, and for the execution of these designs he was amply provided with all negessary means. Although abundantly occupied in this way; he was nevertheless not diverted from fre-quently visiting the ancient architectural monuments of his country; and he indulged the more in these wanderings as they enabled him to enforce upon the avaricious and ignorant desecrators of sacred remains, a due respect for the beautiful of past ages, and to rescue from destruction many valuable relics which are now regarded as among the most precious in the country. But by such efforts he raised against himself a host of enemics—the most influential of whom, Dannecker, on the death of his blind parent, deprived him of his occupation and means of existence-a barbarous injustice which Heideloff endured with equa nimity and forbearance; and, uttorly heedless of all that was said and done against him, he sought the best opportunities of again raising the spirit of German architecture, and at the same time of basing its theory on a solid foundation. But his native land was not fitted for his purpose-of this he was at length convincedthe spirit of the Hohenstaufen had departed, or existed only in the records of the past; and -so persecuted, ridiculed, and deprived of all succour-he quitted his native land, shook the dust from his feet on its boundaries, and pro-ceeded to Wiesbaden to consult his friend the ceeded to Wiesbaden to consult institution architect Zais; and went thence to Mayence, for the purpose of studying the interesting works of art and architectural monuments of that place. This was in the year 1814, when the then reigning Duke Ernest of Saxe Coburg came to Mayence, as commander of the 8th Corps of the Grand Army. This great patron of art, on his visit to the cathedral, met lleideloff there in the act of drawing portions of the edifice; and, having at once seen the powers of the artist, he requested his portfolio for a few days for inspection, the result of which was an invitation to Heideloff to settle at Coburg ; the prince, at the same time, expressing a wish to have about him an artist

who had taraed his steading the may be the second styles of early therman, dirth, Signat sey was the jay of Heideloff, it was less on his was as count than on that of his belowed, at b thus was he urged on ward in his studies, wild, in-creased energy. It was, and with the year 1816 that he could avail simple with his friend Zais did not expise until that time. If his draw was the more disagreeable as the order of his friend Zais did not expise until that time. If his draw was the more disagreeable as the order of his friend been commenced, and now would only for the skill and knowledge, of the architect whom the duke had selected for its completion. Itsideloff ramained for year in the early priod his appointment to a French architect of the name of Regnter, who had succeded in inwho had tarned his attention to the megleoted name of Regnier, who had succeeded in inname of Regnier, who had succeeded in in-troducing the French ave of architecture in opposition to that of Germany. Heideloff, therefore, quitted Coburg in 1821, and pro-teeded to Naremberg, which abounds with splendid monuments of medickal art. He there aplendid monuments or accurate an accurate established a private institution for the cultiva-tion of ancient German Gothic architecture; but bic ondeavours were not favourably met, either his endeavours were not favourably met, either in the capital or in the city in which he lad settled, until after the accession of Logis T. to in the capital or in the city in which he lind settled, until after the accession of Lock's The othe Bavarian throne, when "# givitions' era 'df old German art compenced;" bot outper in Ba-varia but throughout 'all 'Gerpouny?" Such in prince could not consign to 'hereet' such an artist; his first act of paronage "Such an artist; his first act of the such as a artist; his first act of the such an artist; his first act of the such as a of the sncient montarist of the city" of Nuremberg; and the 'enthesiant' such and 's be and the discharged the white "Soft the first" with which he discharged the white "Soft the first" with all to the erection of the most and 's the 'hold' has be resulted the 'enthesis' the 'hold' has been and the paronage the 'hold' the 'hold' the entitled "Alt Dettscher Mistel back wher brief Baudenkmale" 'Nathbergs " (Old an Celland Model book; 'or, "the 'Artistication' of the 'hold' and Nuremberg, while be ablighted of the 'hold' act toring 'relics, 'n, which " be 'displayed outp skill and accuracy of style that the 'hold' such skill and accuracy of style that the restoration portions cannot be distinguished from the ancient works; on which account the restoration of Bamberg Cathedral was intrusted to him, as of Bamberg Cathedral was intrusted to him, as also that of the ancient Imperial Castle of Nu remberg. The former work he conducted for three years; but at the end of that time he was supplanted by architects of higher pretensions supplanted by architects of higher pretensions who terminated the work in a manner to dis play their utter ignorance of the proper style of the structure. Notwithstanding the man difficulties with which he had to contend Heideloff persevered in the exaltation of tha style of architecturing to which he had so early donested bindelite and it was some cratification devoted himself; and it was some gratification to him to see that already, of the numerous rulers of Germany, many acknowledged Ger man art; for among the promoters of his view man art; for among the promoters of his views were—the King, of Bavaria, the late Duke Ernest of Saxe Cdburg, the Duke of Saxe Coburg, the Duke of Saxe Meiningen, the King of Wurtemburg, and Count William of Wurtemburg. Of his public buildings, either as restorations or wholly constructed by him, may be mentioned:—the Castle of Reinhards-brunn, in Suxony; the Castle of Hohenlands-berg, in the same kingdom; and also a church at Sonnenburg. He has produced drawings berg, in the same kingdom; and also a church at Sonnenburg. He has produced drawings for many projected edifices, in which his su-perior talent is sufficiently manifest. One of these, his design for the Church of St. Ni-cholas, at Hamburg, is of extraordinary power; as also is another for the Roman Catholic cholas, at Hamburg, is of extraordinary power; as also is another for the Roman Catholic Church at Leipzig, which is to be executed by him. With these may be mentioned his drawings for the erection of a palace at Cintra, for the King of Portugal. Of his restorations, those in Wurtemburg are the most remark, able :--as the Church of the Holy Rood, at Rottwell, in the Black Forest; a portion of the Cathedral of Stuttgardt; and several other churches-those of Schöneich, Mergelstetten, Heidenheim; the beautiful and highly pictu-resque Rock Castle of Lichtenstein, a perfect example of the old German. At Nuremberg he has restored the Churches of St. Sebald, St. Laurence, St. Gilés, the Holy Spirit, the Holy Virgin ; and many restorations of private Holy Virgin ; and many restorations of private residences—for Nuremberg is celebrated for the number which it contains of houses of this style of architecturer



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SUPPLEMENT.

HABITATIONS FOR THE WORKING CLASSES.

S18,—The miserable accommodation, with some exceptions, the lot of the great majority of the working classes, induces me to submit for insertion in your valuable journal a few considerations on the subject.

There can be no doubt from the abundant evidence brought forward, that disease and death to an immense extent ensue from the filthy state of the houses of the poor, their defective accommodation, want of sewerage and ventilation.

Sir, if dirt in the atmosphere were visible, or could be rendered visible, as it is on our persons, our garments, and in our dwellings, it would astonish and appal the most apathetic. No one, not even the most degraded human being, willingly or knowingly, eats or drinks ordures, but ordures of the worst, most offensive and dangerous description, are continually inhaled into the lungs, when we respire impure, because unrenewed air. The physical constitution of the atmosphere, commonly only permits colourless substances to be drawn up into it. Such are the poisonous effluxia of small-pox, scarlet fever, typhous fever, and other infectious diseases. These effluxia are colourless, but irrespective of these, there are many other sorts, animal, vegetable, and mineral, alike destructive of life or of health, at all times circling in ill-renewed air, and more especially in the dwellings of the working-classes.

colourless, but irrespective of these, there are many other sorts, animal, vegetable, and mineral, alike destructive of life or of health, at all times circling in ill renewed air, and more especially in the dwellings of the working-classes. By means of a different and superior description of houses, all this might, in a great measure be prevented. It is not necessary to erect expensive dwellings, but they should be clean, light; cheerful, and with an invariable provision for the renewal of air. I hope to shew that houses of this superior description could be built, and yet afford an excellent return to those who might embark their capital therein. And I will add, that, while every scope should be given to individual humanity and enlightenment, it is the duty of the legislature to see that no more dens are erected, and that those which are unfit for human occupation, should be pulled down and reconstructed.

those which are unit for human occupation, should be pulled down and reconstructed. In towns, the necessity of the case, with the paucity and dearness of ground, will always render it necessary to construct dwelling on the top of dwelling, otherwise floor on the top of floor. In the country the case is different, and houses may be built according to the convenience and inclination of those concerned. I do not, however, think it is too much to say that throughout Great Britain and Ireland, the vast majority of human abodes are only fit to be pulled down. In crowded localities it might be expedient

In crowded localities it might be expedient to have flat roofs, covered with asphaltum or otherwise. Bordered with a cornice and railing or balustrade, or even a simple brick wall, they would prove rather ornamental than otherwise. The inclosed space would make a tolerable substitute for a playground, safe from the contamination and casualties of the streets, and in vastly purer air. It would also be easy to establish school-rooms and readingrooms in a comparatively salubrious locality. Houses for the working-classes should be of

Houses for the working-classes should be of a substantial, permanent character, with Memel or iron joists, and walls impervious to moisture. The stairs and landings should be of stone, the balustrades iron, with a painted iron rail. After every consideration, I think it would be preferable to have iron joists and flagged or tiled floors, with the ground floor somewhat elevated, of asphaltum. It would render the houses fire-proof, like those we observe in Paris, and further serve as a preventive of vermin. The loss accruing from the latter in the houses of the poor is very great.

Neat and cheap window-frames of iron are now to be had of any dimensions, made to open in part, and with comparatively small panes, so as to save expense in breakage. The large portions of the window and door-posts, also the chimney-pieces, should be of stone or some hard composition. The apartments I would have not less than ten feet high. Less than this would not be enough, more would be perhaps superfluous. Each living room, as the late ingenious Mr. Loudon used to term it,

I would supply with a neat cooking range, with boiler, oven, and hot hearth, all kept up from the same fire. If the oven could be constructed of fire-brick it would perhaps be desirable. I have seen excellent and economical cooking-stoves in the Netherlands, but they are not perhaps adapted to the usages of these contries. Below the fire-place I would have a tray to pull out, and each fire-place should be supplied with an iron fender. Above every boiler there should be a cold-water cock, supplied by a cistern in one of the upper corners of the apartment, or communicating with a cistern common to the whole range of dwellings. The loss of time, comfort, and even health, particularly during cold, wet weather, in having to send for water, sets very heavily on poor families. Over or beside the fireplace I would have one gas jet, and I would also light up the common passages, say till ten or eleven o'clock, when the gas might be turned off. Over the fire-place also, I think a hot chamber might be constructed large enough to admit a clothes' horse. The important matter of vantilation would

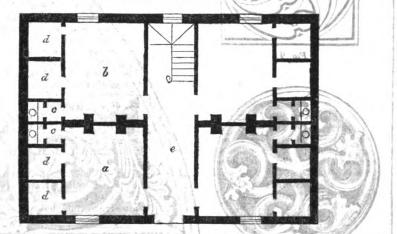
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The important matter of ventilation would be thoroughly secured by having at the period of the construction of the houses, flues built into the walls contiguous to the chimney-flue. The heat of the latter would create an effective draught through the former, and night and day the apartments would be thoroughly ventilated, better even than are the houses of the opulent, and that too, without any further care on the part of the occupants. It would probably be expedient to have a sliding valve, so as to regulate the amount of the draught. As for the outlet of the flues, I would have it within the passage between the coved ceiling and the roof, but if the roof were flat, air-conduits, with proper openings, might be left near the eaves or the chimney-stacks. The ventilating flues of all the apartments would open in the same direction, and the ventilation would be perfect. This mode of ventilation is in part that adopted by Mr. Walker. If his mode of heating could also be followed up, the process would be perfect.

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In towns, the houses might be from two to four stories high. The latter elevation would be comparatively cheaper in the erection. For the same reason, if there was a suitable look out behind, I would have the houses double, extending backward, as well as laterally, as thus :---



If, however, the locality would not permit this, another arrangement would have to be adopted. The front elevation if of four stories, would be about 40 feet, allowing the basement floor to be a foot or so above ground. Four families would be accommodated on each floor. The arrangement is an 8 feet wide hall, (c) which would give plenty of air and scope to the inhabitants. Four doors opening from the hall and the landing-places on each floor, give access to four living rooms, $(a \ b)$ one to each family, 12 feet by 14. From these rooms open two sleeping-closets $(d) \ 5\frac{1}{2}$ feet by 6, large enough to accommodate each, an iron hedstead 3 feet 6 inches broad, by 6 feet long, affording room for a chair, and a few pegs for clothes. There is also a third, or water-closet, $(c) \ 3$ feet by 6, to which there is access by two doors, the first enclosing a kind of vestibule, useful for mops, pails, brushes. A shaft communicating with the ventilating flue, should open from the top of the water-closet, by means of which and the addition of the double door no foul odours could escape, a consummation not always realized even in the best houses. The draught should be conveyed off, by means of iron tubes, to the main sewer. The contiguity of the water-closets of the different living apartments to each other, would render one main iron tube available for four distinct water-closets.

I cannot but think that this arrangement of the water-closets would be very desirable. Foul smells would be completely avoided, dirty slops would be rejected, while the convenience and decency as regards women and children, as well as invalids, would be obvious. Some, indeed, might condemn it, but surely on insufficient grounds. As it is, the limited existing houses of the poor are continually used, to say nothing of cases of illness, to satisfy the wants of nature in, to the great deterioration of the air and discomfort of the inmates. For men, indeed, I would establish public necessaries, sufficiently numerous to accommodate every locality.

The partitions between the living-rooms and sleeping-closets I would have six feet six inches high, except between the closets themselves, where I would continue the partition to the ceiling. By this arrangement, the air of the sleeping-closets would be equally well ventilated with that of the living-room itself, while they would be sufficiently lighted up and warmed. Arrangements of no mean importance as regards health and comfort.

The partitions should be of brick, or some other fire-proof material, and in the corner of each apartment, I would have a stone bunker or box, for containing fuel. Spaces might be further left in the walls for shelves, for which slate would form a good and enduring material. The water that supplied the kitchen range might be derived from the same cistern that supplied the water closets, or the rainwater might be accumulated in separate cisterns for the use of the latter. These cisterns, of course, would be supplied with overflow pipes. Each house, or block of houses, should be further provided with a lightning rod, which, according to the lattest improvements, should communicate laterally with each mass of iron in the building.

should communicate interary with each interof iron in the building. I think the preceding details as regards habitations for the working-classes will be sufficient to illustrate my meaning. They would answer, I conceive, pretty well for most large towns. At the same time, if the principle were approved of, it would be open to any one to modify or improve upon it at pleasure. It will probably be conceded that the habitations here described would prove very much superior to the ordinary abodes of the working classes in any part of the three kingdoms. They would be at once warm, wellventilated, comfortable, and convenient. The dimensions which I have stated are the smallest that could be given or economy dictate. If such buildings were undertaken, the dimensions and proportions might be conformable to the ideas of the projector. It strikes me that those which I have mentioned, would answer as well as any, and prove most suitable for families in humble circumstances.

The shelves, kitchen-ranges, iron-bedsteads, gas-fittings, should be fixtures, and it would further be desirable that a paid and responsible person appointed by the landlord, should see after the cleansing (daily) of halls and stairs, the lighting of passages, the safe keeping of the houses generally, the closing of outer doors at proper hours, the daily delivery of ashes and refuse, and the collection of the rents weekly in advance. All rates, taxes, Digitized by repairs, chimney-sweeping, gas, and water charges should be liquidated by the landlord or proprietary, and added to the rent. Fire-

proof houses would not require insurance. It is conceived, that houses such as these might be let on remunerative terms by landlords, or companies undertaking their construclords, or companies undertaking their construc-tion, and bearing the charges which I have above enumerated, and yet at rents as low or lower than what is now charged for dwellings miserably insufficient. They would be hand-some as to their exteriors, and admit of every decrement and propriety a records the interior decency and propriety as regards the interior. I am, Sir, &c., HENRY M'CORMAC, M.D.

Belfast, Sept. 15.

SUGGESTIONS FOR THE IMPROVEMENT OF SEWERS. BY JOHN PHILLIPS.

"Devouring pestilence hangs in our air."-Rich. 11.

THE healthful condition of every population is dependant, in a very great measure, upon good and efficient sewerage, and from the manner in which this question is being taken up, as well as from the publicity which has already been given to it, I consider it has already been given to it, I consider it behoves every one who is acquainted with the subject to give attention to its improve-ment and amelioration. Therefore, taking this view of the case, and believing that many great and glaring evils require speedy and effectual remedy, I am induced to offer the fol-lowing observations and propositions relative thereto. thereto.

During the last century science and art have made more than rapid strides, and almost every subject has received great and important improvements; but it is manifest that the "science of sewerage" (certainly with some exceptions) is nearly in the same unimproved, drawling, and backward state that it was a century ago. It is presumed, therefore, that it can be no less the desire of the proper authorities to adopt, than it is the duty of persons to suggest improvements; and I hope and trust that the time is not far distant when good, sound, and practical suggestions, having for their object the general improvement of sewers will receive that due and proper consi-deration, from whatever source those propositions may emanate, that its nature, magnitude, and importance demands.

It has long been a subject of grievous com-plaint, and justly so too, that filthy and ma-lignant streams of air are continually emanating from the gully-holes in the streets. Now, the cause of much of the stench and effluvia from sewers is owing to their extremely large sizes. the inefficiency of their form, and the slug-gishness of their falls. For the quantity of water which is usually discharged into them, is so very small when compared with their magnitude, that it becomes extended and ad over a wide surface; and the height of the streams being, therefore, very dimi-nutive, their motions are generally so feeble and slow, that they have not sufficient velocity and power to raise up and carry off the soil, consequently the matter becomes deposited upon their channels; and, as it decomposes, it generates foul and malignant gases, which, by escaping through the untrapped gullies and private drains into the streats and houses conprivate drains into the streets and houses, con-taminate the surrounding atmosphere with nauscous and pestilential impurities.

It is extremely desirable that this great and growing nuisance should be prevented if possible. Many methods have at various times been suggested accordingly, some of which are certainly very ingenious, but it would appear that they more or less bear the impress of impracticability. Streams of air must be continually allowed to pass into and out of the sewers, in order to keep them pro-perly and efficiently ventilated; and this can only be done by direct communications or passages being made between the sewers and the atmosphere. And in consequence of proper means never having been devised for the purpose of preventing the effluxia from es-caping, and at the same time maintaining the circulation of air, without the facilities afforded by the gullies and private drains, the authorities under whose care the sewers have been placed, have always had a strong aversion to the system of trapping. But in this case, as in numerous others,

prevention is a great deal better than the cure for it, and if means were adopted to prevent deposits from accumulating in sewers, the stench then, even if most of the communicating adits were left open, would be nothing com-pared to what it now is; and surely whenever a sewer is found to retain the matter discharged into it, one would suppose that steps would be immediately taken to impart sufficient velocity and power to the water, so that it might be able to carry off the matter, and thus prevent a re-currence of deposits and accumulations for the futare.

I am not aware if it be generally known that streams of running water communicate to the air immediately contiguous to them mo-tions which run in the same direction as the streams. That this is the case may be proved by holding a blaze of light, or any fine light substance, just above the surface of any stream. Now, if sewers were properly arranged, so that water could be continually flowing through them, much of the foul air that is produced by the decomposition of the matter would be carried off with the running water; and, therefore, it would in some measure assist their ventilation.

There are two modes which present them-selves to my mind as being the best adapted for the purpose of keeping the sewers free from deposits and accumulations of matter.

The first is the well known process of damming back the water flowing down the sewer, until it accumulates to a considerable height, and then suddenly letting it off, the im-petus and force of the descending stream carying away with it all the substances discharged into the sewer, and with which it comes in contact. This method of cleansing the sewers is now, and has been for some time, in suc-cessful operation in the Holborn and Finsbury Commission of Sewers, and is found to be, as I understand, and which I am satisfied must be the case, from the great power and scour-ing action of the water thus obtained, not only a more effectual, but also a much cheaper way of removing and carrying off the deposited matter, than the ordinary dirty and antiquated method of raising it to the carriage-ways, and then carting it away, with all its attendant annoyances.

Now the old sewers, and many of the new ones also, cannot by any possibility keep themselves clean and free from deposits with the present quantity of water which is dis-charged into them, in consequence of their extremely large sizes, the injudicious form of their bottoms, and their inadequate falls, as before referred to; for when one of them is cleansed, the matter which is immediately afterwards discharged into it becomes depo-sited upon the bed (its wide, expanded border causing the liquid mass to spread), and the sewer again becomes in a short time wholly inefficient for the purpose of removing and carrying off the soil. The matter again accumulates until the private drains are prevented from acting, when the soil has again to be lifted to the carriage-ways, and this process of cleansing and recleansing must ever be continued so long as this form of sewer exists, and remains unimproved. From the filthy condition in which very many of these sewers now are, the means which have been proved to be highly efficacious for the purpose of keeping them clean, ought not I think to be longer de-layed; and I feel assured that were the authorities fully acquainted with the condition of the sewers under their jurisdiction, there being whole districts where sewers are more or less choked with decomposed matter, not another day would be lost without taking advantage of so simple and ready a method of improvement.

It must, however, be admitted that the method of flushing the sewers is only an expedient to be resorted to when the sewers cannot be kept clean by the simple means of proper construction and efficient fall; I would, therefore, beg to suggest another distinct method of proceeding, which, in the end, will prevent the matter discharged into the sewers from becoming deposited upon their channels. I propose that all the secondary, or collateral sewers, those which branch out of the main lines, as also those which com-municate with and discharge their contents into these secondary lines, should be *strictly* examined and properly surveyed; the relative levels throughout each of these collateral dis-

tricts should also be carefully taken and laid down with a view to an improvement of their falls, and whenever improvement can be obtained, and whenever improvement can be obtained, either by a re-arrangement of them so as to dis-charge into each other by different directions if found possible, or by their present course, it should be effected by taking out (where found practicable, and this would arise in nine cases out of ten) the present wide and flat bottoms and of ten), the present wide and flat bottoms, and putting in others of a narrow, elliptical shape, at a lower level, or at a higher, as found requiat a lower level, or at a higher, as found requi-site, and atproper inclinations previously deter-mined on; and where the old sewers are found in a bad or dilapidated condition, the interior of them should be strongly and entirely cased with good sound brickwork, taking out the old bottoms as before mentioned, and cutting away half a brick in thickness on each side, making the form of the casing either that of an egg with the narrow end downwards; or with a semicircular bottom having upright sides and a semicircular arched crown; contracting the widths of the sewers by making the brickwork one brick thick at the sides and bottoms, and one orick thick at the sides and bottoms, and half brick thick at the crowns, the whole being properly underpinned and soundly executed with good hard stocks and hydraulic mortar, whose ingredients should be well compounded; and their junctions should be formed with a ounder the should be a lowner formed quadrant, whose radius should be as long as found convenient. It should be distinctly understood that no more work should be commenced until the sizes and falls of all the sewers have been determined on, and re-arranged according to a determined on, and re-arranged accusting to a regularly graduated scale, commencing at the lowest point of each collateral district, and following them up from time to time, either with new bottoms or casing, as they might require, until the whole of the sewers in the there is the sewers in the might require, until the whole of the sewers in each particular level were completed; they would then keep themselves clean, and be in a state of completeness and efficiency without either flushing or cleansing, the whole ex-penses of which would be saved: and I have no hesitation in saying that until either this be set about and done, or they be entirely rebuilt. set about and done, or they be entirely rebuilt, there are very many lines which will never be any other than elongated and filthy reservoir or cesspools, the matter in which will be con-tinually contaminating the atmosphere with its deleterious products. These great evils require immediate reparation, which should not be done piecemeal, but upon a well organized system of arrangement; and if the matter be taken up, as I trust it will, the cost of putting the whole of the badly formed sewers into a state of comparative efficiency could be as-certained without great difficulty. The practical operations of this mode of execution can be effected in a most expedi-tious and simple manner by the following process:—Shafts should be sunk over the sewers (say at from two to three hundred feet set about and done, or they be entirely rebuilt,

sewers (say at from two to three hundred feet apart) or the present ones used where found; agging of workmen would then commence digging out the old bottom, or cutting away the half brick at each of the side walls up to the half brick at each of the side walls up to the springing of the upper arch, the rubbish being taken a head up the nearest shaft; and thus the work could be prepared ready for the bricklayers, who would put in the new work as fast as the men beyond got it ready for them; the materials should be let down from the shaft next behind, and thus the two opera-tions would not interfere with each other Of tions would not interfere with each other. OF uons would not interfere with each other. Of the practicability of this proceeding there can be no doubt, and were it adopted it would be a vast saving of expense, besides, it could be done with more despatch than the ordinary process of opening the streets and blocking up the carriage ways to the prevention of the business of the public.

Now, in order to prevent the stench and effluvia, which under the present system most necessarily rise through the gullies and drains where these are untrapped, it is desirable to where these are untrapped, it is desirable to purify the air in the sewers themselves before it is allowed to escape into the streets, by dis-engaging from it, if possible, all the impure compounds with which it is charged. And of all the propositions which have yet been put forth for that purpose, I believe the following will be found to be not only the most effectual, but the most practicable also; and if I can succeed in shewing that it is so, I should think there will be no difficulty in obtaining sanction to an experiment for the purpose of testing its efficiency.

Decomposing substances emit foul gases, which, mixing with the atmosphere, contami-bigitized by 8

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nate it with filthy rancorous products. Now, when pure clean water is made to shower upon or over those substances, it throws down, condenses, or disengages from the atmosphere the effluvia and stinking odours as they rise; and this is remarkably evinced during the time rain this is remarkably evinced during the time rain is falling, where there are lay-stalls, or where filth has been deposited, for the air at such places being loaded with foul odours, the showers or drops of water, as they fall, free the atmosphere of the deleterious and nause-ous compounds, making the air feel quite fresh. In the first place, *all* the drains and gulleys should be effectuelly transad and the guilleurs

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should be effectually trapped, and the gulleys should be made entirely of cast-iron, with a strong moveable grating fitting in at the top of each of them, for the purpose of cleansing it out, having also a deep wide box at bottom, with a nozel formed at the outer side opposite the pavement for the water to flow through, and that side descending in the box to about one and a half or two inches below the bottom of the nozel, which should fit into a good strong Stourbridge clay pipe leading directly to the sewer, in the wall of which the pipe should have a circular elbow for the purpose of discharging the water in the direction of the stream flowing down the sewer. The discharg-ing ends of the drains should also be made in the same manner; their traps being placed in convenient and accessible situations, and always under special supervision, as, indeed, all drains ought to be, in the same manner as the sewers are. the pavement for the water to flow through, are.

Now, after all the gulleys and drains had been properly trapped, shafts should be formed over the sewers, about three or four feet long, and the same width as the sewers, and in such situations as found most convenient. These shafts should be made to taper regularly up-wards to about twelve inches wide and twentywards to about twelve inches wide and twenty-four inches long at top, on which a good strong, deep, cast-iron grating should be fixed, level with the carriage-way; or these shafts could be made of sufficient size to admit a man to descend and ascend through them, small stirrup irons being fixed in the brickwork. In the lon-gitudinal sides of the shaft, and just above the top of the crown of the sewer, I would have fixed, final with the wells two small estimates the sever. flush with the walls, two small cast-iron cisterns, finsh with the walls, two small cast-iron cisterns, one at each side; they should be about a foot high, two inches wide inside, and the same length as the shaft at this part. From the water-main in the street a small pipe should be Inid, communicating with the cisterns, the front faces of which should be perforated with one or more tiers of very small holes, about one-tenth of an inch diameter, inclining in an up-ward direction. ward direction.

Now, it is obvious that the cool fluid, while Now, it is obvious that the cool fluid, while flowing into the cisterns from the water main, would pass through the perforations in small streams or jets, and as they descend would atrike the opposite sides of the sewer just above the crown of the arch, and the sewer at this part should be built with good, hard, sound, and durable stocks, laid, and rendered inside with nearby all cement. These jets would inside with nearly all cement. These jets would appear from above like a series of thin bars, or a grating of water lying across the shaft, and they should be arranged so that there be from a quarter to half-an-inch space between each of them. These little streams of pure cold water would detach from the currents of air as they issued upwards from the sewer, the effluvia and foul gases with which they would be loaded, and thus the air escaping would be loaded, and thus the air escaping into the streets would be nearly purified of its deleterious contents by this simple process. From the jets being exceedingly small, the consumption of water at each shaft would be very little, and it would answer a further pur-pose of keeping the sewers free from deposits of matter; the water mains should always be charged, as probably in a few years they will be. Several modifications of this system present themselves, which experiment and practice would rectify. (To be continued.)

BATHS FOR THE WORKING CLASSES IN BATHS FOR THE WORKING CLASSES IN EDINBURGH.—A correspondent sends us the following statement: — "Some thousand pounds were some time ago subscribed for the above purpose, ground was purchased, and the foundation-stone laid with great cere-mony. The ground has now been sold, and all idea of the baths abandoned."—Scotsman. —[We should be glad to learn the cause of this proceeding.]

FOREIGN ARCHITECTURAL INTELLI-GENCE.

The "Archæological Society"—of Rome. This seems a year of epidemics with this sort of societies. That of Rome has been, of late, in a state bordering on disruption. The secretary, P. C. Visconti, had first become embroiled in a lawsuit, on account of some share broked in a lawsuit, on account of some share transactions for the acquisition of antiquities, and another antiquary of distinction, Mr. Achilles Genarelli, had received orders to de-cide thereon. As the judicial press of Rome is not under censorship, Mr. G. seasoned his dictum with some unpleasant phrases—as, in-deed, every one perceived, that Mr. Visconti has placed himself in such a position, that he must be dis-placed from the secretaryship. And has placed himself in such a position, that he must be dis-placed from the secretaryship. And then came a general medley, in which the president, cardinals, Prince Borghese, etc., are concerned—the details of which, however, cannot interest our readers. *The Dome of St. Peter.*—While the old basilica of St. Paul on the Ostia road, which had heen burnt down some years ago is deily

had been burnt down some years ago, is daily progressing in its restoration towards pristine beauty and grandeur—the signs of decay and deterioration in St. Peter's are becoming more visible and obvious. It is known, that in succession ten iron rings of the weight of 120,000lbs. had to be employed, to keep to-gether the huge cupola, which exhibited several cracks. Of late, it has also come to light, that the *lanternino*, under the ball of the cross, supported by thirty-two double columns and ornamented by sixteen candelabra — erected by dint of the gold of Spanish America, is full of fissures. It is impossible America, is full of histures. It is impossible to think, that lightning has caused this disaster, as this part of the building has been already protected by several conductors under Pius VII. It is rather to be supposed, that the weakening of the supporting columns of the cupola, which have been excavated by stair-cases and places for the reception of holy relice hes mainly brought on this demage relics, has mainly brought on this damage. Several hundreds of hands have been of late

Several hundreds of hands have been of late employed, to chain and fetter together the lanternino, and thus to prevent, if possible, a further spreading of the cracking. Influence of State's protection on Art in France.—The assistance which arts receive from Government in France is spreading its beneficial effects throughout the whole social fabrics collections increase movuments are fabric; collections increase, monuments are restored, amateurs afford occupation, and en-couragement to every talent. The liberality restored, amateurs afford occupation, and en-couragement to every talent. The liberality of the legislature is first to be adverted to. The secretary of state of the public *culte* has an annual item of one million and a half of francs for the preservation of churches, but last session two millions more were destined for the restoration of Notre Dame at Paris, and 600,000 francs for the building of a vestry, a small Gothic building, which has to be erected aside the old church. When Notre Dame was last viewed by a commission, it ap-peared that nothing had been done to it for the last two hundred years but to paste over the last two hundred years but to paste over the fissures and crevices with paper. The cham-bers also vote every year 600,000 francs for "the preservation of historical monuments," of

bers also vote every year 600,000 francs for "the preservation of historical monuments," of whatever kind or period they be. Last session however, the ministry had obtained two millions and a half for building a new front to the church of St. Ouen at Rouen, for restoring the chateaû of Blois, and the ancient amphi-theatre of Arles. Aside these great restora-tions, minor ones are equally attended to, and the churches of St. Germain l'Auxerois, St. Mery, and St. Germain, will receive large em-bellishments of paintings. The grand discoveries of Mr. Botta, at Niniveh, have been assigned by the king to the galleries of the Louvre, and on this occasion, the whole ground-floor adjoining the square, where Marochetti's statue of the Duke of Orleans is to be placed—has been laid out for a Greek museum, containing the sculptures of Sardes and Magnesia; an Egyptian, con-taining the monuments collected by Drovetti, and never before exhibited; to which the Assyrian, containing Botta's collection is to be added. The atteliers of the artists are becoming peopled by a crowd of well-instructed, zealous men. Many are employed by the Duke de Luyncs, who has the great saloon of his chateau near Versailles, called by the Duke de Luynes, who has the great saloon of his chateau near Versailles, called Dampierre, painted by Mr. Ingrés. The latest work ordered by his Grace is a correct imita-tion of the statue of Minerva of Phidias as it Nontrose, last week, sold eight thousand fine rate of 1s. 3d. per foot.

stood in the Parthenon. It will be executed by Mr. Linart in ivory and metal, and a model of clay is finished according to the description of Pausanias and the researches of M. de Luynes.

Pausanias and the researches of M, de Luynes. It will be seven feet high. The Queen's Subscription towards the Re-building of the Cathedral of Cologne.—Although the misconception which exists, it seems, on the Rhine, on this head, is very palpable, a few words may be said to set the matter at rest. A sovereign of Great Britain is not absolute, but restricted by constitutional laws and enactments—amongst which a fixed civil list is the most prominent. If we come to know, that the income of the King of Bavaria is one-fifth of the whole revenue of the realm— his Bavarian Majesty may certainly appear at is one-nyth of the whole revenue of the realm— his Bavarian Majesty may certainly appear at times proportionally liberal. In Austria and Russia there is not even the shadow of a regu-lation in this respect, and the sign manual of the autocrat may call forth millions from out of the autocrat may call forth millions from out of the caves of the treasury. Moreover, most of the Continental monarchs do a *little* business in the public funds, and there is not an Aus-trian archduke dying who does not leave twenty millions of florins, or thereabouts. All this is not the case here. The income of an English sovereign is fixed, while their liberality have to extend our an empire where the un has to extend over an empire where the sun never sets. The subscription of her Majesty the Queen, therefore, was such as it could have been, and as it ought to have been. Absolute monarchs give orders on their treasury, her Majesty gave out of her own pocket. Sapienti sat. J. L.

BALLE KHAL SUSPENSION BRIDGE.

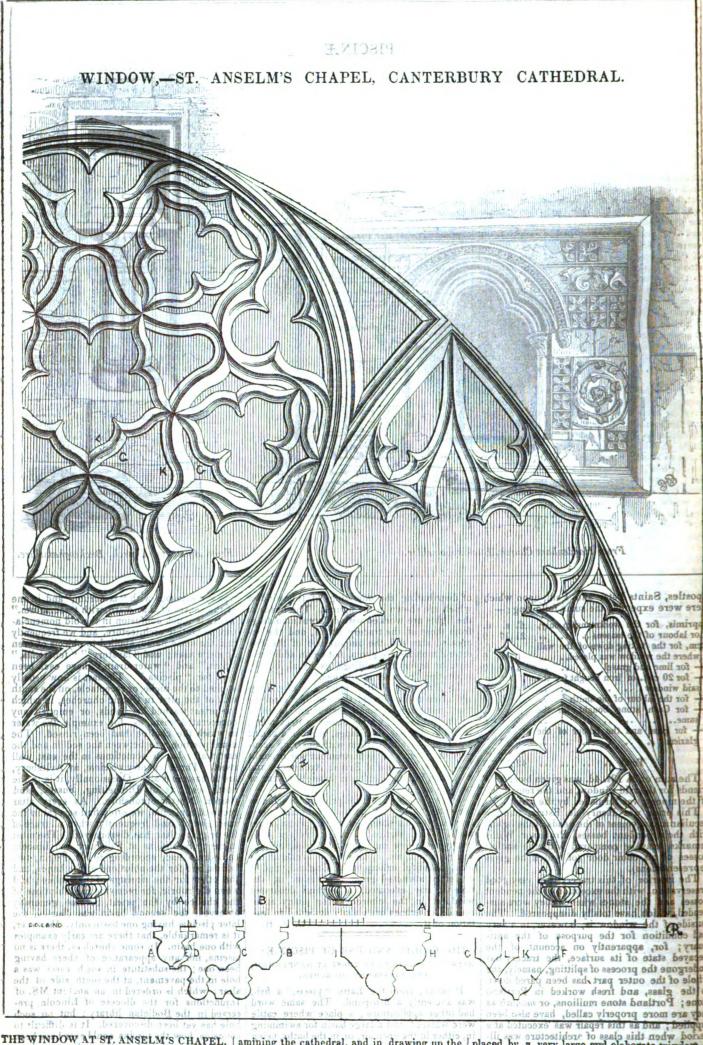
In our impression of the 30th of Augsut, we announced the fall of this bridge, which had just been erected about four miles from Caljust been erected about four miles from Cal-cutta. It consisted of a single curve of 250 feet span, with 18 feet of platform. The height of the points of suspension above the plank level, which was equal to the deflection of the chain, was 20 feet or $\frac{1}{y_{s}}$ the chord line nearly. The angle of suspension was therefore about 19° 51′. The platform was supported by two main chains, one on each side of the bridge, composed of links of round bar iron 1 3-eighths inch in diameter, and 10 feet long. There were 15 of these links resting on the towers at each point of suspension, and from thence at each joint the number was lessened one link till at the centre the sectional area of the chain was reduced to 2 was lessened one link till at the centre the sectional area of the chain was reduced to 2 bars 1-eighth inch in diameter. The oblique suspending rods depended from the chain at each joint in pairs, they were a quarter of an inch in diameter, and the angles at which they were attached to the platform varied from $67^{\circ} 42'$ to 10°, becoming more and more acute as they approached nearer the centre of the bridge. There were three pairs of these sus-pending rods at each point of suspension. the bridge. There were three pairs of these sus-pending rods at each point of suspension, which supported 23 feet of the roadway at each end of the bridge, taking the weight thereof immediately to the tower link without affecting the curve of the chains. Thus $250-23 \times 2 = 204$ feet = the length of platform supported by the chains. Those platform supported by the chains. Those who desire further information on the subject will do well to consult the Mechanics' Maga-zine, for October 19, 1844, which contains a detailed account illustrated by plans, sections, and elevations.

NEW BUILDINGS, LONDON DOCKS. — A substantial range of ten warehouses has been recently completed at the west end of the docks by Messrs. W. Cubitt and Co. They are 300 feet in length, 100 feet wide, and 68 feet high, and capable of stowing and working 120,000 chests of tea. There are five floors rising one above another: the roof five floors rising one above another; the roof of each is supported by strong cast-iron pillars, and each floor is divided into four rooms, well-lighted, and divided by thick walls and double iron doors, rendering the whole com-pletely fire-proof. The vaults below the tea warehouses are appropriated for the reception of wines.

THE NAPOLEON COLUMN AT BOULOGNE .-The Napoleon column at Bothooks.— The Napoleon column at Boulogne has just been terminated; the first stone was laid by Marshal Soult on the 9th November, 1804. PRICE OF LARCH WOOD.—The Duke of

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THE BUILDER.



THE WINDOW AT ST. ANSELM'S CHAPEL, CANTERBURY CATHEDRAL.

THE sketch of this fine window, engraved above, was made during the visit last year of the Archaeological Association at Canterbury; it was done upon the suggestion of Professor Willie, who was at the time employed in ex-

amining the cathedral, and in drawing up the very valuable and interesting account of it, which he has since published. A small eleva-tion of the head of the window complete is given in his book, — from which the following particulars respecting it are extracted :— "In Anselm's Chapel, the original window of the south wall has been taken out and are

of the south wall has been taken out and re-

placed by a yery large and claborate window of five lights, which is remark able for its wellow preserved, history; this, is centained at the to following document, printed by Battely, from and the archives it is one and the preserved by a set of the archives it is one and the preserved by a set of the archives it is to set it the year 1336 there was made a new window in Christ Church id Canterbury, that is to say in the chapel of the Digitized by

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THE BUILDER.

PISCINÆ. ANSELM'S CHAILL CANTERBURY CATHEDRAL IIIIII. 11 R 11 From Haddenham Church, Buckinghamshire. From Aylasbury Church, Buckinghamshire.

Apostles, Saints Peter and Paul, upon which there were expended the sums following :---

| Imprimis, for the workmanship only, | £. | 8. | d. |
|---------------------------------------|----|----|----|
| or labour of the masons | | 17 | 9 |
| Item, for the taking down of the wall | | A | |
| where the window was placed | 0 | 16 | 9 |
| - for lime and gravel | 1 | 6 | 0 |
| - for 20 cwt. of iron bought for the | - | 14 | ~ |
| said window | 4 | 4 | 0 |
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| - for Caen stone bought for the | ~ | | • |
| same. | 5 | 0 | 0 |
| - for glass and the labour of the | | v | • |
| glaziers | 6 | 13 | 4 |
| Bunnet | - | 10 | * |
| Tetal | 19 | 17 | 2 |
| | 16 | 11 | 4 |

The sum of 84. 138. 4d. was given by certain friends for the said window, and the remainder of the money was furnished by the prior." This prior was Henry de Estria, and the peculiar management of the heads of the lights, with their pendent bosses, Professor Willis remarks, may be compared with the similar bosses of his choir door (of which he gives representations).

representations). The interior of this tracery is in very good preservation, with the exception of the pendent bosses and the stones whence they were sus-pended, which have totally disappeared. The butside of the window is, however, in a very bad condition for the purpose of the anti-quary; for, apparently on account of the decayed state of its surface, the tracery has undergone the process of splitting, namely, the whole of the outer part has been pared down to the glass, and fresh worked in Portland stone; Portland stone mullions, or *monials* as they are more properly called, have also been supplied; and as this repair was executed at a portland stone in properly called, have also been period when this class of architecture was ill-understood, ³¹ the monifices are very badly wrought; which, in conjunction with the colour of the Portland stone, has given the window a of the Porland stone, has given the window a most ungenuine air. However, the interior is as good as ever it was, and it is on account of its date; as well as for its beauty, a most valuable examplesind

There are some peculiarities in the manner

of distributing the mouldings of this window which are shewn in the figures. The heads of the lights are worked with different mouldings from those of the tracery above, and the in-creased size and the importance of the two central moniple are sized. central monials are given, not by an additional layer or order of mouldings, as usual, but by separating the other mouldings." In Professor Willis' print the mouldings are given reduced from the outlines made by the gymegraph a small instrument invested

are given reduced from the outlines made by the cymagraph, a small instrument invented by the professor, which causes a steel point, running over the mouldings, to move a pencil point, and give their form with unerring accu-racy on paper. This instrument was brought before the Institute of British Architects, and described by the professor himself a year or two since. two since.

It may be added that the print of the window presented above is a portion of the head only, for the great advantage of giving it to a larger scale. The section of the mouldings is as nearly like those made by the cymagraph as can very well be. The window is one of the most beautiful examples in England, and it evidently attracted great admiration at the time it was executed, as several decorated windows in the churches for many miles round Canterbury are plainly designed in imitation of it. C. J. R.

THE ORIGIN AND USE OF PISCINÆ: WITH ILLUSTRATIONS OF THOSE AT HADDENHAM, AND AYLESBURY CHURCHES.

PISCINA, from the Latin "piscis," a fish, was anciently a fish-pond. The same word had other applications; a place where cattle were watered, and a large basin for swimming in, either in the open air, or in the baths, being likewise so denominated. The term has also been applied to the basin, near the court of So-lomon's temple, in which cattle was

was synonymous with "lavacrum," and, in one of the senses of that word, with "sacrarlum." There is much confusion in the old nomencla-There is much contusion in the old nomencia-ture of Gothic architecture, and we frequently find the same name, applied to objects of even opposite uses; and "havatory." "fenestella," "font," and "water drain," have each been used for "piscina." The last is now usually applied to the nicke, or receptacle, on the south side of the altar in Gothic churches, in which the price trached has hands, or emptide any the priest washed his hands, or emptied any consecrated waste, as, for example, the water in which the chalice had been rinsed. The usual position was between the sedilia and the usual position was between the sedilia and the east wall; but is sometimes in the east wall itself. Three chantry piscinae, at Aylesbury, are in eastern walls. Occasionally, it is in the north wall, as at Ditchelling, Sussex, and Castor, Northamptonshire. As every altar required a piscina, we *often* find several in the same church, and, frequently, when all trace of the original altar has disappeared. The most ancient piscinae, as at Salisbury and Lincoln cathedrals, had, according to Mr. Pugin, two basins, one for the ablutions of the chalice: and the other for the rinsings of the chalice; and the other for the rinsings of the enance; and when the rubric, for receiving the ablutions of the chalice by the priest, became generally observed, the second basin was disused, the later piscing having one basin only. However, it is remarkable, that there are early examples with one basin. In some church es, there is no piscina, nor any appearance of there having been one; the substitute in such cases was a hole in the payment, at the south side of the hole in the pavement, at the south side of the altar; which is ordered in an ancient MS. of Injunctions for the diocese of Lincoln, preserved in the Bodleian library; but no such hole has yet been discovered. It is difficult to were watered, and a large basin for swimming in, either in the open air, or in the baths, being likewise so denominated. The term has also been applied to the basin, near the court of So-lomon's temple, in which cattle were washed previous to the sacrifice; and Mr. Britton (Dictionary of the Architecture and Archaeology of the Middle Ages), says, that the basin, which contained the water in a baptistry, was also formerly called a piscina. In later times, it

washed, the carrying off of water, rather than the supply, being the object in the piscina, the bowl of which, in deed, is hardly large enough for any other use. "Piscina," and "lavacrum" are used, as

synonymous, by Durandus; but the latter word synonymous, by Durandus; but the latter word is sometimes applied to a basin for washing of any kind; as in the inventories of Finchale, in 1354-5, and in 1411, printed in the "Monasticon Anglicanum." "Lavatory" is more commonly used for the trough, or basin, in which the hands and facewere washed, examples of which remain at York, Salisbury, and Durham, but is used for the piscina, in the contract for Catterick Church, and in the catalogue of furniture for the royal chapel at Eltham, 6th Henry VIII. "Sacrarium" is the term used by Mr. Pugin; "Sacrarium" is the term used by Mr. Fugin; it formerly signified a receptacle for any thing sacred, as "sacrarium piscinæ," "sacrarium baptisterii," and applied frequently to an apart-ment, or sacristy. "Water-drain," was used by Mr. Rickman, as well for the drain, as the niche, which contained it. "Fenestella," the Letin word for a little surveyork Latin word for a little window, was formerly, and, by the Cambridge Camden Society, is now applied to the recess, or niche, in which the basin was usually contained, "piscina" being retained for the last-mentioned. To our previous mention of the term "font," we may add, that it is adopted by Du Cange. Though the custom of washing the hands, before the communion, was one of very high antiquity, piscinæ are not often found of earlier date, than the thirteenth century. Norman piscinæ, where they do occur, are of the rudest form : there are two at Romsey Church, Hants, and one in the crypt of Gloucester Cathedral. Piscinæ are found in every imaginable form; the most common is that of a recess,

about a foot in width, with foliated head, ogee, crocketted, or otherwise; with a basin at the bottom, six or seven inches in breadth, with a drain leading into the ground. Piscinæ with round trefoiled heads were not uncommon, at the beginning of the thirteenth century, and they are found at Haddenham, St. Lawrence's Church, Ramsgate, and Coggeshall, Essex : about 1250, they were superseded by the pointed trefoil. At Long Wittenham Church, Berks, is a very remarkable piscina, illustrated in the Archæological Journal, vol. ii. p. 134: it is of a trefoiled form, with a small cross-legged figure in armour, lying along the front of it, on the edge, with the basin at the back: in the head of the piscina are two angels, as if hovering over the figure below.—There is generally a shelf of stone, or wood, across the middle of the fenestella, and sometimes a recess, running inwards, on one or both sides, which the use is unknown. At Christ Church, Hants, there is a niche in the interior. Church, Hants, there is a niche in the interior. Thepiscina at Jesus College Chapel, Cambridge, of transition character, probably of the date A.D. 1200, has a central shaft, two basins at half the height of the shaft, and intersecting arches; the whole inclosed within a square border. The piscina at Rothwell Church, Neutrophysica is tight a computer Northamptonshire, is triple, a very unusual form. Some piscine have no recess or fenestella, but project on brackets, others are half projecting. The recess at Hexham Church, Northumberland (A.D. 1200), is a simple, trefoiled arch-head: some have rich canopies, with pinnacles; others are supported upon a shaft, as in the example from Aylesbury. A piscina at Stoke Golding Church, Leicestershire, has two bowls in the same niche, and the large piscina in Tiltey Church, Essex, has one basin octangular, and the other circular. Two of the most remarkable examples are those at St. Alban's Abbey, and Cobham Church, Kent; the former is of early date, but enriched, and occupying a large space; the latter, of perpendicular date, is very elaborate. "The orifices of Early English piscine," says the "Few Hints on the Practical Study of Ecclesiastical Antiquities" of the Cambridge Ecclesiastical Antiquities or the Camorage Camden Society, "are generally either shallow and circular, or deep and reversed pyramidal," The the piscina from Aylesbury. "In Decoas in the piscina from Aylesbury. "In Deco-rated, they are four-foiled, five-foiled, &c., up to seventeen-foiled ; which last is very unusual, but occurs in Ardingley Church, Sussex. Other forms are square, semicircular, eight-foiled within a raised rin, covered with a pierced flower, or with a dog or lion keeping guard over the orifice."

The use of the shelf, before-mentioned, is not known with certainty. When it is of large size, it may have formed the Table of

Prothesis, or Credence, on which the elements were deposited previous to their oblation; but, it is usually much too small for this purpose, and the credence table was generally placed on there is this quotation :---" Farva campanula, ampullæ, &c., in fenestella, seu parva mensa ad hac preparata"-- "Missale Romanum" -- which might lead to the belief, that the oil and the bread and wine occupied the same place. At Aylesbury Church, in a chapel attached to the north aisle of the nave, is a piscina with a shelf across the middle, and a smaller shelf above that. We are not aware that this peculiarity has been noticed. In the same church, near the piscina, now illustrated, is a second, but of different form : there is also a niche.

The piscina at Haddenham Church, Buckinghamshire, which forms the subject of one our illustrations, is a singular example, and has the appearance of being composed from pieces of some other work. It has a roundheaded trefoiled arch, with the dog-tooth en-richment, and may be considered as early English-the style of the thirteenth century. The several leaves are very well executed, but the whole has suffered from neglect, and half its beauty is concealed by green mould, and whitewash. There is no appearance of a basin, but this is probably shallow, and filled up with the whitewash, or cement, which is remained on the bottom. The piscina stands in the south wall of a chapel, which is on the north side of the chancel; and it is the only part of the original chapel, which has been preserved, the present one being of late date. The church itself is a small edifice, near the road from Aylesbury to Thame, about seven miles from the former place. It appears to miles from the former place. It appears to have been commenced about the year 1200. The font is of decided Norman character; it is circular upon an octagonal base, and has some grotesque carving. The church has had many alterations during the fourteenth, fifteenth, and sixteenth centuries, but the main building belongs to the early part of the thirteenth. It contains one or two small brasses, a rood screen, parcloses, and open benches of late date. The latter are curious; being placed far apart, and having two seats in each compartment, so that the faces of some of their occupants would not be towards the east. The tower is square, and finished with a plain parapet; the Early English arcade, which surrounds it, at the belfry, is of excellent character, and has been engraved in the Glossary of Architecture. There was formerly a chapel, or aisle, on the south side of the chancel; the arch and responds, corresponding with those on the north side, being built into the wall.

St. Mary's Aylesbury, is a large cross church, with aisles, and north and south chapels to the nave, with which they are now united. The tower is at the intersection, and is ascended by a turret stair, at the north-east angle; the stairs commencing on the west side of transept. There were eastern aisles to the transepts; that on the south has given place to a school-room in a late style, and that on the north, to a sacristy, and room adjoining. The arches, by which the transepts communicated with the aisles, are now remaining, they are early English, the original style of the building, of the best character, and have lately taken part in the general restoration, which at the time of our visit, the church was undergoing, under the superintendence of Mr. Plowman, of Oxford. Several of these arches are built into the walls, and the church had greatly suffered from the defective construc-tion of the tower; one of the piers of the nave had been thrust out of the perpendicular, in an alarming degree, and enormous, and unsightly counteriorts had been built up, at different times, to prevent the falling of the tower. The roofs of the transepts are of timber, with rich tracery, but those of the chancel, and nave, were concealed by modern lath and plaster ceilings. These were jointed, and coloured in imitation of stone by the parish plasterer; whose merits seemed to have made some impression upon our cicerone, the clerk.

* "A Few Hints," & c., &c.

The old benches may be seen, amongst the modern pewing, and also a few panels from the roodscreen, with figures painted upon them. There is a fine door to the south transept, perpendicular, enriched with panelling between the label and the four-centred arch, as in the example at Witney, Oxfordshire, figured in the last edition of "Bloxam's Go-thic Architecture." The west door is early The west door is early English, with shafts, and a trefoil headed arch on each side; and it is singular, that, in each arch, the capital, which is farthest from the door, is raised above the level of the other. A good early decorated monument is in the north transept. There is a piscina in each of the chapels of the nave, and two in the morth transept, one of them being that now en-graved. The font is a remarkably fine one, circular upon a square base, of Norman cha-racter, of beautiful form, and highly enriched in the double cable, which surrounds the stem, and the channelling of the bowl. When we saw it, it stood in the north transept, but, probably, once stood at the west end, where a modern one had usurped its place. It would well repay a journey to see it. The piscina well repay a journey to see it. The piscina above is in the east wall, and is in the style of the transition from early English to Deco-rated. The shaft is clustered and elegant; it stands in a recess :- the fenestella is square, and recessed in a greater degree; and the basin is souare.

The churches of Buckinghamshire merit an attentive examination; in the neighbourhood of Avlesbury, they are numerous, and many of them have the old seats, and other many of them nave original features remaining. RDWABD HAIL.

TOMB-STONES AND EPITAPHS.

In a lecture on ancient and modern burial rites, recently delivered by the Rev. Joshua Fawcett, M.A., at Bradford, the lecturer made the following remarks on monuments and epitaphs :-

"Spon, whose pursuits as an antiquary, joined to his character as a Christian, well qualified him for his ecclesiastical researches, observes, 'that if the doctrine of purgatory was any where to be found, it would be particularly in the epitaphs of the early Christians. But a the ancient epitaphs you never read, before the 7th or Sth century, ' Pray for him,' nor even so much as ' Requisecat in pace,' now so often and which is nothing more than an expression of our wish, as to the state of the deceased. or our wish, as to the state of the deceased. In the early records of the pions dead, we read only, with the dates of their death, 'Obiti in pace,' 'Depositus est in pace,' 'Quiescit in pace,' 'Obiti in somnum pacis,' 'Acceptus est apsed Deum;' i. e. 'He departed in peace,' 'He is laid here in peace,' 'He rests in peace,' 'He departed into the sleep of peace,' 'He is ac-cepted of God.' In addition to this simple in-scrintion there were merely the initial letters scription there were merely the initial letters of the deceased's name.

Unhappily, we live in times when the reverse of all this is the rule. No one can frequent the sleeping-places of the dead without being painfully struck with the extreme impropriety alike of monumental erections, and monumental inscriptions.

The general tone of monumental inscriptions should be characterised by Christian humility, kindness, and by a disposition to say too little rather than too much.

Unfortunately, the choice of inscriptions is too often left with the stonemason, who, fur-nished with a small strock of trite and everyday verses, supplies according to his own taste the wished-for eulogy.

Independent of the right which the clergyman has, of admitting or rejecting any monumental inscription, it is always best to submit to his judgment any tribute of respect which it may be thought desirable to erect and engrave, as by this means any error in diction or in doctrine may be avoided.

1

The same author already quoted, observes upon the folly and absurdity of making the stonemason the reference in the want of a suitable epitaph : "And now, suppose the customer requires a few lines of poetry, and is no poet himself, the complaisant stonemsson obviates the difficulty at once. It has a book full of epitaphs; and one of these-grammar, spell-ing, and all-is, in a few weeks, transferred Digitized by

'Afflictions sore, long time I bore,

- Physickiones was in vain ;
- 'Till God did please, from deth to seize, And case my of my pain.

Or some one of these :-

- A time of death there is, you know full well, But when, or how, no mortal man can tell; Be it at night, noon, now, or then, Death is most certain, but uncertain when."
- "And thus it is with man's frail clay; His life. at best, a round of sorrow; For he who rises well to-day, May be a corpse before to-morrow.'
- ' I've lost the comfort of my life. Death came, and took away my wife : And now I don't know what to do, Lest death should come, and take me too."
- As I am now, so shalt thou be, Therefore, prepare to follow me. God takes the good, too good on earth to stay, And leaves the bad, too bad to take away.'
- "He lived and died a true Christian, He loved his friends, and hated his enemies."
- · Here lie I beside the door. Here lie I because I am poor, Further in the more they pay,
- Here lie I as well as they.
- The following is found in Wibsey chapelyard. It is an epitaph on a blacksmith :-
 - "My stithy and hammer I declined. My bellows too have lost their winde; The fire's extinguished, and my forge decayed,
 - And in the dust my vice is laid, My coal is spent, my iron is gone, My last nail 's driven, my work is done.'

From Matherne churchyard :---

"Here lies John Lee, that good old man, e ne'er shall see him more ; He us'd to wear a snuff brown coat, All buttoned up before.

Now all this, and manifold worse than this, which almost every churchvard bears witness to, may be avoided by a simple reference to the judgment of the clergyman, who would in all cases gladly give every assistance in his power either to correct the epitaph proposed, or to supply its place with one more suitable.

In Wibsey burial-yard there is, however, a very beautiful contrast in the following sententions inscription :--

| Here lies A piece of Christ, A star in dust, A vien of gold, A china dish, That must Be used In Heaven, When God | |
|--|--|
| In Heaven, | |
| When God | |
| Shall feast | |
| The just. | |
| | |

There is an absurd fashion lately sprung up of mingling Latin words with English inscriptions; as in the following epitaph :---

Here lie the remains of

P. Q.,

Late of this parish. Obit May 1, 1820. Ætatis suæ 65. Having been schoolmaster of this place for thirtytive years.

But the most ridiculous instance of this affectation is the following. It appears that a Latin epitaph was required, but a rhyme, or a jingle of sound, was deemed indispensable. Accordingly, the words 'Requiescat in pace,' having been chosen, the letter-cutter, in order to effect the latter object, modified them thus-

' Requiesce Cat In Pace."

The folly and ignorance of this needs no comment.

In a small work, entitled, 'A Tract upon Tombstones,' the following pertinent remarks appear ---- 'There remains one more offence against propriety and good taste which is very common on gravestones, and which I will therefore mention. I allude to the ornaments which are usually introduced in low relief, above the inscription ; and these consist chiefly of cherubs, doves, scythes and hour-glasses, mattocks and shorels, skulls and cross bones, urns, and reversed or extinguished torches.

I suppose there are persons who admire those conventional forms of ugliness (cherubs), with puffy faces of pink and white, black (often squinting) eyes, gilt hair and wings, which are intended as representations of one order of the holy angels. Certainly, if tawdriness of colour can attract, these things look smart enough when they come out of the stonemason's yard; but let a few months pass, and what a change has taken place! The summer's sun has faded the red of the cheeks, and the damps of autumn have covered, perhaps, one-half of the face with a mouldy green, so that the re-mains of its former brilliancy only make this ugly representation still more hideous. I do not say that a sculptured angel, keeping watch, as it were, over a tomb, would not be an ap-propriate emblem there, but cherubs, as they are commonly represented, would be much better omitted; for the work is so ill executed.

crous than solemn. In some places, a *dove* with extended wings is more common than cherubs at the top of a head-stone. If this is meant as an allusion to the Holy Spirit, I think that a more inappropriate place could hardly have been fixed upon ; for when a person has ceased to live, the means of grace are ended, and the Holy Spirit no longer strives with man. Perhaps, however, it will be said, that the dove is an emblem of the deceased person's innocence. Alas! such a symbol is unfit for even the best of us.

that the ideas suggested by it are rather ludi-

I remember seeing this ornament sculptured on the tomb of a man who had been a marketgardener. The bird was represented as hovering, with outstretched wings, the tail raised, and head downwards; but the design was very coarsely executed; the neck looked like the stalk of a plant, the spreading tail like long narrow leaves, the oval body (which was gilt) being marked over with indentations, the poor man's neighbours took it into their heads that his tomb was ornamented with a flying pineapple-of course an allusion to the profession of the deceased.

Scythes and hour-glasses, mattocks and shovels, skulls and cross-bones, being frequently intermingled, and placed, as it were, in a group, at the head of a grave-stone, may be classed together, and one condemnation passed on them all. It is not that they are unmeaning, or that their meaning is objectionable, but they are mere symbols, and not very imposing symbols, while the grave itself, over which they stand, is a stern, and awful and striking reality, awaking far more solemn thoughts than these mere types of mortality can do. Besides, they are altogether defective in inspiring the thought with which the view of a grave should always be attended; the thought, namely, of that which lies beyond the grave, and of the time when death shall be swallowed up in victory. Scythes, and skulls, and spades, might be appropriate enough for a heathen, but a Christian wants something more.

Having stated what is objectionable, it is only right we should state what is not. 'There is one emblem, perfectly unobjectionable, per-fectly appropriate, full of solemnity, full of consolation; which raises hope and dries the tear, and turns mourning into gratitude; which, while it reminds us that we are sinners, reminds us of the means of pardon; which, while it shews us the penalty of sin, and thereby humbles us to the dust, at the same time cheers us with the thought of Him who paid the penalty; who rose triumphant from the grave; who is the resurrection and the life; who will change our vile bodics, and raise them from the dust; who hath hallowed the grave and gate of death into the passage of immortality; and who, having himself overcome the sharp-ness of death, hath opened the kingdom of heaven to all believers. That emblem, I need

neaven to all believers. I hat enforcem, I need scarcely say, is the cross.' The following directions, extracted from 'Origines Genealogicæ,' by Stacey Grimaldi, F.S.A., will afford some slight guide by which the date of on project measurements much be scare the date of an ancient monument may be ascertained when its legend can no longer be deciphered :-

Tenth and Eleventh Centuries .- The coffinlid in the form of a prism, the better to shoot off the wet, because the bottom part of the stone coffin lay on the ground. In armour, the rustred, ringed, trellised, tegulated, mascled, and edge-ringed, obtained use. *Twelfth Century*—Coffin-lids improved or

welfile Century .- Coffin-lids improved, or distinguished with crosses; at first plain, then

fleury, in bas-relief. Tables, whereon effigies or sculpture. Priests had chalices in their or sculpture. Priests had chalices in their hands on their breast; prelates had mitree, erosiers, great crosses, and pontifical habits; knights had arms, spurs, and swords. The armour was in the preceding century. No coats of arms, on shields, or otherwise, occur prior to this century. The earliest known in England are those of Geoffrey Magnaville, Farl of Fraze buried in the Tenule Church. Earl of Esser, buried in the Temple Church, in the year A.D. 1164.

Thirteenth Century .- Com-stones, with heads or bodies emerging from them, and placed in walls, with arches turned over them. The first brass statue, that of Henry III. Lombardic capitals became general on tombstones. The first table monument is that of King John, in Worcester Cathedral, who died A.D. 1216; and the fashion lasted until the reign of James I. French epitaphs occur. The oldest instance of a skeleton monument is A.D. 1214. Cross-legged figures are between A.D. 1224 and A.D. 1313. They imply crusaders, or that the party had vowed to take the journey. The armour is complete mail, with only knee-pieces of plate. Fourteenth Century.-Lombardic capitals on

tombstones not used after A.p. 1361. The text, or old English hand, succeeded, and continued till the reign of Elizabeth. The inscriptions were engraven on brass, and the words abbreviated. The armour is a mixture of mail and plate, but mostly mail. Coats of arms were not quartered by subjects until this century: John Hastings, earl of Pembroke, was the first. Supporters to arms first occur, being used by Richard II. Coronets first appear: the in-stance is John of Eltham, who died A.D. 1334.

Fiftcenth Century.—Burials in chapels in-troduced. In armour, from A.D. 1400, all plate but the gorget: in A.D. 1416 all plate occurs. Henry V. was the first who bore three fleurde-lis, instead of semee. Sixteenth Century.-Inlaid with brass, altar

monuments at the beginning of this century. Monuments against the wall, chiefly since the reformation. Roman round-hand took place about the end of the reign of Henry VIII. 'Orate pro anima' was discontinued on monuments at the Reformation: Catholics (Roman) have only used it since. The first deviation from the Gothic forms of tombs is the monument of Lord Danley's mother, who died A.D. 1578. Skeletons in shrouds succeeded, and were imitated by corpses in shrouds, tied head and foot. Figures supported their heads on their right hands, an attitude taken from the Greek and Roman monuments. A kneeling attitude for children takes date not till after the Reformation; nor for parents, except to the cross; nor the infant in swaddling clothes, nor cradle.

Seventeenth Century .- The latest date o. animals at the feet is A.D. 1645. Cumbent figures occur till A.D. 1676.*

AN ARCHITECTURAL FRAGMENT.

THE dark and gloomy religion of Osiris and Isis, stigmatized by Gibbon as the most degrading form of superstition, accords with the style of their temples. It is noticeable that the Egyptians lavished ornament mostly on the interior, leaving the exterior compara-tively bare and plain, contrary to the general practice of the Greeks. The Tombs of the Kings will remain for ages to come monuments of those who built them : in their exterior no exquisite proportions, no careful adjustment of means to end meet the eye, the majority con-sist of a mass of hewn stones with just so much evidence of design as to shew that they were built by some mighty potentate. Not so the interior: radiant with beauty, uncon-taminated by the tread or the touch of the mob, it was perhaps designed to shew to the esoterica the splendour of art, the refinement of the entombed monarch : the paintings pro-bably represented his acts, his wars, his triumphs, perhaps the history of his whole life. It illustrates well the singular difference which was always maintained between the vulgar and the initiated, and which Pythagoras introduced into Greece. This distinction, which existed in the time of Aristotle, no doubt extended in Egypt further than religion and philosophy, as all learning was in the

• On the subject of monuments, see papers in BUILDER, p. 98 and p. 440, ante. by $\mathbf{\delta}$

THE BUILDER.

THE BUILDER. 481 THE INTELLECTUAL IMPROVEMENT OF in the **ADDLIUG** in the opera **OSP** he OUR OPERATIVES

hands of the priests, who assiduously laboured to create a reverence among the people by enveloping learning in mystery, and by continually employing certain mystic symbols or particular attitudes which they deemed it impious to depart from. This may account for the similarity in form and attitude that is observable in their statues???some great statue was perhaps chosen as a prototype, and considered the altimatum of art. It would weaken the popular reverence for the deity, or rather for the priests, if any other attitude was adopted; the one particular form having become intimately associated with the idea it embodied.

in their statues: some great statue was perhaps chosen as a prototype, and considered the ultimatum of art. It would weaken the popular reverence for the deity, or rather for the priests, if any other attitude was adopted; the one particular form having become intimately associated with the idea it embodied. In the pure simplicity, the unaffected grandeur, the bold nervousness of the early Greek writers we recognize the style of thinking, if I may so speak, that originated the Dorie order. In the more ornate refinement of the Ionic we recognize the influence of Asiatic luxury upon the susceptible temperament of the Attican colonists; and by the energy or rather vagrancy of thought that characterizes their temples, we are prompted to remember that restlessness and love of novelty that caused their emigration under Androculus and Nileus.

their emigration under Androculus and Nileus. When we examine Gothic structures, our minds revert at once to those times when the spirit of chiralry was at its height, when love and battle, revenge and heroism, were the pleasure and business of mankind,—when the power of the barons was high, that of the king feeble; when society was in endless commotion and a vindictive and martial nobility oppressed the people without compassion. What do we not owe to the soothing and gentle influence of religion, that restrained the impetuous, emboldened the timid, and harmonized, in some degree, a discordant and conflicting mass of anarchy and misrule. In these calculating days we scoff at "the supine indolence with its attendant profound ignorance of the clergy of the "dark ages," forgetting that the great churches built in those unenlightened times stand imperishable monuments of the falschood of their statements, and that at present, far from excelling, we are able only in some degree to imitate the labours of these "barbarians."

unenlightened times stand imperishable monuments of the falsehood of their statements, and that at present, far from excelling, we are able only in some degree to imitate the labours of these "barbarians." Medieval architecture is the type of the medieval ages. Gaze at the old cathedrals, dilapidated as they are by the rude hand of the Puritans, the tastelessness of the revivalists, and the abrading influence of time. The lofty windows, decorated with the most beantiful ramifications of tracery, and radiant with the most resplendent bues; the solemn, chequered, gloomy light, diffused around; the interminable length of the vistas; the lofty proportions; the scientific skill shewn in supporting and balancing the strains; the numerous intersections and complexity of the groining; the lengthened shalows produced by the deeply cut mouldings; the carefully and accurately worked ornaments, with the artistic skill with which they are copied from nature;—all these particulars together, agree in making what may be called the romantic style of architecture. The solemn devotional spirit that breathes, through the whole of the edifice, that takes the beholder out of himself; the deep feelings with which you approach the place, sanctified by ages and as the resting place of the bones of your forefathers, and compare the nuble spirit that inspired men to make such sacrifices of money and time in those days, with that ostentatious, half-mock spirit that prompts men to indulge in feasting and dancing under the specious but flimsy mask of charity. David Hume remarks* that overloaded or-

David Hume remarks* that overloaded ornaments, fantastic conceits, &c., are neverfound in the works of the early Greek writers, but that as taste degenerated, they gradually crept in, until at last they completely vitiated and infected all compositions. He then goes on to say, "On the revival of letters, when the judgment of the public is yet raw and unformed, this false glitter catches the eye and leaves no room either in eloquence or poetry for the durable beauties of solid sense and lively passions. The reigning genius is then diametrically opposite to that which prevails on the first origin of the arts." He then criticises the writers of the Elizabethan age, and condemns "the glaring figures of discourse, the pointed antithesis, the unnatural

conceit, the jingle of words," that they so much abound with. These irregularities accord with the prevailing features of those mixtures of Gothic and Italian that are called Elizabethan and Rennaissance, in which occur the unnatural and strained images of birds and beasts—stiff and twisted forms of scroll, work; and we perhaps admire the good qualities of these styles the more, for the same reason that Hume supposes we overrate Shakspear's genius, because "bodies appear more gigantic on account of their being disproportioned and misshapen." H, J. L.

THE SMOKE NUISANCE.

MR. EDITOR,-As you were kind enough to give insertion to my observations on the subject of sewage nuisances, I am tempted again to offer a few remarks on another more palpable class of nuisance, one which you have I refer to the "Smoke Nuisance," which how-ever I should rather term "The Fuel Wasting Nuisance," for a wasteful and inconsiderate expenditure of coal &c., is, in fact, the actual cause of (nearly) the whole nuisance. Having a short time since in my ramblings, met with what appeared to me a simple and reasonable, and as I was then assured, a certain expedient for the consumption of smoke, I venture to lay the same before your readers, or I should rather say, smoke consumers (for such we all are and no thanks for the liberal supply on all occasions!) in the hope that all may be benefitted thereby, and those who should feel more immediately interested, profitably instructed. Every person who is acquainted with steam machinery is fully aware in how short a time a load of coals is emancipated. The plan I have adverted to is simply this:-In front of the or-dinary furnace (which is more convenient underground), is brought out a second or extended floor of the furnace; over this extension or second furnace, an arch is turned; this arch is provided with a ring or aperture which this second or outer furby means of nace is supplied, and which, in fact, forms the floor of the coal depôt or store. The fire is lighted in the ordinary manner in this outer furnace, after which portions of the fire are moved on to the main furnace until it is sufficiently supplied. A tolerably good fire being obtained, the front furnace is now supplied from time to time with fresh fuel, the smoke from which of necessity passes towards the inner furnace and is in its passage over an extended body of fire, almost entirely consumed; any addition to the furnace in the way of substantial fuel is of course made by moving on the burnt coal from the front furnace, and thus the furnace may be said to be fed con-jointly with coke and the smoke arising from the manufacture thereof.

I believe I am correct in stating that the above process is more than sufficient for the work of the furnace itself, and is profitably employed in making coke for general purposes. I tender you these few unconsidered trifles, conceiving that any information having a beneficial tendency, will not be quite unacceptable to your readers, or without some good effect to the community at large.

I am, Sir, &c. Συνεργος.

Relative to this matter, our attention has been directed by various correspondents at different times, to the greatly increasing nuisance produced by the smoke from the steam-vessels on the Thames, which now extends far beyond the banks of the river, and causes great loss to traders in addition to annoyance to all. Some steps should be taken immediately to compel the owners of these vessels to use means to prevent the nuisance complained of. We extract the following remarks on this subject from the *Times*:—

"The great increase of this nuisance within, comparatively, a short time, cannot fail to have struck almost every person; and the vast increase in the number of steam-vessels on the river is daily adding to the evil. But it is not only from the greater number of these vessels that this nuisance has so much extended; a large proportion of it arises from the cupidity of the owners, which has tempted them to discontinue the use of those descriptions of coal which can be burned without causing smoke, and substituting in their stead

the commonest and cheapest description of fuel. Many of the steamers plying above London-bridge were formerly in the habit of using the better descriptions of. Welch coal; but the smoke fram most of the steamers now issues from their funnels in dense black clouds, darkening the atmosphere for miles up the river, and injuring the vegetation to a vast extent.

river, and injuring the vegetation to a vasc extent. If this were an evil which admitted of no remedy, without interfering with the import-ant facilities of transport afforded by steam-vessels, the case might assume a very dif-ferent complexion. But it admits not of a question that remedies may be applied without the slightest inconvenience or impediment; and those remedies mast be enforced, what-ever opposition may be made to them. It is not considered any hardship upon railway companies to compel them, by a clause in their Acts of Parliament, to burn a descrip-tion of fuel in their engines which shall not emit smoke; and if railway engines, passing tion of fuel in their engines, which shall not emit smoke; and if railway engines, passing through open and uninhabited parts of the country, are required by law to be supplied with smokeless fuel, much more ought steam-ressels to be equally restricted, when nav-gating a river like the Thames, the banks of which are densely populated in every part where steamers ply. The increased expense of fuel of this description is no valid argument against such a restriction. The question of expense is not allowed to weigh against the advantages to the community in the case of railway companies, and it ought not in that of river-going steam-vessels. Nor is the addi-tional expense of such fuel of much moment. The loss which occurs in the present mode of burning coal in all ordinary steam-ressels is immense. It has been estimated to exceed in many cases 40 per cent; the whole of which would be saved by using coke, or the best de-scriptions of Welch coal, that burn without smoke : and it is even considered by many competent and scientific men that economy would be promoted by the use of a better de-scription of fuel, and by employing improved methods of combustion. Without deciding on the relative merits of the numerous riud invertions for consuming or preventing smoke, and even putting out of the question the posemit smoke; and if railway engines, passing through open and uninhabited parts of the on the relative merits of the numerous rich inventions for consuming or preventing smoke, and even putting out of the question the pos-sibility of applying these inventions, at all in the cramped and contracted furnaces of steam-vessels, we know that the smoke from these furnaces can be prevented by mine atthe vessels, we know that the smoke from these furnaces can be prevented, by using either coke or some of the numerous kinds of an-thracite coal; and if steamers were prohibited from plying on the river unless their furnaces were constructed to consume the smoke, or the fuel used were of that description which emits no smoke, the owners would very soon discover both the best fuel as well as the best method of burning it,"ad word has the orthogon cate and in know

APPLICATION BY GOVERNMENT OF NAS-MYTH'S STEAM PILE DRIVER - This powerful engine, which is working such mighty changes in the cost and construction of works where piles are necessary, is now being patronised by Government. Mr. Nismyth has been by order of the Lords of the Admiralty to Deptford Dock to choose a place fit for the erection of one of a large size; the driving head to weigh 12} tons, and capable of giving from seventy to eighty strokes per minute; yet, so completely is this ponderous machine under the command of the engineer, that he can so regulate it that it should take a dozen taps to crack a nut, and then not crush the kernel! It is intended also to have Nasmyth's direct action steam-hammer, which is on the same principle, at all the Government dockyards, of different sizes suitable for large anchor work, and the smaller works of the smithery. Mr. Baker, who is superintending the marine works at Devonport, has had a Nasmyth's pile driver erected, by which the whole of the piles necessary will be driven in three months, which, by the old system, would have taken three years.-Mining Journal.

Continued at p. 381 done yd hanirs

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middleser, Printer, at the Printing-office of J. & H. Cox. Brothers, 74 & 75, Great Queen-street, Lincoln's-Ian Fields, in the Parish of St. Giles-in-the-Fields, in the same County and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, YORk-street, Covent-Garden, in the Parish of Saint Paul, Covent-garden, in the said County.-Saturday, October 4, 1945.

^{*} History of England, Appendix to the reign of James I.

THE INTELLECTUAL IMPROVEMENT OF OUR OPERATIVES

Sin, - In your excellent journal, THE BULDER, of the 27th instant, you have given a most valuable article on the improvement of most valuable article on the improvement of the intellectual condition of our artisans. If the subject matter were carried fully out, and which I trust it will be bereather, the greatest possible good would be done to that most im-portant class — the operatives of this country. There is no doubt but you have bit one of the right nails on the head, and that competition, unless subjected to a wise and salitary scratiny. is, from the seeds of mischlef contained within its system, likely to overspread and choke up the intellectual energies of our artisans. But let us endeavour to discover wherein this evil lies. For why should architects and builders lies. For why should architects and builders feel it necessary to compete, and be induced to give the work to be executed by those who have sent in the lowest price? There may be more sent in the lowest price? There may be more reasons than one for this proceeding, but the one is very certain, and that is, the ignorance and narrow-mindedness on the part of certain em-ployers; and the want of that appeal from the architects and builders to the employed, to warn them of the mischief so likely to ensue warn them of the mischief so likely to ensue from that grinding down to the very lowest price per inch, and the screwing system of aplitting faithings, in order to get the building reared for the sum proposed to be expended or subscribed—caring very little for its instability, its deformities and its inconsistencies; for as long as it appears to stand, the proprietors are satisfied with the result of their bargain.

There' is no doubt bat the strehitects and buildefs could cut this evil ; it only requires thilders civild evite this evil; it only requires the putting 'of their shoulders to the wheel, and the cure would a coordingly come. And as you justly "remark - To workmen we would say, pat your own shoulders to the wheel, become masters of your trade-artisans, not mere labourers - artists if you can, able to give a "because" for a "why, --make your work your pleasure. An upright man who will do this, cannot fail to rise, and better still, will pass a more useful and happier life." Indeed, the whole article is so true, and so match to the purpose, that I would advise all the bilders, and the operatives, to read, learn, and inwardty digest the matter contained therein, and they would soon ascertain how essentially inwarory ingest the inster contained therein, and they would sour ascertain how essentially necessity of is that each of them should take the bull by the horns, to free themselves from the migending danger.

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is a most important one, and deserving of our burgement ; but the present state of things is wainst that the our me present state of things is wainst that the our present to which they allow them think to think before they execute, nor 10 receive fast which they wast from a bouring without which they wast from houring and a without the our of the our to be ble to mechanics." An operative ought to be able to construct and draw the work he is employed to execute, and to know the designer's reasons for why it is to be "so and so formed, that he may clearly cost is way and inter readily into the pairit of his wake deriving an intellectual the spent of his work - deriving an intellectual planeare on every form he produces. This source of appiness to him would be certain if his faculties for the arts were legitimately exer-cised; but this is very soldom the case, as artistas connet afford to pay for a mathema-tipal and artistical education; and, therefore, the must outer into their master's service y meted in -construction and design-the matal-qualities of sil others in building tune mental que require a sublight body to be all outers in building require a sublight body to be an outer and a sublight body to be building and builders require artisans; - the three allocations bould combine, and make a fund takespplies to the education of the sons of the sorteners, in order to fit them for that burness which they are destined to enter. Their fadulties for the arts should then be rightly more sed and directed during their ap-prenticeship, which would not only make them marchking is their calling, but more intellectrial such, said advance them in the scale of suisiony, and so which they would be entitled. Several instances have come under my notice, and the following will show the advantages gained by such cultivation. About ten years gained by such cultivation, ... About ten years ago some of my designs were being executed by some orreputers and joiners in Sussex, and as main painting some pistures in the same pictor where the carpenters were executing my designs, Larse enabled to instruct these men as the same of a start of the same in the same pictor where the carpenters were executing my designs, Larse enabled to instruct these men as the same of a start of the same in the same saturation of a start of the same in the same saturation of a start of the same in the same saturation of the same in the same in the same saturation of the same in the same in the same saturation of the same in the same in the same saturation of the same in the same in the same saturation of the same in the same in the same saturation of the same in the same in the same saturation of the same in the same in the same saturation of the same in the same in the same saturation of the same in the same in the same saturation of the same in the same in the same saturation of the same in the same in the same saturation of the same in the same in the same saturation of the same in the same in the same in the same saturation of the same in the same in the same in the same saturation of the same in the

in the construction of geometrical problems in | perspective, in drawing and design; and by shewing to them the value of natural forms in the animal and vegetable kingdom, and teaching them to become active and accurate ob-servers in the boundless field of nature, they soon felt the value of such information; and whenever they had to execute such forms as were immediately derived from nature, they would go into the gardens and fields, and ob-tain the flowers and leaves of plants, and place them before them while they were executing such portions of the designs which were made up of similar flowers and foliage. And though these artisans came as carpenters to work at 25s. per week, they were so much improved in a few months in ability, that their wages were raised to 30s. per week, and in about a year they received 35s. per week, and in two years they received 40s. per week, and in three years 50s. because they had obtained considerable talent in carying; and one, who was the most skilful, received 60s. some time after, and when he had completed all the work that his employer required, he called upon me to thank me for the instruction I had given him, and informed me that he had just had an offer of four guineas and a half per week, and which he was going to accept. Other instances of this kind I could name

that have come under my notice, but this will he sufficient to shew that a right exercise and direction of the faculties for the arts of our operatives, would be in favour of all the parties concerned, to the employers as well as the employed. And why should so valuable a class of men have so little done for them in their education? Surely the great comforts derived by every class-and particularly the higher-from their labours, ought to induce the wealthy to come forward in their favoer, and establish an institution for a due cultiva-tion of their faculties in all matters that pertain to their calling. If such a school was established I need not state what would be the result; the workmen themselves would see into the great benefits that they would derive, and the superior order of men they would become by such an intellectual training, They would no longer delight in low pursuits, or dishanestly spend their last farthing in intoxicating drinks, reducing their wives and families to the lowest state of misery. With such a state of things they would soon be disgusted, and would arouse themselves from their animal state, and enter, heart and soul, into the intellectual calture that such an institution would offer to them. I trust that 'ere long we shall see such a project carried into effect, and by the parties concerned. I am, Sir, &c.,

GEO. R. LEWIS.

61, Upper Norton-street, Sept. 29, 1845.

ANCIENT ARCHITECTURAL DECORA-TIONS.

A WRITER in the Sussex Advertiser says-"On cleansing and scraping the old wash from the walls of Battle church, previous to their being rewashed, the walls have been discovered to be full of paintings, of a very sucient and curious character, some of them very well executed, which appear to have been done during the reign of one of the Edwards, or probably before; there is also some writing, but it cannot (except a word or so) be deciphered. Only a portion of the walls has been scraped. I am fearful the whole will not be similarly treated, as one of the churchwardens appears averse to any more being scraped, and, indeed, annoyed that such operations should have been commenced." It is to be hoped the local antiquaries will give their attention to this discovery, and exert their influence to obtain an examination of the whole of the building. The Athenaum mentions a similar discovery of great interest in the cathedral at Brunswick. "In removing the plaster coating from one of the lateral walls of the nave, they have found the latter covered with fresco paintings in its entire length and breadth. These are divided entire length and breadth. These are divided into compartments — each one containing a subject from the life of Duke Henry, surnamed the Lion, born in 1129, and who died in 1195 —the founder of the city of Brunswick, and builder of the Cathedral. The paintings are of the bishest function whether any probability of the highest finish; but have, unhappily, suffered much from the removal of the plaster which overlaid them, notwithstanding the and a second second

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utmost precautions used in the operation. IT he rovernment has ordered their careful re won-as also their publication by engraving. They are supposed to be of the fourteenth or freenth century. It is hoped that other probably on the opposite lateral wall, at any rate. rate.

STATUE BAISING

Scorprons abroad have been busy lately as it seems, they night have been busy latery subjects. At Dunkirk, for example, a colossal bronze statue of Jean Bart was recently inaugurated, who was nothing more than a suc-cessful privateer that flourished 150 years ago. The statue is 16 feet high, and is considered masterpiece of the celebrated David a masterpiece of the celebrated David (d^AAnger). He appears in the act of boarding a vessel, brandishing a sword in his right hand, and a pistol in the left, and is attired in the costume of Louis XIV. To decorate the streets on the inauguration day, the pretty practice, common enough on the continent, was followed, of letting into the earth on each side of the pavement, large branches of elm and oak, so as to transform the streets into groves. We remember seeing all Gheat into groves. We remember seeing all Ghaot thus rendered into gardens a few years ago on a much worthier occasion.

A statue is to be raised to Claude Lorraine at Epinal, and one at Aurillac, to Gerbert, afterwards Pope Sylvester II. The monument to William Pope Sylvester 11. Ine monument to william the Conqueror, at Falaise, in Normandy, is being proceeded with. In Germany no opportunity is lost to commemorate a great man. A statue of Erwis von Steinbach, the architect of Strasor Erwis von Steinbach, the arctitles of Sum-burg cathedral, has been raised at Steinbach, in Baden. Beethoven's statue, by Hahnel, of Dresden, innugurated at the late festival, is a fine work. The features are boldly sculptured, and bear an expression of profound and esrnest . thought, mingled with the wildness of inspi-ration, which is seized to its fall extent at the ration, which is seized to its full extent at the first glance. The figure is clothed in a coatume which is a compromise between the modern dress and the classical robe, and the attitude, which represents him with a pencil and note-book in either hand in an interval of reflec. tion, is easy and natural. The fault found with the statue is, that its vigour approaches too much to coarseness, and that its appearance is somewhat squatty. The pedestal, which, as well as the statue, is of bronze, bears four bas-reliefs, representing four allegorical figures of fancy, symphony, sacred music, and dramatic music. It was obtained by competition. The cast-ing is admirably well done. At Nuremberg (Ba-varia) some statuary has been set up at the entrance to the new Louis Canal, uniting the Maine with the Danube. It conaists of a group, representing the river gods of the Maine and Danube, and bearing an inscription signifying that the canal, which was begun by Charlemagne, but abandoned, had been faished by Louis King of Bavaria. The other pieces consist of two columns, surmounted by Navition, is easy and natural. The fault found with asist of two columns, surmounted by Navifemale statues, with appropriate emblems. At Skanderborg in Copenhagen a marble eques-trian statue of King Frederick VI., from a model by Thorwaldsen, has been set up. In England, amongst the new propositions is a statue of Sir Thomas Fowell Buxton, to be set up in Westminster Abbey in honour of his efforts up in Westminster Abbey in honour of hisefforts to extinguish the slave trade. Wyatt's figure of the Duke of Wellington is nearly cast. The statue of the Dake of Sussex, ordered from Mr. E. H. Bailey by the Freemasons, is nearly finished. The whole figure is eight feet high, including a six-inch plinth; its weight is about six tons, and it is formed of one solid block of white Italian marble, from the quarries of Carrara, the original cost of which was 280 guiness: the price to be paid to Mr. Bailey is 1,800. When completed, it will be placed on a five-feet podestal, to be erected on the dais in Freemasons'-hall, which is at present being embellished and decorated. The public subscription statue of the Duke is poend subscription statue of the Dake is intrasted we believe to the same sculptor. A bust of the late Admiral Sir F. Maitland has been put up in the dockyard chapel at Ports-mouth.

The shief honours of the Belgie University had been takes at the ensatisation by three sons of constance; and all the inhabitants went out to most them, and easist three, be their homes in triumph.

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THE GUILDER.

REPAIR OF TIMBER BUILT HOUSES. AWARDS UNDER METROPOLITAN BUILDINGS ACT. ed model to see - 17 - 5

MR. ROBERT WADE, builder, was doing the following tenains to a wooden house in Bailey's Rents, in the district of St. Nicholas, Deptford, and refused to give notice to the

Deprived, and refused to give notice to the district surveyor, MN Murtyn, viz. :----Calling 'away the decayed dustrering, and 'Weather boarding of the external walls, to the Height of one foot from the ground, and rais-ing the present brick foundations one foot, to broather and survey the at the diminished receive and support them at their diminished height; also taking down about four courses of the brickwork of the chimney-stack, and rebuilding and pointing ditto, and setting new chimney pots thereon; also repairing the ex-ternal weather: boarding, which was in a very bad and rotten state; —and mutually they re-quested the award of the official referees, as to whather or not the said repairs " come within the jurisdiction of the Act

The referees awarded (May 28th, 1845): "That a mere superficial repair, such as pointing, is not within the operation of the said Act, but that a structural repair is within the and Act, and with respect to the building in question, that inasmuch as the works in question involve structural repairs, the same are within the operation of the suid Act, and that although the building in question may not have been built according to the present or any previous statute for the regulation of buildings, yet.it.is the duty of the district surveyor to see that such building is not made more combustible than it may have been hitherto.

Fees of the office, 17. 8s. 9d., and 17. 1s. to the district surveyor, to be paid by the builder. referees, and as a sort of appeal against this award, Mr. Francis Edwards, architect (on the pert of Mr. W. J., Evelyn, the owner of the heuse in question and nine others, similar), in conjunction with the district surveyor, subsitted the following inquiries :

William-John (Evelyn, Esq.) proposes to repair ten several timber-built houses covered with deal weatherboarding, situate in Bailey's Rente, in the parish of St. Paul, Deptford, upon which the following questions arising thereout; are proposed to be submitted for the decision of the official referees under the Metropolitan Buildings Act.

. Withe quarters and boarding (forming the "external inclosure ") are partly decayed ut the bottom, so as to require the brick foundation to be carried up less than one foot in height, is it not a repair permitted by the Act, without requiring a notice to, and supervision of the district surveyor ?*

If a notice, is requisite, is any fee payable thereon ;, and if so, what amount?

2.2. If the said quarters and weather boarding are simply repaired with the same materials, the portion taken out being less than "one-fourth of the whole surface," is any notice to the district surveyor requisite ?+

" If so, is any fee payable, and what amount? B. If the chimney tops are taken down three or four courses, and reinstated to the same height, 'and the common pots reset, is any notice to be given of this, and is any fee to be paid for it; and what amount? There are two chinney-stucks to each house.

4. The privies to these houses are built of timber, and weather boarded; cannot they be repaired without a notice, and if so, is any fee paid for it?

If the privy is taken down, cannot it be rebuilt with timber, if detached from the house? and is a notice to be seut to the district survevor 26

Whether any fee is to be paid for the same, and what amount?

Or, if the privy he rebuilt with brickwork, is it requisite a notice should be sent to the district surveyor; and if so, is any fea to be paid him for the same, and what amounta

On the 21st of Angust the parties were heard, Mr. Dawson, barrister, appearing for Mr. Evelyn, and Mr. 3'. Ohambers for Mr. Martyr, and on the 13th day of September, the referees made the following invard :-On the first and second questions, and on

the first part of the fourth question-that inas-

Privica.

much as the Metropolitan Buildings Act requires every district surveyor to cause all the rules and directions of the said Act to be well and truly observed, and inasmuch as the said Act makes provision in schedule D, part 2, with regard to the 'old external walls or other external inclosures of any building already built,' in reference to materials to be used in the repair thereof; and inasmuch as the said Act also requires the builder to give notice to the district surveyor before any matter or thing placed by the said Act under the superof the district surveyor shall be done. vision And inasmuch as the operations supposed in the first and second questions, and in the first part of the fourth question are works within the meaning of the said Act, notice should be given to the district surveyor as provided by the 13th section of the said Act. And inasmuch as a service is required to be performed in respect of such works, the surveyor is entitled to a fee, but as no fee is specifically assigned to such service, the amount payable must be determined by the order and appointment of the official referees, with the consent of the Commissioners of Works and Buildings.

And as to the third question, inasmuch as the operation therein described does not affect the structure of the building on which it may be performed, and is not specifically provided for in the Metropolitan Buildings Act, the said official referees hereby certify, determine, and award, that such operation is not to be deemed a work within the meaning of the said Act.

And as to the second part of the fourth question, the said official referees do hereby further certify, determine, and award, that the rebuilding with timber, of any building not being an insulated building, within the meaning of the said Act, would be contrary to the provisions of the said Act, unless any such building be included in the conditions stated in the modification, as it regards certain small office buildings directed by the order of the Commissioners of Works and Buildings, dated September 5th, 1845.

And as to the third part of the said fourth question, the said official referees do hereby further certify, determine, and award, that if any building of what nature soever be rebuilt within the limits of the Metropolitan Buildings Act, notice thereof must be given to the district surveyor, and a fee will thereupon become payable according to the rate thereof." Fees of the office (51. 5s. 3d.) and 31. 3s. to

the district surveyor, to be paid by Mr. Edwards.+

Correspondence.

STAINED GLASS WINDOW IN ST. JAMES'S CHURCH.

MR. EDITOR,-Having read various articles, letters, and paragraphs on this subject, I, as a subscriber to the fund, naturally feel a great interest in the result. It appears evident and conclusive that a very great blunder has been committed, and an act of injustice to the subscribers, as well as to the artists applied to,-to say nothing of the misfortune of providing an eminently bad precedent by the adoption of an unseemly discrepancy.

Your remonstrances have no doubt, mainly contributed to the arrest of its progress, and this is gratifying; but as in your last you state that you " learn the committee have sent especial instructions to Mr. Wailes, that he is to take out of his design every thing that is to Gothic," which is impossible without entire obliteration, it must, I think, be a clear admis-sion on the part of the committee that they have (even though inadvertently) committed an act of great injustice to all the parties concerned.

As you, Sir, remark " they know they are in error, yet fear to retrace their steps." It seems clear that in *honour* and *justice*, the committee ought to recal all the designs (allowing the person who has been so untowardly chosen to produce another). This, it seems to ne, would get the committee out of a dilemma, in which they have inadvertently placed themselves; would be more honourable to them than to

* Noe BUILDER, p. 446, antc. † We repeat our suggestion, that parties finding awards reported by us applicable to their own cases, should consult the whole of the papers connected with them, at the Begin-trar's office. They will find Mr. Newall, the keeper of the papers, attentive and obliging.

persist in an error, and more fust to the sub-scribers and to the public. Those who have persist in an error, and more just to the sud-scribers and to the public. Those who have the care of public works are deeply responsible, as their example becomes a bad or good pre-cedent in future works. I am, Sit, &c., Sept. 20, 1845. A Non Patricia on the strange of a rate attraction works and strange of a rate attraction works and strange of a rate attraction of a strange

STEAM BROK SHR COMBUSTION OF PAR

Braj III answer to a question by "A Shop keeper " in 'your lust mamber, I beg to state, coal-gas, which' is composed tof carbon and hydrogen; is daving its combastion; by its union with the brygen of the air, removed into carbonic acid and water (the parbon and oxygen forming carbonic acid, and the hydrogen and oxygen water); which water, owing to the temperature of its formation, exists a rapour or steam. "This coming in connet with the cold glass of your correspondents, window, is condensed, and the only remedy appears to be, to remove the gas lamp farther from the window, its close proximity causing the steam to be condensed instead of being dissipated about the room as in ordinary eases. " I'am, Sir, &c. Vien JIG. S.

"H. B." (an architeet) recommende the adoption of " Rutter's Light," brought out by adoption of " Ruiter's Signif' brought out by Platow and Co., Holbins in the products of the consumed gas have tabeeln sullowed to escape through a table sum a Bismaces * (T). Little Britain), offers to examine and vectify the unisance complained offers us and have

INPROKED SASHES STO where he are a second . (().511.**1))

Sin,-I have made a sach frome and soshes, in spearings the contributes there were need but, by a simple costrivances the made be removed from the frame and melaced, in the minutes, by any servent, man 19r inounn, after once seeing it done. My alicet in contriving it is, to obviate the danger, arising from servants sitting outside to clean the windows. likewise glaziers raising hadders, and sitting outside to repair windows and paint, them. Now, Sir, I am at a loss to know in what way i may benefit myself hy the contrivance. It would not pay any person in Alia town to take may out a patent for it, neither do Lynink, that a out a patent for it, neither an a track the would be of any advantage for me to register it. I think that it would pay any large sam-frame maker in London to register it; any information will be thankfully received by a constant reader. September 29. September 29.

Any communication will be promptly attended to by addressing a paid letter to A. J., Post-office, Hanover-street, Portsca, Hants.

. We insert the above, with the view of aiding about viters which a property is a the state of a

Riscellanea, and and the

110 B 11

THE ORDERS OF THE ROYAL COMMIS-The results of the late exhibition, as regards the orders given to the competitore, do not seem to have been rightly understood. Mr. Dyce is to execute his cartoon of "The Baptism of Ethelbert" in fresco, in the centre compartment of the House of Lords, over the throne; the commissioners desire to see one fresco done, that they may rightly judge of the effect; but they have guaranteed to Messis. Maclise, Horsley, and Cope, that these gentle-men shall execute their several subjects (with such revisions as they may consider expedient), in the event of fresco painting being decided on, after the completion of the work by Mr. Dyce. It is also open to the two other urtists Redgrave and Mr. Thomas-to revise their designs; at least it is so understood;"for no other artists, treating the same subjects, have been preferred to them. With respect to the other works, Messrs. Horstey, Cope, Herberg, Severn, and Tenniel are chamissioned to execute five frescoes in a haff a bere it is proposed to place statues of the poets-each artist having to select a subject to illustrate the poet who may be allotted to him. "I Six" of the poets are Chaucer, Spencer, Shakspere, Milton, Dryden, and Pope; there are to be other two, but they are not yet determined upon! The compartments in the Poet's Hall are 8 feet high by 5 feet 7 inches wide.' Mr. Blechse was offered a compartment in the Poet's Huil, but he declined the commission, being desirous of completing his freeco in the House of Lords-for which he reserves himself.-Art-

[•] Refer to schedule D, part 2nd, page 762 and 763 " Ma-rerials to be used in Kepairs," and 13th scat. of the Act. - 1 Refer a above. - Refer to schedule F, page 799, "Chimney Shafts." • Refer to schedule H, page 790 and 791, "Cerspools and Privice."

ESPECIAL DUTY OF A CLEBGYMAN TO PROMOTE SANATORY IMPROVEMENT.--Ín the present SANATORS TAPROVEMENT.—In the application of these remedies, it is to be hoped that all classes will gladly bear their part. But it is especially desirable that the clergy should take their full share of this arduous labour. In a case where many prejudices will have to be contended with, they who have the best opportunities of knowledge must be the first to adopt and to promote an improved system. They who are the most conversant with man and with his interests in a spiritual aspect, must be forward to turn into this direction the prevailing taste for physical pursuits.

Dispersed as they are every where throughout town and country, resident in every clime and guarter of the realm, acquainted with the higher clusses, familiar with the lower, and having recognized authority as the teachers of both, to reprove them in evil, and to exhort them unto good, they cannot but he respon-sible, more largely than most others, in the exercise of these precious talents, for the pro-tracted continuance of any evil of this kind, which is once well proved to exist, and also to deit of once well proved to exist, and also to admit of remedy. It is to them, therefore, that one of their brethren appeals, in conclu-sion, with the expression of his earnest hope, that they will co-operate cordially in removing these plague-spots of unhealthiness and indecency from the homes of the labouring classes cency from the bomes of the labouring classes; and will never rest until the abodes of all around them are as cleanly, as wholesome, and as compatible with habits of decency as their own respected dwellings. There is no more insurmountable barrier, we may rest assured, to the communication of the moral and religions impressions familiar to ourselves, than the diverse; and alien; and repugnant babits of life forced by adverse circumstances, whether sgainst their inclination or not, on those whom it is bur duty and desire to instruct. Nor would any outward means do so much to forward the success of our teaching as the extending to every family that which, as shewn in these letters, is at present out of the reach of teany, but might be imparted to all, namely, the possibility of living if they are so disposed, in a beaking and decent home. The unhealthy Condition of Divellings, &c. : by the Rector of Alderley.

'TAUNTON AND ITS IMPROVEMENTS .- We drew attention a few weeks since to the great spirit and judgment the inhabitants of Taunton were displaying in rendering their town more attractive to strangers, as well as more pleasant and healthy to themselves, and suggested the desirableness of other towns similarly circumstanced following so excellent an example. It has been highly gratifying to observe several provincial papers copying the paragraph into their columns, with the evident view of arousing a similar feeling on the part of those in their respective neighbourhoods who have the power, and only lack the inclination to act in a similar spirit. A correspondent of the Hull Packet, who signs himself "Not an Archi-tect," quotes the entire paragraph as "an ex-ample worthy of being followed in most of the towns of the kingdom," at the same time loudly towns of the kingdom," at the same time loudly calls upon those who possess power in his own locality to units the ornamental with the useful in all future works, which apparently has been sadly neglected of late.

WESTMINSTER IMPROVEMENTS. -- These long talked of improvements are about to be commenced. The line will begin in Floodcommenced. The line will begin in Flood-street, pass through the Almonry, Orchard-street, and Duck-lane, by the chapel in the Broadway, pass Mr. Carter Wood's Brewery, Palmer's Village, to Shaftesbury-terrace, Pim-lico, and is to be called Buckingham-road. Yesterday week notices signed by Mr. Downes and Mr. Taylor, two of the commissioners, were served on those persons who have any interest in the property along the line, to the effect that they are ready to treat for the purchase of such property, but should no claim be sent in within twenty one days from the be sent in within twenty one days from the 23rd of September, the commissioners will proceed to a valuation of it according to the terms of their Act of Parliament. It is said that Mr. Elliott, the brewer, has received 22,0004, for the meadow in front of his brewery, or at the rate of about 4,0002, per arrel. He had himself laid it out for building on but the rood preside through it he was on, but the road passing through it, he was obliged to sell it to the commissioners. It is obliged to sell it to the commissioners. It is believed that the works will commence at the Pimlico end, but nothing positive is known.

IMPROVEMENTS IN THE CITY OF LONDON. -At a Court of Common Council held last week a report of the Coal, Corn, and Finance Committee was brought up and unanimously agreed to. From it we learn that the committee having considered the subject of the city income generally, with the view of ascer-taining if any, and what sum can be applied towards the city improvements, certified that a sum of 20,000 may be applied annually out of, and charged upon, the city's coal duty during the next twenty years.

Cenders.

For a new wing to a House, at Tollington Park, Islington, for J. H. Dixon, Esq.; Mr. C. Foster, architect, Islington :--

| Brake | 2392 |
|---------------------------------|------|
| Dove | 375 |
| Williams | 349 |
| Pickford | 338 |
| Carter | 237 |
| | 185 |
| The difference here is fearful. | |
| | |

Tenders for building two small Houses, at Wal-worth, for Mr. Ireland; Mr. C. Foster, architect.

| , | Hawkins | |
|---|--------------------------------|--------|
| | Brake | |
| | Pickford | 616 |
| | Goss | 595 |
| | All had the same bill of quant | ities. |

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, bo only the addressed. For the convenience of our however, they are entered in a book, and may on application at the office of "The Builder," 2. Yorkon application at the once of the bullder, a, total street, Covent-garden.] For the execution of works on the Manchester,

South Junction and Altringham Railway, in two parts 1, being a distance of $1\frac{1}{2}$ mile; 2, being a distance of $7\frac{1}{2}$ miles.

For the execution of works on the East Lan shire Railway, viz., the Accrington Contract, being a distance of about 8 miles. For the execution of the Works between Shipley

and Keighley for the Leeds and Bradford Railway Extension. They include the Fencing, Earthwork, and Masonry, roads and permanent way. In length about 71 miles

For the supply of 5,000 Tons of Malleable Iron Rails, and 1,000 Tons of Cast-iron Chairs, to the Huddersfield and Manchester Railway and Canal Company.

For the supply of 1,700 Tons of Wrought-iron Rails; 2,000 Tons of best Yellow Pine Timber, and 21,000 Beech Sleepers; 100 Sets of Wrought-iron Wheels, to the Cork and Bandon Railway Company.

For the execution of the Works, in two divisions, of the Dublin and Belfast Junction Railway. The first division being a distance of S miles and about 44 yards; the second division being a distance of niles and about 1,453 yards 8 n

For the supply of about 4,000 Tons of Rails for the Edinburgh and Northern Railway.

For the supply of about 1,000 Tons of Railway Chairs for the Edinburgh and Northern Railway.

For the supply of 60,000 Memel or Red Pine Sleepers, and 120,000 of Larch, Scotch Fir, or

Pine, according to specification, for the Dublia and Belfast Junction Railway. For the execution of Works on the Syston and Peterborough Railway, in 2 parts: part 1 being a distance of about 9½ miles; part 2 being a distance

of about 12 miles. For supplying the Liverpool and Bury Railway Company with Sleepers, conformable to specifications.

For the execution of works on the Leeds, Dew bury, and Manchester Railway, viz., the Churwell Contract, being a distance of about 21 miles.

Contract, being a distance of about 24 miles. For the execution of a portion of the Edinburgh and Northern Railway, being a distance of about 9 miles; to be estimated for in two lots. For supplying the Eastern Union Railway Com-pany with 8 First Class, 12 Second Class, and 8 Third Class Carriages; to run on aix wheels, the gauge being 4 feet 8½ inches. For the Surveying of a parish, containing be-

tween four and five thousand acres of land, under Tithe Commutation Act. The work required is a first-class map, three chains to an inch, and two reduced copies.

reduced copies. For the supply of Paving, Flint, Whinstone, and Bombay Granite, for the year ending 29th Sept. 1846, to' the Trustees of the South District of St. George the Martyr, Southwark. For Lighting with Gas-Light a part of the Kent-road, for a term of seven years, from the 1st day of Dec. next. The contract to include lamps (in number 138) with the Mains. Service Pipes

number 138) with the Mains, Scrvice Pipes, Tubings, Stop-cocks, Burners, &c.

For the execution of the Railway to connect the Midland Railway Station at Sheffield with the Sheffield, Ashton-under-Lyne, and Manchester Railway Station, being a distance of about half a The contract includes / the execution of a mile. tunnel of about 350 yards in length or a strength of a to the supplying the East Lancashire Railway Com

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pany with 90,000 Sleepers, of either Larch of Baltic Timber, according to specification. Also, with about 380,000 lineal yards of Larch Railing. Larch Posts, being 6 A. 6 in, long, and 5 in, by 3 in. in sectional area, at the smallest part,

For the execution of Works on the East Lancashire Railway, viz. the Burnley Contract.

For the execution of the entire Works of the Wear Valley Railway, being a length of about 12 miles.

For the execution of the entire Works of the Cockermouth and Workington Railway, being length of about 10 miles.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

In the brick fields adjoining the road from Folkstone to Cherrington : 56 clamps of Bricks, containing about 3,000,000.

At Wheatcroft's Wharf and Warehouses, Praedstreet, Paddington : a very superior selection of well-made and well-finished Chimney Picces ; comprising Statuary, Vein, Dove, Black Monchella, Ridella, Celdona, and other Marbles.

Ridella, Celdona, and other Marbles. At Thaxted, Essex: 600 Spruce, Laich, and Scotch Firs, now felled: Also several firle Oak Timber Trees, of large dimensions. At Bouchier Park Farm, near Brook Hiell; Essex :
40 Oak Tim ber Trees, felled in 1844 and 1845. At Great Waltham, Saling, and Panfield, Essex :
62 fine Oak Timber Trees, 32 inpited Ash, and 17 Elm ditto, many of which are of large dimensions.

EBBATA.-In last number (p. 462), for" Great Chatfield Church," read "Great Chatfield Church!" In Mr. Brock's letter as to works in the Tower, where speaking of size of rooms, for #28 feet 25 inches," read "28 feet by 25 feet,"

TO CORRESPONDENTS.

" Levelling, See."-Mr. Turnbull, 27. Whishinstreet, Clerkenwell, will be happy to give the in-

the subject is Mr. Bernan's : published by Belly Fleet-street.

"Well-wisher" (Learnington), ... A letter ad-dressed to Mr. Martin, 30, Allsapp-terrace, New-road, London, would doubless obtain the required prospectus.

prospectus. "C. A. J."—We are unable, of our own know-ledge, to recommend an architectural drawing school. Mr. Mulholland, 8, Great College-streef,

Westminster, gives instruction. "A Young Beginner" cannat the better than follow the advice we gave to "Tyro" last week; viz, to get "Tredgold's Carpentry," or Nicholson's works

on same subject, and copy the diagrams. ... for the "An Observer,"-Mr: Merley's same appears in our account of her Mejesty's partiton, pi 350, ante

"N. N."---If the roof of any building (unless insulated) be "stripped, sipped, on uncovered," schedule G provides, that it "must be covered with slates, tiles, metal, glass, artificial stone, un cement," and as the district surveyar is bound to see the Act carried out, notice must be given when a roof is about to be uncovered, and a fee may be demanded.

demanded, "R. M. and Son" may take the same reply. "Frequent Reader."—To heat "a small green-house in the country;" we are disposed to recom-mend an ordinary flue rather than a stove. "Ornamental Plastering."—A correspondent wishes to be directed to a work on ornamental "interimet of a priod removal of a oright removal.

plastering : and to be informed of a good composition to work foliage in by hand. "G. F." (National Monuments). The infor-

mation kindly forwarded appeared in our journal last week. "S. R."-The work on the Freeco decorations

of Italy may be had of Mr. Lewis Gruner, 132, Regent-street. "F. T. D." shall hear from us in a day or

two

Received ; " Dolman's Magazine," No. VIII.; "Medical Times," (September); "Description of the Funific Impeller," by A. Gordon, C.E., "The Philathenic," No. II.; "Pictorial Gallery of Arts," part IX. (Knight); "Old England," part XXII.

*** Our readers will observe, that in conse-quence of press of matter and the number of ad-vertisements, we have this week given eight diditional pages.



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ADVERTISENCENTS.

PUBLICATIONS.

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Anti Anda, gils engres and jettmet, a Peaket Reiten of OW CILOP & DIA of the NEW ME-'TEOPOLITAN BUILDINGS ACT. togethes with the list list a rais of the Surveyors, with their Residences and Offices, and a Table of Jeon in the Metropolitan Districts of devices performed. In the Cyclopedia all the details of the Statute are wranged Alphabetically, so is to be instantly found, and geochadulo 16 schedulys is instantly found, and geochadulo 16 schedulys is instantly found, and geochadulo 16 scheduly in the instantly found, and geochadulo 16 scheduly is instantly found, and geochadulo 16 scheduly is instantly found, and geochadulo 16 scheduly is instantly found, and in the Alphabetically, so is to be instantly found, and geochadule 16 scheduly is instantly found, and geochaduly is de the Horse Distantly, is a constructional By the instant is BABTHOLOGIES in Mey IF Stat. Architact, 11 Bublished. its dis Office Office is a first with the instantly street, Covent-genetic is a constant is a scheduly in the instant is instant in the instant is in the instant is instant instant in the instant instant is instant in the instant is instant in the instant is instant in the instant in the instant is instant instant instant in the instant instant is instant instant instant in the instant instant is instant instant instant instant instant instant inst

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Tiel Pablahed, TONDON ART-UNION PRIZE AN Steal, from the Original Pictures Purchased by the Steal Union of London Large Paper Proofs, Half-moreceo, Gilt Edges, #4. 4s. Sinhil Paper, Ooth with Device, #9. 9s. R. A. SPRIGG, Publisher, 146, Great Bansed Offer, Bedford-square, London.

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TLLUSTRATIONS of the PHEORY and LIDOSTRIA LICONTO OF AND STILATION. A LAPAG CHICKNO OF AND STILATION. By D. B. REID, M.D. R.B.C.H. Wardidg, Eschuste Lighting the Commu-initilizon (Sonial, Architecture and Vonilation, Perional Sometimethy of Sonial, Architecture and Vonilation, Perional Sometimethy of Sonial, Architecture and Vonilation, Perional Sometimethy of Sonial, Architecture and Vonilation, Corris-torian in the same of the sonial of the same Consti-tutions, Artificial Rindepheres, Rooms for invalide, Venti-Abienan Gene and sonial Lamps, Minets, Ships, Manufac-torian Arc. Re.

, Drains, &c., &c. at LONGMAN, BROWN, AREEN, and LONG-at has another and AADS. a to the

Interior WOOD CARVINGS.

Jdet Peblikhed, by JONN WEALE, 59, Holborn, parts 1

ANALYSIS OF GOTHIC ARCHITECTURE.

his day is published, No. 16, containing the Drawings of the Roof from Wymondham Church, Norfolk, and other illustrations. Price 2s. 6d.

Mastrations. Frice 32. 5d. A N ANALYSIS of GOTHIC ARCHI-TECTURE. By RAPHAEL and J. ARTHUR BRANDON, Architects. ••• The object of this work is to illustrate in a practical manner the various features of Ecclesiantical Architecture, including open roots, metal works, &c. &c. PELFIAM RICHARDSON, 32, Cornhill, and all Book-aller

ls." A cheap and valuable periodical."-F. A. PALEY's ide to the churches round Cambridge."

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In demy 8vo., with memerous Plans and Diagrams, price 15s. THE PRINCIPLES and PRACTICE of ENGINEERING and other Surveying, by CHARLES BOURNS, M. Inst. C. E.

CHARLES BOURNS, M. Inst. C. E. OPINIONS by THE PRESS. "This is a truly useful book is in the second part of it we have good and sound prestical instruction in englineering and other surveying. . . . We shave an heatistice in say-ing that this work will be a complete guide, in the heads of the student."—The Buildy. "His practice in field work and lengineering whiveying ge-merally is, of itself, a volume in instruction with eyoning practitioner, and without so entering into abstrue formulae and without so entering into abstrue formulae it contains all that is required to render it not only a source of instruction, but also a most excellent work of reference." "Mising Jeapung. ng Journal. London: JOHN OLLIVIEB, 59, Pall Mall.

PATENT OFFICE, 5, CHANCERY-LANE, NEAR FLEET-STREET,

FLEET.STREET, INVENTORS requiring protection by LETTERS FATENT should apply direct to the FATENT OFFICE, us above, where patients can be speedly procured for the United Hingdon, &c., and by which a great surface directory will be effected? Of YEATS are ch-where a "the office is a la: DESIGNED of all kinds are REGISTBEED. Apply at the PATENT OFFICE, a, Chamerer-lame, mear Flot street.

FIRE PROTECTIVE still GENTERAL BUILDINGS IMPROVENENT COMPANY (Pro-perty fram Fire, and Scinity fram Robberg. It consequence of the continuum applications fram Buildars and others for Liconses to use the Company's Patents, the Committee hereby give notice, that scoses as the complete exploration of the Decided of Settlements affocted, the Lise of Calarges will be duly announced, and the Directors will be exploration of the Decides will be required in every principal flows throughout the kingdom : surveyors or builders will be preferred, to whom a liberal computation will be al-fowed. Full particulars may be known by supplying at the Office, No. 9, Lincoln's Ion Fields, where medics and plane My Beinsterd, -By order, W. F. BRAY, Security.

THE BUILDER,

WILSONS PATENT EVENTILA.

of amoly chimneys (manufactured by J. PORTER), is the ONLY article for the partoes which assists the draft of the chimney that article for the partoes which assists the draft of the chimney the an external preselting power. Upward and fifty have been recently fixed on the chimneys of Bucking-hum Falace, and several on Windsor Castle, with great se-cets. This Chimney-pot is not only the beet and imode of fertial ever invented for the purpose hanned, but statistic und the the above useful article by any of the respect-she incomengers, or at the sole manufactory, Southwark-bridge Iron Booting Warks.

TO BUILDERS-KENSINGTON PARK, NOTTING

HILL. HILL. TO be LET, several plots of BUILDING GROUND, beautifully situated; roads and severas made, and gardens laid out; desidedly the best situation round London. Bricks can be had on the ground, if ap-proved, and other assistance if required. For further, parti-culars apply to Mr. W. REYNOLDS, Estate Office, Claren-don-terrace. don-terr

TO BUILDERS, CABINET-MAKERS, AND UPHOLSTBRERS.

UPHOLSTBRBRS. TO BE DISPOSED OF, by PRIVATE CONTRACT, the STOCK in TRADE and GOOD WILL of an old-established BUILDING Cabinet. Manufac-tors and Upholstery Busines, which has for many years past been carried on in a town in the western part of Dorsetahire. The valuable and commodious premises where the business has been conducted, consisting of an excellent dwelling-house, with estensive workshops, storehouse, and office, may be purchased with the stock, or taken on lease, for a term of years, at the option of the purchaser.-Further par-tipalers pay be obtained on application to Mr. P. COXs gos licitor, Beaminster, Doret.

PACIOUS BUILDING GROUND, in SPACIOUS BUILDING GROUND, in the heart of the City, to be LET on a BUILDING LEASE. The site comprises Old Foundera' Hall, Loth-bury (extending from east to west seventy feet and from north to south thirty feet), and a further space in connection with it suitable for purposes of an additional entrance to the Premises. Persons willing to tender for these Premises on a Building Lease are hereby informed that a Committee will meet here on Thursday, the 16th of October next, at one'clock precisely, to take such Tenders into considera-tion.—Particulars may be obtained by applying at Foundera' Hall, or to J. B. GARDINER, Esq., Architect, 4, Bank Chambers, Lothbury, where a Plan of the Premises may be seen. By Order, J. GRAY, Jun., Cierk. Founders' Hall, 16th September, 1846.

Founders' Hall, 16th September, 1845. NEW STREET PROM FARRINGDON STREET TO CLERKENWELL GREEN. GROUND to LET on BUILDING LEASES.—The Clerkenwell Improvement Commis-sioners propose to Let for the purposes of building Fourteen Particle LAALOG Grunned, Jähnsträd ba Galtrides of a New Street. to be called "Victoria-street," leading northwards from Farringdon-street to Clerkenwell, and to the proposed Station of the London and York Railway; unto parties tendering, the highest rents for the said Allotments, and the Plan and Elevation of the said Allotments, and the Plan and Elevation of the proposed Buildingers. WILLIAM BURCHELL, Clerk to the Commissioners, No. 99, Guildford-street, Rusell-square. WILLIAM BURCHELL, Clerk to the Commissioners, is dorsed "Tender for Ground, Victoria-street," and sg-dressed to the Clerkenwell Improvement Commissioners, st therio office, No. 34, Red Lion-square (where printed Forms of the Conditions of the Commissioners, at therio office, No. 34, Red Lion-square (where printed Forms of the Conditions of the Contact may be had), by or before Twelve o'clock on Monday, the 20th day of October next.

SALES BY AUCTION.

MARBLE CHIMNEY PIECES.

MARBLE CHIMNEY PIECES. M.R. H. BIERS will SELL by AUC-TION, at Wheateroft's Wharf and Warehouses, Prad-street, Paddington, on Thursday, 9th October, at Twelve o'Clock, a very superior selection of well-made and well-finished CWIMNEY PIECES, comprising Statuary, Vein, Dove, Black, Monchella, Ridella, Celdona, and other Marbles. The above can be recommended as well worth fab inspection of the Trade, Builders, and others. Cata-logues and preparing, and, when ready, will be sent post-free to any, part of the Kingdom. -13, Dorset-place, Dorset-square, Approved bills at three months in a purchase of 34. and upwands.

SURREY FREEHOLDS, AFFORDING VOTES FOR THE COUNTY. MESSRS. MUSGROVE and GADS-DEN have received instructions to SELL by AUC-TION, at the Auction Mart, on Tuesday, October 14, at 13 O'dack, Fourteen Lots of valuable Building Ground in the Parish of Horley, adjoining the Station of the Brighton Halway, having Frontages upon good Roads, and the whole will situated and adapted for Building purposes. To be viewed. Farticulars may be obtained at the King's Arms Inn. Horley; Grapes, Reigate; at the Auction Hest; sund at Mesars. MUSGBOVE and GADSDEN'S Offices, 18, Old Broad-street.

TO BUILDERS AND SMALL CAPITALISTS,-BIGHT LEASEROLD BRICK-BUHAT CARCASES AT IS-

TO BUILDERS AND SMALL CAPITALISTS.-EIGHT LBASEROOLD BRICK-BUHHT CARCASES AT IS-LINOTON. IM ESSBS. RUSH WORTH and JARVIS will SELL by AUCTION, at Garraway's, on Bridar, Oct. 16, in four lots, by order of the executors, sight will-built carcases of private houses, planned to con-lain six rooms entri, reofed in, with arched vaults in front, and gardan in the same, situate in the very improving neigh-bourhood of the Hthingford-road, in the partsh of Isling-bourhood of the Hthingford of a new street on the west side thereof, fatended to be called Gace-street. The property is lease-hold for a term of gy yhar, and a separate ground-reat of instended to be called Gace street. The property is lease-hold for a term of gy yhar, who will point out the pro-perty : also of Masars. CHAMBERLATNE and MEADEN, "Sutton Arms," Chalk-road, who will point out the pro-perty : also of Masars. BUSHWORTH and JARVIS, sut-vegram and emetionsers, Saville-row, Regent-street, and 19, Change-ality, Cornhill.

ROYAL ADELAIDE GALLERY. **BOYAL ADELAIDE GALLERI** way daily, with explanatory lecture. The New Zeal Chief, Paho al Range, wild give a double of the Graning the former and Conserve of Yew Zealand, to the Graning Robady, Wedheeddy, and Friday, nert. Air, Fungell sinces to defiver the phenoliter, Decture on Chapt Intrustory, Thursday, and Schultz Phenolity, and Chapt Michady, Thursday, and Schultz Phenolity, a Chapt Science, Rev., Daily including Millor Bendeylor (Astro-Michady, Millor Bendey William, Millor Bendeylor (Astro-Michady, Science, Science, Science, Science, Science, Science, Science, Millor, Science, Millor, Millor Bendeylor, Science, Sci re. The New Zeals Loth

TNIRST Incollection wither Visitors of the THRST Introduce for sorting Winners in The ROYAL POLYTECHNIC INSTITUTION of A Prai's Lecture, which illustrice Basters Patent Process for making Artificial Ice, Daily, at Half-past Three o'clock and hithe Breatings of Host art, Wednesdry, and Bridge Dr. Byan will occasionally introduce Mons. Boutigny's ex-periment of making los in a Red-but (Fracille O' Benholmer's wated Lectures, will between the introphete's wated Lectures, will be with a the second second second second second second second for ascending and descending building the second second for ascending and descending building the second second for ascending and descending building to the second second series of Disalting View, and Diving the second se

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Known."-The Balaney 5 11 (1997) (1997) Wholesale Displet; Oncess Tarbay (2016) Wholesale Displet; Oncess Tarbay (2016) Brushes, Dry Colours, Gromat ditte, and all instruments are bruster wholesale prices for easily Scheet squares, not exceeding (18 by 18; 34) for foot. Scheet squares, not exceeding (18 by 18; 34) for foot. Turpe. Plaubing, Brans Milled Liest super instrument Warmanted Varniabesi (19 Work; 180) and and 1997 Superior Sprace Obs., for Platteres' School Sprather Warmanted Varniabesi (19 Work; 180) School Sprather Soper cvt. Gilders, Print Publishers, Picture Wasser Cabinet makers sampled with patents these plates, and they and faited glass of superior soloar, and resulting school Sprather ties required, will resive by r. data Sprather Very lowest cashprides. 4- For complete instants and Also may be had, Wholesale and Retail, Incrute Lamp Sthool Shool School School School Sprather Also may be had, Wholesale and Retail, Incrute Gas Contractors, Fitters, Glass Merchants, machanish

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the end-the process and the retable-the wellow first the parts. The writer is aware of the distrust which prevents that the regard to any thing new. Nothing is more counter that the cry of improvements' and spacements grister that the cry of improvements' and spacements are the statement in the cry of the process state that the the creating of the second state that the cry of the process is the creating of the second state the creating of the second state the creating of the second state of the creating of the second state of the creating of the second state of the second state of the creating of the second state of the creating of the creating state of the second state of the creating state of

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HIDDING R AND CO. ARCRIST





HE main object of the Cottage Improvement Society for Northumberland, found-

tage Improvement Society for.Northumberland, founded. October 1841, and remodelled 18th October, 1844 (Lord Howick in the chair),

is." to diffuse information as to the progress which shall be actually made in erecting an improved description of cottages in Northumberland, to point out their localities, to circulate, by means of the reports, useful plans and elevations, and, above all, to show the importance of providing at-least two habitable rooms, in those new cottages which are gradually replacing the old ones as they fall into decay."

The report of the committee for 1845 is just published, and containe plans, sections, and elevations of three different pairs of cottages erected on the estate of the Duke of Northumberland; of three cottages, and of six cottages at Swinhoe (Mr. Tewart's estate); and of a pair of cottages and a single cottage on the Minsterarce estate.

Se far as "providing at least two habitable rooms," the object is certainly attained by the plans published; but beyond this they go a yery little way. They add nothing to our previens knowledge on the subject, no new mode of husbanding warmth, improving the ventilation, or ensuring good drainage; no good method, of forming, a floor, at once cheap. strong, warm, dry, easily cleaned, and that would not romain damp long after washing (a great desideratum); no advantageous fresh "deptation of materials, efficient casement, or fal suggestions as to the supply of water. The fact, as to the most important points here alloded to, namely, ventilation, drainage, and sapply of water, as reference whatever is made to them in sny, one of the descriptions accompanying the plans. In some of the cottages given, the firs places are in the external walls, rithout any necessity for such an unwise arrangement, and in nearly all of them the floor the int of the ground.

The publication of fresh suggestions and new, arrangements, even if not found advantageous ultimately, induces discussion, elicits facts, and advances of the ancient dens for labourers, there is positively nothing to discuss; and we cannot see that, one good and will be served by the publication of them. In speaking thus strongly of these plans, we

do not desire in any way to impeach the judgment of the society. In one of their regulame, the committee invite the perochial clergy, ti ad fail ministers of religion, to afford them notice of any remarkable improvement that may have been effected in cottages under their svations," and offer publicity to "commumications from landowners and others, as to any improvement in cottages, cottage-gardens, or other matters bearing upon the comfort of the labourer, more especially as to the plans wirich may have been followed; and the outlay incurred :" and we may safely conclude, that they have published the best examples they could get. The inference that should be drawn our remarks is simply, that much attenfr tion to the subject is yet wanted in Northumberland. We trust the efforts of the society

to induce this attention will be successful. The following remarks on the improvement desired (from the "Postscript" to the Report), written by the Rev. E. Feilde, of Rennington, may be usefully quoted :--

BUILDER.

"The present period appears decidedly fa-vourable for a movement of this nature. We are, now in the enjoyment of a national peace. In the agitations of warfare, when the struggle is for existence as a nation, it is difficult draw public attention to what are regarded the secondary subjects of convenience and embellishment. But opportunity has been afforded for cultivating the arts of peace ; and the upper and middle classes have extensively profited by them: for their accommodation chiefly, hills have been levelled, valleys filled up, and the roughest places made smooth, and exclusive roads constructed at an almost fabulous expense. As these gigantic undertakings advance through Northumberland, it is hoped that the new dwellings for the officers and servants connected with them will be constructed on the commodious and decent model of *two* rooms, which it is the object of this society to recommend. As the country is opened to successive trains of travellers, it is consoling to reflect, that fewer one-roomed tenements will meet their sight, and that many hovels which offended the eye some ten years back, are transformed into becoming and convenient hahitations.

A dingy and barbarous cottage may suit a dark and barbarous age; but in the present days of improved knowledge, a wider diffusion of domestic comfort, something a little beyond bare walls and perforated earth floors, and patched windows, may reasonably be looked for at the hands of those who can afford the indulgence."

"The present generation is a *reading* one, and must, therefore, be more or less a thoughtful one; and it is well for a people, when beginning to relish the charms of contemplative life, to find kindly natures disposed to meet, as far as possible; their new-born tastes and wishes. Little opportunity is offered for fireside reading during our long winter evenings, in a confined room, where every conceivable operation of domestic economy is carried on, and which is not impervious to the weather from above, from below, and around. Is it to be wondered at, that the well-sanded floor of the beer-shop and public house (with all their evil concomitants), are sometimes sought in preference?

Proofs have been given of the advantages to human life which have followed sanatory regulations in towns and cities. These latter are, through legislative interference, beginning to eniov the resources of science which have been applied with success to the dwellings of the upper classes. It is idle to suppose that the mere fresh air of the country is all-powerful to prevent epidemics in villages, and to remedy of a confined locality. Besides, the defects the summer breezes blow but for a very limited period in the north, and the cottager requires defence at all times against the prevailing damp of this district. These requirements made good in the shape of a well-drained and weathertight cottage, added to the blazing fire, will impart a relish to the homeliest fare, and a sense of comfort which will brighten the countenance.

The reverend writer, in concluding, refers to the establishment of the "Society for the improvement of the condition of the Labouring Classes," whose first work when commenced, namely, the model-houses near Bagnigge Wells Tavern, Pentonville, was mentioned by us with reprehension in the first page of the present volume.

These houses are now nearly finished, and we deeply regret to say, without any attempt to remedy the egregious mistake committed a mistake that appears perfectly extraordinary when we read the names of the gentlemen composing the committee. We fancied at first that the arrangement of the model houses must be unknown to them, but inasmuch as it is stated in the committee's. report almost in a congratulatory tone, that the new buildings "are in the form of a courty" we are no longer permitted to think so. The following is the whole passage in the report that refers to the houses in question :--

"With respect to the improvement of the dwellings of the poor, the special committee on that subject had held thirty-six meetings, and their results demanded the serious attention of the public. It was not in the power of the committee to say that they had determined on the most convenient and best form on which to model the cottages of the poor, but they had encouraged the publication of designs for that purpose, and from the information thus collected they were prepared to construct such cottages on a very improved plan. The report expressed a hope that happy results would be derived from the erection of cottages in the neighbourhood of London. The evil effect upon the working classes of their present accommodation was most conspicuous in the lodging-houses of the metropolis, where they paid 4s. 6d., 4s., or 3s. 6d., and never less than 2s. per week. In the buildings which were being constructed by them, the comhad mittee would not presume to say that they fully attained their object, but they believed their experiment would be attended with the best effects. The buildings were erected in the form of a court, on the one side of which The buildings were erected in were eight buildings containing three rooms each, and two double houses capable each of containing two families. Of the single houses with three rooms the rent would be 6s. per week, rates and taxes included; and for tho two double houses the rent would be 3s. 6d. per week. On the opposite side of the square there were four houses, each accommodating two families, offering on two floors' room, thirty rooms for widows and single women of a mature age, at 1s. 6d. a room per week. Thus twenty families and thirty single persons would become the tenants of the society. The contract for the works amounted to 3,916... and they were situated at Packenham-street, Lower-road, Pentonville."

We sincerely hape that in future works, we shall have no more *courts*.

THE OFFICIAL REFEREES.

WE have avoided mentioning the arrangement made for filling the vacancy caused by the retirement of Mr. Higgins, because it seemed to us after all, uncertain and indefinite. As, however, it has now become matter of conversation in particular circles, we consider it right to put our readers in possession of the information. It appears that the duties of the Metropolitan Buildings Office render the appointment of a third referes desirable. The present Act, however, only empowers the elec-tion of two, and it has been determined therefore, at least so we are informed on good authority, to make no change at present (Mr. Higgins having consented to resume his office, pro tempore), and to bring in a bill early next session, to amend the Act in this and other respects. The appointments are premised to Mr. Tite and Mr. Ambrose Poynter, but so reapacts. many things-may occur before these appointments can be confirmed, that, as we said before, we should not have considered it right to mention, the arrangement, if we had not found it generally spoken of. We hope no undue hasts will be used in framing the amended Act, and that parties who have given consideration to it in its present shape, and have suggestions to offer, will have the opportunity of doing so afforded them. A recent modification of the Act will be found on another page.

SANATORY CONDITION OF LANGASTER.— The Metropolitan Health of Towns Association are anxions to select Lancaster as a model town, and with this view Mr. Chadwick has instituted inquiries there with so favourable a result, that it is intended in the course of a few days to bring down emment engineers to survey the locality, &c. "We," says the Lancaster Guardian, "understand that the company's terms are, that one-third of the requisite capital shall be contributed by the town, and the remainder by them, on condition of being secured in the possession of the liquid refuse, and other fertilizing agents which the waste pipes and sewers may yield."

THE NEW COURTS OF LAW.

WE mentioned last week, the report of the committee appointed to consider this matter, and pointed out the site suggested by Mr. Barry for the new building. Recurring to this document, we should first mention that the report itself is very short, being nothing more nor less than this :- That the Select Committee appointed to consider &c., "Have ex-amined evidence on the subject of the matters referred to them, and have agreed to report such evidence to the House."

Mr. Barry considers it impossible to re-construct the present Courts of Law so as to provide sufficient accommodation, and does not know of any other site in Westminster that could be set apart for the new courts. It was suggested that the south side of Bridgestreet might be removed, and New Palaceyard converted into a quadrangle, by extending the present clock tower of the Houses of Ing the present clock tower of the Houses of Parliament along the present site of the houses removed, so as to afford accommodation therein for the courts, but Mr. Barry did not consider they could be efficiently arranged there. The removal of the old courts would promote very meterically the affort of the new promote very materially the effect of the new building; and the quadrangle was desirable though the new courts could not form part of it. "At the present moment," said Mr. Barry, "there is no principal or striking entrance to the new palace for the public. The only great entrance is the state entrance to the House of Lords, reserved exclusively for the use of her Majesty. There is no situation in which a main public entrance could be so convenient, or have so good an effect as at the north-west corner of the proposed quadrangle enclosing New Palace yard. If the quadrangle were added to the building, it would be only necessary to secure this entrance gateway, in order to render the building more secure from external attack in case of public commotions. The building, as now designed, could be effectually protected towards the river, but it will be very much unprotected on the other sides.'

The Victoria Tower, it is found, will not be sufficient to accommodate the public records, and the Master of the Rolls objects to their being placed in the roofs, which have been in

some degree prepared for them. The plan of the building to be erected on the gits in the Strand (described in our last) would http://initia.strang.(near-med in our iss) wonn be weny, much dike what he proposed some years, ago, when the scentre of Lincola's-Ian Fields, was talked of as the site, now put guite out of the gentwelve or fourteen courts, and would be for twelve or fourteen courts, and hit a subject some a clarke' room and asch with, a. judges' 100m, a. clerks' room, and wate-room, darristers' goom, ...and... solicitors' room,; and da the common law courts, in ad-dition to this scommodation, a. room for the jury, if It, would, include; also, a room for the grand jury, a, law dibrary, consultation rooms, a refreshment room, a great central hall, com manicating with the whole of the courts and their appurtenances, for the accommodation of the public; and private lobbies, and communications for the convenience of the judges and the bar in The courts would be arranged around the great central hall, and towards the exterior of the building, surrounding the coarts, would be arranged all the private accommodation connected with the courts respectively." The style of the new huilding would be al-

together different, from that first proposed. "I should say that it would be desirable that it should be in the mediaval style of architecture, and that the loftier the building is made, provided no practical inconvenience re-oults from the height, the better will be the external effect. In the exterior of the buildang I should propose four, stories in the centre of the building would be idowers, and the great hall and surrounding, courts, would be lighted entirely from above ""

The cost Mr. Barry estimated at 300,0007. The cost Mr. Barry estimated, at 300,0004. The Strand would be wideped to 100 feet. Part of the building would be in the city. Temple Bar would be detached and not in the middle of the road, but might remain. Mr. R. L. Jones in his evidence, described

some improvements contemplated by the city. 5. It is proposed to commence from the overer of Cheapside, at the west end of Cheapside, and to take down the whole block of building and to take down the whole block of building anothe north side of St. Paul's, and thence going, scross utbe Old Bailey, through the site, scube skies, strissmen, crossing darringdom

street, up to Little New-street, and thence up to Fetter-lane, which joins the Rolls estate, taking another diagonal line into the wide part of Holborn, which would be the means of relieving Holborn-hill, as to which a loud complaint has so long been made, be-cause we have ascertained that the acclivities from the point at the west and of St. Benut from the point at the west end of St. Paul's churchyard will be no more than Ludgatestreet or Fleet-street, about one in thirty.

He thought the city would insist on boundary gates, but did not consider they would object to removing the present gates (Temple Bar), and substituting others.

Mr. William Cadogan, surveyor, had made the estimates in conjunction with Mr. Barry. "The sum required for the purchase of this property is 675,074%. The value of the frontproperty is 675,074*l*. The value of the front-age of the ground that will be to be let, I have estimated at 316,500*l*, which will leave, of course, to be provided for, a sum of 358,574*l*. Then, as a set-off against that, as a deduction from that sum, there are a great a deduction from that sum, there are a great many houses now used by Government as being their property, which will sell for a large sum of money, and will go in reduction of this last sum; because if these courts are built, those offices that they now use would become unnecessary."

The valuation was made house by house: some were taken at twenty-five years' purchase, some at twenty, and some as low as eighteen, As to the ground-rents to be obtained for frontages attached to the new courts, to be let for chambers, witness had put from five guineas a foot to three guineas.

DIVIDING-WALLS IN BUILDINGS OF THE WAREHOUSE CLASS.

MODIFICATION OF METROPOLITAN BUILDINGS ACT

UNDER the clause in the Buildings Act which gives her Majesty's Commissioners of Woods and Works power to modify its rules, already referred to in our columns on other occasions, the following (the third) alteration has been made : -

"Whereas the official referees have by their report in writing, bearing date the 4th day of August, 1845, certified to us that it is their August, 1945, certified to us that it is their opinion that the rule of the said Act, in sche-dule C, part 4, videlicet:— With regard to any building of the second class hereafter built or rebuilt, in reference to the capacity or contents thereof within the same inclosing walls. :-

If such building contains more than 200,000 cubic feet, then such building must be divided by party-walls, so that there be not in any one part of such building more than 200,000 cubic fect without party-walls,"—is inappli-cable to many warehouses, workshops, and manufactories, and to certain sheds or covered places; and that in respect thereto, the objects of the said Act will be as effectually attained by the adoption of the modification of the said rule hereinafter directed.

And whereas the official referees have also stated in such report the grounds of such their opinion, and on the investigation thereof it appears to us, the said commissioners, that such opinion is well founded. Now we, the undersigned, two of the Commissioners of Works and Buildings, pursuant to, and in ex-ercise of the power in that behalf given to us by [the said recited Act, do direct that the modification so recommended, may be made in the rules prescribed by the said Act, by insert-

the rules prescribed by the said Act, by inser-ing after the first rule of schedule C, part 4, above quoted, the following words, videlicet :---'Provided always with regard to ware-houses, workshops, and manufactories, or to parts thereof, used exclusively for the storing, marking or manufactoring of iron, brass.lead working, or manufacturing of iron, brass, lead stone, or other incombustible materials, and containing one story only (except any brick or stone' vaulted cellars) and having no timber floor, and having no celling in or under the roof thereof, in reference to the capacity or contents thereof within the same inclosing walls :-

And with regard to sheds or covered places, And with regard to sheds or covered places, used for uploading, transferring, and reloading goods in course of transit, and not as ware-houses for the storing or warehousing of goods, in reference to the capacity or contents thereof within the same inclosing walls;—

A Berpi stylasof, topsraituse of De Acceld's ventilating raing , and prof & a for construction of annul huidings.

That if it be found necessary or convenient for the purposes or uses of any such warehouse, workshop, or manufactory, or of an such shed, or covered place, that the same 807 should not be divided by party-walls, so as that there be not in any one part thereof more than two hundred thousand entire without partywalls,-Then so long as the same shall be used for the purposes aforesaid, and no longer, it shall not be necessary so to divide the same by party-walls, but every such warehouse, work-shop, or manufactory, and every such shed or covered place, shall be subject as to its external and party-walls, and as to its internal divi-sions, and as to the application of iron doors thereto, and as to its arrangement and con-struction in every respect, to the special approval of the official referees, in the same manner as is required in respect of the walls and other constructions of buildings of the third class, and the said official referees are hereby required to have regard to the circum-stances of each particular case, as to the locality and neighbourhood thereof.

Which modification being made in such rules will in our opinion give effect to the purposes of the said Act, as witness our hands this 26th day of September, 1845.—(Signed) Lincoln, Commissioners of Works A. MILNE, and Buildings."

AWARDS UNDER BUILDINGS ACT.

CUTTINGS INTO CHIMNEYS.

THE provision in schedule F, that no chimney-shaft, jamb, flue, or breast, shall be cut into for any other than two or three specified purposes, caused unnecessary inconvenience to many parties. Some time ago we published an award by the referees on this point," which served to shew that when the cutting which served to shew that when the cutting away was securely done, was not dangerous as regards fire, and the wall was antirely within the same premises, they would permit it. Since then, they have made several other awards in the same spirit, the brade of which we sublim we subjoin.

We subjoin. Mr. Stutely, on the part of Mr. Robb, was about to rebuild 79; St. Martin's lane, and wished to form a mezzamine over the shop, whereby the chimney opanings of shop, upwards would become above the level store respective floors: " The district service. Hr. Kendalk, woneidered himself anishler to a to such alterations in the brunk; all were required to bring the chimbley opthing level with the respective floatstarts, TRUCE In 24

The award was post That It is to dipeter to the stid: Martin Josephi Gtuteley 160, and the level of the respective topenhere he the und chimney brants of the part doubles but an to doing, the backs of the rexisting olimney openings or fire-places chusting of the edristic nor the withes of any of the fies cura of, except where the mew frequence will be formed, nor the backs of unit of the fluge te cut into for any quopose quarke that the total of all the new chiminey of guing or find places must, where the prior work shall be if dend to must, where creation on the share for the sound to be less than 84 montes, un this during the sound to be that the best in d that they not all new work must be built with seand bricks laid in and with rementy and that the alterations in question mist ben made cobiorsiably with the rates in schedule (Eyef Abedlenope litan Buildings Ast. Wrens of years), nonear The costs to be paid by Mr. Bobb, D.S. 911

Again :--- Mr. May of 66, Oafird street, de sired to enlarge his housed by yearboing the chimney-breast on the shop stury, and to yap-port the superstructures by simon columns, and breastainmers in a secure and first proof man-ner. The award, was not first proof manthe wall ding which the said we with may at which the said we with may at which the said we with a said we way on the said of chimney-stack is proposed to be carsied by chimney-dtack is proposed to be chimney-sufficient iron girders, supported on sufficient iron standards of the full width of the chimney-stack, that is to say. I foot and I i hockes; and as the bearing of the said standards is to be upon York stone blants, distributing the weight over the old brickwork of the chimney-stack in the first or basement story, which is not of less width or thickness than use chimney-icate stones width or thickness than use chimneynot of less width or thickness than the children stack above, the same will bot be contary to the said Act, and may be denern accordance with the (said shore of) drawing tharked C. The costs to be paid by Afr. May

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In another case, Mesors. J. and W. Bennett had cut away two chimney-breasts in the party wall of a house in Bloomsbury-street. The Chimneys " in schedule F of the said Act, but Chimneys "in schedule F of the said Act, but inasmuch as it appears, that having regard to the rates of the baildings respectively parted or to be party wall is of the full thickness in every part thereof; and inasmuch as the district sur-veyor useents to the truth of the allegation, that the said chimneys were carefully cut by; and have been made good in the most 'aw substantial manner, and that the said wall forms a good and sufficient fire-proof construc-tion; I the said William Hosking with the assent aforesaid, make no direction thereon." The costs to be paid by Messrs. Bennet.

WIDTH OF ALLBYS

Mr. Suter on the part of the Fishmongers' Company, submitted an application for per-mission to continue Stew-lane straight into Thames-street, of its present width, 8 feet 24 inches; it move comes into Thames-street by menes; it now comes into Thames.street by an elbowy through a plot of hand belonging to the Company on which they wished to build. They had agreed provisionally with adjoining landower for the purchase of a slip of land to effect the change, but considered they were unable to proceed without consent of the reference. Latt, d states of the states of t

The award was That inasmuch as Stew ""The award was """ That inasmuch as Stew-laine Bratt Michent alley, the proposed substitu-tion "of "a "straight" passage of access to, and "gress from it and Upper Thames-street, such "passage being open throughout to the sky, for "a longer" circultons passage ill-ventilated, and "subject" to "various" nuisances, is not to be "beemed to constitute the formation of a new "alley within the meaning of the Metropolitan "Billings Act, stid will not be contrary to the "provisions", rules, and "directions, of the said Act." Act.

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od The neferspe determinedr-"That the Me-strepoliten Bullinga Actidees not require para piels to be raised upon auternah walls fronting storpeblin ways, and that the said Act does not sheatyse afing roof, coirs and orestail an ex-, tem such ab the ends of rafters or otherwise, may be placed within 4 inubes of the outside face of dish wall, unless any such wood-work be proseases limith touch a materials and in such manner, as may be approved/and permitted by . the said diamin referees; and that any eaves, .ash ther with or without iron guttering, may storyouerhasy a public way or ground belong--ing to any other owner; and whenever drip-bning marte are med, whethen with or without n tor athen gutters, the ends of the party bernught to util out by corbelling or othera malle mag ise when the extent of 1 inchast the least be-510 bjandimyendinevis må gutters.". 7d. Thursettitobelpaid by Mr. Barker.

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glad to hear that the statement is untrue.

AN EFFORT TO ADVANCE HISTORICAL ART.

Sin,-Several inquiries having been made respecting the proposal to be founded on the suggestions thrown out a few weeks since upon the subject of fresco painting, and to which you were good enough to give publicity through the medium of your valuable work, I beg to offer a few additional hints which, by entering more into details, will be found to answer the various queries.

The royal commission has caused many ertists to abandon portrait painting and other lucrative branches of art, and to devote their energies to historical painting and the practice of fresco. Three years of experiment have proved a great amount of talent to exist in this country, and which owing to many cir-cumstances, such as change of style, awk ward shapes, restriction of size, and choice of subject, has never had a fair opportunity of developing itself. The royal commissioners have selected the artists to whom they intend to confide the decorations of the new Houses of Parliament: that being done, and the premiums and expenses being nearly all paid from the 4,1377. received from the exhibitions at Westminster Hall, all the rest of the artists who have been practising fresco, numy of whom distinguished themselves (although not among the selected few), are now left to their fate, not the least hope being held out to them, unless they may be fortunate enough to obtain emment in assisting to carry out the designs plo of the selected artists; so that original talent in composition, and continued efforts in fresco painting, appear to be no longer required by the royal commission. The postponement of the exhibition of bistorical painting until 1847, is another instance of that uncertainty which is destroying the confidence of artists, and para-lyzing their efforts. Even in 1847, it is very doubtful if the Hall can be available, as the addition of thirty feet to its length, and the work necessary to forward so important a feature in the new buildings, will in all probability require it to be occupied by workmen. In this state of uncertainty historical art cannot long exist, for there is no place wherein his-torical works can be exhibited.

When the King of Bavaria found German artists could produce cartoons and paint frescos, he gave them the Hof-Garten for practice, and then proposed great national works to give encoursgement to those artists who dis-tinguished themselves. A series of honourable, employment extending over twenty five years, has raised a school of art celebrated throughout Europe. In France, the Government, with its immense public galleries, and an annual expenditure on art of more than 40,000%, has in the course of thirty or forty years erected a school of art disputing excellence with Ger-

many. In England, the Government in three years has distributed 6,000*l*. with the same purpose, has distributed 6,000%; to pay which, they received in shillings at the exhibitions, 4,137% 13s.; the balance thereexhibitions, 4,1371. 13s.; the balance there-fore gives an annual patronage of 6214. In London there is no Hof-Garten. The Royal Exchange (a court and the formation of the for

Royal Exchange (a grand opportunity lost) has been bedizened by Germans; cloisters and churches are closed by clerical objectors. The Royal Academy—the British Institution, are certain to reject large historical works even in oil. In this deplorable state of things no other course appears open than to erect at the least possible cost some temporary place dedi-cated to the reception of cartoons and works in fresco. A large surface of wall which could be extended right or left according to the amount of surface required, and which would then be available on both sides for freaco painting, naturally suggests itself, and would in an inexpensive manner meet the great want complained of. I would propose an associa-tion of British historical painters, composed of such artists whose works would entitle them to become members. Such association should solicit, and would readily receive, the advice and assistance of poets, historians, an-tiquaries, architects, and anatomists, . They should arrange to execute a series of subjects illustrative of the manners, institutions, customs, and events of a particular period of British history, not by pampering false notions by the representation of mere pageantry, or by depicting the destruction of their fellow (men, but by asletting points illustratives of the virtues of our English worthles, and treating

them in such a style, that historical events and biography may be judged of according to the spirit of the age in which the events took place, or the persons lived. The first series might illustrate the ancient

British period. Ancient bards and chroniclers supply rich materials, which, although some-what fabulous, might be found available. But Rnt the Druids, their temples, religion, sacrifices, laws; the ancient British warriors, their patriotic conflicts with the Roman invaders, furnish innumerable subjects for the pencil. Of this innumerable subjects for the pencil. period it would be no exaggeration to say, that subjects might be found amply sufficient for subjects might be found amply sufficient for the first series, and if a catalogue raisonné were published, in all probability great public inter-est would be excited. This series could be followed by the Saxon period, by the Danish, by the Conquest, from which time the history might be treated in separate reigns or accord-ing to different houses to the augment time ing to the different houses, to the present time. Any objections respecting costume can be an-swered, by referring to the large pictures in the Hall of Battles, at Versailles, which include that of all periods, successfully treated.

The cartoons might be hung opposite to the frescos, and each artist should engrave in trescos, and each artist should engrave in outline his own subject; a series of outlines if published under the patronage such a work would deserve, would be highly esteemed as an illustration of our history, and might be so managed as to be an ornament to the libraries of the wealthy, an educational acquisition to public and private schools; and might also be adapted to the means of the humble classes. When the exhibition had concluded, the

rooms would be available for an exhibition of industrial art and manufactures, similar to those opened in Paris, The cartoons could be all packed and sent for exhibition to either Edinburgh, Dublin, 'Liverpool, Manchester, Birmingham, Bristol, 'or' in succession to any large city desirous of affording their population so great a gratification. In this way a love of art would be diffused over the "whole kingdom, and if public good is to be produced by the pictorial representation of such virtues as adorn munkind, and which are recorded in our history, this would be the most effectual method of accomplishing an objects o desirable. The same temporary accommodation for the exhibition of cartoons might be adopted in the exhibition of cartoons might be adopted in the provinces, and afterwards applied for exhibi-tions of industrial art, 'or 'the matiansetures'of the particular district, or for the matiansetures' for ception of objects of natural "history and are collected towards the "establishing" of focal museums, according to the recent effectively. The next series of instorical subjects could be printed on the order would apply the of the set painted on the same well, the previous freinge heing: destroyed, "bit the composition of the drawing preserved by the outcon." Whether this exhibition should be amount on bitler wild would depend upon the artists; or to what extent fresco practice should be carried ; but if it were possible to fine any anothe exhibition, what a store of history would be opaned i what a powerful educational spear would thus be afforded!

"Toi the royal commission is confided the rating with pictures the Houses of Parliament, and of promoting historical art most effectually in this country. Some provision similar to in this country. Some provision similar to that now proposed is positively necessary, for the royal commission having concentrated upon historical art the powers previously displayed by British artists in portraiture, minia-ture painting, and small fancifal subjects, are bound by their office not to allow that talent for history, proved to exist among other artists besides those selected, to remain aseless or to return this former channels. It may be objected that, after a three years' struggle, and having contributed at least 20,000%, to the wathowal' experiment in art; artists are unable to continue so ruinous 'a course, -- that of indulging, in the faxory of historical painting ! but it inust be borne in mind, that when articles combled for the purpose of exhibiting their works at a charge for admission, they *Aereby* create a valuable property. Artists, by contri-buting their works to the Royal Academy, British Institution, Sci; maintain these bodies, At Westminster Hall their works have blog duced above 4,0004. In these years. With these facts, and with the patronige of royalty, the nobility, gentry; and the public, a self-support ing exhibition of historical art infigur beliests. bliefed, and which would afford some setura

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for the artists' labours. To carry into effect these great national objects, all that is wanted is a little money, great space, and a good locality. The new drive in Hyde-park presents easy access to a portion of this public property, where a well might be built up of sufficient extent to allow freecos of the size .perty, of the pictures in the Hall of Battles, at Versailles, to be executed. On each side of the wall shed-work, such as we see extensively wall shed-work; such as we see extensively shrown up croand public buildings, might be inserted, cruaning parallel to the pictures. Such an accommodation has been formerly afforded to J. S. Copley, R.A., to exhibit his large picture of the Siege of Gibraltar. Also, for the picture of the Battle of Waterloa; and though last not least, for the exhibition of the skeleton of the whale!

When the importance of the proposed ob jects, and the necessity which exists for great efforts to be made, (so that England may assert her equality in art as well as in letters and science, with France or Germany) be consi dered, it may be hoped that no difficulties would be presented by the Government in the way of allowing a space of national property to be temporarily covered for this purpose. But if the authorities should be deaf to the entreaties of artists, no doubt a sufficient love of artuand its ameliorating influence upon society, wald be found in wealthy individuals, willing to devote to this purpose a few hundreds from the millions of pounds now subscribing to railways.

This proposition appeals as forcibly to the intelligence and wealth of Liverpool, Man-chester, Birmingham, or Bristol, as of London; for a travelling gallery of British historical art is one of the objects; and every one who feels the necessity of diffusing education through the attractive and refining medium of art, or wishes to see high art successfully cultivated in this country, is called upon to aid in the accomplishing of so important an end.

I beg to apologise for the length of my detter, and will only add, that any information will be gladly received upon the subject (a subject peculiarly deserving the support of all literary; scientific, and educational establish-"snews; also, of cosposate bodies throughout the United Kingdom), and that before long the proposal will be submitted, in a more maintured form of the consideration of the proafersion; iand the support of all such bodies athronghoutgthe kingdom, I remain, Sir, &c. R

"InTHE imaniles in which our recent remarks with building have been second the response and sympathy elicited, have given us much satisfaction and pleasure. We have received satisfaction and pleasure. above twenty letters on the subject from men of all chasses, -- thanks from operatives them-selves, and expressions: ofta desire to aid in effecting an improvement from persons of some influence. "We do not mention this in any degree boastingly; but as an evidence that the decline over which two grieved, is universally felt, and that us a strong desire to raise the condition of the class in question exists, there are grounds for hope that something may be done in this behalf.

Great anxiety is especially manifested by several who have addressed us, to obtain cheeply, a knowledge of architectural drawing. One, who may be taken as an exponent of several, writes as follows :---

"MR. EDITOR,-I have been a reader of your valuable paper almost from its commence-ment, and have studied the articles it has contained from time to time with pleasure and profit; but I have never felt so much inter-ested as when I read the remarks in your ested as when I read the remarks in your leading article of the 27th ult. Although you have selected only two trades to confirm your position, your statement will equally apply to that class of operatives to which I belong, viz., the journeymen carpenters.

I feel my position, and hundreds more, keenly feel it, and desire to be delivered from their ignorance. "What are we to do? Drawing-schools are scarcely to be heard of, architec-tural lending-libratics there are none! I have finquired and cannot find any comprehensive work on architecture; they all treat on distinct parts of it, and are so very expensive, that they are out of reach to men of my station. Your correspondent of the 4th inst. hus shewn the good resulting from his taking by the hand two or three workmen; but men thus kind are few and fur between. Artisans, however, would not mind paying if they were likely to have instruction for it. Pray lend your in-fluence, Mr. Editor, to the establishment of a school: I need scarcely assure you there would be plenty to avail themselves of its benefits, and "wherefore."—I am, Mr. Editor, &c., A JOURNEYMAN CARPENTER.

Something more is wanted than cheap draw ing-schools and architectural lending-libraries desirable as it is that these should be provided and wo will endeavour, when opportunity serves to express some opinions on the subject. It is feared, notwithstanding that our correspon dents and others feel differently, that the desire to excel has been so depressed by circumstances, that even when opportunities to obtain instruction are offered, the operatives are not sufficiently disposed to take advantage of them.

IMPROVEMENT IN BRISTOL.

WE mentioned some time since several projected improvements which were occupying the attention of the inhabitants of Bristol,* and said that a fresh spirit seemed to have been awakened in that ancient city. The proposal to establish an Athenaum for moral and intellectual improvement seems to have received censiderable support. At a public meeting held a fortnight ago, Mr. Haberfield, who was in the chair, stated that 2,000/. had been raised for the purpose, and 527 annual subscribers octained. Dr. Budd, in moving the adoption of a report brought up by the committee said':-" In all that regarded the accumulation of wealth, Begland was in the advance of other countries ; it was in fact one great hive of bees, but in much that related to the embellishment of the lives, and the culture of the intellects of the people, it was far behind other nations. He had just returned from a short tour in France, and in passing through Havre and Rouen-the Liverpool and Manchester of France-the first object which struck him in the "former | place was a splendid building which far out topped all the others, and on the front of which was insoribed "Library, Ma-seem, Scellpture, Psinting," He was still more struck, when at mid-day, he saw crowds of all classes throughng the wide portals, and entering the building freely without fee or payment. The same was the case at Ronen, where there was a hbrary of 4,000 volumes, a beautiful gallery of paintings and sculpture, and a museum of natural history. He did not mention these things to extol France above his own country; there was that in Bagland which they all knew how to appreciate the moral worth of its people, which raised them above all others-such was not the lesson those things taught him, but when he looked at such institutions abroad and recollected Bristol, the contrast was a humiliating one, and the lesson he was taught was, to make every effort that she might outstrip her neighbours, and obtain possession of a library museum, a gallery of paintings, and make the same provision for the intellects and the minds people, which so much rejoiced liberal of her persons travelling abroad to see there made. He was sure it was greatly to the interest of the people of this country to provide for the intellectual and moral development of the po-pulation. From that all civilization sprang. Were not all the gifts which science had bestowed the results of the exercise of the mind and the stady of the closet? Were not the railways, which now covered the land and turned out such sources of unexpected wealth, the gifts of two or threemen of genius? Ha had often lamonted that in some of their splendid termini was a single niche left for a att;'a Stephenson, a Black, or a Gay Lussac the men who had given to them the steam-engine which rushed over the face of the land,

minilating time und space. Mr. W. D. Bushell said, that much had seen done for the moral and religious education of the people, but still there was such an

• See p. 399.

amount of ignorance and sensuality on every hand, that shewed there was a vast amount of hand, that snewed there was a vast amount of mind in the country' paralysed, writtwere, lost and buried, he' might say in the tomb. The raise the depresed thind by wise coltare was the highest end of the social state. They wast teach men to think: "Thought was unteredent to action, and no man would act well until 'tie thought well. "Education' was not only of is-superable value to the individual, but it went form 'the whole character of the nation. 10 Education sifted, as it were, the very gravel for gold, and held up every problet to discover 16 at were the reface of nature, or continned within it'the germs of brilliancy and worth. Puestablishing such institutions' as that now proposed, 'they should 'recollect' that they were not intended 'to'be confined "to" the higher not interaced to be commed to the highly classes. They should rather seek to raise ap those who were below them. "Let them con-template the pages of their own history, and they would find that their greatest men had sprung, not from these who were bred in ulage and nursed is mind downed by the pulaces and nursed in splendour; but who had been born in cottages, and weated in poverty, but whose innate worth, fridomitable energy, and tulent, had made them the lights and beacons of the nation. "And who would say that amongst those who would incomer inbibe knowledge in the Bristol Athen element i Ele nice knowledge in the isvistor A themeins, there might not arise some young many who is time to come, should guide the domines of the hes of the native land?

The projected establishapent of baths and wash-houses has not yet met with the uners that it deserved; bot which wow thisk painty partly be ascribed to the pablic attention not being sufficiently attracted to the subject. At a recent meeting of 'the consulties, it was sesolved to make another appealott the public, and in the meantime, to sickets in free these gentlemen who have subcribed, whether they consent that the amount of their subcription should be applied to the erection, or biring of suitable wash-houses for the poor in deine localities the subject of public baths person suspended until more adequate funds for ushed

We have received two condthree Detteins the subject of the new Guildinkly rephield inh ffe seems does not give universal satisfact -u o nowever, these communications, displayering part personal feeling and piper, are deal in displayering ing them, and shell give money addies had the structure ourselves in more chain

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Sin,-My attention' liaving been disside thing like propriety and sitching to to the tency. Attached as it is to the part of the lordship, the Bishop of Liotidon, to justly family for the number of new sharebes he bis the 1 instrumental in raising, and file restoration of old buildings 'he' has effected; The destructed

Oxford and Oambridge Club. 21 e

IMPROVEMENTS IN SPITATPIEUR Tuesday the Commissioners of Wos Forests issued notices for the erection Re del ha houses in the new line of street leading of the houses in the new line of street leading of the the London Doeks to Spitalfields Church, the entire length consisting of about Spitos, being divided into 32 lots. The width of the new street will be shout 34 App. The time severally are to be let on lease for tart 80 years, from Christmasday; 1845: 18 street, north of High street, Wisseshapslpwill be called Commercial street; that i lending int of East Smithfield will be called Dock street; and East Smithfield will be named St. Georg street. In Commercial-street sumewith inah is in course of erection, to be denominated lie Church of St. Jude; and in Dockservers church will be built for the Sellors "Home in 16a Wells-street. A new street is also proposed to be formed in continuation of the Com 1. road to High-street/ Whitechapeh --- Globe...

buildings at the county guolenie now nearly completed, as far as external construction is concerned.

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[&]quot;THE WANT OF EFFICIENT ARTISANS.

ON THE EARLY USE OF THE POINTED

7. . J. A. the lats meeting of the Archeological Institute of Great Britain,* Mr. Edmund Sharpe read, a paper, "On the early use of the Pointed arch," or the period of transition, as the afterwards expressed it, between the first and second great eras, of Christian Architecture, for a notice, of which we avail ourselves of the columns of the Athenaum, Mr. Sharpe confined his observations to a period between 1130 and 1180. Of all the new elements instroduced during this transitional period, he pobserved, the earliest, and certainly the most important in all its bearings and results, was the pointed arch, which, if it did not originate, seriainly inspired, and controlled the rest. He would not enter into that fortile field of learning and conjecture, the " Origin of the Pointed but would restrict what he had to say Arch. to the causes which led to its first introducition into Christian architecture, and to its rapid and universal adoption ; and these causes the was disposed to look for rather in some real advantage in point of construction than in any supposed appeniority in point of dece gation. No one who has examined with any ettention the arobitecture of the transitiona period could fail to observe the remarkable seircumstences; that in these buildings, the principally, in the vaulting, the pier-orches, and the arches of the crossing ; in other words toner the large opmings only, whilst in all pieceings of the newsly, in the doors, the windows, the ardades, and over all the small peringe the circular, form is preserved unal sered The pointed areh was not introduced melore, for the make of decoration or effect Ahe struction - and he would, therefore, adopt the shappy designation shready received of salling the one Arches of Construction and tthe other Arabes of Desoration. The builders sof ble wellth contury discovered that the pointed anch possessed, in point of con-intraction, contain advantages over the sircular aareh ; they, therefore, introduced it into all schoon:particofic structure where strength was met unod o while, from a predilection for the deantier form, they retained the circular arch in all other pute where the astety and stability of ing were not involved. Nothing is tathe aboil more causion in the large straular vaniting of the Romanesque style than to find the crewn of the transverse arch considerably depressed. This occurs constantly in the long barrel raultings of the south of France, as welles in . The gundripartics yaultings of the north. De-pressed circular arches are not uncommon in . Rangland, and whether, the depression took mlage, immediately after the completion of the moste, or, at some subsequent period, the deshere was a liability in a circular arch of large apan to lose its form at the crown. It must bave been a matter, worsover, of common observation to every one acquainted with the architecture of the transitional period, that the pointed, arch, in its earlier stages, was generally very obtuse in form, and that the variation from the circle is at times so triffing, an scarcely to be peresplible. In the church sof Alstadt, in Bavaria, the arch he had found. from actual admeasurement, constructed from "One centre only. One discovery led to another uand be was now enabled to assert, from actual sadimeasurement, that many of the obtuselypointed arches of the stransitional period are chot constructed upon the same and acknow dedged principles of a pointed sarah-that is, strom two distinct centres; but are to be considered simply as slight alterations of the semiteciscular: form. ... He was of opinion that the pointel arch first made its appearance in the aulting suches, the arches of the crossing, and the pier arches. He had observed in set unches in the south of France, that whilst sall their suches of construction are pointed, sell their anches of decontion are circular. But harmust he understood, to confine his obsecond and to a period between the years 1130 made 1180. ... An important inquiry yet remained -8 ed arch first des its appearance in the arches of goastrucstion? Over what length of time did this disresimination in the use the two forms of arch tentend? How long did the pointed arch thus

* See pp. 442, 446, 459, and 465, ante.

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remain the servant, and the circular arch the master? And at what precise point of time did the pointed arch obtain that ascendancy in the decoration of buildings, which enabled it to accomplish that revolution which its admission in construction had already com-menced? There is perhaps no building of the transitional period which better illustrates what he had been advancing than the church of Kirkstall Abbey; it also fortunately happens, that there is perhaps no building which an authentic date can be more satis-factorily attributed; for we know that the whole of the convent migrated, in the vear 1148, from the place of its original establishment to a spot on the banks of the river Aire. where it now stands, and that in the year 1452 the church was already commenced. The building may, therefore, be looked upon as representing the prevailing character of the architecture of the very middle of this tranational period; and it is, therefore, particu-larly fortunate that the entire shursh is pre-served to us in its original state, the only insertion being that of the east window, and the only addition that of the pinnacles on the gables. He referred to this church as gonfirmatory of the view he had laid down.

The Marquis of Northampton directed attention to the church of St. Andrew, at Vercelli, in Italy, built by Cardinal Guala, Cardinal Legate in England, during the reign of King John, in which all the exterior arches were rounded, all the interior pointed. This he brought forward in illustration of the theory of Mr. Shappe.

THE ORIGIN AND USE OF PISCINÆ.

Sin,—With-all due respect for the learning displayed by the writer on "The use of the Piscinee," in your hast number, and his description of a "piscina at Haddenham, on the south wall of a schagel which is on the north side of the chancel," I beg to suggest that this so called "piscina" may have been either an aumbry, a baginacope, or a confessional opening from the chappel to the chancel; and for this plain remon, wiz, beause he cays, that it has "no appearance of a basis."

Not, however, ito remark (on the present vagueness of our terms relative to Gathic arabitecture, and ecclesiology, parmit me to state—as to the difficulty experienced by percorrespondent in conceiving how picture correspondent in conceiving tow picture correspondent in conceiving tow preresult over have been suspended,"-that in every Remish church which it have yet examined, there haves insite secristy, cornear its altar, a were containing sandtiked water for the ablation of the prise's that previously to his celebrating mass. This is the pensile pissina, spoken of by Ducange, and generally is a copper vessel of three or four quarts cancety, with a rounded bottom and a basket-like handle, by which it is supported to a peg or book near to the secrity door.

I may also observe that, in addition, to its several applications mentioned by your corre-spondent, the word piscing is still occasionally applied by the French to denote what we call a font, as in the following extract from an ecount of the administration of baptism in M. de Gaumont's sixth volume of that very useful body of archeeology, his "Cours d'An-tiquités Monumentales," viz. "le parrain et viz. "le parrain et la marraine après avoir rèpondu pour lui, inclinant sa tête sur la piscine ; le prêtre prend de l'esu des fonts dans un petit vese et en verse trois fois sur la tôte du nouveau né," åc. åc.,--" the godfather and the godmother after having answered for the child, incline its head over the piscina, and the priest then takes, in a small weesel, from the fonts, a portion of the water therein contained, which he pours at three times on the infant's head.' &c. &c.

But I am trespassing on your meeful columns, and will therefore conclude by remarking that, in the application of the terms, above, pointed out—although these may be some reason, for so employing the term font is employed (as it commonly is) in the plural number—unless possibly with allusion to the vessel containing the chrismatory oil which is used in baptism according to the Roman Catholic risual, and yet used by us Protestants at the coronation of our sovereigns. W. BROMET.

ST. MICHAEL'S CHURCH, SOWTON.

THE church of St. Michael, at Sowton, near Exeter, was consecrated on the 19th inst. by the Lord Bishep of the diocese, attended by a large body of clergy and gentry; a part of the cathedral choir assisted in the service.

The neighbourhood is indebted for this edifive to the munificence of Mr. John Garrett. of Bishop's-court, at whose expense the whole has been rebuilt on the site of the old church. The style selected is that which prevailed in the fourteenth century. The plan is, nave with south porch and north alsie; chancel, 20 by 12, with priests' door and vestry, and a tower with entrance at the west end. The material is a stone from the neighbourhood, the mouldings and dressings in Caen stone. The timbers of the roof are open to the interior, and with the ribs and carved bosses have a good effect; there is accommodation for about 200 persons in seats of appropriately carved oak. The reading-desk, &c., are well arranged. The pulpit is of Caen stone, and is to be further enriched by Thomas, the scalptor employed at the new Houses of Parliament, who is also preparing a figure of the patron saint for a niche in the Tower. The windows are all filled with stained glass; the Grucifixion, with the three Marys in the altar window; Moses and Aaron in the side windows of chancel; St. Michael, St. Gabriel, and St. Raphael in the west window. There are four windows with figures and Christian, emblems, erected to the memory of deceased members of Mr. Garrett's family. The remaining side windows are filled with ornamented quarries, with labels bearing the Apostles' oreed; the whole are by Willement, except that in the of aisle, which was removed from west window the old church, and is the work of Messrs. Ward and Nixon. The chancel is paved with enand Nixon. caustic (or more properly ornamental) tiles of good design. On the south side of the chincel within the rails are two sedilia on steps. The "railing is constructed partly of iron bronzed, and partly of brass. Under the east window a string course is carried, supporting two carved panels with the Goamandments painted on porcelain. Below the string course the wall is covered with parcelain tiles of a rich pattern. The table is elaborately carved in oak, with panels painted a sich saltramarine volum, a sacred emblem being supportent panel.

The mode of heating by hot air is somewhat novel, and appears to approve wells if The belfry is furnished by Mears, of Whitechapel, with an excellent peak of reight bells, TMr. Haywerd, of Exsters, was, the architect, and Mr. John Mason, the builder a contract of Qy

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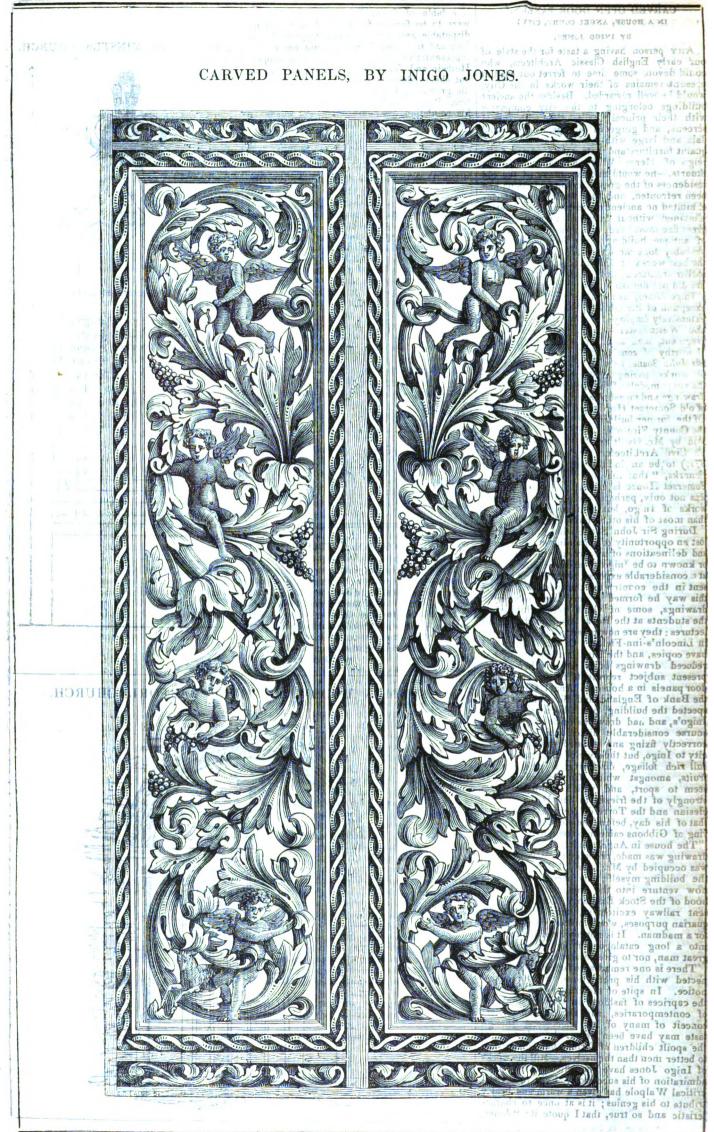
ROVAL DESCRIPTION OF BRITISH AROHIwEOTS .---- The first meeting in the ensuing session will be held on Monday evening, the ard of ment month, ... It depends on the members thenselves to provide instructive and sgreenble matter, and if each of then would consider it his duty to forward something,-a notice of an ancient building, the resolution of a question in architectural jurisprudence, description of a new material, or of new mode of construction, the end would be fully strained. A committee was appointed last session to decide on various points of every day practice, and to report thereon. We consider this one of the most important inquiries instituted by the society, and look with interest for the result: extent of an architect's responsibility, the scale of charges, power of recovery, obligation to contractors, &c., are questions of extreme importance, and require to be set at rest.

to be set at rest. Building AT Cove, Messrs. Grissell and Peto, the builders, are said to have purchased of Mrs. Stubbs, of Cove, a spacious extent of building-ground, on which they mean to erect bathing villas, which, it is expected, will have a most material effect in increasing the prosnerity of Cove.

BAILLEH ARCHEOLOGICAL ASSOCIATION-We hear that the third congress of the association will be held next summer, at Gloucester, under the personal support of the Duke of Beaufort, Earl, Fitshardinge, and Lord Ducie. Lord Albert, Conyngham, the president, will preside.



THE BUILDER.



CARVED OPEN DOOR PANELS, IN A HOUSE, ANGEL COURT, CITY; BY INIGO JONES.

Any person having a taste for the style of our early English Classic Architects, who could devote some time to ferret out what at present remains of their works in the City, would be well rewarded. Besides the ancient buildings belonging to the city companies with their princely halls, rich with carved screens, and gorgeous ceilings, the elevated dais and large with-drawing parlours, their quaint furniture and their store of plate of the reign of Henry VIII., Elizabeth, and the Stuarts,—he would find that many of the old residences of the great London merchants had been refronted, and that while their exterior exhibited no ancient appearance, their interior remained without material alteration. The great fire must have swept away a large portion of antique buildings, but improvement has probably done more to rid the city of some of the best works of Inigo Jones, and of the still earlier architects, in those localities which the fire did not devastate.

Inre did not devastate. Inigo Jones, as an architect, was, with the exception of Sir Christopher Wren, the most extensively employed in the cities of London and Westminster,—to his admirers even a fragment, such as is represented in the print, is worthy of consideration. My late master, Sir John Soane, very early acquired a taste for his works, having in youth, when trying for the silver medals of the Royal Academy, made drawings and measurements of the water front of old Somerset House and Whitehall Chapel. Of the former building, the principal front of the County Fire-office, in Regent's Street, is said by Mr. Gwilt (see Chambers's Treatise on Civil Architecture by Gwilt, pp. 234 and 371,) to be an indifferent copy. Mr. Gwilt remarks, "that the loss of Jones' building at Somerset House is much to be regretted. It was not only, perhaps, the most elegant of the works of Inigo, but contained fewer abuses than most of his other buildings."

During Sir John Soane's long life he never lost an opportunity of obtaining measurements and delineations of any work, either supposed or known to be Inigo's; and at a late period, at a considerable expense, we, his pupils, were sent in the country for that purpose; and in this way he formed a very large number of drawings, some of which were exhibited to the students at the Royal Academy during his lectures: they are now preserved at his Museum in Lincoln's-inn-Fields. Of this collection I have copies, and the BULDER has already had reduced drawings of a few of them. The present subject represents two carved open door panels in a house in Angel Court, near the Bank of England, and Sir John, who inspected the building, put it down as a work of Inigo's, and had drawings made from it. Of course considerable difficulty must exist, in erretly fixing any isolated example in the full rich foliage, disclosing a profusion of fruits, amongst which Cupids and animals seem to sport, and which remind one so strongly of the friezes in the Baths of Dioclesian and the Torre di Nerore, is certainly that of his day, before the elegant, slight carying of Gibbons came into fashion.

The house in Angel Court, at the time the drawing was made, probably thirty years since, was occupied by Mr. Lear. I have not seen the building myself; any person who would now venture into the immediate neighbourhood of the Stock Exchange, during the present railway excitement, after purely antiquarian purposes, would probably be mistaken for a madman. It is not my intention to enter into a long catalogue of the works of this great man, nor to give an account of his life.

There is one remarkable fact, however, connected with his productions, which I must notice. In spite of the changes of time, and the caprices of fashion; in spite of the envy of contemporaries, and the self-complacent conceit of many of his successors, though taste may have been depraved, and some of the spoilt children of fortune have given laws to better men than themselves,—still the works of Inigo Jones have compelled the unfeigned admiration of his successors. Even the hypercritical Walpole has given a warm and hearty tribute to his genius; it is at once so characteristic and so true, that I quote it: "Jones, if a table of fame, like that in the Tatler, were to be formed for men of real and indisputable genius in every country, would save England from the disgrace of not having her representative among the Arts. She adopted Holbein and Vandyke, she borrowed Rubens, but she produced Jones. Vitruvius drew up his grammar, Palladio shewed him the practice, Rome displayed a theatre worthy of his emulation, and his king was ready to encourage, employ, and reward his talents. This is the history of Inigo Jones, as a genius." C. J. RICHARDSON.

THE BUILDER.

BENCH END FROM MINSTER CHURCH, THANET.

In continuation of the series of bench ends drawn by Mr. Truefitt, which we gave a short time ago (page 330), we now present a fine example from Minster Church, in the Isle of Thanet, from a drawing by Mr. Caveler.

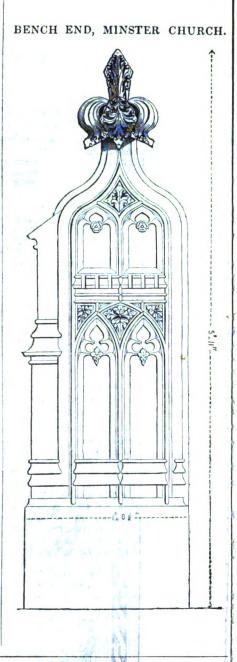
The Church of St. Mary at Minster is built in the form of a cross, the nave having side aisles; it is of very great antiquity, and contains some excellent work. The interior of the chancel is particularly worthy of notice; it is of that style now generally known by the name of Early English. The other principal portions of the church are Norman. The late estimable Mr. Gage Rokewode was of opinion, as he on more than one oc-

The late estimable Mr. Gage Rokewode was of opinion, as he on more than one occasion mentioned to us, that there is much Saxon work in the church, and we would direct the attention of such of our antiquarian friends as live in that neighbourhood to this point, in the hope of inducing an investigation of the building. The chancel contains some ancient stalls, or

The chancel contains some ancient stalls, or seats of oak, carved in a bold manner, and having under the seats grotesque figures and various devices. The ends of these stalls are different in design, but that represented by our engraving may be considered the finest.

NORMAN DOORWAY, LITTLE BARFORD CHURCH.

THE annexed engraving represents the doorway of the parish church of Little Barford, in Bedfordshire, closely adjoining Huntingdonshire. It is of the Norman period, and is remarkable for the singular want of uniformity,—the studied irregularity in the ornamental compartments on the face of the arch. The scale is three-eighths of an inch to a foot. Bond-street. T. C.TINKLER.



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NORMAN DOORWAY, LITTLE BARFORD CHURCH.

AINC S.



102

THE BUILDER

- THE CONIC SECTIONS 2 4 244 TONELBER IN BEPRENCE TO THEIR PRACTICAL APPLICATION 1.16 The Parabola.

THE Parubola, according to the definition given at page 462 of the current volume, is formed by a plane passing through a cone in a direction parallel to the slant side thereof; it is therefore a curve of such a nature, that if any number of points be assumed in the axis, and through these points perpendiculars be drawn to meet the curve in either direction :-

The distances between the vertex or origin of the axis and the several assumed points, are respectively proportional to the squares of the corresponding perpendiculars.-Or, in other words, the abscisses are proportional to the squares of their corresponding ordinates.

From this proposition the general equation or characteristic of the curve is derived, and the manner of its derivation may be illustrated as follows :-

Let ABC, 6g. 2, be a section along the axis of a right cone, of which C is the vertex and AB the diameter of the base, and let DVE be a parabolic section, made by a plane passing through the cone in a direction perpendicular to the plane ACB, and parallel to the slant side CB; then is VF the line of common intersection of the two planes ACB, DVE, and DE the line of common intersection of the cutting plane DVE with the base of the cone, so that $\hat{\mathbf{V}}$ is the vertex of the parabolic section, VF its axis parallel to CB, and DE its base, FD and FE being ordinates to the axis in the point F.

Through any point I in the axis VF, and scallel to the base DE, draw the straight line parallel to the base DE, draw the straight line GH meeting the curve both ways in the points G and H; then are IG and IH ordinates to the axis in the point I, GH being a double ordinate corresponding to DE, the base

or anate corresponding to 22, and of of the section. "Through the same point I and parallel to AB, the base of the cone, draw the atraght line KL, meeting the slant sides (GA and CB) in the points K and L; then the circular sec-KRE the diameter of the circular secdon through the point T, any how as-sumed in WF, the axis of the parabola. "Ndw;"since the ordinates FD and IQ 'meet' the direumferences of the circular sections "ADB and KGL, as well as the parabolic curve DVE in the points D and G, they are respectively perpendicular to the diameters AB and KL, and, consequently, they are ordi-mates to these diameters, as well as to WF the axis of the parabola; for he-cause the planes ACB and DVE are perpendicular to one another, size to one another, size to one from the principles of solid geometry, that DE and GH are also perpendicular toAB and KL. From this construction, therefore, we are to prove, that, the abscissa VI, is to the abscissa VF, as the square of the ordinate IG, is to the square of the ordinate FD; because

by construction the straight line KI is parallel to AF, the triangles KV land AVF are similar to one another, and, consequently, by the property of similar triangles, we have

but by the nature of proportion, if the con-

sequents of an analogy be both multiplied by the same quantity, the ratio is not altered in Semequence of such multiplication. Now, since VF the axis of the parahola, is parallel to OB, the still of the one, and KL parallel to AB, is follows that IL and FB are equal to one another, being opposite sides of the purallelogram ILBF; hence it is

VI: VF:: KI X IL (AF X FB;

but by the property of the circle, the rec-tangles or products $KI \times IL$ and $AF \times FB$, are respectively equal to the squares of the ordinates IG and FD; therefore, by substitu-tion, we get as follows,

VI: VF :: IG2 : FD2, which was to be proved. If this apalogy be converted into an equa-tion, by making the product of the mean terms equal to the product of the extremes one form of the equation to the parabolic curve becomes

 $VI \times \overline{FD^2} = VF \times \overline{1G^2}....(A.)$

Now, in this equation, if any three of the quantities be given, the fourth can always be found, by simply disengaging the required quantity from that with which it is combined, y division and the extraction of roots according to the combination.

If it were required to determine the ordinate IG from the abscisses VI, VF, and the ordinate FD; we have only to divide both sides of the equation by VF, and extract the square root of the quotient, and we get IG=FD

 $\int \frac{v_1}{VF}$ And in like manner, each of the vī other quantities in terms of the rest may be expressed as follows, viz. :- abscissa VI= $\frac{VF \times \overline{IG^2}}{ID^2}$; abscissa $VF = \frac{VI \times \overline{FD}^2}{IO^2}$; and finally, IG* RD*

ordinate FD=IG $\sqrt{\frac{1}{VI}}$

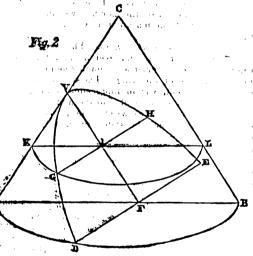
From these equations the following practical rules are deduced, according as it is an ordi-nate or abscissa that is required; when it is an ordinate, as in the first and fourth of

required ordinate by the other obscissa belong. ing to the given ordinate; multiply the square root of the quotient by the given ordinate, and

the product will be the ordinate required. This rule for the ordinate is very concise and easy of application; but when an aherises

RULE.—Multiply the square of the ordinate belonging to the required abscissa by the given abscissa, and divide the product by the square abscissa, and divide the product by the square of the other given ordinate for the abscissa required.

By these two rules all questions respecting the ordinates and abscisses of the axis can be resolved, and the following examples will shew the manner in which they are to be applied.



Example 1. If the ordinate corresponding to an abscissa of 48 in thes be 18 inches, what is the ordinate corresponding to an abscissa of 14 inches?

By a reference to the figure, it will readily wapear, that we have given the abscisses VI, VF and the ordinate DF, to find the ordinate IG, corresponding to the lesser abscissa VI. Therefore, by the first of the above rules, it is

 $\int \frac{14}{48} = 0.54006$; and $0.54006 \times 18 = 9.7211$ in.

Example 2. If the abscissa corresponding to an ordinate of 12 inches, be 17 inches, what is the abscissa corresponding to an ordinate of 27 inches?

Here again, by reference to the figure, we find that the given quantities are VI, VF, and IG, to find FD the ordinate corresponding to the greater abscissa VF; and for this purpose, the second of the above rules gives the follow-ing processes $\frac{2}{2}$ Suppose of given ordinate $\frac{2}{2}$ ing process: —Square of given ordinate, $27 \times 27 = 729$; square of the other ordinate, $12 \times 12 = 144$; then $729 \times 17 = 12393$; and $\frac{12393}{144}$ 144 =86 ... inches.

And in precisely the same manner are the rules to be applied to any other example, taking particular care to apply the ordinate or abscina given, courseponding to the abscissa, or ordinate required exactly as directed, other, wise the process will lead to a very false rein the application, of the rules; but a very little attention and practice will be sufficient to guard against the liability to fall into error on this point.

If we return to the spalogy from which the, general equation (A) was derived, and divide each consequent by its antecedent, we shall find that the expression $\frac{\overline{1G^2}}{\overline{VI}}$, or $\frac{\overline{FD}^2}{\overline{VF}}$ is a con-

stant quantity for the same parabola, to what-ever point of the axis the quantities may be referred; but as each of these terms expresses a ratio by the nature of proportion, they may be converted into an analogy, as follows:— VI: I(4:: IG: $\frac{IG^2}{VI}$; and VF: FD:: FD: $\frac{FD^2}{VF}$

from which it appears that in each case, the fourth term of the analogy is a third propor-tional to the abscissa of the axis and its corresponding ordinate; but by the definitions page 463, the third proportional to an abscissa and its corresponding, ordinate is equal to the parameter of the axis, or to the double ordinate which passes through the focus. Let this ele-ment be denoted by the symbol p, and let it be substituted for the terms $\frac{\overline{IG^3}}{\overline{VI}}$ and $\frac{\overline{FD^3}}{\overline{VP}}$ in the

above proportions, and they become VI:IG:: IG: ** , and VF: FD: FD: p. Let each of these analogies be enversed into an equation, by making the product of the mean terms equal to the product of the extremes, and we shall have 9800, 00 2 200 the

$p \times VI = IG^2$; and $p \times VF = FD^2$;

so that generally, to whatever, point of the axis the ordinate may belong, its square is always equal to the rootangle of the corquantity p. Therefore, if sube-part to descent any abscissa estimated from the vertes, and s th corresponding ordinate ; then the gener characteristic of the curve, on which its serent properties are dependent, becomes mout-rabaz

p a=y2.....(B.) Protection 2010

But for the convenience of practical men we shall express this equation in a specific form, as follows :--and the shiring an

Parameter × abscissa = ordinate × ordi

nate (C.)

Now this is a very simple and elegant expression for a curve of such extensive applica-tion in practice as the parabola is, and the rule which it supplies is thus enunciated.

RULE.-Multiply the given abscissa by the parameter, and extract the square root of the product for the ordinate required

Example 3. What is the ordinate corre-sponding to an abscisse of 24 inches, suppos-ing the parameter of the axis to be 6 inches? Here, according to the rule, we have $24 \times 6 = 144$, the ordinate squared; therefore, by taking the square root of 144, we get 12 for the ordinate required the ordinate required.

From the same general equation (C), we may determine the abscissa corresponding to any given ordinate, when the parameter is known; for we have only to divide both sides of the equation by the parameter, and the quotient will be the abscissa sought; thus we have

abscissa = ordinate × ordinate + para-

meter (D.)

The practical rule derived from this equation is expressed in words, as follows :-

tion is expressed in words, as follows: RULE.—Divide the square of the given ordi-nate by the parameter of the acis, and the quotient will be the abscissa sought. Example 4. What is the abscissa corre-

sponding to an ordinate of 12 inches, sup-posing the parameter of the axis to be 6 inches?

Here, by operating according to the rule, we have $12 \times 12 = 144$; and $144 \div 6 = 54$ inches, the abscissa required.

It frequently happens, however, in the ap-plication of the parabola, that the parameter, or constant quantity is not given; indeed, in almost every case where the curve is to be delineated, the parameter requires to be found ; but in every instance cush data wast be proposed as will enable us to determine what that element is, for we must either have given two abscissas and one ordinate, or two ardi. nates and one abscissa, and from an ordinate

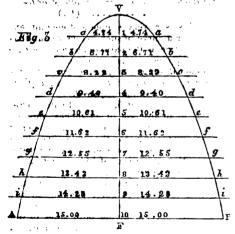
and its abeciase, the parameter of the aris can always be determined, since by the deflations page 465, and from what has been shewn above, it is always's third proportional to those two quantifies." It is not, however, absolutely two quantities." necessary to determine the value of the parameter for the purpose of delineating the curve, as that can be done mechanically by means of a series of ordinates calculated by the first (A); it must, however, be understood that the parameter is (involved in that process also, although not exhibited as an independent term. We shall now proceed to shew how the para-bola is to be constructed mechanically, by a series of ordinates calculated in the manner here mentioned.

Problem. Let it be required to delineate a parabola of which the base is 30 inches, and the axis 30 inches.

In order to obtain a series of ordinates, it becomes necessary in the first place to have a series of corresponding abscisses, and for this purpose, we must divide the axis into a certain number of parts or intervals, through which the ordinates are to be drawn; it matters not the ordinates are to be drawn; it matters not whether those intervals are equal or anequal, but it is most convenient; both for the calca-lation of the ordinates and for the graphic de-lineation, that the intervals should be equal. Now, if we divide 30 into 10 equal parts of 3 inches each, the series of abscisses which the ordinates are to be computed will be 3, 6, 9, 12, 15, 18, 21, 24, 27, being 9 in all, the last, or tenth ordinate, being equal to half the

Inst, or leath ordinate, being equal to half the given base. Consequently, the series of ordinates corre-sponding to these abscisses as calculated by the rule for that purpose, are 4-74, 6-71, 8-22, 9-49, 10-81, 71-62, 12-55, 13-42, and 14-23 inches respectively; therefore, if indefinite right where be drawn through the several points of divisitin on the axis parallel to the base, and on each of these time both ways, the show we include the first of from a scale of slove ordinates be set off from a scale of equal parts, the surve that passes through the extremities of all these ordinates will be the parabola required; but this will be best understood by carefully tracing the steps of construction an follows,

Draw the straight line AB, fig 3, to represent the base of the parabola, which make equal 10'30'inches from 'a' scale of any' convenient magnitude at pleasure. Bisect AB perpendi-



cularly in F, and make FV also equal to 30 cularly in F, and make FV also equal to 30 inches from the same scale as before; then is FV the axis of the parabola according to the example given. Divide the axis FV into ten equal parts of three inches each, in the points numbered 1, 2, 3, 4, &c., and through the several points of division thus obtained draw the straight lines *aa*, *bb*, *cc*, *dd*, &c., parallel to the base, AB; then from the same scale of equal parts from which the base and axis were taken, set off both ways from the points of di-vision on the axis the several calculated ordivision on the axis the several calculated ordinates as shewn in the scheme, and the curve which passes through the several extremities of the erdinates will be the curve of the parabola required; and in this way may any other partitions be constructed mechanically by means of a series of computed ordinates, without of a series of computed orannaces, where a series of computed orannaces, where a series of the paenmeter.

MANCHESTER ATHENEUM. — A second grand soirée will be held by the members of this institution on Thursday evening, October 23rd. 2314.

FOREIGN "A BOHITECTURAL AND COL

Embankment of the Nile. -- For' several ears past it has been stated, that Mohemed-Ali contemplated those stupendous works, which now appear near their realization. A French engineer, Mr. Naugel, is charged with the execution of this plan. The dredges and steam-engines have already been ordered in some of the manufactories of Paris. Mr. Naugel has also just purchased, by order of the Viceroy sixteen brick-machines, made after the plan of Mr. Carville, and which have occupied a conspicuous place in the late exhibition of French industry, each of which can produce every day more than 10,000 bricks, almost without any expense. The chief engineer will also

The Houses of Luther and Mehanching attention, like Luther's chamber on the Wartburg. The King of Prussia has given orders to p archase the former and to convert them into public schools. The renowned gates of the Wittenberg Cathedral also, where Luther boldly affixed his "positions," and which are nearly decayed, will be replaced by new ones made of s, and richly ornamented with emblems.

The Present State of Cologne Cathedral .-The work of restoration has progressed most prosperously during this season, and the King of Prussia, who had occasion to see it during his stay at the Rhine, has addressed a very flattering note to the Directors of the Dome-Building Association. The two lateral portals have so far proceeded, that the arch over one of the entrances (richly decorated) is nearly completed. In fact, the building grows under the eyes of the beholders, but few can have an idea of its difficulties. The south aisle is now opened to the public, and if we consider, that its ceiling has been completed within the fast two years, that new casements of the windows, etc., have been added, we may expect, that by 1848, the main nave also, up to the second gallery, will be completed. It is supposed, that by this time also the north tower up to the finishing of the main forth to ill will be comthe finishing of the main portal will be completed.

-This meet-Scientific Congress at Naples. ing —the first of the kind ever held in that capital—has been opened with much solemnity in the presence of the king. The number of gentlemen presence of the king. The winder of gentlemen present, was an unprecedented one, wiz. 1,500, from all parts of Europe and even America. What comes within the province of this Journal shall be stated on a future occasion.

THE SANATORY CONDITION OF THE WORKING CLASSES IN PARIS.

MR. ALPHONSE BRAUMONT-the Irish traveller, and brother to Elie Beaumont, the great geologist, has put forth an article on the above subject, from which we extract as much above subject, from which we extract as much, as comes within our province, and mey be useful to the English worker. We agree with the noble French philanthropist, that "Indus-trial Hygiene" and its practical and legislative application, is a field scarcely trodden—if we except the late efforts of Lord Ashley and a few others. Mr. Gay Lussac in France, and the Health of Towns Commission here, have fixed public attention on the murderous (meurtrier) condition of many of the manufacto-ries and workshops. Still, the hitherto laws relating thereto, have entirely left aside that paramount care for the worker occupied in the interior of buildings—and have not attended but to the inconvenience which may result to the neighbourhood of such establish-ments. The laws regulating the work of children and females (here and in France) can be called only preparatory, and regulations for the protection of the health of the adult worker are to be added to the statute of industrial enactments (!). The law of 1841 has given to the Government of France the power of regulating the operations of manufactories where children are employed, and Mr. Beau-mont wishes that this power should extend to all establishments where the health of the

establishments (pbbr houses), it is bot the in-dividual mansfastaren. mbo, bears shere, ex-penses, but the public at barge. Mr. Gendrin, physician of the Hapital de la Pitić, in Paris, has addressed the Minister of Commerce on the subject of saturnine affections (poisoning by lead), and has; besides the imede of streat ment, put forth the means of preventing these disease

But the subject which comes most within the limits of this journal are the diseases to which the workers in paper hanging manual factories are exposed. . Dr. Blander has hately copper and arsenicated acid. Most of the operations of those workers bring on cutano-ous diseases. Many of these accidents, however, could be obviated by the care of 'the workmen, who, nevertheless, refuse to this the precautions indicated to them by some of their humane masters. Mr. Beaumont cites examples, where the men had disobeyed the injunction of using especial garments in their bours of labour, and others who would not avail themselves of the tepid bath, which intra effor-fered them gratuitously every, evening, Gloomy samples, indeed, of the recklessness and atheism of our age; and Mr. Beaumour says very traly, that in 'this instance's No.⁴ the material welfare of the humbler classic sites. timately connected with their mental or mind's, umatery connected with their mental organid's, development. A course of Hygiene, in fine, is recommended by our talented contemporary, as one of the most essential agenetics for the future welfare of whole generations. Mr. Be-respectfully addresses himself to the Minister, of Commerce, Mr. Cunin Gridaine, to effect such a praiseworthy object; which, if applied to this country, would mean the Board of-Trade. Trade. HL. Q

STATE OF THE WESTMINSTER SEWERS

THE following entry has been made in the, "Book of Informations" at the Westmissing Sewers' office, by Mr. Phillips, the clerk of she, works, with whose views on the subject of sewersge our readers are acquainted in It jis, perhaps, desirable we should say that our day formation was not obtained through him "Oct. 3, 1845.— In obedience to the order of Court, as expressed in bye law No; 60, many si 'That each clerk of the works do endow on b to obtain every information on the state of the sewers within the district placed ander this superintendence,' and 'that in the course of trict, and report his baying to identify the intermeters with his remarks and observations in the Bone, of Informations, in addition to such markes and have been usually made therein intermeters "Therefore, I beg most respectfully to state thet there are a wat number of sewery

under my superintendence that, are similar to Mongated ceeppools, that, is, they retain nearly, all the sawage matter that is discharged into them. instead of affording efficient means for speedily currying it off; and the stanchand. effluyin from the decomposed filth, thus ascumulated, escape through the untrapped gullies and drains, and contaminate the surround-ing atmosphere with neusoous and deleterious gases, to the great injury of the health of the public: consequently they should net only be cleaned forthwith, but some ready and effectual means should be adopted in order to prevent the matter discharged into them afte wards from becoming deposited upon their bottom:"

At the last meeting of the sommission held on the Ord inst., Mr. Hawking resign nead on the ord away, one shawkhe respect the appointment of surveyor, on which dir. Losie, fooling that Mr. Phillips, in hashies, yours to obtain an improvement of the second ander his charge, and displayed a degree of moral correge way often found, and had superior moral correge way often found, and had superior consideration stilly, proposed him as a proper person to receive the vacant appointment. We trust the commissioners generally will think so tog.

MACLISE'S CARTOON ; THE SPIRIT OF CRIVALRY.-The committee of the Art-Union of London have shewn their there and all establishments where the nearth of the MACLES'S CARTOON; Fills Spirit of Worker is placed in jeopardy. "The thing CRIVALRY.—The committee of the Art-seems self-evident, because, if by any insalu-brious occupation hundreds of workers are sent to the hospitals, and "finally to charitable" ine work for their substriberd, goude r yd anoly





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SHORT DEEDS. the fail the AT ANTANY TO FACILIRATE THE GRANTING OF THE

07- 11 CRATAIN LRASES, 8 & 9: VIC. CAP. 124-1974-

"Thus, Act, which received the royal assent on the 5th of August last, came into operation on the 1st inst. The preamble simply asserts it to be, "axpedient to facilitate the leasing of lands, and tenements, and the first clause enacts that certain short forms of words (which are given in a schedule) shall be taken to have the same effect and to be construed as if other and longer forms (which are also given in the and longer forms (which are also given in the same schedule), had been inserted in any deed drawn, up as, follows, or to any other deed which abail be, expressed to be made in pur-

guarce of, this Act. This indenture made the day of one thousand eight hundred and [or other year], in pursuance of fortyan Act to facilitate the granting of certain lanses, between [here insert the names of the parties, and Recitals, if any witnesseth, that the said [lessor] or [lessors] doth or do demise unto the said [lessoe] or [lesses], his [or their] executors, administrators, and assigns, all, &c. [percels], from the day of

for the term of ... thence ensuing, yielding therefore during the said term the zent of [state the rent and mode of payment]. ... In witness whereof, the said parties hereto

have hereinto set their hands and seals. [The segond clause enacts "That every such deed unless any exception be specially made therein, shall be held and construed to include all outhouses, buildings, barns, stables, yards, gardens, cellars, ancient and other lights, paths, passages, ways, waters, watercourses, liberties, privileges; teasements, profits, cominderties, providges; essements, pronts, com-modities, emoluments, hereditaments, and ap-purtenances whatsoever, to the lands and tene-ments therein comprised belonging or in any-wise appertaining." "The third clause relates to remuneration for

The third clause relates to remuneration for preparing and executing any deed under the Act, and enacts that in estimating the proper sum to be charged for such transaction, the taking officer shall consider bot the length of such deed, but only the skill and labour em-ployed and responsibility incurred in the pre-paration thereof.

"The fourth clause enacts, that any deed falling to the effect by virtue of this Act, Shall nevertheless be as valid as if the Act

had not been made. The construction claase enacts, that for the purposes of this Act "unfess there be some-thing in the subject" or context repugnant to such construction, the word clands ' shall extend tol'all'tenements and hereditaments of tend "to" all "tenements and nereunsments of freehold tenure, and to'such customary lands affwill pass by dead or "deed and surrender, and not by softender atone tor any undivided part or share therein respectively.

to be rear pression to be of areted EFFLUVIA FROM SEWERS.

Signation of the subject be-fore your readers. I am happy to say, that since the appearance of my former letter, I have received one or two communications from persons especially interested, offering me their assistance in more fully placing before the public opinions of, and remedies for, this prest: unnecessary evil. As a prelude, I the public opinions of, and remedies for, this great: unnecessary evil: "As 'a 'prelude,' I would mention as a fact, that to such an ex-tent has the practice of "venting" severs been carried of late, that those gulloy-holes which were trapped 'formerly, 'have been opened, and in some cases, even in the centre of the roadway; holes have been 'made in con-nection with the severs, the filmes afford the shade any comparison with the worst cesspool. "In referring to your correspondents 'letter in your number of the 20th September, Twould beg to offer a few observations' on the com-ments. First, as regards the originality of the plan in point of " trapping," I only lay claim to, and advocate its introduction, when it com-ination with my system of aewers, "When it is four south to diverse its introduction," to his fears as to the bursting of aewers. "When 'this beckers, it is not owing to the pent-by gases in the south of the bursting of aewers. "When 'this beckers, it is not owing to the pent-by gases in

becars, it is not owing to the pent-up gases in the sewers, but chiefy to their unsound, as

⁶ We are compelled, in justicerto a former scaverpendent, to refer "J. L." to p. 199, este, where he will find columns for the scape of the vitilized sin, proposed by "W. Row-land."

THE BUILDER.

well as unfit construction, many of them being satirely destitute of the form calculated to withstand the immense hydraulic pressure, to which the sewers of London are continually subject. Again, with regard to the effluxia; I think the application of windguards or draft-creating machinery, would be found quite un-necessary, from the volatile nature of the gas, and the ever-evisting draft in severe adand the ever-existing draft in sewers, ad-bering at the same time to the idea, that it would be better to destroy the effluvia, if possible, than to allow it to float in the atmosphere.

I have now brought myself to that portion of my letter most interesting to your many able readers, viz., as to what sort of trap I should propose. I have revolved many ideas should propose. I have revolved many ideas in my mind, and have now prepared a tran, the construction and applicability of which may induce comments from those not merely "theoretically," but (I hope) "practically" acquainted with the subject. I feel convisced that as the vast accumulations of mud in all the streets of the metropolis, will render the cleansing of the cistern, or lower part, an act of frequent occurrence, it is necessary that any trap that may be brought forward, should be so constructed, as to be removable with the

utmost facility on any emergency. Before concluding, I would say a few words on the varied application of the "columns," to render which ornamental as well as useful, to render which ornamental as well as useful, the addition of gas-pendants in large thorough-fares would prove of great service to night traffic, while the introduction of doors at the bottom might serve as an easy communication in all parts with the bowels of the metropolis.

Although in introducing the subject before you I venture to anticipate the cordial good wishes and support of your correspondents in forwarding its introduction, yet I almost de-spair of its adoption till the strong hand of the legislature interferes to put a stop to the erroneous ideas and actions so conspicuously manifest in the present system of sewerage.

151, New Bond-street. J. L. *•* We have not engraved the drawing of the trap seot, as it dees not appear to have any advantages over a trap figured in the second volume of THE BUILDER, p. 594, and is less

Rew Books.

simple.

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Double Entry Elucidated, an improved method of teaching Book keeping. By B. T. FOSTER. Souter and Luw, Fleet-street.

DR. JOHNSON, who has a sentence for every thing, says justly, "Let no man enter into business while he is ignorant of the method of regulating books; never let him imagine that any degree of natural abilities will enable him to supply this deficiency, or preserve a multiplicity of affairs from inextri-cable confusion." Nevertheless, half the cable confusion." Nevertheless, half the youths who leave school prepared, as is said, for the counting-house, know literally nothing of book-keeping, the mode of instruction adopted is for the most part so inadequate, so unscientific, and so irrational. Principles of universal application are kept out of view, and all is made to rest on a few arbitrary rules. The result is, as the author of the work before us observes in the introduction, thatwork

" It has become an established maxim among merchants and men of business, that a know-ledge of book keeping cannot be attained, except by dint of long practice in the countinghouse; and, consequently that all attempts to teach the science are useless and absurd. We are not surprised to find that deemed impossible, which, in ninety-nine cases out of a bundred, is not accompliabed; but are we justified in abandoning the pursuit of an object, before we have ascertained whether the means employed for its attainment are adapted to the end? Is there any sound reason why book-keeping should not be as efficiently taught as any other art or science? Geometry, naviga-tion, land-surveying, and the like, are subjects which require, on the part of the learner, far greater powers, of mind and thought, and a much greater exertion of those powers; and yet boys are found to obtain at school a satisfactory knowledge of these branches. How then is it that book keeping cannot be taught? I answer, because the subject is not understood; the student is left to learn instead of being

alone enable him, to prove or maintain the distinction of meum, and lumm. Let it then be taught, in every school throughout the kingdom."

kingdom." In the book before us the nuthor endeavours to develop, by means of agalysis, the principles upon which every form of accounts is based, and to force the student to think. "The instructions in it are full and clear, and well, calculated to impress the student. The following, "general principlea" will serve, as a specimen of the author's style:---

chant's real worth, yanging of first and the second ret deficiency. 2. Debtars and creditors are alwars, in oppo-sition to each other. Thus the respective items on the debtar side, at one account are credits in some different account; and those on the creditor side, are debits in some

those on the creditor side, are debits in some other account. 3. Every transaction relating to property may be virtually considered under the single denomination of barter, or the exchanging of one thing for another; hence each transaction affects at least two accounts, and must be entered on the debtor side of one, and on the creditor side of the other. The receipter account is always debtar, and the imparing account always creditor.

account always creditor. 4. To increase, or add a sum to, the debit side of an account, is in effect the same as to decrease, or subtract a sum from, its credit

side; and vice verside amount of debtors in the signegate amount of debtors in the ledger is equal to the aggregate amount of creditors, and, consequently, the debtors and creditors affected by each transaction are, in every case, equal.

The assets or debtors, and the liabilities or creditors, are at first equilibrated or man equal, by means of the stock account; and a every subsequent transaction affects an equal amount of debtors and creditors respectively amount of debtors and creditors respectively (See 5 General Principle), this equilibrium in maintained throughout. The increase of decrease of the capital is exhibited by the set gain being carried to the credit, or the net loss to the debit, of stock ; whilst an each case an opposite debit of credit, of corresponding value, is made in some, one, of the money, merchandise, or personal actionals.

cient value that, been shown to entitle and to vote...Nineteen hat heen shown to entitle and than, twelve monther. This claims were non-sequently held to be good.

and your" other correspondents on the same subject, in being of opinion that Gothic Architecture is now studied too engrossingly and too exclusively; and I am forther of opinion that it is studied more as a dead language of the It is studied more as a dead language of the art than as a living one, with more of plod-ding inquiry into its bistory, with more of the mere collecting facts and the materials of study, than of real intelligence of the artistic value of that style at the present day to our-selves. As it is now pursued, the faculty chiefly exercised by the study is memory and little more; while those of judgment and reasoning taste are suffered to lie dormant and unexercised. The fruit we gather consists for greater part, of dates only; yet it must be owned that that fruit seems to possess if not an enlivening, an intoxicating quality. not an enlivening, an intoxicating quality. Even those who can talk very fluently about styles and periods, and have all Rickman by heart, or rather at their tongues' ends, often seem quite aground—au bout de leur Latin, when they attempt to proceed a step further, and without the aid of book or other prompter, and without the aid of book or other prompter, to specify either the particular merits or the contrary of any individual example, or else of any modern imitation of the style in ques-tion. The most glaring solicism may stare them full in the face, in a modern antique design, without their being able to detect it. Glossaries and other " collections of Gothic

Giossaries and other " collections of Gothic details " are, no doubt, very useful in their way, yet they go, and can go but a very little way, since however well suited for the pro-fessed purpose, they are fragmentary in plan, and so far defective, since it affords no more insight into the constitution and coming of the insight into the constitution and genius of the styles themselves than Ainsworth's and Johnson's Dictionaries do into those of Cicero and Shakspeare.

Whether we can yet appropriate Gothic architecture to ourselves at the present day re-mains to be shewn. Those who insist upon precedent for every thing in modern build-these of the kind, assure us obliquely, if not precedent for every thing in modern build-ings of the kind, assure us obliquely, if not directly, that we cannot. According to them we "can" do nothing whatever of ourselves, neither ought to attempt it, but on the con-trary be perfectly satisfied with, and vastly proud of being domed to be initators. In-stead of studying what we ourselves now actually want," and "what would be most suitable for present purposes, we are to study how we may best ape and 'initate what was suitable many centuries ago. Nay, there are those who would even have us *Gothicize* painting, and re-burn to what they are pleased to call the *naive* manner of the 'middle-age attists-to make *naive* representations of the human figure as we behold out the court cards-which pristine mode of drawing has in them been tradi-tionally preserved to us in all its *purity*. In strong contrast to the ardour with which Gothic architecture has of 'late' years been taken up as a fashionable pursuit, and the in-dustry with which it has been ministered to in a varlety of 'publications, all more' or less of a popular nature, is the alhoust total cessation of

dustry with which it has been ministered to in a variety of publications, all more or less of a popular nature, is the almost total cessation of architectural publishing 'as 'regards other styles of the art.' As far as these last, Greco-Roman, Italian, and modern architecture gene-uu2 the architecture gene-Roman, Italiai, and modern architecture gene-fally are concerned, there has scarcely been a single, attempt to render the study of them popular. With exception of what re-lates to the orders alone—and they are treated far too drily, and merely technically, there exist at present no materials for such study, nothing to afford the non-professional public an intelligent or indeed any sort of in-eight into the principles of the styles just al-fuded to. As far as any attempts at all have been made towards furnishing the public with a theory have been most miserable failures, things apparently but together by booksellers' hacks, and made like Peter Pindar's 'razors,' only to sell. Of this kind is the treatise on architecsell. Of this kind is the treatise on architec-tare 1. Will Chambers' Information for the Provide the which the architecture notions and bettighting ignorance of the subject, that if the other treatises are of no better quality the fitle of the series should have been " Mis-Information.

"Ond "circumsumes" which 'I conceive has forded very greatly to hinder the popularity, and "nime" general diffusion of architectural works) is not only their explosiveness, but the bog do t bed ynespe

THE BUILDER.

inconvenient and frequently very unnecessary extravagance as to size, which is sometimes as to render them all but quite useless for such as to render them all but quite useless for such reference. Had Britton's cathedrals been brought out on the same scale as those by the Antiquarian Society, even had they been published at half the price they were, they would not have had any thing like the same effect in promoting the study of Gothic archi-tecture. One might almost fancy that archi-tecture, of Prussic's pression tects had old Frederick of Prussia's passion for grenadiers, and consider gigantic dimen-sions, nothing under the standard of elephant or atlas folio, to be indispensable for the pro-

fessional dignity of their publications. It is upon such absurdly outrageous scale that the collection of Gaertner's buildings has just been begun; yet a far more econo-mical size, either ordinary quarto or large octave, will in general answer the purpose just as well, since even if it does not admit of the whole of an elevation being shewn on a satisfactory scale, one-half of a regular fronttherefore, on twice the scale it would otherwise be-answers the purpose equally well; or the whole might be shewn on a reduced scale, and a single compartment of it or more, as the case may require, be shewn on a separate plate; by which means, even an octavo page might be made to exhibit buildings on a very much larger scale than is now done in ultra-folio works. Many of the subjects in Durand's "Parallèle," for instance, might be given in a less than octavo size.

Apropos to Walpole's opinion of Vanbrugh Apropos to warpore s opinion of vanorugh, Horace was but a very coxcomb critic after all—a mere dogmatizer, who scorned to deal in reasons and arguments. Shades of Van-brugh and Hawksmoor! most amply have ye brugh and Hawksmoor: more amply been avenged by your libeller's own most pitiful production—that contemptible piece of timestural bathos, ycleped "Strawberry Hill !"

Should you print this, you may hear again om Rubownik. from

SUFFOLK CHURCHES: " WITNESHAM : ST. MARY THE VIRGIN.

MANY of the rural churches of England are not a little remarkable for the retired, yet

not a little remarkable for the retired, yet beautiful situations, they coccupy, and the church of Witnesham, seated in a valley and surrounded by some fine trees may be cited as an example of this kind. "The plan of the church is not unusual in this part of Suffolk. It consists of a spacious nave 56 feet long and 261 feet wide, having a well-proportioned tower on the south, and a small sisle 231 feet by 111 feet, divided from the nave by three arches. There is little architectural embellishment, and no part ap-pears earlier than the 14th centary. The west window is of three lights, the tracery consistwindow is of three lights, the tracery consisting merely of the intersections of arches, and even these are without foliations. The pro-portions of this window are very good, but the ace is worthy of better decoration, which; though probably intended by the architect, we are inclined to think never was effected. "The other windows are generally of two lights of the same character, but there are two of huncer shape and trifoliated. A window of perperdicular date has been inserted in the wall of the aisle, and another, much mutilated, appears at the east end. The clerestory of the nave contains ten windows of plain perpendicular work, and has a fine wood roof, now much hidden and defaced with plaster. The most interesting feature in the interior is the division between the nave and aisle, which exhibits some good decorated work in the capitals of the piers. The tower is of fate date, it is built of flint and is very plain; but the battlemented wall and the battresses occathe buttlemented wall and the battresses occa-sion it to have a good effect. As usual, the tracery of the beliry windows is much dilapi-tated. There are five bells, bearing the in-scription in each of "John Darbie made me 1660;" and one further records the name of Daniel Meadows, 'a family which from a very early date has beld possession in this parish. Of the chancel little macha-be said. It was ones of decorated character, but all binament has long since disappeared, "The all ornament has long since disappeared, "The north and east walls have been rebuilt, and fragments of a fine cust window may be seen ambedded in the mortar; the chansel arch is a wretched specimen of the parsimony of the area diversion of the parsimony of the

last century. Of stained glass, in which the Suffolk churches once abounded, till the fanatic Suffolk churches once abounded, till the fanatic seal' of William Dowsing was permitted to revel in the mutilation of sacred edifices; there are two fragments left; one in a south window of the nave shews the wolf guarding the head of Saint Edmund, but the head of the waint has been removed. In the charicel; on the south, are armotial bearings; 'argent a lion semanticable over all a head office. The head is rampant sable, over all a bend gules. There is a large font elevated on steps; occupying a central position in the nave opposite the worth and south entrances.

In removing the pews in the sisle a large In removing the pews in the aisle a large vessel of Roman pottery was discovered a little below the surface of the ground, and though some bones were found close by it, there is reason, from its appearance, to suppose it was used as a vessel for culinary purposes, and not as a sepulchral vase. It was much and not as a sepulchral vase. It was much damaged in removing the soil, but it probably was not perfect when discovered.

The exterior appearance of the church has been injured by the removal of the battlements, which was done about eight years since, when the roof was repaired.

The interior was until lately disfigured with unsightly, inconvenient, and uncomfortable pews, the removal of which and the substitution of open seats, has been effected under the superintendence of Mr. Ringham, of Ipswich. Sufficient of the original seats were left to afford models for imitation, and not only is the appearance of the church improved by this al-teration, but additional accommodation is gained, and increased convenience to the congregation .- Ipswich Chronicle.

Correspondence.

WYKEHAM AND SUBARCUATION.

WYKEHAM AND SUBARCUATION. SIR,—In your useful periodical called THE BUILDER, I observe a letter of mine printed on the subject of "Subarcuation," and the Architecture of William of Wykeham,• in which I find the words "the archeological, an-tiquary and the artist."; It is possible, as I wrote in haste, that the tautology is mine ori-ginally, but J., must have intended either to say "the architectural antiquary and the artist." ginally, but J₁must have intended either to say "the *architectural* antiquary and the artist," or "the architectural antiquary and the artist," ventured to trouble, you with this, correction, in consequence of the honour you have, damp me by your public, notice of a letter, written chiefly with a view of doing justice, pribe sur perior art and skill of William of Wykebam. I am, Sir, &cg., 10, etc., 18 GBAMfruq 11, South Parade, Bath, Office's an i gouin

st to the story to the second to the second se

wooden apouting at the back part of as before, or if the spouting must be defined as the back part of a spouting as before, or if the spouting must be of ing, as before, of it the spouting must be of metal or mines, the spouting prejects before the face of the brickwork. An answer will greatly oblige "Camberwell, Oct. 5, 1845. The Theorem 1997 "A CAMPENTER." "Camberwell, Oct. 5, 1845. The spointed but, if taken down, pipes of metal br of other proper fire-proof material must be substituted.

the "Raigian artists and "frands. of "Art-en-lightened amateurs" who have assembled this solve Congress of the Arts ""-"Athenaume in . "In Duc the Bart of a congress of the Arts ""-"Athenaume in . "In Duc the Bart of a congress of the solution of the solution beds Bailway Company, in order to induce people to build, along their, line, offer to lead 20,000/.for, the purposes at 4 part cause and to give a free ticket for life to every builder of batter cause and all of the solution of a 20 and We are compelled, in Masyes ave aver batter out for the escape of the sub**ility proposed** by "W. How

THE ABTS HAVE ONE COUNTRY .--- A grand banquet, has been given at Brussels, by the artists and amateurs of Belgium, to the foreign artists of Europe, presided over by M. Van de Weyer, and attended by 180 guests. Among the artists whose names are mentioned as being present waified, the English ones of Mr. Roberts and Mr. Prout, The spirit of the occasion is best expressed in its two leading be, Belgian artists (and, friends, of Art-

496

Eenders.

d additions for Meane. Se Altera 11, Go., Compton-street, Sobo (first contract); Mr.

| | Burton | £2,004 |
|----------|----------------------|--------|
| | Leschalles | 1,945 |
| <i>`</i> | Haynes and Co | 1,729 |
| | -King and Correction | |
| | | |

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of ." The Builder," 2, York-street, Covent-garden.]

For Building a Saloon at the Spa, Scarborough, and two Toll Houses at the Bridge, for the Scar-borough Cliff Bridge Company; with other alterations and improvements.

For certain Repairs proposed to be done to the interior of the Parish Chapel of St. Luke, Chelses. For sundry alterations and additions to a House in Huntingdon-street, St. Neots.

For completing ten fourth-rate Houses, at pre-

sent in carcases, situate at Mile End. For the Post and Rail fencing required in con-structing the Manchester and Leeds Railway. Di-mensions.—Posts, 6 ft. 6 in. long, and 5 in. by 31 in. in sectional area; Prick Posts, 5 ft. 6 in. long, and 21 in. in sectional area; Rails, 10 ft. long, and 31 in. by 11 in. in sectional area. For the execution of the Works between Church

Fenton and Harrowgate, for the York and North Midland Railway Company, being a distance of about 18 miles. The Works include a Tunnel and Viaduct.

For supplying the Great Grimsby and Sheffield Junction Railway Company with 8,000 tons of iron rails; each rail to be 15 feet in length and weighing about 70 pounds per yard. Also with 2,700 tons of icon chairs.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

At Millbrook : three entire cargoes of very su-crerior Miramichi, Gothenburg, and Riga Timber,

Deals, and Staves. At the New Inn; Cadleigh, near Tiverton: 72 Baseh and 5 Wild Cherry Timber Trees, Ash, 3 Beech, and 5 Wild Cherry Timber Trees, ndw growing on Cadleigh Court Farm. At the Brickyard, near Farthinghay Hall, Wood-

bridge : 50,000 best building Lumps, 10,000 hard Red Bricks, 5,000 Brimstone Lumps, 5,000 Floor

Bricks, &c. At the Speech House, in Dean Forest, Glouces-tershire: 1,894 Timber Trees, 680 Oak Poles, &ė.

At Garraway's Coffee House, Cornhill: 96 Logs of East-Indian Hard Wood, partaking of the cha-rapter of Red Lance Wood, very suitable for turning and ornamental purposes. At Garraway's Coffee House, Cornhill: about

100 loads of East-India Teak, in logs chiefly, of first quality; about 40 loads of Teak in planks; 35 loads of African Oak; 11 logs of Houduras Ma-hogany; 12 logs of Red and Pitch Pine, &c.

TO CORRESPONDENTS.

Se 1

"Drawing Schools."-We must decline recommending architectarăl drawing schools until we can ourselves exgmine into their excellence.

"A Subscriber." - We are unable to learn Mesore. Testars address.

"An Operative," "A Mason," "E. H., "Master of a Hundred Men," "T. T.," "Philo, shall all be considered. The subject is one of great interest.

"S. Durapeth. "-The most comprehensive "Glossary" is Gwilt's "Encyclopædia of Archi-tecture;" the price is the and a half guineas. The "Oxford Glossary" (an excellent work) is specially devoted to Gothic architecture: the price of the last idition is 322.

" N. M. " wishes to know whether the farm of "N. M." wishes to know whether the farm of Kidbrooke romes within the operations of the Me-tropolitan Buildings Act: The terms of the Act are quile elear in this respect. If the farm is "within the exterior boundaries" of Charlton, or other perish named in the Act, the powers of the Act of course extend there; and if not, they operate to an extent of 200 yards from the boundary of such parishes. "Mill O ". (Durphente) = No. 9, 2:59, and 99

/ * J. O. ?' (Dorchester).-Nos. 2, 3; 59, and 82 of BULLDER are out of print, and are not likely to be reprinted.

" Metator." " Buginsering Field Work, con taining practical Land Surveying for Railways, br., by P. Bruff," will suit his purpose, It is pub-lished by Simpkin and Marshall.

THE BUILDER.

"H. J."—Notice must be gipen to the district rooyor whatever the size. It cannot be built of maad

"J. L."-The list suggested will be acceptable. "The Improvement of Sewers," "Bridge Build-ing Fraternities," &c., next week.

Received: "J. H. M.;" "An Architect" (re window, St. James's Church); "W. K." (Hyde-park); "J. M.;" "A. L.;" "The Reilway Ro-view," No.1, (Simpkin and Marshall).

ADVERTISEMENTS.

ROYAL ADELAIDE GALLERY.--way daily, with explanatory lecture. The New Zesland Chief, Pahe a Range, will give a course of Lectures on the Manners and Customs of New Zealand, in the evenings of Monday, Wednesday, and Friday next. Mr. Russell con-tinues to deliver his unequalled Lectures on Character, Tuesday, Thanaday, and Saturday Evenings. Lectures on Science, &c., Daily, including Major Beniowski's Artificial Memory; Beale's Rotatory Steam-engine; Kollmat's Loco-motive Engine for ascending inclines on railways. Every Brening a grand Promenade Concert, supported by first-rate talent, both vocal and instrumental. R OYAL

rate talent, both vocal and instrumental. **ROYAL POLYTECHNIC INSTITU-**TION.--Lectures on the Music of Spain, by Don Jose de Ciebra, with Guitar and Vocal Illustrations, on Tues-days, Thursdays, and Saturdays, at Half-past Two o'clock. Dr. Ryan's Lecture on the Process for making Ice by Artifi-cial Means, illustrated by Masters' Patent Apparatus, Daily, at Half-past Three o'clock. Also, Mons. Boutigny's ex-periment of making Ice in a Red-hot Crueible. Professor Bachhoffner's varied Lectures, with experiments, in one of which he clearly explains the principle of the Atmospheric Railway, a model of which is at work Daily. Coleman's New American Locomotive Engine, for ascending and descending Inclined Planes. A magnificent Collection of Models of Tropical Fruits. A new and very beautiful series of Dis-solving Views, new Optical Instruments, &c. Experiments with the Diver and Diving Bell, &c., &c.--Admission, One Shilling; Schools, half-price.

OT WATER APPARATUS. - The H OT WATER APPARATUS. — The attention of architecta, builders, and others, is respectful/crequested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, stair-cases, conservatories, forcing and green-houses, manufactories, and warehouses, kilms, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty ycars some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleer-street.

"Knowledge is power."-BACON. Under the Superintendence of the Society for the Diffusion of Useful Knowledge, ON and after the 4th of Octoher next, a magnificent TERRESTRIAL THREE-GUINEA GLOBE, 36 inches in circumference, mounted on a hand-some mahogany stand, will be presented by the Proprietors of the RAILWAY BELL, London Family Newspaper, to all who pay their Annual Subscriptions in advance of Thirty-two Shillings. A shilling extra if packed in a box. The globes will be delivered in numerical order as they stand upon the presentation list. Give your orders immediately to your Agenta.

Agents. An allowance of 4s. 6d. is made to the Trade, remitting the cash, 33s., on cach order, which includes 1s. for a

Specimen Globes, for the trade only, 16s. each, including w and booking

GRAINING COLOURS AND LIQUID WOOD STAINS.

The status of the state of the

to his GRAINING COLOURS and LIQUID WOOD STAINS. The graining colours are prepared in a damp state, and upon so trues a principle, that the workman cannot fail in obtaining the natural colour, nor of giving to the work the same effect and appearance at all times. The difficulty of producing a true colour and of preserving the same unifor-mity with the admixture of carths and oxides, which are the ingredients used in graining, has long been acknow-ledged. This difficult is at once removed by these prepara-tions, and the grainer is canaded to confine his attention to his art in graining, without being perplexed in proportioning and mixing his colour. The LIQUID STAINS are solutions of colours which not only carry additional stain on to the various woods on which they are employed, but when used on the particular wood whose object it is to revive, it combines which and heightens valuable acquisition to the DECORATOR and to the RENOVATOB of al oak or other carvings. They are also capable of giving colour to the sapps and defective parts of vencers and fine woods used by cabinet-makers and others. In the decoration of churches, cautics, baronial halls, and mansions, in which are often found beautiful specimens of and faded, these liquid atains will be found particularly ser-viceable. They also impart to woods of inferior character and of

viceable. They also impart to woods of inferior character and of soft texture, such as beach, birch, pine, deal, &c., the colour and appearance of such woods (whether oak, maho-gany, rosewood, &c.) as it may be designed to imitate, and thus save the expense of more costly materials.

The above preparations for graining and staining for pur-poses of imitation and of revival, are prepared by HENRY STEPHENS, and may be obtained at 54. Stanford-street, where specimens of their application may be seen, and also at the Office of. "The Builder."

A TRINSON 8. CEMENT. The public is respectfully informed, that the price of 1th very p-cellent Capent, which has now been in use he Architecture and Engineering works upwards of history years, is reduced to sa. 3d per-bunkel, and may be had in any quantitiest. Wystt, Parker, and Co.'s What, Hollend strend, hurry safe of Blackfriars-bridge. N.B. — This Cement being of a light colour, requires no arti-ficial colouring or painting, and pusy be used for stuceo with three parts its own quantity of sand.

TO ENGINEERS, ARCHITECTS, AND CON-TRACTORS, CREAVES'S. LIAS CEMENT and GROUND BLUE LIAS LINE, at 2, South Wharf, Paddington, Londor, and Works, Southam, Warwickshire. Agent for Livespeal M& WYLLE, M, Gloster-street; ditto for Manchester, Mr. J. THOMPSON, Back King-street; ditto for Chester, Mr. J. HABRISON, Lanen Hall-street,

MARTIN'S PATENT CEMENT.

TO ARCHITECTS, BUILDERS, AND PAINTERS IN FRESCO.

STEVENS and SON, PATENTEES and SOLE MANUFACTURED STEVENS and SON, PATENTEES and SOLE MANUFACTURERS, her respectfully to announce that this beautiful Cement has now arrived at a degree of excellence far surpassing their most sampains expectations. For all internal work is possesses a great superiority over every article labber in anse; it is now being outer public buildings. IT DOES NOT THROW OUT ANY SALT, but presents a besautifully plain and perfect surface, which may be painted upon day work within four days without pecing. It is equally applicable for walks as buildings, architrave, skirting, or flooring; and is admitted to form the best ground for fractor painting, baying been used for many of the prise fractor painting, baying westminater Hall. It will bear an intense heat without resclauled.

185. DRURY-LANE. LONDON.

Agent for Liverpool and Manchester, Mr. B. Part, 12, Atherton's-buildings, Dale-street, Liverpool.

KEENES PATEN A MARBLESS CEMENT. - The Patentees of this composition best to refer to the British Museum, the Royal Exchange, the new works at Bethlem Hospital, Greenwich Menpital, and the Co-liscum in the Regent's-park, as buildings finished or in pro-gress, in which Keene's Cement has been used as an isternal stucco. Its superiority to common plastering consists in its extreme hardness, and the rapidity with which it dries, which a use it is to receive plastering consists in its extreme hardness, and the rapidity with which it dries, which a construction of the state mouldings, in place of wood, it checks dry-rot, is impervised to vermin, prevents the spread of firs, and is more co-nomical in its application than the material for which it thus becomes the substitute. Confirmation of these statements is to be found in the almost universal adoption of Keens's Cement for Skirting and Hall flooring in the new houses on the flyce Park Estat-teges. EENE'S PATENT MARBLE

tage. In Liverpool and Manchester, Keene's Consent has is several cases been used for the covering of the fire-pool warehouse floars, where its lightness and hardness gree it its preference over tiles and fisgging, which are much hearing, and necessarily leave the floor intersected with nucleurous joints, whilst Keene's Cement is laid down in one unbrukes savians.

surface. The high polish and marble-like hardness of which this Coment is susceptible render it the most suitable matrial for the manufacture of Scagliols.

Patentees, J. B. WHITE & SONS, Millhard start, Westminster, Manufacturers of Roman and Perdage

Depót in Liverpool, 36, Secl-street; James Woods Atent

O ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MEE, CHANTS, SHIPPERS, AND THE PUBLIC IN CHANTS, GENERAL.

CHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL. JOHNS and CO.'S PATENT STUCCO CEMENT.-The following are the positive advantages possessed by this invention over every Cement bitherto in-troduced -It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise diacolour. It will never eracts, blister, now peel cell. It will form a complete Stome casing to any Building covered with it. It so closely reaembles Stone that it is impossible to detect it. It never frequires either to be painted or coloured. It will here fresh and good in the cask in any Climaterfor any sumber of years it is the only Cement that cas be depended upon for export. It is the only Cement that can be used with conditance by the session. It will adhere to any substance, evant to Wood, Iron, or Glass. It will carry a larger Proportion of be worked through the Winter, as froat has an effect pone is to use of the other of the solar of the state to be and the work of the Winter, as froat has an effect pone. It is the only Cement due the Winter, a froat has any effect opned. It may be used on the Inner Walls of new Houses, while may be papered over or painted directly. House, while worked through the Winter main undemoned down with this Generat will remain undemoned directly the instan-tion for use being very clear and distinct. The first cash will the material does not exceed that of the cheapent Cement this material does not exceed that of the cheapent Cement avaluable advantages, nothing can approach it in point of economy.

economy, Architects and Builders who have used this Content bies declared that it requires only to be known, to be university

Arabitecte and Bailders who have saved the Convert bjew declared that it requires only to be known, to be university preferred. Specimens may be seen, and a Prospectus finite descripting the Content and its mode of application, targethers may be obtained on application to MANN and CD. Shift AGENTS for the Parentees, 5, Maiden lance, General State (Cheapside, Landon: of whom also may be head, JOHNS and CO.'S PATENT STONE-COLOUT STUCCO PAINT, expressly intended for Painting events terior Walls of Houses that have been covered with Research or other Cements, and which have been covered with Research or other Cements, and which have been covered with Research or other Cements, and which have been covered with Research or other Cements, and which have been covered with Research or other Cements, and which have been covered with Research or other Cements, and which have been covered with Research or other Cements, and which have been covered with Research or other Cements, and which have been covered with Research of the suppose the White Lead Paint, which will frequently could off in Salars definity for Stucco, binds itself with it, stopping the application other Paint whatever. It is cheap in its application, successible by see other Paint whatever. It is cheap in its application, successible by and may be used by any Painter, in any climate, even in the most exposed Marine situations.

SUBMARINE RAILWAYS.

In our impression of the 13th ult., we announced that Mr. De La Haye of Liverpool had, after long consideration, satisfied himself of the practicability of constructing *Railways* in rivers and narrow sace? Since then he has forwarded a communication on the subject to the *Mining Journal*, in which he not only explains how certain difficulties may be overcome, but also points out many advantages which may result from his project. He says: "The idea of extending railways in the liquid element will undoubtedly appear for-

"The idea of extending railways in the liquid element will undoubtedly appear formidable at first thought; we are accustomed to consider the sea as a barrier which can only be evercome by gliding on its surface, yet what is water but a fluid more dense than that which we breathe? Man has found means to enter it with facility, and to conduct difficult operations at considerable depthe; breakwaters, bridges, &c., are constructed in channels. where they are exposed to the fury of the sea during terrible gales. The breakwater at Cherbourg extends three miles in the sea, in sixty feebourg extends three miles in the sea, in sixty feebourg it not be supposed, then, that we may construct a road drawing the water, without boring under its hed? The subject may be of sufficient importance to enter into some exmunician es to its practice bility.

Munination as to its practicability. My plan is simply to construct wrought iron tunnels in separate divisions, to sink them on the bed of the water, and then to connect them, so as to zender the whole as one vast building; these few words contain the sum total of the principle of the scheme, but, of course, to enter into the minute details would occupy a great deal of space, and, in fact, would require a mumber of diagrams. At present I would wish to call the attention of the scientific world to the principle of the plan, and, perhaps, these memories may lead to the subject being discussed the program of science. In England there are the progress of science. In England there are omany rivers with towns on either side, between which a considerable importance, not, only as operationing important trailways without deviat-ing the lines. Of these towns Liverpool and Rirkenhead are, perhaps, of the greatest im-portance, also North and South Shields. Sub-manine railways would be leader are consider. minerailways would be also of very considerablansein different perts of the Severn, but it wonkl be impossible to name two places separated by es to which the construction of a subthe s marine railway would be of greater importance than . Dover and Calais; this railway would comment the two greatest countries on earth; it would also be to England the door to the Continent, and to the Continent the door to England. On that road a greater amount of traffic would be carried than on any other railway that has been or ever will be constructed; the immense treasures contained in the mines of Britain would find their way to the continent, a stimulus given to manufactures as yet unknown; commercially speaking, the whole of Europe mould become as one vast country, one part exchanging its superfluous produce for the manufactures of the other part; every thing would have its full value by finding its level.

It is probable, however, that many persons will view this scheme with scepticism; this many be expected, by its being both novel and grantic, yet may not consideration make that which appears at first thought as insurmountable, afterwards easy and plain. It will be admitted that to construct such a tunnel would be an easier matter than to build iron vanels, as it would be the same shape the whole length; then to sink it on the bed of the water would be the work of only a few hours for each division of 400 feet in length; perhaps that part of the work which will appear the most complicated will be to connect the divisions under water; to this part of the work. I have given peculiar attention, and I believe that I have so far succeeded in finding means to accompliab this object, that the operation will be attended with no extraordinary difficulty to those who can remain during half an hour in deep water. The diver yould use no other tool than a large hanmer yound use no other tool than a large hanmer with a view of diminishing the number of ionnts. several of the divisions might be joined together on the sea-shore, at low tide, and the whole, thus joined permanently, be sunk in their position. Improvements would, of course, suggest themselves as to the mode of operating to those who would direct the work in its details.

I may be asked how I would protect the tunnel from injury in a channel where the storm is often felt so violently; in answer to this question, I refer to those who have proved that the sea is never agitated in great depths; from ten to twenty feet is supposed to be the greatest depth in which the storm is felt; this seems in accordance with the laws of Nature, for if the sea was ever violently agitated below, where could the myriads of living creatures in its bosom find shelter, so as not to be dashed against the rocks; this supposition alone, if there was no other, would be sufficient to demonstrate the fact of the sea being perfectly calm below during the most violent storms; thus the water, instead of injuring the building, would be a valuable protection to it. As regards that part of the tunnel which would be near the shore, it would be sunk underground and covered with stones fastened together, so as to render them immoveable, even when the waves would roll over with the greatest fury.

greatest fury. On examining this plan, it will be seen that the practicability does not depend on a number of operations new to science ; it is only by the application of the most simple arts that I propose to attain the object of forming submarine railways, a project of considerable magnitude, certainly, when we consider an iron tunnel as one building, but which, when we examine in detail, seems only a work which an ordinary boiler-maker would undertake to execute. The divisions might be built in different sea-ports, as they could be towed to the required spot by being made to float; by these means the whole could be built in a very short space of time, and the road completed in little more time than would be occupied in constructing an ordinary railway. There is, however, anoth ler item of importance which must not be lost sight of-I mean the expense. This will be, perhaps, the greatest objection, which will be started by many persons; let, however, the probable cost of constructing the divisions be calculated, and if the price of iron at present be considered, the expense will not be so im-mense as might be supposed. The tunnel is to be merely a rough wrought-iron tube, and shaped with no other tools than those used by boiler-makers; this tube is to be placed on a spot which no mortal can claim as his ownconsequently, no landowner will pocket a shilling of the money raised by the shareholders. Then the railway will be formed in forming the tube; there will be no bills to cat through, valleys to fill up, or arches to build; in short, the sum total of the work is comprised in the tunnel itself; when complete, the road is open. and perhaps no other railway could be so easily kept in order, and with so little expense. The first submarine railways that would be

The first submarine railways that would be made would, probably, be short lines; by these the practicability of the plan would be tested; perhaps it will not be until then that the plausibility of the scheme will be evident to every one; it is only after a thing of importance has been carried out that we see its simplicity, or in the words of Bacon, "When any thing is first projected, we think it impossible; then, after, we think it strange that it was not attempted before."

I may here remark that I do not believe that steam will be superseded by any other power during the present age. Steam, as a motive power, has not been given to mortals to have such a short reign; probably it will last as long as the art of printing has already done. Improvements will undoubtedly take place, but the principle will remain the same. Nature docs not reveal the whole of her secrets at once, but only as they are required, according to the use which man has made of those en trusted to him : the history of the world will prove it. It is probable that in future ages men will discover a power which will make as much revolution as steam, but at present the business of man is to apply that power where it is possible, so as to connect the most distant places. The plan which I propose is to facilitate its universal application, and if the scien-tific world will examine the subject, the day may not be far distant when the flying locomotive will roll under the iron arch supporting the liquid element.

RAILWAY CLUB.

A MEETING of gentlemen connected with Railways was held last week at the London Tavero, at which Sir George William Prescott, bart., presided, amongst those present where the Hon. Mr. Gore, Messrs. Meteyard, T. Arnold, and W. J. Arnold. The chairman explained, that the object of the meeting (which was of preliminary character) was to adopt measures for the formation of a club to be composed of railway directors and parties interested in railways, for the interchange and record of valuable information connected with them. The proposition had already the approbation by letter of upwards of 150 noblemen and gentlemen, directors of railways. Mr. Owen, solicitor, and other gentlemen, addressed the meeting, and urged that the proposed plan would have the effect of diffusing railway intelligence generally, particularly as respects the geological state of the country, and the improvements of locomotive engines, &c.; and a resolution in conformity with the objects of the meeting was adopted. It was suggested to the Committee which was formed, that professors of geology, &c. be appointed to give occasional lectures. One gentleman observed that a new Bourse should be established, to be devoted exclusively to railways.

be devoted exclusively to railways. Mr. Edward Burbidge was appointed provisional secretary, and temporary offices have been taken at No. 1, Moorgate.

MAJOR PARLBY'S SYSTEM OF SAFETY RAILWAYS AND CARRIAGES.

MODELS and descriptions of the several inventions connected with this system are being prepared and will be ready for examination very shortly; in the meantime Major Parlby invites the attention of engineers, railway directors, and others, to the following statement of advantages which his system embraces :---

"The carriages samoot by any possibility run off the rails, or be overturned. Gurves of short radii may be used on any part of a line short radii may be used on any part of a inner without danger. The contra of gravity is brought as low as possible by the floers of the carriages being within a few inshers of the rails, and thus no steps or platforms will be required; and if an axis about dreak, ers. wheel come off, the carringe will wide slong upon the rails without further eccident. The breaks are strong sliding frames attached to the carriages, which can be brought at any time to alide upon the rais-thus acting by friction upon them; therefore the dangeroup effects of violent torsion which the wheels and axles sustain by the application of the usual breaks is entirely avoided. In the Croydon and Dalkey atmospheric lines, on Mr. Sam and Darkey attraceptive days, do attrached by a plan, the first carriage only is attached by a metal tongue to the piston of the tube, and thus the following carriages are only kept on the rails by the flanges of the wheels, which causes excessive wearing friction of both wheels and rails, and great danger in passing "The average of the set of the se curves at high velocities. The same remarks apply to Pilbrow's system; only, the first car-riage being kept on the rails by the rack running between the stationary pisions, and the remaining carriages depending on the flanges of the wheels to keep them on the rails. By the adoption of my system every carriage will be equally secure from running off the rails. The wheels have no flunges, but are perfectly aylindrical, or slightly couver, on are perfectly avinancial, or signify convex, on the edges; thus they will move with less fric-tion than flanged wheels, and can be made at less expense. The baggage of every passenger will travel in and upon the same carriage as himself, thus preventing those inconvenient separations and confusion of passengers and The rule can baggage which often occur, baggage which olden occur. The rais can be formed, especially for atmospheric lines, at the expense of about 164 lbs, of iron per yard, instead of 40, 50, 60, and 70 lbs, as now used. Several lines of carriages can atund ready, arrive at, or move from, any atmospheric station, without confusion or danger of colli-sion. No turn tables will be required at the. stations to move the carriages on or off the lines. The wheels of the carriages cannot run, over any body lying on the rails; thus the dreadful accidents of mutilsted human beings. so constantly occurring, will be prevented The carriages, having no buffers, or springs,

will cost considerably less than the present railway carriages. SAMUEL PARLBY. Kensington New Town, October 1."

Major Parlby has publicly announced that he will not protect these improvements by patent, but intends throwing them open for general adoption.

.GREAT CANAL CONFEDERATION.

A MEETING of the Proprietors of the Ellesmore and Chester Canal, who have formed a confederacy with the Birmingham and Liverpool, the Shrewsbury and Montgomeryshire, and other Canal interests in the North, for the conversion of their Canal properties into Railways, in conjunction with the promoters of the Worcester, Shrewsbury, and Crewe, and Shrewsbury and Trent Valley and Grewe, and Surewspury and Frent valley Union lines, so as to furnish a complete system of Railways to the districts west of the Grand Junction, between Chester on the North and Worcester on the South, was held at Chester towards the close of last month. At this meeting, the arrangements made by the committee for carrying out the proposed conversions of the several water-ways into Railways, by means of a Company to be called the Shropshire Union and Canal, were fully con-firmed. The Earl of Powis heads the movenrmed. The Earl of Powis heads the move-ment, and surveys have already been made by the Company's engineers, Mr. Cubitt and Mr. Robert Stephenson, for five lines, namely—1, from the proposed Birmingham, Wolver-hampton, and Stour Valley, at Wolver-hampton, by Autherley, Brewood, Gnosall, Norbury, Market Drayton, Audlem, and Nant-wich, to the Chester and Holyhead and Chester and Birkenhead lines, 'at Chester ; 2, from the Manchester and Birmingham at Crewe, by Nantwich, Wrenbury, Whit-church, Elleamere, Oswestry, and Welshpool, to Newtown; 3, from the Trent Valley at Stafford, by Gnosall, Newport, and Welling-ton, to Shrewsbury; 4, from the main line near Wem to Shrewsbury; 5, from the Birmingham and Gloucester, in the valley of Avon, passing the Severn at Worcester, and proceedings through the Bewdley and Brigd-north, over the Severn below Coalport, to Wellington—1t, may be inferred from this movement, that a general conversion into Rallways of the entire Ganal interest of the kingdom is inevitable. ment, and surveys have already been made by kingdom is inevitable.

ាម ក្រ សារ ហេ សារ ហេ 1= REGENT'S CANAL. ۲Ľ

A SPECIAL general meeting of the proprietors of the above Canal took place a few days since at their offices in the City Road, for the since at their offices in the City Road, for the purpose of ratifying an agreement concocted by the Company's committee, with the London Junction Railway Company, to purchase the entire property, with the view of constructing a Railroad on the same line. It appeared that the shares had been so low as 10%, but at this time they were worth 25%, each, and that the Railroad Company offered one million sterling for the entire interest of the Company, which was equal to double the present price in the market. The deposit to be 5,000% as caution money, which it was argued was not in proportion to the amount of the purchase, and should have been 50,000%. The principal sum to be paid by instalments. The first half million sterling to be paid as soon as the Act million sterling to be paid as soon as the Act of Parliament required should be obtained; the other half to be divided into three payments in equal parts, in three years, with in-terest at 4 per cent. If the Railway Company should fail in obtaining the Act of Parliament required in the first session, to forfeit the 5,0004 caution money; and should they not succeed in the second session of Parliament, 10,0004 is to be forfeid to the Company 10,000l. is to be forfeited to the Company as

iquidated damages. On the motion being put from the chair (which was occupied by Mr. Parker), that the scal of the Company be affixed to the agreement, there was an overwhelming majority in its favour. It was then agreed, in the event of the Gompany selling their property, that the secretary should enjoy his present salary for life, for his long and valuable services, and that the other servants of the Company should likewise be rewarded. likewise be rewarded.

Aliscellanea.

NEW STREETS .- The continuation line of street from Farringdon-street to Clerkenwell is named Victoria-street. The street from is named Victoria-siter. The other with Whitechapel to Spitalfields, to connect with the London Docks is to be called Christchurchstreet.

ANGLESEA HOUSE.-The residence of the Marquis of Anglesea, in Burlington Gardens, is one of the few private mansions provided with lightning conductors. Workmen are now fitting up an anemometer, or wind-measurer there. The music room is a remarkably handsome apartment. THE ELECTRIC TELEGRAPH.

The Norfolk Railway Company charge 2s. 6d. for de-spatching a message from Yarmouth to any part of Norwich, by the electric telegraph.

CHEAP TRAVELLING. — Passengers are now carried on the Liverpool and Manchester Railway, between the latter place and Patri-croft, the first class at 1d. and the second class at \$d. per mile.

LEEDS, FLEETWOOD, AND LIVERPOOL .-This is a very comprehensive scheme, if we look to the character of the traffic that must pass along the line. Fleetwool, a newly formed port, will receive the cottons of Ame-rica, required for the factories of the West Riding of Yorkshire, and this alone will cause a prodigious traffic. It is also favourably situated for the trade of the Isle of Man, Bel-fast, and many parts of Scotland. But per-haps one of the most recommendable points in this line is that, in conjunction with others, it will greatly abridge distances with various towns. Thus, there will be a saving between Fleetwood and Leeds of fifty miles; and in many other directions the economy in travelling, at the lowest, will amount to twenty miles. In framing independent lines, care should be taken not to isolate them, for their value will greatly depend on their combination with other lines, and it is in this respect that judgment is much required in the surveyor. From a care-ful inspection of the maps, and a personal ac-quaintance with the district, we are disposed to consider that the line now under considera-

to consider that the line now under considera-tion is planned with prudence and forethought. Mr. S. F. Griffin, and Mr. John Hooke Taun-ton, are the acting engineers. FRENCH RAILROADS. — The fact, that since the disasters on the Versailles line, so very few accidents happen with our neighbours, may be ascribed to the super-revision which is every few accidents these proves her government exercised over these roads by government officers of high rank. By an order of the Minister of Commerce, Baron de Condé (an officer of the council of state) has been just appointed Commissioner of his Majesty for the council of the milway from Orders to appointed Commissioner of his Majesty for the company of the railway from Orleans to Tours. The importance of the Bordeaux and Orleans line has appeared so great, that two king's commissioners will be appointed for this company. The second will su-perintend the section from Tours to Bordeaux.

BURY, AND NEWTOWN RAILWAY.—This Rail-way, the eastern terminus of which it is proposed to locate at or near Burton-upon-Trent, will have a direct communication with the London and Manchester, Derby and Birming-London and Manchester, Derby and Birming-ham, and all the railways verging to the north and south-east of England, as well as affording the nearest practicable route to the metro-polis. The capital required is 1,500,000*l*., which it is proposed to raise in 75,000 shares, of 20*l*. each, with a deposit of 2*l*. 2s. per share. The list of the provisional committee, which is of unusual length contains the number of is of unusual length, contains the names of several chairmen and directors of existing lines, and is headed by the Right Hon. the Earl of Rossmore.

Earl of Rossmore. LONDON, STAINES, ASCOT, AND READING JUNCTION RAILWAY.—This Railway is pro-jected for the purpose of establishing a direct railway between London and the very popu-lous districts of Bayswater, Brentford, Houns-low, and Staines. It is proposed to commence at Kensington, and after passing through Egham and within a short distance of Ascot Bace Course, to effect a junction with the Egnam and within a short distance of Ascot Race Course, to effect a junction with the already projected Reading and Reigate Rail-way at or near Sunninghill. The capital re-quired is 750,0001. The Engineer is Mr. Samuel Hughes, The Right Hon. Lord Dun-boyne heads the list of the Provisional Com-mittee.

The eldest son of the late Mrs. Hemans has een appointed engineer to the Irish Great

Western Railway, The Birmingham and the Great Western Railway Companies are providing their servants with watches.

ADVERTISEMENTS.

PATENT OFFICE, 5, CHANCERY-LANE, NEAB

PLEET-STREET. INVENTORS requiring protection by LETTERS PATENT whost apply direct to the PATENT OFFICE, as above, where Patents can be speedily procured for the United Kingdom, dec., and by which a great saring of expense will be effected. CAVEATS are un-tered at this office, for 11. is. DESIGNS of all kinds are REGISTERED. Apply at the PATENT OFFICE, S, Chancery-lane, near Fleet-street.

NOTICE TO INVENTORS.

OFICE FOR PATENTS OF INVENTIONS. OFICE FOR PATENTS OF INVEN-TIONS and REGISTRATIONS of DESIGNS, 14, Lincoln's-inn-fields. --The printed INSTRUCTIONS gratin-and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Fatcht or the Design Acts, may be had by applying personally. or by letter, pre-paid, to Nr. ALEXANDER PRINCE, at the office, 14, Lincoln's-inn-fields.

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PRIZES IMPORTANT TO INVENTORS AND PATENTEES.

A GOLD MEDAL, value 100/, and a SILVER MEDAL, value 504, will be given by M. M. JOSCELIN COOKE. The Gold medal for the best, Patent, and the Silver medal for the best Design taken out or Registered at the OFFICE for PATENNS and DE-SIGNS 20, Half-Moon-street, between the 1st of Norma-ber, 1844, and the 1st of June, 1846. The Prizes will be awarded by competent judges on the 10th June, 1848. The awarded by competent judges on the 10th June, 1848. The awarded by competent judges on the 10th June, 1848. The awarded by competent judges on the 10th June, 1848. The awarded by competent judges on the 10th June, 1848. The awarded by competent judges on the 10th June, 1848. The awarded by competent judges on the 10th June, 1848. The awarded by competent judges on the 10th June, 1848. The awarded by competent judges of the 10th June, 1848. The awarded by competent judges of the 10th June, 1848. The awarded by competent judges of the 10th June, 1848. The awarded by competent judges of the 10th June, 1848. The awarded by competent judges of the 10th June, 1848. The foreign Countries, or Registering Designs, will be forwarded gratis, on application to Mr. M. JOSCELIN COOKE, at the Office for Patents and Registration of Designs, 28, Half-Moon-street, Piccadilly, London.

TO BAILWAY CONTRACTORS, BUILDERS, AND PAINTERS.

ELL has an Extensive and well-made G. ELL has an Extensive and work-stock of Ladders, Barrows, and Shere, slower work Sale, suitable for their various perposes at redinced thiss, No. 3, Tottenham-court Now-road, adjoining Tottenham-court-road, and near the Circus, Waterleo, bridge-road:

PROSSER'S EXPERIMENTAL RAILWAY AND BURNEFT'S PATENT.

BURNETT'S FATENT. THE attention of Railway Companies, Builders, and others, is respectfully called by the Proprietors of Sit William Burnett's Patent to the Woodman Rails laid down at Prosser's Experimental Railway on Winn-Biedon-common; part of which, having been prepared by their process, in addition to being effectually preserved four Dry Rot, will be found to schubit all the characteristics of thoroughly seasoned timber, although only cut down in the month of May last, and prepared while in a perfocily great state. Hydraulic appartus and Tanks. "Millwall, Poplar, nearly opposite Greansteh; Officts, 53, King Willings.

A NDREW SMITH, Princes-street, Lei-cester-square, Londen: ENGINERE, MACHI-NIST, IRON and BRASS FOUNDER, Sa. Patentee and manufacturer of improved steam-saginar, rapid steam-generators, railway wheels, ralls, and chairs, propellers for canal and river navigation, rope-making, fax-dressing, and other machinery, raising and lowering ma-chines, what, warchouse and truck eranes, transvey, tra-versing and stationary purchase, erabe, tackie, &c. Also steam-engines, and boilers, of various constructions, base, sugar, and mill-work, and machinery of every description manufactured and repaired. Saw-shile, basering, and fac-tories attended. PLANING, BORING, TURNING, SCREW-CUT-TING, &c., FOR THE TRADE.

rroportionate benefits accrue to policies on all ages. Copies of the report of the last investigation of the use containing a full exposition of the principles and practice the society, and any other information required, may be tained by applying personally, or by letter, at the bead-go or any of the agencies.

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PAYNE'S PATENT PROCESS FOR THE PRESER-VATION AND IMPROVEMENT OF TIMBER, &c. DAYNE and LODER beg to invite the at-

A YIVE and LODER beg to invite the at-tention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdoin where the quantity is sufficiently large to cover the outlay of its removal. 'Further particulars can be obtained at Whitehall-Wharf Cammeruw, Westminster, or at their other stations, Fleet-wood-on-Wyre, Langeabire; Winheach, Cambridgeabire; Union-Wharf, South support; and Guildford, Surrey.

Phon-Walf, Source ampron; And Collabord, Surrey. RUGAL INVESTMENT ASSOCIA-tion of the state o

Broome Hall, Surrey DIRECTORS. Mr. Charles Burls, Jun., 15, New Bridge-street, Blackfriars Mr. George Deane, 46, King William-street, London-bridge Mr. David Flatcher, Denmark-hill Mr. George Hohy, 43, St. James's-street Mr. McCall Hopgood, 202, Bishoprgate-street Mr. Joaquain de Mancha, 14, Swinton-street, Gray's-inn-rbad.

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Mr. Charles Janes Thicke, 17, New Bridge-street, Black-friere Mr. Charles Janes Thicke, 17, New Bridge-street, Black-friere Mr. Josish Wilkinson, 7, Linsoln's-hun fields Mr., William Young, 27, High-street, Hainston Notice in hereby given, that the SECOND SUBSCRIP-TION MRETING of the Association will be held at the Hafl of Commerce, Threachcedle-street, on Tuesday, the 14th justant, at four o'clock in the afternoon. At half-past ix o'clock' the functh will be offered for competition among those members who may be desirous of anticipating their ahares. Members admitted at that meeting will be en-sitled to bild. Appfleations for shares, rules, prospectuses, and every in-formation may be' made to the solicitor, Mr. EDWARD SMITH, 5, Chargery lane; or at the office of the Associa-tion, 30 'Chargery lane; or at the office of the Associa-tion, 30 'Chargery lane; to the thill four daily.-By order of the Board, "HENRY CHAS. BARFOOT, Sec.

THE EASTERN COUNTIES EXTEN. L AION, AND GAMBRIDGE AND WORCESTER DIRECT RAILWAY.

L. C. KION, AND GAMBRIDGE AND WORCESTER DIRECT RALLWAY.
 From Cambridge through Bedford, Blisworth, Fenny-Consistent and South Senter, Counties with North and South Frances, South Schafter, Cheshire, Shopsbirs, Gloucester-shirg, Attivid, Use West of England, and the Midland Countlies. 2019 (Provisionally Registered.)
 Capital £1,000,000, in 50,000 Shares of £30 each. (UKA YAW, Provisionally Registered.)
 Capital £1,000,000, in 50,000 Shares of £30 each. (UKA YAW, Provisionally Registered.)
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and Birkenhead Commution rainway company Wiffiam Frederick Beadon, Esq., John street, Berkeley-signare, London Carlait Wiffiam Coustns, Director of the Goole and Donender Railway James Beach, Esq., 15., Ordwenor-plass, London, and Brandon-lodge, Wawickshire, Director of the South Mieland Railway Company Robert, Ring, Esq., The Shrubberr, Worcesterahire James Morffields, Esq., The Shrubberr, Worcesterahire James Morffields, Esq., Raymond-Building, Gray's-fm, Prachadial Directive Of the Soldywater and Minchead Railway Company Admiral Ayreough, Southampton John Brichtman, Esq., Regency-square, Brighton Captam Chamler, Halkin-street-west, Belgrave-square, London Thomas Henry Event, Esq., 30, Lothbury, and Mayor of Caernarvon Alexander Greig, End., Lowodes-street, Belgrave-square, London

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 Wood, Charles, Esq., Clapton-house, Staffordshire,

Priors and Warwickshire Banking Company And Company An

riaymes, Hanbury, and Gardner Offices of the Company, No: 34, Morragite street, morray PROSPECTUS, PROSPECTUS, intended to be formed by that Company, this link of sillway intended to be formed by that Company, this link of sillway intended to be formed by that Company, this link of sillway intended to be formed by that Company, this link of sillway intended to be formed by that Company, this link of sillway intended to be formed by that Company, this link of sillway intended to be formed by that Company, this link of the off radius of the condon will grant of the condon will grant of radius of the condon will be set of the condon will be set of the oxford on Avon, there jointing the proposed line from Warwick and Learnington to Chaltanham, Gloucester, Bristol, and the west of Edgendi continuing it downs through Alcester, the line will go direct to Worcester, and thus termi-nate at the great centre of traffic for the mineral and manu-ing districts of South Staffordishre, Shaopahire fand North and South Wales. This proposed line does not in-terfere with any existing rallway, and presenting is I does an unbroken line between two great centres of traffic, the Importance of the undertaking needs no further comment. Negotiations have been entered into with the Eastern Councies Railway Company, by which their, suppet and cooparation will be ensured for obtaining the ispe now pro-posed.

An arrangement has also been made with the propose Rugby, Warwick, and Worcester Company, which this lin will join at Alcester, and by means of which the Eastern Counties' traffic will proceed to Worcester.

rover with on the restrict to the Directive to analyzing with any other existing or projecting Compasine, or to vary the line. Application for shares may be made to the Secretary, and to the following Sharebrokers, of whom prospectuase, with maps of the line, may be obtained:-London: Messar, Perspectant and Co., 2, 01d Broadstreet, Messar, Presect and Co., 2, 01d Broadstreet, Messar, Person and Co., 2, 01d Broadstreet, Messar, Tate and Nash. -Chestenhami: Mr. James Storks. -Coventry: Mr. J. S. Helland. -- Detby a Measur, Eyre and Shaw, -- Dublin: James Pringle, Eag., 79, Prince-street; Meswar, Beaumont and Lang-wordby, -- Glasgogy i Measur, Eyre and Shaw, -- Dublin: James Pringle, Eag., 79, Prince-street; Meswar, Beaumont and Lang-wordby, -- Classer, Laver, Labertouche and Stafford. -- Edinburgh: James Pringle, Eag., 79, Prince-street; Meswar, Beaumont and Lang-wordby, -- Classer, Meswar, Bueau and Hutchhaon.--Liverpool: Mésur. Townley and Whitehead : Mesure. Evented and Co.- Holl M. Mr. Preseriek Stamp.-Leeap Mesure. Well-beloved and, Dastar., Laiopetr: Mesure. Marchaelds; Mr. Richards E. Hiawa.- Macchelds; Mr. Richards B. Michards (S. Misser, Beyendia.- Marchaelds; Mr. Richards B. Biroban, and Co.; Mr. Moris Feynolis. Macchelds; Mr. Richards Sona; Macchelds; Mr. Richards Sona; Macchelds; Mr. Bards-wakefield: Mr. E. H. Armitage, Worcester: Mr. Nilles. --York i Mestral Orayistim and Earle. Worcester: Mr. Miles. --York i Mestral Orayistim and Earle. To the Provisional Committee of the Eastern Counties Ex-tension and Committee of the Eastern Counties

per stage. Dated bia Name in full. Profession and professional residence in full. Private residence in full. Name - statement in full. Name - statement in full and the statement of the statement Rasidence - statement in the statement of the statement And profession of reference to the statement of the statement Offices, 34, Moorgale street.

per share. Dated this

Power will be reserved to the Directors to amalga with any other existing or projecting Compaties, or to the line.

EEDS, FLEETWOOD, and LIVER-POOL RAILWAY COMPANY. (Provisionally Registered pursuant to 7 and 8 Vict., cap. 110.) Capital £1,000,000, in 50,000 Shares of £20 each.

Denosit £2. 28. 6d. per Share.

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- William Finley, East, Edit Book I actively Section Sectors of the Great Western, Southern, and Eastern Counties Railway.
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- William Bradley, Esq. Robert Beverley, Esq. E. F. Dayrell, Esq. William Green, Esq. John Holmes, Esq.

ACTING ENGINEERS. Sandiforth F. Griffin, Esq. John Hooke Taunton, Esq.

- JOINT SOLICITORS. H. R. Hill, Esq., 62, Muorgate-street, London. John Shackleton, Esq., Leeds. PARLIAMENTARY A GENTS.-Messrs. Doans, Dunlop, and Hope, Fludyer-street, Westminster. SECRETARY, pro tem.-A. B. Blackle, Esq.

 PARLIAMENTARY AGENTS.—Messrs. Doans, Danlop, and Hope, Fludyer-street, Westminster.
 SECRETARY, pro LEM.—A. B. Blackle, Eq.
 Fleetwood will be found, by a reference to the map, to be admirably situated for purposes of export and import, presenting no difficulties of navigation, and connected by rail, river, and canal communication with Preston, Blackburn, Chorley, Kirkham, Bolton, Bury, Rochdale, Oldham, Manchester, and Liverpool, lowns of which the population varies from 70,000 up to S00,000. Fleetwood bears nearly in a straight line west from Leeds, and as almost all the lines of railway in the intervening space radiate from south to north, it becomes a matter of weighty an i absolute importance that a line should be carried transectively in accordance with the plan now laid down. The line will past through or near to the following towns:—Leeds, Kirkstall, Bramley, Horsforth, and Calverley, including Idle and Pudey, woollen amat stuff manufactures and minerals: Bingley, outon and worsted, stuffs, and cotion; Coine, cotton manufacturing and worsted goods; Barrowford, spinning and manufactures; and prin works; Cheagley, Chipping, lime and agriculture; Blackale, agriculture; Garstan, Worstond, Clitheree, illene and other minerals in abundance, cotton manufactures; and prin works; Cheagley, Chipping, lime and agriculture; Blackale, agriculture; Garstan, Worstond, a junction will be formed communicating direct by the nearest line to Liverpool, The lines from Liverpool, as those in cheagley of rechrocated activity between Fleetwood and the manufactures in the aggregate of rechrocated activity between Fleetwood and the manufacture is not those in connection with the great western metropolis, will act as feeders of the intended line; and the value in the aggregate of rechrocated activity between Fleetwood and the manufactures is and those in commercion with the great western metropolis, will act as feeders of the intended line; and theorethy is southing intervets to North Lanceshi Trade or profession Recilence. Place of pusiness (if any) Date No application for shares can be attended to unless and panied by a satisfactory reference.

According to Mr. Huskisson the amount was, in 1824-Exports £17,500,000 Home consumption 16,000,000

£33.500.000

cloths; the iron trade flourishes in its nutlet househood with ness Bowling and Low Moor iron-works. There is a ensu-shundant supply of iron case and cost, both of configure quality. The line through the Selby to Hall presents, with the pro-posed line, a direct communication between the east and west coasts of England, and as immediately in sometion with the York and North Midland, Great North of England, Man-chester and Leeds, Preston and Bolton, Preston and Cong-ridge, North Union, Lancaster and Preston, and Cong-ridge, North Union, Lancaster Ballways. The distances will be considerably abridged between impas-tant points: that between Leeds and Fleetwood presenting an economy of fitty miles, and the uninnews. aways in chars di-rections being not less than twenty miles, Accurate surveys are now in program, and the directors e-rate of expense. That it will be made conder the sweeper rate of expense. That it will be bigbly remements at 42 per centum on all calls from the time of their respective par-ments, and to limit the liability of the sharebolders to the amount of their subscriptions. A reserve of shares will be made for landowners and other parties locally interested. Topspectuses may be had of, and applications for shares, he for formany, 34, Moorgate-street; to H. R. Hill, Escl., 64, onorgate-street, London; John Shechleson, Escq., Leeks, soliciors to the Company, and of the following brekers, p-chondon-Messrs. B. and M. Boyd, 4, New Bank-buikinger; Machester-Mr. H. Woodhouse and Mr. Loweds, Liverpool-ML. Anthony Laurie, and Messrs, J. Powell and R. Lowedse, Manchester-Mr. M. Ki

FORM OF APPLICATION FOR

FORM OF APPLICATION FOR SHARES. To the Provisional Committee of the Leeds, Fleetwood, and Liverpool Railway. Gentiemen, - I request you will allot the "harrs of SL cach in the proposed Leeds, Fleetwood, and Liverpool Rail-way, upouthe terms of the annexed prospertus; and I harrby allot to me, and to pay the deposit of 21. 25. Si jost sharts thereon, and execute all percessary agreements and death when required.

..........

£52,513,416 e than proportion since which time the increase has been more than proportion-ably great. Of woollens the total value of the exports in an average year, say 1840, amounts to 5,747.4621. For home consump-tion the value was 14,400,000. The total import of foreign wool in 1839 was 57,379.923ba, of which 16,684,6741ba, were entered for home consumption. We may gather from the how much remains to be developed, more particularly if we take as a guide the great commercial authority of the day. Macculoch, who asy, "The advantages resulting from im-proved communications are most attiking. They give the same common interest to every different part of the most widely-extended empire, and put down, or rather prevent any attempt at monoply on the part of dealers of particular dis-tricts, by bringing them into competition with those of all the others. Nothing, in a state enjoying great facilities of com-munication, is separate and unconnected—all is mutual, re-ciptocal, and dependant. Every one contributes to the end divilization." In 1839, 22,080 toms of coal were shipped coast wave from since which time the increase has been mo

THE BUILDER.



No. CXLL

SATURDAY, OCTOBER 18, 1845.



OR a long time past the church of St. Benet Fink, in Threadneedle-street, has presented a ruinous appearance to the passers-by, in

consequence of the removal of the tower that stood at the west end of the building at the time the site was cleared for the new Royal Exchange and adjacent improvements.

The present church of St. Benet, Fink, so called from one Robert Finck, or Finch, who built a previous church on the same site (destroyed by the fire of 1666), was completed by Sir Christopher Wren, in 1673, at the expense of 4,1307. The tower was square, surmounted by a cupola of four sides, with a small turret on the top, and had a large recessed doorway on the north side, of very good design.

The arrangement of the body of the church is very peculiar,-we may say unique, and although far from beautiful, affords a striking instance of Wren's wonderful skill. The plan of the church is a decagon, within which, six composite columns in the centre support six semi-circular vaults, that are carried upon architraves and cornices to the external walls. and inwardly are faced with archivolts: between these rises an oval cupola. The effect of the series of arched chapels, so to speak, around the central area is singular. Wren's power of arranging a plan to suit the site is shewn in numerous buildings, but in none more forcibly than in this small church.

The destruction of this building was threatened some time ago, and elicited many expressions of regret from the public,-so many, indead, that we had hoped the intention was abandoned. We now learn with infinite regret that the work of demolition is to be commenced almost immediately, and that the interesting structure in question will be cleared away entirely.

The destruction of a church should never be permitted without the most cogent reasons, let its architecture be what it may; and, if on no other ground, we should therefore protest strongly against the contemplated improvement; when in addition, however, the building threatened is seen to be the work of one of the greatest architects England ever had, a peculiar example of his skill, sound and likely to continue so, if not interfered with, much longer than half the new houses around it,-we feel bound to express our dissent from the intention in the strongest terms, with the faint hope that it may induce some member of the Improvement Committee to bring the subject once more under consideration before it be too late. It will be very easy to take the building down, but very difficult to replace it. Public convenience must of course be studied, and if St. Benet's stood in the way, and absolutely prevented the improvement of the thoroughfare, we should grieve at its removal, but bow to the necessity. This, however, is not the case, and we shall be forced to cry, shame on those who may be concerned in the wanton destruction of this valuable example of our great countryman's skill.

We refer our readers to a valuable and novel table for calculating the strength of castiron girders, which will be found on another page of the present number. It is prepared by a gentleman well known for his acquaintance with the subject.

THE BRIDGE-BUILDING FRATERNITIES IN THE MIDDLE AGES ON THE CONTINENT.

Тив earliest method of passing large streams in ancient Gaul and Germany, was by the means of rafts, or even large bags of skins-as is known from inscriptions and other monuments. For the sake of assisting travellers, and aiding the circulation of merchandise, regular guilds of Lenuncularii, Lin-trarii, and Utricularii were formed on the Seine, Sambre, Loire, Rhône, Durance, etc.; which, however, degenerated at times to that pitch, that they plundered travellers, and to use the expression of an ancient author, not only assisted in passing rivers, but even conveyed people into the waves of the Styr. Benevolent persons, therefore, decided on erecting at frequented places on the borders of rivers, on building bridges. These pious associa-tions were called Pontifices (Ponties), resembling the ancient appellation of a similar kind. But the deserts and the memory of this truly Christian association-because there were no bridge-builders amongst the fabri of the Roman Empire-would have been probably lost, if it had not been preserved by the legend of a French shepherd called Benezet, whom the Roman Church reckons amongst their saints. It is, however, not known, whether Benezet was the founder of this society, or merely one of its first members. The wonderful acts which are ascribed to him have been the inducement for recording this association, which still is not sufficiently known. *Benezet*, which signifies the little Benedict, a poor shepherd, born at Hauvilas, in the Vivarais, came (according to narration) in 1177 into the Cathedral of Avignon, at the time when the Archbishop consoled the people about the horror of a solar eclipse. He de-clared himself called upon by heaven to build a bridge over the Rhône—a work then considered impossible, at least stupendous. The Archbishop treated him as a maniac (!), and sent him before the civil authorities, who proposed him, in the way of derision, to begin with a stone lying on the banks, such as twenty people could hardly have moved. Benezet rolled the stone away; and whatever we may think of the occurrence, still, it is a fact, that in 1185, already a toll was levied on the bridge of Avignon! Although it has been calculated that there was no solar eclipse in the year 1177-but the year following, such inaccu racy of date can hardly militate against the truth of the leading features of that legend. It does not detract from Benezet's merit either, that at his times, and even sooner, there existed pious fraternitics for the comfort of travellers and pilgrims (Romieux)—which the holy men adapted to the building of bridges for all. Such has been the origin of that splendid monument of the middle ages—the most stapendous bridge in Europe, perhaps in the world. Its length extended to 2,770 feet, and was spread over twenty one arches, which, however, were construc ed in three different directions. There is a charter of 1187, by which Johannes Benedictus, "Prior of the Bridge," obtained for himself and brothers a chapel and cemetery, and a chaplain. St. Benezet died in 1184; still in 1185 the bridge building fraternity began the construction of the Bridge of the Holy Ghost (Pont du St. *Esprit*) over the Rhône at Lyons, not finished but in 1305. It is now the largest bridge in but in 1305. It is now the larges. This bridge Europe, being 2,524 feet long. This bridge also does not keep one straight direction, but has several bends, for adapting itself to the denth of water, &c. The bridge of locality, depth of water, &c. The bridge of Avignon was finished in 1188, and has always been considered as one of the wonders of

It is strange to observe, that most of the actual specu-lations of our times were objects of philanthropy in the middle ages. So, moreover, the business of pawnbroker, whence the Italian and French name: Monie de Pietä, Moni de Pietée-mount of piety.
Details and drawings of this stupendous construction are to be fouud in Gaulhey "Traite de Construction des Ponts; whence they have been copied into Wiebekings "Art of Water-building."

France. There, I see it lie-long reaching, and smoothly laid over the Rhône, perceived from afar as you glide down the river. Popular tradition, which often leaves unheeded the so-called great deeds of the great, has faith fully preserved the memory of Benezet, and every peasant will tell you, that it was a shepherd who planned it. The finishing of this stupendous work confirmed the fame of the bridge-building fraternity, which was con-stituted and chartered in 1189 by Pope Clemens III.

Alike as its foundation is wrapt in obscurity, its shrinking also before the rays of (so-called) modern civilization, is not properly ascertained. How they ceased in Avignon, their head quarters, or whether they merged in some of the subsequent secular guilds, is not known. In other parts of France, as in Bon-Pas on the Durance, where charters of 1270 mention their existence; at Lourmain, between Aix and Apt, &c., their very name suddenly faints away in the noise and bustle of subsequent war and butchery.

As the construction of bridges was considered, in the middle ages, amongst the works of Christian picty, -Italy, Spain, Sweden, and Denmark, possess several bridges which own the same origin, although it is not yet ascertained whether regular fraternities existed for that purpose. Still the Swedish chronicles mention one Benedict between 1178 and 1191, as a bishop and bridge-builder at Skara, who, a contemporary of Benezet, might have become illuminated from the same source. As the Templars of Spain had the duty of aiding the passing of pilgrims to Jerusalem, the old Roman road in Lower Navarra received the name of the Templar's Road. With such and similar pursuits, it cannot be wondered that the property of the bridge-building fraternity was, in many instances, surrendered to the order of St. John of Jerusalem (freres hospitaliers) and thus merged into it. The traces of analogous fraternities in Germany (England?) have not yet been properly examined. To its examination in France, two great names have chiefly contributed, Gregoiret and Millin. It was an ancient inscription near Mirabeau, on the Durance, found in the chapel near the place where the raft ordinarily starts from, which gave rise to the whole inquiry. It may be interesting for our readers to know, that the habit of the Knights of the Hospital of St. Jacques-du-haut-pas, at Paris (most probably analogous fraternity in those times), exhibits, as shewn in their sepulchral monuments, a pick on their breast-while that of the Holy Ghost fraternity of Monpelliers consists of two road bridge arches and a cross. [From German sources]. J. L.

NEW CHURCH AT WILTON, NEAR SALISBURY.

THE new cherch at Wilton, dedicated to St. Mary and St. Nicholas, was consecrated on the 9th inst.

IT is of Byzantine architecture, coeval with the Norman of this country, i. e. of the eleventh century. It is 150 feet long, 50 wide, and 57 feet high internally, and is entirely faced with freestone, the inner portion of the walls being of brick. It stands upon a plat-form running all round the church, and is ap-proached in from thy a flight of size stars of proached in front by a flight of six steps of Portland stone, the lowest steps being about 100 feet in length. The plan consists of a central porch, a nave, side porches and aisles, chancel, chancel aisles, and three apsides, with a vestry and a bell campanile connected with the church merely by an open cloister, which is very richly ornamented, and consists of double columns on each side, standing on a basement or plinth. The huilding as a whole, externally, presents an imposing aspect, standing, as it does, isolated in the midst of an extensive area, and the general effect is unim-paired by the contiguity of other and incongruous buildings. The church stands well back from the street, from which it is divided, close to the footway, by a low wall, surmounted by handsome iron railings. The elevation on this side has three rich door-ways, in recessed arches, the principal one being elaborately carved with six columns. In the centre are a series of small windows, lighting a passage

 Morini Sacram. Pœnitentiæ. Paris, 1665, p. 768.
 † Becherches historiques sur les frères pontucs. Paris, † Reche 1818, 8vo.

THE BUILDER

and staircase at the back of the gallery; a rose window, 16 feet in diameter, with twelve compartments richly carved, having the four evangelical emblems at the angles, fills the centre.

The clerestory is supported on columns of Bath stone, having capitals of rich and varied sculpture, executed with most delicate skill. Semicircular arches, and a row of triforium windows lead to the windows in the clerestory. The roofs of the naves aud aisles are of open wood-work, the external covering being of slate.

The pavement of the centre aisle is inlaid in a series of ornamental crosses, and the chancel floor is covered with a mosaic pavement in rich and varied colours and design, approached by a flight of six steps from the nave. From the chancel, three Italian marbles steps, 18 feet in length, lead to the central apse, which has also a most splendid inlaid marble pavement, and is richly ornamented by marble columns, forming a reredos of seven panels, which are thus filled:—In the centre, the Cross, with the inscription, "He was wounded for our transgressions;" in the four adjoining compartments, the Lord's Prayer, the Creed, and the Beatitudes; and in the two extreme panels, the Cross, and other scriptural ornaments illuminated by Mr. Osmond, jun., of Salisbury.

The font is of various coloured marbles. The desk, from which the lessons are read, stands in the centre aisle, supported by a large carved and gilt eagle, standing upon a pedestal ornamented with mosaic panels. The pulpit, which forms a quarter of a circle, and is concentric with one of the stone pillars of the nave, is perfectly unique. Nine marble columns, with carved alabaster capitals, form its support, surmounted by a freize and cornice in Caen stone, with a row of twisted marble columns richly inlaid in curious tesselated ornamental work, partly in marble. The desk is of wood, richly carved in groups representing the Apostles, in bold

The chancel rails afford a kneeling space of sixty feet in length, and the communion-table is the one hitherto used in the old church.

One of the chancel aisles contains a choir organ, recently enlarged and altered by MT. Bevington, of London, assisted by Mr. Prangley, of Salisbury. In the apse of this chancel aisle is a large and massive parish chest of ancient workmanship; and the opposite chancel contains several large and handsome monuments of members of the Pembroke family, removed hither from the old church.

The country owes, thanks to the Right Hon. Sidney Herbert for the erection of this costly structure, and we congratulate him on the manner in which his intentions have been carried out by his architects, Messrs. Wyatt and Brandon. The builders are Messrs. D. and L. Jones, of Bradford. Mr. Edmund Spurr was clerk of the works. The coloured decorations were executed by Mr. Willement.

THE NEW THEATRE ROYAL, MANCHESTER.

THIS building, erected in Peter-street, in place of that in Fountain-street, lately destroyed by fire, was opened on the 29th ultimo. The architects are Messrs. Irwin and Chester, of Manchester, and the building has been constructed by Messrs. Pauling and Henfrey. The external dimensions are 200 feet in length, on the longest, and 171 feet on the shortest side, and 69 feet in width. Exclusive of the rooms and hotel, at the back, the theatre is about 155 feet in length. Though the area little exceeds 1,400 square yards, the space is more available than that of the late theatre, which was nearly 1,800 square yards. The internal dimensions are :- from the back wall of the centre box to the back wall of the stage, 120 feet, and between the side walls of boxes 55 Mr. Beazley has expressed his opinion,† feet. that a theatre should not exceed 50 feet in diameter from box to box, or 55 feet from the curtain to the front box, considering this size the best for sound, and scenic effect. He prefers the form approaching the horse-shoe. In the new theatre, from the curtain to the

training the second product of the Committee on Dramatic Literature. 1832.

balcony of the centre box is 45 feet, nearly 4 feet less than the old theatre; and across the pit, between the boxes, the distance is 40 feet. The centre boxes are 15 feet deep, with six rows of chairs:—the upper tiers of boxes have seven rows of seats. The ceiling of the theatre is 48 feet above the floor of the pit. The stage advances towards the house in a curved form on the plan, 15 feet in advance of the curtain, and is 75 feet from the "float" to the back wall. The form of the horseshoe is very slightly contracted at the proscenium, as in the English Opera House, and is presumed to be very favourable for the effect of vocal performances. The theatre is built of brick, with a lofty stone front in Peter-street. This consists of two Corinthian columns in antis, inclosing a recessed portico, and supporting an arch. The entablature returns round the back of the portico, in the centre intercolumn. The whole is surmounted by a plain pediment, not forming part of the order. The building, being isolated, has better arrangements for ingress and egress, than often we find in London theatres. The audience part of the house consists of four tiers, and the pit floor. On the floor, which has a fall, towards the stage, of 2 feet 6 inches, are the stalls, the orchestra, and the pit, which last extends under the boxes. There are two tiers of boxes, with the slips, and lower gallery above, and an upper gallery in the centre, formed within the roof. The supporting pillars to these tiers are placed at the back of the boxes, so that there is no impediment to the view, and it was here that all the skill of the architects was called for. Iron girders are employed to support the overhanging fronts the boxes, tailing into the work an equal distance in the opposite direction, and being firmly screwed down at this extremity, and tied by a rod of iron to the lower part of the work, and further weighted down by a pile of brickwork. Omitting the hotel, the rooms in the theatre include two green-rooms, dressing-rooms, wardrobe, and costumier's room, treasury, manager's room, and others. The carpenter's workshop is in the roof over the pit : the property-man's room, the painting-room, 64 feet long, by 15 feet wide, with its two large "frames," each 40 feet by 22 feet, are above the stage and rooms at the back: the gas-fitter's and smith's places, and rooms of the supernumeraries are in the lower floors; and beneath the green-room is a tuning-room, where the band can practise, without being heard by the audience. The building has taken longer to complete than was expected, being commenced in October 1844: it should have been completed by the 1st of July last, and even now the saloons are incomplete. Adjacent to the saloon of the dress circle, is a cloakroom for gentlemen, and retiring rooms for ladies. These apartments are to be fitted up, in a costly manner, with marble chimney pieces, with black and gold, and will be lighted by handsome cut-glass chandeliers. The dimensions of the saloon of the upper boxes are 30 feet by 17 feet, and in the centre the roof is vaulted in a semicircular arch, springing from an enta-blature, which is supported by Corinthian columns. The ceiling is panelled, and en-riched with ornaments. The accommodation in the audience part of the house is as follows:—The stalls will seat seventy-seven persons; the seats in the pit, in eleven rows, will seat 500 persons. The dress circle contains 300 chairs, and is entered by nine doors. The next tier will accommodate about 350 persons, exclusive of two private boxes, which are on the same level. Neither of the tiers have the usual box barriers. The next tier have the usual box barriers. comprises the lower gallery, and the slips: the former will hold about 450 persons, and the latter 110 persons. The upper gallery will seat about 300 persons. The private boxes are eight in number,—four on each side the house. The larger boxes are furnished with twelve chairs each, and the smaller with six chairs. Three boxes on each side are in the proscenium. One of these is the proprietor's box, having a stair adjoining, leading to near the station of the prompter, and a window, looking on to the stage. Each of the six proscenium boxes has ante-room with fire-place. Though the an number of persons able to be accommodated has been stated, as above—in the total 2,147 persons,-the number present on the opening night was 2,468 persons.

The stage has a rise of 2 feet 9 inches in

the 75 feet, from front to back; and in this part of the house are many improvements in inechanism. The side scenes or "flats," which at Drury-lane Theatre are preserved in the large space at the back of the stage, are here so contrived as to ascend or descend, and the ground has been excavated 21 feet below the level of the stage for the purpose. About 8 feet below the stage is a mezzanine floor, useful in the working of the "traps" required in pantomimes, and for the disappearance of spectres. The traps are all on an improved plan, and are worked by counterbalance weights. The largest trap is 30 feet in length, and will ascend above the stage ; - it is worked by a large windlass in the basement floor. The whole of this part of the building is ad-mirably contrived. The whole of the interior decorations were from the designs of Mr. Chester, and were executed by Mr. George Jackson, of Manchester. The style is Italian, with a character of *renaissance*. The fronts of the different tiers are enriched with scrolls of the different tiers are control pierre, of excellent design, executed in carton pierre, and gilded. There is great variety in the designs, and they are well relieved. The colours employed are almost exclusively white and gold. The proscenium is enriched with pilasters, surmounted by a circular pediment, its tympanum filled with elaborate decoration, and having on each side a gilded statue. The whole of these decorations are of the richest. description, and are in the highest degree creditable to Mr. Jackson. It is stated in the Manchester Guardian, that upwards of 2,000 books of gold leaf were consumed. The large chandelier, and the smaller ones, were all de-signed by Mr. Chester, and were supplied by Mr. Agnew, of Manchester. They are of ex-cellent design. The largest cost about 150/. As a provision against fire, a large reservoir has been constructed on the roof of that part of the building, which is behind the stage, The roof itself—by means of parapet walls, conted with a species of asphalte, termed Paraqua, has been converted into one cistern, which will hold a depth of water of 18 inches, in all about 20,000 gallons. A large iron pipe descends from this enormous tank, with openings, one on the level of the green-room, and the other on the stage, near the hall door. Each orifice is prepared to receive a long canvass tube or hose, which is suspended close

by, and can be attached in a few seconds. Thus a copious supply of water is obtained, which can at once be directed to any part of the theatre. From inquiries, from parties present in the pit, on the opening night, we find, that the warming and ventilating ar-rangements are there of the best description. From a visit to the upper and lower galleries on another evening, we can assert, that the ventilation is much more perfect, than usually found in such elevated regions. This part of the work was executed by Mr. Wm. Walker, of Manchester. Cold air, being admitted into the basement, is there heated, and admitted separately to all the different parts of the house; the vitiated air is discharged by shafts, and apertures on every floor, and by separately we have a separately we house; the vitiated air is discharged by shafts, and apertures on every floor, and by a large aperture in the ceiling.—The cold air is admitted by two window apertures into the vault, in which is placed a large furnace. Over this is a water-boiler, with connecting nines to heating boxes. There connecting pipes to heating boxes. There are five heating boxes, each of which con-tains upwards of 200 square feet of heating surface, within a comparatively small space; and to attain the same amount of heat, under the old plan, would have required a large chamber. Of this system we shall probably give some further account. From these boxes, five brick shafts proceed beneath the pit, in various directions, branching off to the different parts of the house, and by means of perforations in the floors, the warm air is distributed equally. There are internal openings, within the ceiling of each tier for the discharge of the vitiated air, and all these are connected with the main shaft, which is of considerable diameter, and passes out through the roof, above the aperture over the large chandelier.

The total cost, including land, building, furnishing, and fitting up, will reach 23,000. The work is in the highest degree creditable to the architects, who have interested themselves in all the details with **meal** and success. We are glad to hear that they were presented with testimonials on the opening night.

^{*} We have to acknowledge the attention shown to us by the architects, during several examinations of the building, previous and subsequent to the opening. We suppose that their very arduous duties prevented their supplying us with the data, and dimensions, promised, and which we nave here taken from the *Manchester Guurdian*. But, we are assured by them, that the data given are substantially correct.

TABLE For facilitating the Computation of Cast-Iron Beams ; such as are usually employed for Bearers in Buildings and on Railways.

| ARGUMENTInches and tenths in the depth of the section. | | | | | | | | | | |
|--|----------------------|----------------------|----------------------|-------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| In. | • | •1 | •9 | •3 | •4 | •5 | -6 | •7 | •8 | .9 |
| | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. |
| • | 0.0000 | 0.0028 | 0.0123 | 0.0343 | 0.0008 | 0.00220 | 0.1308 | 0.1863 | 0.3433 | 0.3028 |
| 1 | 0.3900 | 0.4208 | 0.2428 | 0.0453 | 0.2448 | 0.8220 | 0.828 | 1.0083 | 1.5215 | 1.3718 |
| 8 | 1.2500 | 1.6758 | 1.8305 | 2.0103 | 2.1888 | 2.3750 | 2.2088 | 2.7703 | 2-9792 | 8.1928 |
| 8 | 3-4900 | 8.0519 | 3-8912 | 4.1382 | 4.3928 | 4.6550 | 4.9248 | 5-2022 | 5.4872 | 5.7798 |
| 4 | 6-9909 9-5006 | 6·3878 9·8838 | 6.7033 10-2752 | 7 ·0±6 2 10 ·6 742 | 7*3568 11*9808 | 7.6950 | 8.0408 11.0168 | 8-3942 12-3462 | 8·7552 12·7832 | 9.1238 13-2279 |
| 6 | 18-6900 | 14-1398 | 14.6072 | 15-0922 | 15.5648 | 16.0220 | 16.5528 | 17:0582 | 17.5719 | 18.0018 |
| 7 | 18-6200 | 19-1558 | 19.6993 | 20.2502 | 20.8088 | 21.3750 | 21.0488 | 22.2302 | 23.1192 | 23.7158 |
| | 24 3200 | 24.0318 | 25.5512 | 26.1782 | 26-8128 | 27.4550 | 28-1048 | 28.7622 | 29.4372 | 30.0008 |
| ğ | 30'7800 | \$1.4678 | 32.1632 | 32 8662 | 33-5708 | 84-2050 | 35-0208 | 85.7542 | 36.4952 | 37-2438 |
| 10 | 38.0000 | 38-7638 | 39.2328 | 40.3142 | 41-1008 | 41.8950 | 42.0008 | 43.2002 | 44-3232 | 45-1478 |
| 11 | 45'9800 | 46-8198 | 47.6672 | 48.2223 | 49.3848 | 50.5250 | 51.1328 | 52.0182 | 52-9112 | 53-8118 |
| 18 | 54-7200 | \$5-6358 | 56-5592 | 57-1903 | 58-4288 | 59.3750 | 60.3588 | 61-2902 | 62-2592 | 63-2358 |
| 13 | 64-3300 | 65-2118 | 66-9119 | 67.2182 | 68.2328 | 69.2550 | 70.3848 | 71-3222 | 72.3672 | 73.4198 |
| 14 | 74'4900 85'5000 | 75-5478 90-6438 | 76.6232 | 77 7062 88 9542 | 78'7968 99'1208 | 79-8950 91-2950 | 81.0008 | 82°1142 93°6662 | 83-2352 94-8632 | 84-3638 96-0678 |
| 15 16 | 97-2800 | 90°0438 98°4998 | 87·7952 99·7272 | 100-9622 | 102.2048 | 103.4550 | 92-4788 104-7128 | 105.02 | 107.2512 | 108.5318 |
| 17 | 109.8200 | 111-1158 | 112-4193 | 113.7302 | 115.0488 | 116-3750 | 117.7088 | 119.0502 | 120.3005 | 121.7558 |
| 18 | 123-1200 | 124-4918 | 125-8712 | 127-2582 | 128.6528 | 130.0550 | 131-4648 | 132.8822 | 134-3079 | 135.7398 |
| 19 | 197-1800 | 138.6278 | 140.0632 | 141-5462 | 143-0168 | 144.4950 | 145.9808 | 147.4742 | 148.9752 | 150.4836 |
| 20 | 152.0000 | 153-5238 | 155.0552 | 156-5942 | 158.1408 | 159 6950 | 161-2568 | 162 8262 | 164.4032 | 165.9678 |
| 21 | 167-5800 | 169.1798 | 170-7878 | 172.4022 | 174.0248 | 175 6550 | 177-2928 | 178.9382 | 180.2013 | 182.2518 |
| 22 | 183-9200 | 185-5958 | 187-2792 | 188.9709 | 190.0068 | 192-3750 | 194.0888 | 195-8102 | 197-5392 | 199.2758 |
| 23 | 301-0200 | 203.7718 | 204-5312 | 206-2982 | 208.0728 | 209.8550 | 211.6448 | 313-4422 | 215-2472 | 217.0598 |
| 94 | 218-8800 | 220.7078 | 222-5432 | 224-3862 | 226-2368 | 228.0950 | 229.9608 | 231-8342 | 233-7152 | 285-6038 |
| 25 | 237-5000 | 239-4638 | 241-3152 | 243.2342 | 245-1608 | 247.0950 266.8550 | 249.0368 | 250 9862 | 258.9439 | 254.9078 |
| 26 | 256-8890 | 258-8598 | 260 8472 | 262-8422 | 204-8448 | | 268 8728 | 270 8982 | 272 9312 | 274.9718 |
| 17 18 | 277-0200 | 279.0758 | 281.1392 | 283-2102 304-3382 | 306.4058 | 287·3750 308·6550 | 289-4688 | 291.5702 | 293.0792 | 295-7958 |
| 29 | 319-5800 | 300*0518 381*7878 | 302-1912 324-0032 | 326-2263 | 328.4568 | 330.6920 | 310-8948 332-9408 | 313.0022 335.1942 | 315-1872 337-4552 | 317·3798 339·7238 |
| 30 | 342.0000 | 344-2838 | 346-5752 | 348.8742 | 351-1808 | 853-4950 | 355-8168 | 358-1462 | 369-1832 | 362.8278 |
| 81 | 365-1800 | 367-5398 | 369.9071 | 372.2823 | 374.6648 | 377.0550 | 379.4528 | 381-8582 | 384-2712 | 386-6918 |
| 22 | 399.1300 | 391-5558 | 393-9992 | 396 4502 | 398 9088 | 401-3750 | 403.8488 | 406.3305 | 408-8192 | 411-3158 |
| 33 | 413-8200 | 416-3318 | 418.8512 | 421-3782 | 423.9128 | 426.4520 | 429.0048 | 431-5622 | 434-1272 | 436-6998 |
| 34 | 439 2860 | 441.8078 | 444.4033 | 447.9663 | 449.6768 | 452 2950 | 454 9208 | 457.5542 | 460-1952 | 462-8438 |
| 36 | 465-5000 | 468.1638 | 470.8352 | 473-5149 | 476-2008 | 478-8950 | 481.5968 | 484.3062 | 487.0232 | 489.7478 |
| 36 | 492-4800 | 495-2198 | 497.9672 | 500-7222 | 503-4848 | 506-2550 | 509 0328 | 511-8182 | 514-6119 | 517-4118 |
| 37 36 | 520*2200 548*7200 | 523-0358 551-6118 | 525-8592 | 528 6902 | 531-5288 560-3328 | 534-3750 563-2550 | 537-2288 566-1848 | 540.0905 | 542.9592 | 545-8358 |
| 36 39 | 577.9800 | 580.0478 | 554 5112 583 9232 | 557-4182 586-9062 | 589.8968 | 503°2550 592°8950 | 500°1848 595°9008 | 569.1222 | 572.0072 | 575-0198 |
| 39 40 | 577°9800 | 611-0438 | 614.095 2 | 617.1542 | 620·2208 | 633-2950 | 626·3768 | 598-9142 629-4662 | 601-9352 632-5632 | 604-9638 635-6678 |
| 41 | 638-7900 | 641-8998 | 645.0272 | 648.1622 | 651-3048 | 654-4550 | 657·6128 | 660 7782 | 663·9512 | 667·1318 |
| 42 | 670-3200 | 675*5158 | 676-7192 | 679.9302 | 683-1488 | 686-3750 | 689-6088 | 692-8502 | 696.0993 | 699.3558 |
| 45 | 703 6200 | 705-9918 | 799.1712 | 712.4582 | 715-7528 | 719.0550 | 722.3648 | 725.0823 | 729.0072 | 732.3398 |
| 44 | 735-6000 | 739.0278 | 742-3832 | 745.7469 | 749 1168 | 752 4960 | 755-8808 | 759.2742 | 762.6752 | 700.0838 |
| 45 | 769 5000 | 772.9238 | 776-3552 | 779.7942 | 783-2408 | 786.6920 | 790 1568 | 793-6262 | 797.1033 | 800 5878 |
| 46 | 804-0800 | 807-5798 | 811.0872 | 814 6023 | 818-1248 | 821-6550 | 825-1928 | 828 7382 | 832-2912 | 835 8518 |
| 47 | 839-4300 | 842-9958 | 846-5793 | 850.1203 | 853-7688 | 857-3750 | 860.8688 | 864.6193 | 868-2392 | 871-8758 |
| 48 | 875-5200 | 879-1718 | 882-8312 | 886-4982 | 890 1728 | 893-8550 | 897.2448 | 901-2422 | 904-9472 | 908-6598 |

DESCRIPTION AND USE OF TABLE.

FOR CALCULATING STRENGTH OF

CAST-IRON BEAMS.

THE numbers in the foregoing table are of the greatest use in estimating the strength and dimensions of cast-iron beams, when employed as girders or breastsummers in large and important structures. They have been computed for the limit of safety, from the results of experi ments performed on a medium quality of the material, and may therefore, be considered as better adapted for general practice, than if they had been obtained from metal approximating to either extreme of hardness or softness, and in consequence possessing a higher degree of rigidity or flexibility, according to the nature of the approximated extreme. The numbers in the body of the page are expressed in tons and decimals of a ton; those in the left-hand column are inches in the depth of the trans-verse section, and those at the top of the co-lumns, numbering from 0 to 9, are tenths of an inch also in the depth of the transverse section, so that the table embraces a depth of sec-tion for every tenth of an inch from zero to forty-nine inches, and is, consequently sufficiently extensive for every practical purpose, as it seldom happens, even in the very largest works, that a section is required exceeding four feet in the direction of the strain.

The chief advantage which this table poshave long been in use, consists in its brevity and the extent of its application; and these advantages it derives from the circumstance of being computed for one inch of thickness or breadth of section, and one foot in the length of bearing or distance between the supports; this in some respects, is a very great convenience, and more especially, where extensive calculations are necessary; but it is in some degree objec-tionable, as it requires a subsidiary multiplication and division to obtain the final result; this objection however, has very little force when placed against the advantages which are otherwise afforded by the arrangement.

The following examples will elucidate the use of the table under various circumstances, and,

being of a practical nature, it is hoped they will be found of value to the mechanic, in guid-ing him to the calculation of similar cases that y happen to present themselves in the course ma of his practice.

Example 1. - A cast iron beam of a regular rectangular form both in elevation and section, is loosely supported in a horizontal position on two walls at the distance of 26 feet from each other; what load will it sustain with safety applied at the middle of its length, or at an equal distance from each wall, supposing the breadth of the section to be 21 inches and the

depth 30 inches? Now, the arrangement indicated by this example is perfectly obvious, and therefore requires no diagram to illustrate it; and the argument with which the table is to be en-tered is simply the depth of the section in inches; consequently, under zero or 0 at the top of the table, and opposite 30 in the left-hand column we find the number 342, which is the number of tons that a beam of the same depth to the table, is use will compose the same depth as that which is given will support, when the breadth is one inch, and the length of bear-ing one foot. But, according to the laws of resistance, the strength is directly as the breadth when the depth is given, and inversely as the length of bearing; that is, multiply the tabular strength by the given breadth of section, and divide by the length of bearing for the weight which the beam can sustain with safety under the given conditions.

Hence we have $342 \times 21 = 855$, and this divided by 26, gives $855 + 26 = 32\frac{23}{23}$ tons, the load that the given beam can sustain at the middle of its length; but this includes the effect pro-duced by the weight of the beam itself, which ought always to be taken into consideration; for when omitted, as is too frequently the case on many important occasions, the omission may be attended with very serious consequences.

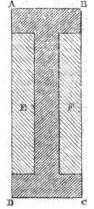
It is demonstrable by the principles of weight of the beam itself in augmenting the strain, is the same as if one-half that weight were applied to the middle of its length, and in consequence of this mechanical condition,

the calculated strength must always be dim nished by half the weight of the beam, whe that weight itself can be determined, which indeed can always be done when the dimensions of the beam are known. Now in the present instance, the area of the middle trans-verse section is 75 equare inches, for $30 \times 2\frac{1}{2}$ =75, and since the section is uniform throughout the length, the weight of one foot in length for cast iron of medium specific gra-vity may be taken at 240lbs., that is, 3.2lbs, for a bar one inch square and one foot long; consequently, for 13 feet or half the length of the beam, it is $240 \times 13 = 3,120$ lbs. or $1\frac{1}{14}$ tons, for the effect produced by the weight of the beam, therefore, by subtracting this from the beam, therefore, by subtracting this from the calculated strength, we get $32\$\frac{2}{3}-1=\frac{1}{3}$ $31\frac{1}{3}\frac{2}{3}$ tons, the sufe load on the middle of the beam.

Now, all this is perfectly obvious when a beam of the given form is supported at the ends and loaded in the middle of its length, but when the load is uniformly diffused between the points of support, the load as calculated above may be doubled without pro-ducing any difference in the effect of the straining force as referred to the central rupture, the deflection only being varied in conse-quence of the uniform load. But if the ends of the beam be firmly fixed into the walls, instead of being merely supported on them, then the load which it can safely sustain under this latter condition, when applied at the middle of the length, is one-half more than when the ends are loose, and the same thing holds when the load is uniformly diffused throughout the length.

However useful the foregoing table may be when applied to the calculation of beams of which the transverse section is simply rectangular, it becomes much more so when applied to beams of that form of section now so generally employed in flooring and in the construction of railways, viz., those which have a flange or feather on the upper and the lower side, known as the double flanged, or **I** formed section.

The formula which supplies the rule for this form of beam is of rather a complicated character, and in consequence is somewhat difficult to apply; but when we consider the section as being equal to the difference be-tween two rectangular sections, the difficulty disappears, and the calculation is performed by our table with the greatest imaginable case. The section thus consti-



tuted is represented by the dark shaded part of the marginal figure, the lighter shaded parts E and F being left out to form the feather or flanges at the upper and lower sides of the beam.

Here then it is obvious that if we consider the section to be an entire rectangle, as denoted by ABCD, the strength of that section may be calculated as in the preceding case. And, in like manner, the parts marked E and F may either be considered as forming two in-dependent rectangular sections, or they may be brought

together and considered as one section only, being of precisely the same value as to strength in either case; then, if the strength of the rectangular section, which is made up of the parts marked E and F, be subtracted from the strength of the entire section ABCD, the remainder will be the strength of the double flanged or I formed section so universally employed in the construction of railway arches. It may, however, be proper to remark, that the strength of the section denoted by E and F, must undergo some modification before the subtraction takes place, for it is a well established fact, that the metal which is to be withdrawn, is not in the same mechanical condition with respect to strength when incorporated with the mass, that it is when considered by itself, or in the state of detachment; it therefore becomes necessary to reduce the strength of that which is to be subtracted when calculated by the table, in the proportion of the whole depth of the section, to the depth shaded portions, E and F. Example 2. Let the whole depth of a double

flanged beam of uniform section throughout the length, be 38.7 inches, and the depth of the middle part, or that between the flanges 2.5 inches; what weight will it sustain at the middle of its length, supposing it to be supported on two props 36 feet asunder, the whole breadth being 9.3 inches, and the thickness of the middle part 3.1 inches?

Referring to the table opposite 38 inches in the left hand column, and under '7 at the top, we find the number 569'1222, which being multiplied by 9'3, the whole breadth of the section gives 5292'83646 tons, for the strength of a beam of the given section considered entire, one foot long.

of a beam of the given section considered entire, one foot long. From the whole breadth of the section, subtract the thickness of the middle part, and we get $9\cdot3-3\cdot1=6\cdot2$ inches, for the breadth of the section composed of the two portions marked by the letters **E** and **F**, of which the depth is $32\cdot5$ inches; then opposite 32 in the left-hand column and under $\cdot5$ at the top of the table, we get $401\cdot375$, which being multiplied by $6\cdot2$, gives $2488\cdot525$ tons, for the strength of a beam of the section $32\cdot5$ by $6\cdot2$ inches, and 1 foot in length; but before this strength be taken from that of the whole section previously calculated, it must be reduced in the proportion of the depths; thus we have

38.7: 32.5: 2488 525: 2089.84657 tons.

Let this therefore be taken from the strength of the whole section, and let the remainder be divided by the length of bearing, and we get $(5292 \cdot 83646 - 2089 \cdot 84657) \div 36 = 88 \cdot 972$ tons nearly.

And in this way may the strength of any other beam of the same form be calculated; thus avoiding the difficulty incident to the formula and the rule deduced from it; and by reversing the operation, the dimensions may be found to sustain any required load, when certain other dimensions are given. T.

REMAINS OF THE FRANCISCAN FRIARY AT READING.

At the late meeting of the Archæological Institute, Mr. John Billing, architect (of Reading), read a paper on the history and present state of the friary in that town, the interesting ruins of which building are seen on approaching Reading by the railway. The following is the substance of the communication :--

At the north-west extremity of the town of Reading stands what was formerly the house of the Friars Minors. It was a religious foundation of the Order of St. Francis, which was introduced into England in 1224—the eighth year of Henry III.,• and was founded in Reading in 1233.

By a deed, dated that year, † July 14, Adam de Lathbury, then abbot, and the convent of Reading granted to the Friars Minors in Reading "a certain piece of waste ground near the King's highway leading to Caversham-bridge, containing thirty-three perches in length, and twenty-three in breadth, with a permission to build and dwell there so long as they should continue without acquiring any property of their own;"—but as the deed recites—"if at any time, by any accident, or by any means, it should come to pass that the Friars Minors should have any property, or any thing of their own, they have agreed for themselves and their successors for ever, that it should be lawful for us and our successors, by our own authority, to expel them from every part of our land, without the hinderance of any contradiction or appeal."

Under the same penalty of expulsion, the friars "were bound not to seek any other habitation on any part of the abbey lands; nor to extend the limits of what was already granted them; nor to request any thing but what was gratuitously and spontaneously allowed them; nor to receive any oblations, tithes, or mortuaries due to the abbey. If the friars should be expelled by the monks of Reading Abbey for any other causes than those above-mentioned, it was agreed that they should be rein-tated by the King's authority, and enjoy in their own right what had been granted them by the abbey. If the friars should voluntarily relinquish their habitation, the buildings and site of the edifice should belong to the abbey."

> * Leland's Colectanea, vol. iii., p. 341. † Cotton. Library. Vespasian, E. 25.

By a subsequent deed, another piece of ground was granted them, immediately contiguous to the area already occupied by them; the conditions are the same as in the former grant, except the addition of a clause restraining them from interring in their cemetery, church, or any other place, the bodies of the parishioners of the monastery, or of any other of the churches belonging to the abbey in the town of Reading, or elsewhere, without special licence. This deed is dated the 7th before the Kalends of June, in the year 1285.

In 1288⁺, Robert Fulco left by will to the Friars Minors in Reading, certain void pieces of ground in New-street, now Friars-street, adjoining to their former possessions. Edward I., in his thirty-third year, 1306, issued a precept to John de London, clerk, constable of his Castle of Windsor, to this effect— "Whereas our beloved and faithful subject, Robert de Lacy, Earl of Lincoln, hath given to our beloved in Christ, the friars minors residing at Reading, fifty-six oaks of the most proper for building timber in his wood of Asherigge, which is within the limits of our forest of Windsor, we command you that you permit the said friars to cut down the said oaks, and carry them wherever they please, and consult their own convenience in the same. Witness, the King at Odyham, the 11th day of January. The buildings for which this timber was required were not completed before 1311, as Alande Bannebury, who died at Reading in that year, bequeathed by will "operi fratrum minorum," to the work or building of the Friars Minors, five shilliners.

lings. We have no account of the building, nor of the number of the friars who resided in it; from the small extent of the ground, it was neither roomy nor elegant, content, agreeably to the spirit of their order, with the meanest accommodation for themselves, their principal care seems to have been to erect a house of prayer suitable to the religion they professed, which from its being more substantially built is the only part of their possessions which has withstood the ravages of time.

DESCRIPTION OF THE RUINS.

The church as it now stands consists of a nave with north and south aisles. Originally there was a chancel and a tower, as we are in formed by Dr. London in a letter to Thomas Lord Cromwell, dated Sept. 17th, at Reading, in the 30th year of Henry VIII., that "as soon as he had taken the friars surrender, the multitude of the poverty of the town resorted thither, and all things that might be had they stole away, insomuch that they conveyed the very *clappers* of the *bells*." All that now re-mains of the chancel is the arch and pillars, and this is partly bricked up in the wall of an adjoining house. There are no remains of a porch, but it is not probable that so large a church could have been destitute of this essential feature. The south doorway is of two orders, deeply recessed, and consists of a suc-cession of deep hollows with two members of what has been called the "pear-shaped moulding." There are no jamb shafts, but the mouldings continue down the jambs and die away on the plinth.

The walls are built of flint with stone quoins, and plastered inside. Externally the flint work is laid in regular courses and the flints split and squared. The skill and ma-nagement of the old builders, and the ease with which they made the most rugged materials bend to their purpose, was never better displayed than in the construction of these walls; the thin, narrow joints, sharp surface, and beauti-tiful appearance of the flint work far surpasses the best attempts of modern days, and proves, whatever else the church might have been, that it was at least the school of sound architects and good workmen. The aisles are separated from the nave by a stone arcade of five compartments, the two nearest the chancel being narrower and more acutely pointed than the others. The mouldings of both pillars and arches are very well worked and in tolerable preservation, and belong in common with nearly every other part of the church to the style of architecture prevailing in the early part of the fourteenth century, now perhaps better known as the "Decorated." The west window is by far the finest part

‡ Cotton. Library. Vespasian, E. F. fo. 55,

of the whole edifice, and even now, worn and dilapidated as it is, presents a beautiful appearance. The tracery is of a flowing character, simple but elegant, and when the west front was in its original state, the east roof complete, and the lofty tower in the back ground completing the picture, must have been as perfect a composition as any of its kind.

The aisle windows are of three lights with segmental heads; the mouldings are remarkably plain, but in this style we frequently find very beautiful and sometimes intricate combinations of tracery, with but mesgre and shallow mouldings; the heads are divided similarly to the west window, feathered and cusped. The label mould to these windows, to the west window and arcades, is precisely the same in contour, differing only in size.

The aisles terminated with the nave, and were pierced with one east window in each; of what kind we can scarcely tell, one end being so completely covered with ivy, that it defies penetration, and the other bricked up, shews nothing but the mere outline of the window, which differs from the aisles, inasmuch as it is longer and acutely pointed. There do not appear to have been any west windows to the aisles. No traces of the floor are visible, neither could we on digging discover any remains of pavement or tiles—the floor probably was taken up when the church was converted into a bridewell, the nave being divided off into airing yards.

It is to be lamented that this fine relic of ancient art is devoted to no better purpose than that of a prison. The present acanty church accommodation would be an ample reason for restoring it to a somewhat more decent state, and as the walls and arches are undisturbed, a small expenditure would render it at once fit for worship and an ornament to the town. As before remarked, the style is "decorated." The building was commenced in the reign of the first Edward, during whose dynasty, and that of the two succeeding monarchs of his name, Gothic architecture having worked itself free from the Norman, and the somewhat stift hough still elegant characteristics of the Early English, attained a degree of beauty and splendour univalled either before or since.

After existing for rather more than two hundred years, this friary, in common with the possessions of the monks of this place, fell a prey to the rapacity of Henry VIII., to whom, according to the deed of surreader, bearing the date of September 13th, 1539, the monks gave up the house with all its advantages, and finally relinquished their order.

After the surrender, Dr. London, in a letter to Thomas Lord Cromwell (Sept. 17th), said that the "honest men of Reading" had no place for properly administering justice, and begged that they might have part of the friary for that purpose :--- " Ther town hall ys a very small house and standeth upon the ryver wher is the comyn wassching place of the most part of the town, and in the session dayes and other court dayes ther ys such betyng of bateldores as one man cannot hear another, nor the guest here the chardg gevyn. The body of the home here the chardg gevyn. I he body of the house of the grey friers, wich is seyld with lath and lyme, would be a very commodious room for them, and now that I have ridden all the fasschen of that church in parcleses, ymages, and awltars, it wold make a gudly town hall. The mayer of that town, Mr. Richard Turner, a very honest gentill p'son, wh many other honest men hath exp'ssyed unto me ther gref in thys behalf, and have desyred me to be an hu'ble sutar unto yor lordeschippe for the same. If it sholde be solde the wallys besyde the coyn stones be butt chalk and fynt and the covyring but tile. And if it please the king's gr. to bestow that house upon any of his a vants he may spare the body of the church wich standeth next the strete very well, and yet have rowme sufficient for a great man." This application of Dr. London met with success in opposition to a request of his brother commissioner, Richard Pollard, who in a letter dated "Oron. ultimo Auguste," had thus written to Crom-well :-- "A frynde of myne, the warden of the grey friers in Reading, hath also desvred me to be an humble sutar for hym and his brothren, that they may, with your lordeschippes favor, also chainge ther garments with ther papistical manner of livinge. The most part of them be very agede men and be not of



strength to go much abrode for their livinge, wherfor ther desyre ys that yt myt please yr lordschippe to be a mediator unto the king's grace for them, and that they myght during ther lyves enjoy ther chambres and orcharde, and they would assuredly pray unto almyetic godde long to p's've the king's gr., and yr lordschippe to his most blessed pleasur." The king, in the 31st year of his reign, granted to "Robert Stanshame, one of the grooms of his chambre, and to his heirs and assigns for ever, the whole house and the site of the house of the Friers Minors, commonly called Grey friers, in Readyng, in the county of Berks, the whole burial place, houses, buildings, orchards, gar-dens, lands, tenements, trees, woods, lakes, vineyards, with all and singular the appurtenances there unto belonging, and also the site, extent, and precinct walls and ditches of the aforesd house of the friers minors, late so called, being round about and adjoining to the same, and the site and precinct of the house, including and containing in the used. same, and the site and precinct of the house, including and containing in the whole by esti-mation six acres." The body and side aisles of the church were granted by Henry VIIIth, by letters patent bearing date at Westminster, the 24th day of April, in the 34th year of his reign, 1543, " to the then mayer and burgesses of the borough of Reading and their successors in future," with liberty " to have, possess, use, and enjoy a competent and auficiant way to future," with liberty " to nave, possess, use, -and enjoy a competent and sufficient way to the said body and side isles of the late church aforesaid, rendering and paying yearly on the feast of St. Michael, the Archangel, the hun-dredths part of one knight's fee, and one far-thing into the revenue of the late augmentation court of the crown for all services, levies, or demands whatever to the intent that the mayor and burgesses of Rcading aforesaid might, at at their own proper costs thereof make and At their own proper costs thereof make and build, or cause to be made and built out of the same, one sufficient house there, commonly called the Guildhall." This grant is con-firmed by Queen Elizabeth's charter, with authority to the mayor, burgesses, and their successors, "to give, grant, alienate, convey in fee, exchange, or yield up the aforesaid body and side aisles of the said late church, and the way aforesaid belonging to the same to any way aforesaid belonging to the same to any person or persons whatever, or to convert, alter, and dispose of them to any other use." Some part of the building was probably con-verted into a Town-ball, and another part was made an hospital, or workhouse for the reception of children and old persons.

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235 57 (62 -) It is now used as a house of correction for the town.

We cannot avoid repeating Mr. Billing's suggestion, that the building should be restored as a church, the more so, because accommodation in this respect is much needed by the town.

We shall shortly put before our readers some notes on other buildings in Reading, the results of a recent ramble there.

HISTORICAL ART AND FRESCO PAINTING

SIR,—You have taken a pretty considerable liberty with me, for you have actually chopped off my head and clapped on another that does not belong to me; at least, it is so that you have treated my name, making it begin with an R instead of a B; you must therefore now Bhead, and then it will be right. And pray is not Budownik a name honest and good enough for you? methinks it might be, since it is nothing more nor less than that of your journal, viz. THE BUILDER, only a little polished ap by being dressed à la mode de Pologne.

Tor you? methinks it might be, since it is nothing more nor less than that of your journal, viz. THE BUILDER, only a little polished **ap** by being dressed à la mode de Pologne. By your treatment of my poor head you have nearly put out of it what I had intended to say—n importe—I have pen in hand and must say something, any thing, so that it be not about railroads and shares. That awful epidemic of the day,

epidemic of the day, "When infants learn to lisp 'bout railway trains," I leave to others. But besides that, there is another mania which we are now endeavouring to rear up to the state of full-grown popularity. I mean that for historical art and fresco painting. Your correspondent B.'s scheme for perambulating exhibitions of cartoons, is, no doubt, a mighty pretty one, and might answer very well for a few seasons; yet what would be the consequence even supposing the requisite talent were to come forth at bidding? if after going so for a while in such preparatory exercise, both artists and the

public were afterwards to discover, that further and permanent employment could not be furnished for the followers of fresco? What buildings, either public or private, have we at present that are at all calculated to admit of fresco painting on a grand scale? Are there half a dozen mansions in all London, is there a single one among our political club-houses, suitable for the display of such decoration? There is, indeed, the Hall of Commerce, in Threadneedle-street; yet whether Mr. Moxhay would allow any of our *frescanti* to exercise their pencils upon its walls, may be questioned. Sir Robert Smirke, too, has taken especial good care, that they shall not think of contaminating with their brushes the purity of his own architecture, under the pretence of adorning the façade of the British Museum with "storied" compartments in fresco, as at the Berlin Museum, since he has made his colonnades far too shallow for shelter, and further, cut up the surface of the walls behind the columns with wiedows, though he might so have planned his building as to have no occasion for any at all in that front.

If we are even to have edifices adorned with frescos, we must rear the buildings themselves first. Or is it, after all, only a miniature sort of fresco painting that is contemplated for us P works on no larger scale than what would be suitable for panels in superior-sized drawing rooms. Wure such to be the case, fresco would not rise at all above the level of mere decorative painting; neither would such mode of embellishment at all be relished by our professional decorators, who find their account better in a constant succession of new fashions for rooms. Unless they were owners as well as occupiers, few even of the opulent would care to adorn the walls of their residences with works of sterling art, so circumstanced as to be incapable of being removed from one habitation to another. And as to mediocrity, mere namby-pamby figure-painting in fresco, neither taste nor art would be benefitted by our adopting it instead of fancy paper or silk hangings. Large historical subjects in fresco are fit only for exceedingly spacious apartments, and they should be anfurnished ones or nearly so, and not intended to be occupied as permanent sitting-rooms.

As to the beneficial influence likely to be exerted upon public morals by the cultivation of high art amongst us, I must confess that I am exceedingly sceptical upon that point. Was Italy a pattern-land to all countries for morality during the palmy days of art? History certainly does not favour any such a notion. On the contrary, the love of art has almost invariably tolerated a very great deal that is repugnant to correct moral feeling, and sometimes to decency. And though the more exceptionable productions of art, may not be injurious to those who can separate art from the impurity mixed up with it, the public are not yet arrived at that stage of exalted mental refinement which is requisite for such innocence.

Do, too, what we may, high historical art is not to be secured by any forcing process. Unless it is to be no more than an exotic hothouse plant in this country, it must have time to grow up naturally, and that will be work not of a few years, but of generations. It is true a beginning must be made, and the present period may seem a tolerably propitious one; but it is idle to talk as if, so we be but resolute, the desired consummation cannot fail of immediately following the mere beginning.

Now that I have scribbled thus far, I recollect one matter connected with the subject of architectural publication, touched upon in my first epistolary communication. It is probably supposed that the British Museum is well stocked with architectural literature, that there, if no where else, almost every work of any note or merit at all, foreign as well as English, in that department of study may be consulted. This is so very far from being the case, that that department is most shamefully defective,— I do not mean as regards scarce books of the kind—some of which, by the bye, are quite worthless, except as curiosities, but such as are procurable. I have sometimes made out a list of a score, or thereabouts, and on going to the museum, have not been able to find even one of them. To give you merely one instance, and if you are not already aware of the fact, you may be inclined to set me down for "a liar of the first magnitude,"—though the mile-long shelves of the British Museum, our national repository of literature, groan with loads of the veriest trash that ever issued from the press, it does not contain a work—an English one too—that made some noise in its day, and which was of no small influence in the regions of fashion and taste;—it does not contain — but no, you won't believe it, I don't believe it myself—I can't believe either the catalogues or the museum people, when they assure me that their library does not contain Thomas Hope's publication on "Household Furniture," a work of exquisite taste, and chef d'œuvre of outline engraving. Alas ! poor British Museum ! verily, thy condition is literally Hope-less ! BUDOWNIK.

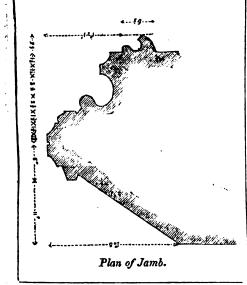
THE STUDY OF GOTHIC ARCHITECTURE.

A WRITER in the last number of the Athenæum, referring to the question lately mooted in our journal, as to the present exclusive study of Gothic architecture, has the following remarks :--

In the present rage for Gothic churches there is too much of ecclesiolatry-of a maudin sort of devotion towards the buildings themselves as edifices mystically sanctified, and which require to be mystically planned, in as which require to be mystically planned, in as strict accordance as may be with the religious fancies of our forefathers. Now if this imita-tive folly is to be persevered in, then instead of attempting to revive defanct architectural mysticism, we should study the general character and spirit of the style itself, whereas in modern Gothic churches we seldom obtain more than poor, tame, flat copies of good originals, and our modern Gothic architects are in general all the more prosaic in proportion as they attempt the poetry of the art. They have got into a wrong, perverse and unnatural course, inasmuch as they strive to substitute re-pro-duction for production, and pique themselves on fidelity, or what they take to be fidelity of imitation; which unlucky ambition may render them clever mimics, but never great performers. So long as they imitate, their works must remain not only in the rear of, but also at a considerable distance behind models whose artistic excellence arises in a great degree from the geniality of treatment which they display; whereas in imitations there is always something forced and artificial; and though individual parts may be all and each ac-cording to precedent, the *ensemble* will betray ignorance or neglect of the real idiom of the Gothic style. And such is too frequently the case with our modern mediæval churches: in scarcely any of them do we discover the mani-festations of a taste not only formed upon, but inspired by, a sincere study of the great works of the middle ages, and an intelligent appre-hension of their merits. The barren and passive taste that will serve for the antiquary becomes little better than artistic impotence in the architect; while the one can give himselt up with a sort of busy indolence and do-nothing industry to implicit admiration of what-ever belongs to the olden time, the other has to look upon the mediaval edifices not as express models, but as studies which may help him to the attainment of rival power and mastery of his own. Instead of so doing, our architects seem content either to hobble along upon antiquarian crutches-possibly very good crutches in themselves, yet merely crutches after all. In art, antiquarianism is like fire, -a good servant but a bad master; and unluckily, as we think, for architecture, anti-quarianism seems just now to be arrogating to itself a control over it-certainly the eccle siologists display a degree of enthusiasm, and of policy also, that contrasts very forcibly with the apathy of the architectural profession, who seem nearly deficient in that generous attachment to their art for its own sake, which would impel them to consult its best interests by encouraging the study of it. The opposite course of policy has been adopted by anti-quaries and ecclesiologists, and so far with success that it has given them a *status* in the literary and artistical world. Not only have they formed a public for themselves, and dif-fused a taste for studies hitherto regarded as either very trifling or very dull, but they anxiously minister to and cherish that taste.

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PERPENDICULAR WINDOW FROM BIR-CHINGTON CHURCH, THANET.

THIS church (which is dedicated to All Saints) contains little worthy of notice with the exception of the perpendicular windows, which are of good design. The best of these, the east window of the chancel, is the subject of the present illustration and by far the finest window in the church: the mouldings are better than those in many windows of even greater pretensions. The illustration consists of an exterior elevation of the window, with an enlarged plan of the jamb.

SUGGESTIONS FOR THE IMPROVEMENT OF SEWERS.

BY JOHN PHILLIPS.*

PREVIOUS to the commencement of the present century many miles of sewers, which are designated old in contradistinction to those which have been built since, were constructed with wide horizontal bottoms formed of bricks laid flat, or on edge, with thick upright sidewalls and semicircular arched crowns; and both the materials and the workmanship are of the worst possible description, and they are in a state of great dilapidation. Nearly the whole of these sewers, however, were put in at a time when the authorities did not exert much if any influence over their arrangement and construction, and when the subject was not considered to be of such paramount importance to the public as it is now held to be. Moreover, when these sewers were built, a system of good and efficient drainage and sewerage, based upon sound principles of science, seems not to have been understood or practised, consequently many miles in length have been put in without the least attention being paid to placing them in a proper position at their outfalls, or reference being had to their extension to the more distant parts of the districts. Indeed, it is manifest that many of them have been placed in the ground merely for the purpose of suiting their own immediate localities requiring to be drained; and even then (from their form being the worst that could possibly be devised), not with a view to providing good and proper facilities for assisting the discharge of the drainage and sewage carried into them from the surface and premises contiguous; besides they have been built so carelessly and irregularly, that the falls in many instances are arranged contrary to their discharge. The

extraordinary large eise and improper form of these old sewers are the cause of much of the great evil which still exists, for nearly the whole of them retain the matter discharged into them instead of affording means for carrying it off, consequently they are a vast system of stagnant cesspools, and a great pest, naisance, and expense to the inhabitants.

Although some improvement has taken place in the formation of sewers during the last thirty years, still many miles have been constructed, both as to arrangement and form, nearly, if not quite as bad as the old flat-bottomed sewers themselves, for vast numbers of those that are termed new are actually in the same abominably filthy condition as the old ones. The inverts of the form which superseded the old are curved, yet from these curves being exceedingly flat, the very diminutive and slender streams become spread over their surface, and therefore have, not sufficient velocity or power to lift up and carry off the matter: consequently, these hollow channels very soon become filled with soil, the flat surface of which as it accumulates, forms the artificial beds for the water to run or lie on.

Regurgitations, eddies, and retardations are caused in all streams which flow or strike into each other, where collateral channels are formed at right angles to recipients, and this irregularity produces considerable deposits of heavy matter and silt at those parts. Whenever the channels of sewers are formed in this manner, the deposits which will accumulate from the improper arrangement entirely destroy their efficiency, and that too for some distance on the up stream sides, according to the height of the accumulations, and the inclinations of the channels. Nearly all the old sewers, as also house drains, are connected with each other at right angles or nearly so, and indeed so are many sewers which are com-

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See p. 475 ante.

aratively of modern construction; it has, however, been the practice during the last few years, to form the junctions with cants, and in some instances with curves, both being in a direction in accordance with the flow of the direction in accordance with the flow of the streams. From the very frequent opportu-nities I have of examining the condition of sewers, I have found vast numbers, in-deed I may say, as before observed, whole districts of them more or less choked with decomposed matter, and this naturally led me to inquire into the probable causes of their inefficiency; and from having well ex-amined into the causes of these deposits and accumulations, I am convinced that they are produced almost entirely from the improper form, arrangement, and exaggerated sizes of the sewers.

the sewers. It has been the practice to build what are termed first and second class sewers; and it would appear that precisely the same size and form of sewer has been laid down in numberless instances for draining short streets containing from twenty to fifty houses as have containing from twenty to fifty houses as have been built for the purpose of receiving the whole of the drainage from collateral districts. The great absurdity of this regulation has long been apparent and has frequently formed a proper cause of complaint. This system has been the cause, by the great and unnecessary expense, of preventing many densely popu-lated localities from being properly drained, many persons being led to seek drainage either surreptitiously or by cesspools, and the persurreptitiously or by cesspools, and the per-meability of the adjacent ground. Nearly the whole of the water which is discharged into these whole of the water which is discharged into these disproportionately large and short sewers, from the number of drains being few, passes off very slowly, leaving the soil behind, which, as it accumulates from time to time, ultimately stops up the sewer and the private drains as well; consequently the soil has to be removed from them at creat traville and expresses this from them at great trouble and expense ; which process has again and again to be repeated as they become choked up. It has been a regulation never to build sewers of less a regulation never to build severe of reso size than is sufficient to allow a man to pass freely along them; and it would appear that this has been the cause in a very great degree of the large sizes which have been adopted and continued for so long a time, consequently the form which would have accelerated the flow and prevented soil from accumulating within them, has not been generally adopted. Now, by judicious arrangements, a proper size can always be retained for that purpose, and, at the same time, the form and width of the inverts may be enlarged or contracted suitable to any exigency or discharge of water and sewage that may be required for

of water and sewage that may be required for any particular locality. Much controversy has arisen at various times respecting the best and proper transverse form for a sewer, and several forms, both rectan-gular, elliptical, and circular, with sometimes portions of these shapes blended together, have been suggested and used accordingly. But it would seen that the main question as regards strength and efficiency for discharging the sewage, has been by many persons, either misunderstood or entirely overlooked. Now it must be manifest to all that sewers should be arranged and constructed so as to facilitate the rapid passage of the soil to their outlets, it should therefore always be a question, when-ever a sewer is required to be put in, whether its arrangement of size, form, and fall, is calculated to impart sufficient velocity and scourculated to impart sufficient velocity and scour-ing action to the water so as to carry off or prevent the soil from becoming deposited upon its bed. Now, if the data for the proper size, form, and fall for a sewer be not ascertained, and these properly proportioned to the volume of water likely to find its way into it, the chances are that the force of the stream, from heaving extended will not be sufficient to remove being extended, will not be sufficient to remove the soil, consequently it will accumulate, and the sewer will ultimately become choked, and close up each house-drain.

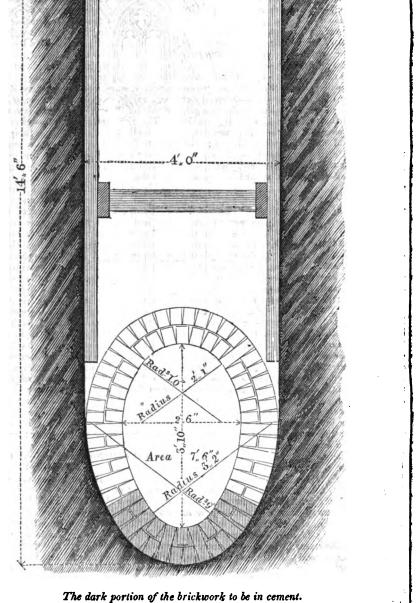
Economy combined with the utmost effi-eiency are the principal considerations which should be observed in the formation of sewers; should be observed in the formation of sewers; and it is remarkable that the best form that can possibly be adopted is not only the most economical and durable, but is also the most efficacious in carrying off the sewage matter. Besides it combines in its formation the greatest strength with the least consumption of material, and is at the same time strictly conformable to best strict and hydraulic princonformable to both static and hydraulic prin-

I strongly recommend for adoption ciples. the annexed section for sewers, being per-suaded from a strict examination of the prin-ciples of such structures, that it combines in its form great strength and power of resisting vertical and lateral pressure, economy of labour and materials, and facilities for ensuring labour and materials, and facilities for ensuring good, sound, and durable workmanship; but above all, and which is of the utmost im-portance, it affords great advantage to the velocity and scouring action of water, even when its quantity may be small; and with-out which advantages no structure of this nature can be effectual for the purpose of carying off the drainage and sewage. Al-though this shape is an approximation to the form of sewer now in use in the Holborn and form of sewer now in use in the Holborn and Finsbury divisions, still 1 believe it is rather

the water. From being subjected to considerable forces, and in order to sustain them, sewers should always be of the annexed form, or arranged upon similar principles. I shall now proceed to examine the nature of those

now proceed to examine the nature of those forces and their mode of action. When an upright cutting is made in the ground, the adjacent earth at the sides is de-pendent for its stability upon the nature of the soil and the power of cohesion which binds the aggregated particles to each other, as also on the dip or natural inclination which each succeeding underlying joint and stratum take with the horizon. The particles of ground from the surface downward differ more or less in their relative sizes and shapes, and are upborne and supported by those which lie directly underneath and contiguous to them, Finsbury divisions, still 1 believe it is rather better calculated to sustain pressures from the ground, and to impart greater velocity and inciting force to a given body of water; for the quently the hydraulic mean depth of the water would be greater than is afforded by that form; and, according to the principles of hydraulics, the velocity and power to scour increases in proportion to the square root of the height of

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IMPROVED FORM OF SEWERS.

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away, or slide down into the cutting, and the static line or slope formed by the fracture varies with the strata, and according to the nature and cohesion of the particles of earth; for all soils will stand at some angle or inclination peculiar to their character or formation. And when ground is cut into and left unsupported, that at the sides will not cease to crumble and slip until the lateral forces become destroyed, or until the power of cohesion and friction of the ground be in equilibrio with the forces acting upon it, the soil having then attained its natural slope, which is the angle of repose. The earth contained within the triangular

The earth contained within the triangular prisms on each side of the trench of a sewer, becomes detached in consequence of the natural or re-acting support being withdrawn by the cutting, and by the force of gravity each prism has a tendency to slide down the planes of natural inclination. These bodies of earth, therefore, in all cases require to be supported, for which purpose it is essential that the resisting force be somewhat greater than the pressure, for if the latter predominate, the structure will either be displaced or thrown down. From it being necessary to construct sewers at considerable depths in the ground, it is essential that they be of a form capable of offering a powerful and efficient resistance to both lateral and vertical pressures; but these are liable to much variation, being dependant upon the nature and compactness of the earth, and the angles at which they will stand.

It is desirable, therefore, that the walls of a sewer be arranged so that the lines of pressure fall within their substance, and not to touch the intrados; for if the pressure from the ground at a side be so great that its direction touches the interior surface of the wall placed against it at any point, nearly the whole of such pressure becomes concentrated, and acts at that point, and if the resistance of the wall be not greater than the pressure it will yield, and be forced from its position. For when a body is subjected to the pressure of another body, the conditions of equilibrium require that the reaction afforded by the former be equal and in an opposite direction to the pressure of the latter, otherwise motion will ensue.

Reclining curved walls, whose bases abut against each other, are considerably stronger for the bottoms and sides of sewers, and afford greater resistance to lateral pressure than walls that are built upright, at some distance apart, and parallel to each other. For according to the well known principle of mechanics, that when a body at rest sustains another body by one or more forces acting at given points, the re action of the forces will be in directions perpendicular to those points, or to the surfaces of contact, and these perpendiculars must meet either at the centre of gravity of that body, or in the vertical line which passes through it. Now, according to the foregoing principle,

Now, according to the foregoing principle, it is easily ascertained, by trigonometry or the composition and resolution of forces, that the rectangular wall, compared with the curved wall, has nothing like the same resisting power to counteract the pressure from the ground, consequently it would be from the ground, consequently it would be overturned or slide off its hed where the other would remain uninjured. Hence the necessity for adopting the curved form for the side walls of sewers in order to ensure strength, durability, and adequate resistance to lateral pressure. And where ground is of a clayey or slippery character the greatest pressures arise from that adjacent to the sides, therefore it is at those parts the greatest resistances should be placed, otherwise the walls must of necessity give way and be forced off their seats into the sewer. The quick off their seats into the sewer. The quick curved form of the ground itself under the invert and sides, assists very considerably in preventing that above from becoming displaced, and when the ground is liable to slip, this form keeps the line of fracture of the ground much higher, or causes the force from it to act where the sewer has the greatest power of resistance, namely, across its broadest part, or where there is most curve; and the inclination of the ground, as also the side walls, should be as obtuse as possible, as then these are better able to resist the lateral pressure. pressure. The greater external periphery of curved walls prevents them from being

lateral pressure is so great that the wall is liable to be displaced, that portion of it above the line of fracture must be lifted upwards off its bed, while a rectangular wall, under the same pressure, would be forced forwards.

From their superior strength in resisting adopted for retaining walls where stability and sound construction is sought for. And there being a direct similarity between ground pres-sing laterally against a sewer and that pressing against a retaining wall, it is evident that in order to afford the greatest resistance with the least consumption of materiais, curved side walls for sewers are of necessity the best and strongest ; besides, the arch thrown across them form abutments which afford forcible counteracting resistances to the pressures from the ground at the sides. Another great advantage of battering curved walls is, that when the ground at either side has a tendency to slip, be-fore it can do so it must upheave the side wall and the arch, with the ground upon it, the whole mass turning round like a hinge at the point of fracture, while a rectangular, or slightly battering straight wall would collapse or be forced forwards off its seat with much less pressure.

The ground adjacent to sewers, as well as that on the top of them, forms their natural abutments, for the pressure from one side re-acts against the pressure from the other, and the super-imposed weight on the crown counteracts the pressures from both sides, and thus the lateral pressures prevent that on the arch from forcing it downwards, and the side walls outcoards ; and the pressure of the arch and the load upon it prevents those from the sides forcing the side walls *inwards* and the crown *upwards*, and, therefore, when the sewer is of a proper form it is then capable of effectually resisting those pressures; provided the ground be properly excavated for the bed, the brickwork soundly executed and built to the proper curvature, and the walls efficiently protected by the returned ground being well and soundly rammed down around them, as then the sewers and the earth adjacent to them will be in a state of equilibrium with each other.

Under scarcely any circumstances should rectangular or straight battering walls enter into the construction of sewers, because, from being exposed to very great external pressures they are liable to be forced off their seats and to crack or collapse at the points of fracture, that is where the lines of pressure touch the inside of the sewer; and the resist-ance afforded by rectangular walls is de-pendent upon their own weight, the load upon them, and the cohesion and friction of the joints where the pressures act, consequently the effect of pressure at any point would be to cause the walls either to slide or turn round on an axis; and their power of resistance is merely that of extension only, whereas curvilinear brick walls are made up of a series of wedges, which tend to a central point, and contain outside the neutral axis a greater amount of material than there is inside of it, and which must be compressed, whilst the lesser quantity of material inside the neutral axis must be rent asunder or extended before the walls can give way, that is when the external pressure is equal at every part. Therefore the curved form not only affords greater resistance but bears trans-verse strains much better than rectangular walls, and consequently are better adapted to support earth, and that too with much less quantity of material because the perimeter of a circular wall is much less and contains within its circumference a greater area than that of any polygonal or rectangular figure. It would add much to the strength and durability of sewers were radiating bricks used in their construction instead of rectangular bricks, as bond could then be produced which would tie the walls together transversely much better than is done with half brick rings and heading courses, when these can be got in. The expense of making and burning this description of brick would not be more than 3s. or 4s. per thousand above the cost of common rectangular bricks, and were a large order given, the cost probably would not be more than 2s. 6d.

walls, should be as obtuse as possible, as then these are better able to resist the lateral pressure. The greater external periphery of curved walls prevents them from being fractured by the pressure of the ground acting against them; for as the radiating joints form an angle with the horizon, when

sufficient to prevent the pressure at the sides from upheaving or disturbing it; but when the arch is too flat the pressure upon it will force the side walls outwards if these be not properly protected. And again, if the arch rise too much, the lateral pressure will cause it to collapse at the sides or springings, and it will crack and rise upwards at top, but the pressure upon the arch is almost always sufficient to prevent this from occurring. A semicircular crown for a sower appears to be a mean between that which is too flat and that which is too bigh. But the semicircle is not the best form for supporting vertical pressure, for it has a considerable tendency, when the ground is not sufficiently firm or compact, to sink at the top and rise or spread at the haunches; and I have noticed that a great many arches of sewers of a semicircular form have gone exactly in this manner. Under these circumstances, there-fore, I think it is desirable to make the arch or crown of a sewer somewhat of an elliptical shape, with the longer axis upwards or approaching to the form of the equilibrated arch, as then the lines of pressure from its weight and the load upon it, are distributed more equably within its substance, and the resistance that this pressure affords is then thrown where it is mostly required, namely, across its broadest part; besides, by giving the urch this form, an opportunity is afforded for making the side walls more obtuse and of greater curvature, which greatly improve their power of resistance.

It is considered that a form of sewer which is suitable for one locality is not adapted for snother. This principle holds good only where ground differs considerably in its character; and attention need not be paid to it except on extraordinary occasions. Greater width and lateral resistance is needed where ground is very soft, clayey, or of a slippery nature, when it is desirable to conform to the shape of the circle; for a cylindric ring under every condition is the strongest form for resisting transverse pressure when it is equally divided around it. But the circle, although it is the strongest, is not the best and most efficient form for a sewer, as other conditions besides strength are connected with the subject; for the whole object of sewerage is to effect in a speedy manner the discharge of the drainage. Whatever may be the character of ground through which a sewer has to pass, its form should never depart from the principle of the arch whose properties should be the genises on which to design every hollow structure that is to have pressure acting around it.

In performing the practical operations of sewer work, it is essential that great pains should be bestowed upon the excavation of their bottoms. For in order that the brick work of the invert may be constructed to the proper curvature, it is extremely desirable that the bed of the sewer should be brought as near to the form of its outer periphery, and as correct as it is practicable to make it.

The discharge of drainage and sewage is wholly dependant upon the velocity, inciting force and energy of flowing water, which must in all cases have sufficient power to overcome the inertia or force of gravitation of the sewage matter, as also to sweep and carry it forward in mechanical suspension. Now the greatest amount of velocity and impelling force to which a descending stream, with a given inclination, can attain, depends on the least width of the development of the surface of contact; it is therefore of the greatest im-portance always to make the channels of sewers of a shape conformable to that which produces the utmost velocity and the least amount of friction or rubbing surface for the water to flow in. I shall bereafter proceed to examine the forms, arrangement, and construction of sewers with reference to this allimportant point.

THE WROUGHT NAIL TRADE.—The workmen of this trade, upwards of 15,000, made a stand last week for an advance of 10 per cent. upon their wages. Messrs. Caddick, of Coseley, at once told their workmen they would give it to them, and that they must not stand a single hour. Messrs. Caddick paid them the advance on Saturday last, and stated they hoped in a short time to be able to give a further advance.

EFFLUVIA FROM SEWERS.

SIR,-Despite the importance of the subject, I fear you must begin to nauseate the very name of, much less the effluvia from, sewers. I can only hope the old proverb vulgarly condemning too much stirring, will be reversed as regards our present subject; and as a proof thereof, I would fain hope some one of the Metropolitan Sewers Commission will at once take up the subject of sewer purification-and test the value or otherwise of the various propositions which have recently been put forth. With respect to the plan proposed in your number for the 4th instant, I cannot believe that any apparatus with gratings in connection with the carriage-way would be found to answer the purpose practically; and as respects the modus operandi of the machinery itself, I confess that, to my mind, the scheme lacks practicability, or, at least, a more lucid expla-nation, and I must still think that the air-flues or columns, with whomsoever the idea originated, are infinitely better calculated to ensure a permanently satisfactory result. And while on this point, without wishing to detract from "Mr. J. P.," or "Mr. J. L.," I would just ob-serve, and it appears to have been overlooked by the writers on these matters, that there seem to be no good reasons (especially if a draft be created in their favour) why these outlets for the gases should be confined to the site of the sewer itself, when branch pipes or drains might conduct them to any available spaces, such as court-yards (for which a rental might be paid), the blank sides of houses situated at corners of streets, public mews, and the like situations.

Before dismissing the subject of sewers, I would hazard a few remarks on a point which I believe has in some measure escaped our rather too zealous reformers. "J. L." tells us not to fear the bursting as resulting from the pent-up gases, and assures us that this re-oults rather from bad engineering and defecexist in our sewers; but, verily, I believe, this tune has been harped upon too loudly, and to a certain extent, unfairly (perhaps because the tune is popular); and we should bear in mind that when explosion takes place, no work (or it of the most cyclopean chamaterial), be racter, can altogether resist its force. I am at the same time free to admit that due attention should be given to the shape of the sewers; and there can be no doubt that the less straigh work be admitted into their form the better will they be enabled to resist pressure. I think, however, that many of the complaints would not be heard of if greater care where taken in building the sewers; such as doing the work in its place, instead of on a bench in the street, and paying due attention to the perfect bonding of the work, using hoop-iron pretty freely, and above all, giving the green work some-thing like a chance of setting, before either the contractor or the director of the works, proceeded to overwhelm it with the earth covering and backing. This earth backing should, in my opinion, be most carefully filled in and I am, Sir, &c., Oct. 14th, 1845. Συνεργος. .

FURNITURE WOODS .- The Lords Commissioners of her Majesty's Treasury have recently ordered that a parcel of partridge wood im-ported from Antigua be admitted free of duty as furniture wood. Their lordships have also ordered that a parcel of cherry wood recently imported from New Orleans be admitted duty free. These decisions, which are of very con-siderable importance to the importers of and dealers in wood used in the manufacture of furniture, have been communicated to the revenue officers at the various outports throughout the United Kingdom for their information and government with respect to future importations of these articles.

TABLEAUX VIVANS .---- Herr Keller with a number of models, male and female, is exhibitnumber of models, male and remain, is exhibit-ing at the gallery of Painters in Water-colours, Pall Mall East, a series of living pictures of extraordinary beauty. We advise all artists to see them; effects of light and shade are pro-duced which will give them hints of no mean ralue. Keller is evidently an artist himself value. Keller is evidently an artist himself and sets his figures with a power rarely seen.

AMENDMENT OF METROPOLITAN BUILDINGS ACT.

Sin, — The announcement in your paper of last week, the 11th instant, headed "The Offi-cial Referecs," must, I think, be gratifying to the building world; inasmuch as you state that it is intended to bring in a bill, early next session, to amend the Act,-that a third referee will be appointed, and that Mr. Higgins has consented to resume his office pro tem.

The necessity for an amendment of the present Act is more than generally admitted, and I trust a less vexatious, inquisitorial, and "Paul Pry" law will be enacted.

The original purpose of a Building Act was simply the prevention of extension of fire, and the framers of it may do well to bear in mind the legal adage, " de minimis non curat Lex." and not legislate on trifles, or interfere beyond what a wholesome care for the public weal requires, so that a man really cannot do what he likes with his own.

That a third referec is desirable, will, I dare say, be admitted, when we consider that two persons very frequently and fairly, differ in opinion; and a third person is required to de-cide. And as one of the understood advan-tages of the new Act was, that building matters would be referred to, and decided on, by per-sons professing that art, namely, surveyors, and not magistrates or lawyers, the necessity of calling in the registrar, who at present seems prominent, will not be required. The official forms, notices, and fees, may possibly also be abridged and lessened; they are now multifarious and heavy, pressing hard on the building public and all connected with the Act; who appear to have exchanged the rule of King Log for that of King Cormorant. At the same time it must be admitted, by the modifications that have in several instances been made, a right spirit seems to prevail. That Mr. Higgins remains is, I think, gra-

tifying, for a man more practically conversant with the subject, or fit for the duty, can hardly be found. He is not one of the mere Bureaucracy or martinet school, and his plain good sense and freedom from crotchets may tend to render the administration of the Act more practicable and less vexatious. He is also well known, and has so little

official hauteur—" Proceed hine ? proceed este, profini"—that his continuance in office will probably be hailed with satisfaction by all

whom it may concern. To whom, Mr. Editor, and yourself, these To whom, Mr. Eanor, and yourset, observations are respectfully submitted, by C. your obedient servant, October 13, 1845.

ON THE HISTORY OF STAINED GLASS.

At the archæological meeting before mentioned, a paper by Mr. Winston, on the painted glass in Winchester Cathedral and other local buildings, was read. The writer remarked that the design and execution of glass paintings are as capable of convenient classification as architectural peculiarities, and that he should refer throughout to the three great mediæval styles of glass painting, by the terms Early English, Decorated, and Perpendicular, each style being nearly contemporaneous with the several styles of architecture as designated by Rickman. The term Cinquecento he should apply to any glass prior to 1540, which exhibits in its details the peculiar style of ornament known by that name. The earliest specimens of English glass that he had met with at Winchester, are the two fragments probably of a border, worked in with other glass, in the west window of the nave of St. Cross, and two other fragments of a border over the door leading into the refectory. All this glass is of precisely the same character; and to be referred, he was of opinion, to the beginning of the thirteenth contury. A few small fragments of *later* Early English are at present contained in the cloister of the college. wo circles of Early Decorated glass are over the door of the refectory of St. Cross, and two or three more in the west window of the Cathedral. They are composed of plain pieces of coloured glass, disposed in a geometrical pattern, and prove how much of the *effect* of early glass is owing to the texture of the mate-He would add here, that it appears to rial. have been the practice formerly to glaze the windows according to the progress of the

work. Thus at York, the decorated glass in the aisles is earlier than that in the west window of the nave; and the Perpendicular glass in the aisles of the choir is earlier than that in the great east window. All the present glass in the side windows of the College Chapel is modern, as well as that in the east, with the trifling exception of two small figures, the head of an angel, and four other little bits of glass in the tracery of the window. Con-sidering the time when the glass in the east window was executed, it must be admitted to be a very good copy of the old. The art of making coloured glass was not so well understood then as now. Had the glass been copied now, it would only have been one degree better than it is. Its effect would still have been that of painted glass, exhibiting the drawing of the early part of the fifteenth cen-tury, and the colouring of the nineteenth instead of that of the sixteenth. The texture of all modern manufactured glass, uncoloured as well as coloured. is identical only with that of the sixteenth century, and is totally different from the texture of earlier glass. The prin-ciple of adapting the execution to the material pervades all ancient, and indeed all original manufactured work, and it is vain to imitate the drawing without also imitating the mate-rial in which the work is to be executed. Hence it is that modern encaustic tiles, whatever may be the date of the pattern impressed upon them, always appear to be of the date of the manufacture of the tile. The east window of the college library is of the time of Edward IV., and was moved to its present position from the south side of the college chapel. The arms in the refectory of St. Cross are of the latter part of the fifteenth century. Those of Cardinal Beaufort are uncommonly fine. The glass in the east window of the cathedral choir is perhaps a little earlier than 1525, and is the work of Bishop Fox, whose arms and motto, "*Est Deo gracia*," are introduced into it. This window must have been a magnificent one; but it is unfair to judge of it in its present state, when so little of the glass occupies its old position in the window. The top central light is filled with glass of Wykeham's time, and all the rest of the window with glass of Fox's time. In point of execution he apprehended the painted glass in this window was about as perfect as glass could well be. The library at perfect as glass in this window was about appendent the deanery contains some excellent specimens of heraldic glass of the time of James I., and Charles I., in which, however, the decline of the art of glass painting is very apparent.

FOREIGN ARCHITECTURAL AND COL-LATERAL INTELLIGENCE.

Schinkel's Works .- The writings and designs of this great defunct architect (member of the Council of State of Prussia), are now publishing in a form' worthy of his great genius. They are as follows:--1. Collection of all architectural plans and projections of Schieldel (Samplung architecturischer Ert Schinkel. (Sammlung architektonischer Ent-twürfe.) It consists of one hundred and forty-nine plates, which, in the *cheap* edi-tion, cost about 10*l*. Supplement thereto, twenty-six plates with text, about 3*l*. But this is still surpassed by a really splendid work entitled-2. Works of high architectureplanned and designed for execution. (Werke der höhern Baukunst.) The first portion of the work contains-Plan of a palace for the Acropolis of Athens. Ten plates of the largest size compose this portion of Schinkel's work. The second portion contains - Plan for the Imperial Palace of Orianda in the Crimmea, with fifteen plates of equal size.— No library of any public institution ought to be without these works.

The Scientific Congress at Naples is progressing well. Persons of the highest rank (dukes and such like) vie in rendering every assistance and service, a thing quite unusual with the hitherto Italian grundczza. On the 28th ult. took place the festival inauguration of the meteorological observatory on Mount Vesuvius—one of the most *original* institutions in the known world. The next will be the inauguration of the colossal statue of Religion (! !) on the new Campo santo at Poggio Reale.

On the 2nd Oct. the men of science will be gratified by the unusual sight of two excava-tions, which will be made at different places at Pompeii. Of the memoirs read we cannot state, at present, more than that, that of Pro-

fessor Thiersch, of Munich, on a MS. codex found at Bamberg, contains the conclusion of Pliny's natural history, hitherto considered lost.

Undermining of Streets at Paris.-Subterraneous Structures. — About a year ago, the district of Montmartre was thrown in great consternation, as on its east side several buildings seemed more or less menaced by a sinking of the ground. It was asserted, that the slope of the hill of Montmartre had been undermined by the works for quarrying stones, which are carried on to a great extent in and about the French metropolis. The affair be-came so serious, that the Préfet de la Seine, assisted by the chief engineer of mines (!) assisted by the chief engineer of mines (!) the chief inspector of quarries (!!) went on the spot to inquire what was to be done. The inquiry, however, shewed that the sinking of the soil was ascribable to the unsyste-matic quarrying carried on at a previous period. Still, several proprietors received orders to execute immediately some works for staying the damage done. During this and other implicit inquiries the actual state of the Carta similar inquiries, the actual state of the Catacombs (this subterranean Paris) has been ascomos (this subterranean Paris) has been as-certained, the details of which are very curious. The greatest length of these excavations, counting from their entrance at the Barrière d'Enfer, is one kilometer (two miles.) But from this main line branch off a great many other shafts and quarries; and extend under a large portion of Paris. Some of these works are 5 or even 600 years old, and for ventilating them pits are pierced into the open air. This quarrying is now (very properly) under the surveillance of Government, and no quarry can be abandoned, without proper measures being taken for the safety of the superincumbent earth. In places where there are no houses, the quarry is sunk into itself, if we may say so, by the supporting pillars being cut off, when the roof falls down, and then only the soil thus disturbed is smoothed and planned. If houses exist above, then, of course, the pillars are to be strengthened. The budget of the city of be strengthened. The budget of the city of Paris bears every year a sum of 100,000 francs for these works of consolidation. This applies only to quarries, which lie underneath pub-lic roads; but if any sinking of soil is to be apprehended on the spot where houses are built, then the proprietors must bear the expense. To find one's way in these galleries, is rather difficult now although they how the expense. To find one's way in these galleries, is rather difficult now, although they bear the namescorresponding to the streets, and numbers similar to those of the houses above. But their is now a plan in preparation which is exwhich will faithfully represent all the ramifi-cations and ganglia of the huge network of

subterraneous Paris.—Gazette des Tribundar. Street-cleanliness; Regulations at Paris.— Although we know full well, that to lay down regulations and to have them observed, are very different things—still, we believe, that the following notification, issued at the beginning of the present month, by the Prefet de Police of the French capital, will shew what attention is paid to these matters by the French authorities. The Ordonnance begins by stating, that the sweeping of the public thoroughfares has to take place from the 1st of October to 31st of March—between seven and eight A.M., and at no other time. The footways are to be scraped, swept, and washed; and the conduits to be kept free from all impediment for the efflux of water, &c. After some other points of usual purport—the Paris authorities so contrary to cleanliness and decency, the administration has authorised or caused the construction of urinals in several public thoroughfares, especially on the Place de la Concorde, the Boulevards, and many of the Quays."

Public Recognition at Berlin.—On the retirement of the actual privy councillor, Beuth, the professors and teachers of both the institutions, which owe him their creation, at least vigorous re-organization—viz., the general building school (allgemeine Bau-Schule), and the industrial (artisans) institution, have resolved on presenting to that worthy statesman and man a token of their respect and love.

Ancient Canal and Tunnel of the river Kuran, in Persia (Susiana).—The design of those stupendous hydraulic works,—derived from Oriental authors and a minute personal observation by Major Rawlinson (as contained

in one of his communications to the Royal Geographical Society), seems to have been the following. It would appear that Andeshir the following. It would appear that Andeshir Bábegán, or his son, excavated a deep and wide canal to the east of the city of Shuster, and thus divided the waters of the river. The artificial stream was derived from the Kuran immediately above the town; but the city, situated diately above the town; but the city, situated on rising ground, between the two arms, could have been but indifferently supplied with water, and a further undertaking, therefore, was necessary to remedy this evil. A massive was necessary to remedy this evil. band or dyke, accordingly, was thrown across the original bed of the river, at the distance of about half a mile from the mouth of the canal, narrow outlets or sluices being left for the passage of a certain portion of the water. The consequence of this was, that the great body of the river was forced back into the artificial derivation. Another band was then thrown across the mouth of the canal, forming, as it were, a continuation of the line of the original bank, and raised precisely to the same height as the lower dyke. Here, too, the passage of the water was regulated by sluices; and the entire bed of the stream being now formed, as it were, into a vast reservoir, the mouth of a tunnel was opened into it (!), which had been excavated directly through the hill of sand-work forming the left bank of the river, between the two bands, and below (!) the level of the water thus artificially elevated. A copious stream, of course, immediately ran into the tunnel, and sufficient water was thus obtained for the supply of the town and the cultivation of a vast tract of country. Before either of the bands, however, were undertaken, and when the whole body of the river must have flowed in the artificial canal, the mouth of which had probably been deepened for that purpose, that part of the original bed between the two dykes which was intended to form the great reservoir was paved throughout with massive hewn stones, fastened with metal clamps, to prevent the further deepening of the river, and to give additional strength and security to the whole work. Such was this great work in its original conception. But as the course of the river has constantly changed, as either of the dykes became impaired and yielded a free passage to the water, the level of water in the great reservoir must, in that case, have fallen below the orifice of the tunnel, and thus, of course, it has become entirely useless.

CAUTION TO WORKMEN.

A journeyman copper-smith, named Evans, was summoned before Mr. Hardwick, Marlborough-street, for breach of contract with his employer, Mr. Styles, copper smith, Lisle-street, Leicester-square. Mr. Styles proved that the defendant entered into a written contract to engage himself for six months at the wages of 23s. weekly. The defendant came to work two or three days, and then left him entirely. The nephew of the complainant proved that he was the means of procuring the defendant employment at his uncle's place of business. He had met the defendant accidentally one morning; the defendant had applied to him to get him a job, alleging that he had left his situation at Messrs. Pontifex's on account of disagreement about money matters. He had taken the defendant to his uncle's shop, and the defendant had obtained an engagement at advanced wages. Mr. Pon-tifex said the defendant had some time previously engaged himself to him for some months. He had been at work at his shop, and had only gone away for a periodical "fuddle," which generally lasted a week, and it was while on his drunken ramblings that he had been apprehended by Mr. Styles.

Mr. Pontifex said the railroads made the trade so busy, that it was of importance not to lose the services of even one man. He hoped the defendant would be obliged to fulfil his original engagement. Mr. Styles said he had no vindictive feeling towards the man, who was otherwise a good workman, and, when not drawn away by liquor, a steady man. But it was important to teach journeymen that they must not, after having engaged themselves to an employer for a stated time,

* Such of our readers as may study these matters, have to observe that Major Rawlinson says, that the courses of the river and canal are *receised* in the otherwise accurate map of Kinneir. leave their work and upset business with impunity. Mr. Hardwick said the plea of intoxication,

Mr. Hardwick said the plea of intoxication, even had it been established, would not have excused the defendant's reprehensible conduct in forming engagements and breaking them at his pleasure. In order to teach him that he must not enter into engagements and break them capriciously, to the great injury of employers, he (Mr. Hardwick) would send him to prison for one month. The solicitor said Mr. Styles would of course pay the man his wages all the time he was in prison. Mr Styles said he would do whatever the magistrate required. Mr. Hardwick looked over the Act, and came to the determination, instead of directing Mr. Styles to pay a proportionate amount of the wages, of cancelling the contract altogether. The defendant was then committed to hard labour for a month.

Correspondence.

BUILDERS' TENDERS.

S1R,--I beg to submit to you the following tenders which were opened on Saturday morning, the 11th inst. at the architect's, Mr. Isaac Bird, 72, Scymour-place, Bryanstone-square; they are for alterations at the White Hart, Walworth-road, for Mr. Wm. Williams; the difference is surprising in so small an amount, especially when you consider that the plateglass will cost 50%.

| Cooper and Davis | £225 |
|------------------|------|
| Cooper | |
| Ashby | |
| Lawrence | 188 |
| Whitaker | 138 |

You see the difference between highest and lowest is 87*l*. and the *accepted*, as he intends doing the job, is 50*l*. under the next lowest.

Would it not pay builders generally, to employ competent persons to make out their estimates rather than guess at their amounts? Oct. 13. A CONTRACTOR.

The following letter on the same subject is almost beyond belief: we have, however, received the same figures from four different quarters, so that we cannot doubt their correctness.

S1R,-I take the liberty to forward you the amounts of tenders delivered for finishing ten houses at Mile-end: Mr. Single, architect.

| Croast. | £1.477 |
|-----------|--------|
| Knight | 1,305 |
| Smith | 1,250 |
| Rivett | 1,194 |
| Johnson | 1,192 |
| Simmons | 1.150 |
| Cooper | 1.129 |
| Hughes | 1,124 |
| Cliff | 1.060 |
| Keeth | 1,060 |
| Symons | 1,050 |
| Hume | 905 |
| Reed | 847 |
| Hawkins | 595 |
| Westbrook | 589 |
| | |

The tenders were opened in a private room. Mr. Westbrook was called, and, fortunately for him, he was not present; Mr. Hawkins was then called, and told his tender was accepted, leaving him to guess whether he was 3*l*. the lowest or 300*l*.; the other tenders were then returned to the several contractors, who, like men of business, opened them amongst themselves. So much for competition.—I remain yours, &c. W.

ORNAMENTAL PLASTERING.

SIR,—In reply to your correspondent, on this subject, he is referred to a work "Practical Musoury, Bricklaying and Plastering, both plain and ornamental," published by Mr. Thomas Kelly, Paternoster-row, London.

The letter-press and drawings for the plastering portion, were supplied by one of the practical stucco workers engaged at Windsor Castle, and therefore can be relied on, the information having been obtained from an experience of several years.

Your correspondent will find, under the head of "materials used for internal finishings," in the work alluded to, the information he required regarding a good composition to work foliage in by hand.—I am, Sir, &c.,

ork foliage in by hand.—I am, Sir, &c., FRANK TYRRELL. Newcastle-upon-Tyne, 10th Oct. 1845.

[Advertisement.]

TO THE EDITOR OF THE BUILDER.

32, Kirby-st., Hatton-garden, 15th Oct. 1845. S18,-Being fully aware of the interest you take in every invention that appertains to the advancement of science, and particularly at a time when your columns are strongly advotime when your columns are strongly advo-cating a pure and efficient system of ventila-tion, it may probably not be considered too intrading my soliciting you and your readers' attention, to a newly invented and patented Stove. My practical experience in the formation and superintendence of pub-lic and private gas works, as well as fire places and flues, combined with ventilation, wherein a strict attention to the generation of calagic, its distribution, &c., has applied to caloric, its distribution, &c., has applied to heating and its various purposes, warrants me in a great measure to state my opinion, that Mr. Allen's stove for public and domestic purposes excels every other I have seen, or I believe has hitherto been produced. I am convinced, that it only requires to be inspected, to be properly appreciated; it may be seen, with all its various ramifications, at the paten-tee's residence, 21, Worship-street, Finsburysquare, at any time, but in operation from two to four o'clock daily.--I remain, Sir, &c., S. H. BROOKS,

Author of "Cottage and Villa Architecture."

Miscellanea.

EXPERIMENT WITH FIRE-RESISTING TIM--On Monday week, Mr. James B. Reay, RFR of Dublin, the inventor of a preparation for rendering timber, to a great extent, fire-proof, tested the experiment at the Commercial Hall, Gloucester-street, in the presence of the Mayor, Mr. D. Hodgson, Mr. H. Booth, Messrs. Milner and Son, and other gentlemen. Two piles of timber, the one consisting of pitch pine, which had undergone the process of preparation, and the other consisting of memel which was unprepared, were elevated in the form of the rafters of a house. Shavings were placed underneath, and fire was com-municated. In a few moments the memel was in flames, and very speedily it was consumed. The pitch pine, which was three several times exposed to the action of 800 degrees of heat, stood the test admirably. Some of the tim-bers were more or less charred, but very little injury was effected; and a remarkable little injury was effected; and a remarkable part of the experiment was, that the prepared timber upon which the lighted shavings were placed was very slightly damaged by the fire. The mayor, and other gentlemen present, ex-pressed themselves satisfied with the experi-ment so far as it had gone.—Liverpool Times.

FREEMASONS OF THE CHURCH.—Oct. 14th, Mr. J. W. Archer in the chair; Mr. John Soane was elected a vice-president; Mr. W. G. Whitehead, of Paris, was elected a corre-spondent delineator for that city; and Mr. S. C. Hall, F.S.A., was elected a member. Mr. Archer presented a rubbing from a brass executed by him, and placed in the church at Wargrave, near Reading, by the officers of the Enniskillen Dragoons, to the officers of the Enniskillen Dragoons, to the memory of their late commander, Lieut. Col. Raymand White. Mr. W. H. Rogers then delivered a discourse on illuminated books, wherein the bistory of illuminating manu-scripts was both theoretically and practically treated of, and giving a preference to the East for its origin; Mr. S. Woodburn exhibited a small and delicate missal of the fifteenth century, with gold borders; Messrs. Hunt and Co., of Bond-street, a French MS. of the and Co., of Bond-street, a French MS. of the fifteenth century; Mr. G. Isaacs contributed an extraordinary reliquary, called a "Rota," of the thirteenth century; The Rev. H. Crowe, Vicar of Buckingham, contributed a psalter of the twelfth century, and Mr. Leake a curious printed book of the fifteenth century, being one of the ancient choral books of Salis-bury Cathedral. Capt. V. Anson laid upon the table two Egyptian deities, taken at the siege of Amoz in 1842; and Mr. W. Barton exhibited an engraved book of prayers of the seventeenth century. The next lecture was announced for the second Tuesday in No-vember, being a continuation of the same subject.

OPENING OF THE NEW HALL, LINCOLN'S-INN.—It is understood that her Majesty has fixed the 30th inst. to open the New Hall, Lincoln's-inn, at 2 o'clock p.m.

CITY OF WESTMINSTER LITERARY, SCIEN-TIFIC, AND MECHANICS' INSTITUTION general meeting of this institution was held on Wednesday evening, when the chair was taken by Wm. Page Wood, Esq. (Queen's Counsel), vice-president. It appeared from the com-mittee's report, that much attention had been given to the evening classes, as offering pe-culiar advantages to the mechanic, and that these comprised several especially adapted to his wants; as those for writing and arithmetic, geometry and its practical applications, and archimetry and its practical applications, and archi-tectural, and ornamental, and general drawing. A very interesting series of lectures was an-nounced for delivery during the quarter. A discussion ensued as to various proposals for reducing or liquidating the balance of the debt incurred for the erection of the premises, and a committee was appointed to examine and a committee was appointed to examine and report on their several merits. Thanks were voted to the chairman, and the meeting adjourned.

IMPORTANT USE OF INDIA-RUBBER.—At an inquiry held in Galway a few days ago, by Captain Washington, the Tidal Harbour Com-Capital Washington, the I day Harbour Com-missioner, one of the Town Harbour Local Commissioners stated that the Board of Works had been allowed 100% for India rubber, to keep out the tide when the docks were undergoing repair.

FOR RAILWAY INTELLIGENCE, &c. SEE SUPPLEMENT.

NOTICES OF CONTRACTS.

We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the execution of two contracts on the Manbeing respectively of the lengths, 11 mile and 73 miles, including a viaduct of 1,000 yards in length. For the execution of the entire works (with the

exception of Rails and Chairs) of the Cockermouth and Workington railway, being about 10 miles in length.

For supplying her Majesty's Dockyards with Lift Pumps, for pumping water out of ships' holds.

For supplying the London Dock Company with Bent Wood Hoops for the year ensuing. For the execution of Works on the East Lanca-

shire Railway, being the Burnley contract. For the supply of 90,000 Sleepers either Larch

or Baltic Timber; also of 380,000 lineal yards of Larch Railing, and about 28,000 Larch Posts, to the East Lancashire Railway Company. For the supply of Railway Sleepers conformable to specification, to the Liverpool and Bury rail-

For supplying the London and Birmingham Railway Company with twenty Passenger and ten Goods' Engines of the greatest power that may advantage-ously be employed, being not less than 1,000 square feet evaporating surface. For the execution of the Works on the Hull and

Selby railway, between Hull and Driffield, being a distance of about 19 miles.

TO CORRESPONDENTS.

"C. J." may safely construct the external wall to

- a fourth-rate in the manner he proposes. W. R. A." (Durham.)—Messrs. Whitlaker and Co., of Ave Maria Lane, London. A Sub." (Nottingham.)—Bruff's work on En-gineering Field-work, published by Simpkin and Marchell Marshall.
- J. M."—The reply would depend on the terms of Messrs. Bunnett and Corpe's specification. We are disposed to think it would be an infringement. Observator's" letter in no way contradicts the
- remarks on the dreadful state of the sewers,
- which have appeared in our payes. Plans on Parchment."—A correspondent wishes to know the best way of colouring plans on parchment? What are the best colours to use? and what liquid is best for mixing the same? We have our own way, but shall be glad to receive the opinions of others. R. C."—Caen stone is used externally in the
- R. C."-Caen stone is used externally in the restorations at Canterbury Cathedral, West-minster Abbey, &c. In quality it is very various, containing vents and faults hardly discoverable 'till opened. It is a good stone, but must be selected with care : few people in England know much about it. We will shortly seek an opportunity to speak more at length.
 S. H." (Paris.)-We shall be happy to receive specimen and terms.

- "G. P." (Nottingham.)-The design is not sufficiently good for publication. The classic lyre and wreath are out of place on a gothic monu-ment. We are much obliged to "G. P." nevertheless.
- theless. W. S." (Keighley.)—There is no new work on staircases. Michael Angelo Nicholson's book, on this subject, published ten or twelve years ago is scarce, but may sometimes be met with. Q."—The request did not reach us till it was too late to comply. We have altered the signa-
- ture.
- W. W.'' will find a work on Railway Surveying recommended above. We should advise him to understand the subject before he accepts an engagement. Quebec."-
- Quebec."—A correspondent says 1,000 hands are wanted for works at Quebec, and wishes to know who has the engaging of them. O."-If the specifications be also made, an ar-
- chitect of standing would charge two-and-a-half per cent. The question is an unsettled one : previous arrangement would be the best course.
- *prev* "J.S. J. S."—If the projections be in accordance with the Buildings Act, our correspondent may rest satisfied. The latter supersedes local Acts. G. R. L.," "Ballantine and Allan."—Next
- week. Other correspondents must excuse us till our next number.

ADVERTISEMENTS.

ROYAL POLYTECHNIC INSTITUTION, REGENT-STREET.

STRET. FOLTECHNIC INSTITUTION, REGENT-STRET. IN ITE'S PATENTED VENTILATING and SMOKE-CURING SYSTEM is daily ex-plained by Mr. Phillips, the practical engineer, illustrated by models and a great variety of experiments, at a Quarter past Twelve and Halt-past Seven precisely. Architects, Buil-ders, Ironmongers, Gas Fitters, and the Public generally, are invited to investigate the merits of this new and scien-tific invention, the application of which may be seen in prac-tical operation as applied to street lamps, at the entrance of the above Institution. All letters addressed to the Patentee, New North-road-bridge, Hoxton.

ROYAL POLYTECHNIC INSTITU-TION.-Lectures on the Music of Spain, by Don Jose de Cicbra, with Guitar and Vocal Illustrations, on Tues-days, Thursdays, and Saturdays, at Half-paet Two o'clock. Dr. Ryan's Lecture on the Process for making Ice by Artifle-cial Means, illustrated by Masters' Patent Apparatus, Daily, at Half-past Three o'clock. Also, Mons. Boutigny's ex-periment of making Ice in a Red-hot Crucible. Professor Bachhoffner's varied Lectures, with experiments, in one of which he clearly explains the principle of the Atmospheric Railway, a model of which is at work Daily. Coleman's New American Locomotive Engine, for ascending and descending Inclined Planes. A magnificent Collection of Models of Tropical Fruits. A new and very beautiful series of Dis-solving Views, new Optical Instruments, &c. Experiments with the Diver and Diving Bell, &c., &c.-Admission, One Shilling; Schools, half-price.

BIELEFELD'S PAPIER MACHE. The superiority of the Papier Maché for the purposes of ARCHTECTURAL DECORATION'S is now so gene-rally admitted, that it is needless to argue it. The introduc-tion of Papier Maché into most of the public and private buildings in the country is the best proof of its merits. Or-naments may be had in almost every style, and patterna-books, containing more than a thousand executed designs. Price 10.

Price 17. PICTURE FRAMES and other Articles of Furniture, either gilt or in imitation of the finest carved oak. An illus-trated Tariff forwarded on the receipt of eight post-office

trated Tariff forwarded on the receipt of eight post-office stamps. PATENT QUAQUAVERSAL GLASS-STANDS for the toilet, on an entirely new principle, of great elegance, and free from all the practical inconvenience of ordinary Glass-stands.

At the works, 15, Wellington-street North, Strand.

WALLIS'S PATENT LIQUID WOOD WALLIS'S PATENT LIQUID WOOD KNOTTING. — This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the im-portant qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and dis-figuring the paint above. Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much plea-sure in offering to the public an article so long and anxiously called for.

called for.

called for. In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat. Sold wholesaie and retail, by Measra. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

VARNISH.—It has long been a desideratum VARNISH.—It has long been a desideratum amongst the consumers of Varnish to obtain a good and genuine article; brilliancy, facility of drying, hardness, and durability are the qualifications necessary, but these are seldom if ever found united. The experience of a life-time devoted exclusively to the manufacture of this article, the great and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled Messra. George and Thomas Wallis to produce Varnishes (both oil and spirit) unrivalled in every respect, and they confidently reconsuend them to the trade, as deserving of notice both in price and quality. Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unalulterated article. Fine Oil Varuish, from 10s. per gallon; best White Spirit Varnish, 21s. ditto; Best Spirit French Polish, 20s. ditto; White Lead, Oil, Turps, and Colours of every description at the very lowest prices.—WALLIS'S Varnish, Japan, and Colour Manufactory, 61, Long-acre, one door from Bow-street. Established 1750.

BUILDER. THE

TO ARCHITECTS, BUILDERS, UPHOLDERS, BLIND MAKERS, &c.

Orders by post, with measure between beads and length window, will be executed, and sent to any part of the of window kingdom.

GRAINING COLOURS AND LIQUID WOOD STAINS. HENRY STEPHENS begs to call the attention of Architect Builders LINK X STEPHENS begs to call the attention of Architects, Builders, House Decorators, Puinters, Cabinet-makers, and all those engaged in the erection of churches where the appearance of oak is desir-able, and those also who are employed in the revival of old carvings, faded furniture, or other ornamental wood work, to his GRAINING COLOURS and LIQUID WOOD STAINS.

to his GRAINING COLOURS and LIQUID WOOD STAINS. The graining colours are prepared in a damp state, and upon so true a principle, that the workman exmoot fail in obtaining the natural colour, nor of giving to the work the same effect and appearance at all times. The difficulty of producing a true colour and of preserving the same unifor-mity with the admixture of earths and oxides, which are the ingredients used in graining, has long been asknow-ledged. This difficulty is at once removed by these prepara-tions, and the grainer is enabled to confine his attention to his art in graining, without being perplexed is proportioning and mixing bis colour. The LIQUID STAINS are solutions of colours which not only carry additional stain on to the various woods on which they are employed, but when used on the particular wood whose object it is to revive, it combines with and heightens avaluable acquisition to the DECORATOR and to the RENOVATOR of old oak or other carvings. They are also capable of giving colour to the sappy and defective parts of venears and fine woods used by cabinet-makers and others. In the decoration of churches, castles, baronial halls, and massicons, in which are often found beautiful specimens of and staded, these liquid stains will be found particularly ser-viceable.

They also impart to woods of inferior character and of soft taxture, such as beach, birch, pine, deal, &c., the colour and appearance of such woods (whether oak, maho-gany, rosewood, &c.) as it may be designed to imitate, and thus save the expense of more costly materials.

The above preparations for graining and staining for pur-poses of imitation and of revival, are prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street, where specimens of their application may be seen, and also at the Office of "The Builder."

HOLBORN AND FINSBURY SEWERS, MIDDLESEX THE COMMISSIONERS of SEWERS THE COMMISSIONERS of SEW ERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to sply for at the above Office. By the Court, STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-

TO BUILDERS and Others interested in

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by water. courses falling into the river Thames, between the city of London and the parish of Fulham. The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, pre-viewely to the making of may new sewer in any attreet, lane, or public way, or in any part intended to become a street, ane, or public way, or to ccarry or drain off water from any heuse, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and int any new news or severe shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

Commissioners, and not otherwise. And, in order to prevent the serious evils and inconveni-ences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners hare directed that, upon sprificatik no being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

can be drained. And the Commissioners do also give notice that, when-ever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any severs, or drains into severs, to be made for the service of such buildings. It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common severs. All artitizes must be delivered at this office at least three

All petitions must be delivered at this office at least three elear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their appli-cation, and the name of any party not present when called on to support the application will be struck out, and the pro-ceedings must in consequence be commenced de novo.

All communications made with any sawer without leave of se Commissioners will be cut of, and the parties making be same will subject themselves to a fine. tł

the same will subject themselves to a fine. The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district sur-veror alone, cannot therefore warrant the making of any severs on drains within this commission, nor reliver the parties making them from the penalties above mentioned. By order of the Court, LEWIS C. HERTSLET, Clerk.

DORTLAND CEMENT of best quality manufactured by J. B. WHITE and SONS, of Mill-bank-street, Westminster. To be had at their Warchouses ; Druce's Wharf, Chelsea ; Bell's Wharf, Paddington ; and Karl-street, Blackfriars.

TO ENGINEERS, ARCHITECTS, AND CON-TRACTORS. REAVES'S LIAS CEMENT GROUND BLUE LIAS LINE and GREAVES S LIAS CENENT an GROUND BLUE LIAS LIME, at 2, South Whar Paddington, London, and Works, Southarn, Warwickshire Agent for Liverpool, Mr. WYLIE, 56, Gloater-atreet; dift for Manchester, Mr. J. THOMPSON, Back King-atreet ditto for Chester, Mr. J. HARRISON, Linen Hall-atreet. harf.

KEENE'S PATENT MARBLE CEMENT

THENNE'S PATENT MARBLE CEMENT. THE PATENTEES of KEENE'S CEMENT beg to draw attention to the use of this material in the works recently executed at the COLOS-SEUM, Regent's-park. The POLISHED COLUMNS in the Hall of Sculpture, the ornamental paving in the corri-dors and conservatories, and much of the stucco on the walls, are specimens of the very successful application of this cement. Patentees and Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

TKINSON'S CEMENT .- The public is A respectfully informed, that the price of this vary es-cellent Cement, which has now been in use for Architecture and Engineering works upwards of thirty years, is reduced to Ss. Sd. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.-This Cement being of a light colour, vequires noarti-ficial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CEMENT. CAUTION. — Messrs. STEVENS and SON, Patantees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively posesaes:— 1. It results acounty in the strongest in the store in

1. It rapidly acquires the hardness of stone.

2. Unlike other internal coments, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finast marble) never throws out any salt, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all hinds, to all of which purposes it has been extensively ap-plied by Mr. Thomas Cubitt on the Grosvenor estate, &c. .1

For the above purposes, it possesses great advantages over ood, being more economical and durable, reaisting fire, amp, and vermin.

For the floors of hall and fire-proof warehouses, its light-ness, durability, and uniform surface give it an imma cness advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 196, DRUBY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

O ARCHITECTS, ENGINEERS, CONTRACTORS, Builders, Masons, and plasterers, mer-Chants, Shippers, and the public in Genera: то CHANTS, GENERAL.

JOHNS and CO.'S PATENT STUCCO GENERAL. JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto in-troduced:—It will effectually resist Damp. It will never regetate nor tarm green, are otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely recembles Stone that it is impossible to detect it. It would recemble Stone that it is impossible to detect it. It would recemble Stone that it is impossible to detect it. It would recemble Stone that it is impossible to detect it. It would recemble Stone that it is impossible to detect it. It would recemble Stone that it is impossible to detect it. It would recemble Stone that it is impossible to detect it. It would recemble Stone that it is impossible to detect it. It would recemble Stone that it is impossible to detect it. It would recemble Stone that it is impossible to detect it. It would recemble Stone that can be depended upon for export. It is the only Cement that can be used with confidence by the seasons. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and be-comes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instruc-tions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in pennt of commy. Arybitest and Ruilders who have used this Cement have omy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally prefarred

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application to MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Chespside, London: of whom also may be had,

Cheapside, London: of whom also may be had, JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over ex-terior Walls of Houses that have been covered with Roman or other Cements, and which have become dirity and disco-loured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in fakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the auction, thereby rendering the swall proof sgainst weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheep in its application, -- and may be used by any Painter, in any climate, even in the most exposed Marine situations.

DOLONCEAU'S BITUMEN PAVE-MENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Boofing Dwell-ing Houses, Porticos, Balconies, and Sheds. Price 3s. 6d. per square yard.

FIGE 38. 02. per square yard. BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructione for laying it down), may be had at the rate of 45s. per tou, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

IN CONSEquence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SITSEL ASTRALTE had been specification, the Directors, with a view to ensure the fulfilment of any such specification, have authorised CERTIFICATES to be granted to Builders where the SEVSSEL ASPHALTE

SEYSSEL ASPHALTE

SEYSSEL ASPHALTE has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Cla-ridge's Patent," and not merely "Asphalte," or "Bitu-men," as in many cases where these terms have been used, gastar and other worthless and offensive compositions have been introduced. . I. FARELL, Secretary Stangate, near Westminstor Bridge, Jam., 1845.

Books of Instructions for Use may be had at the Office of The Builder," and of all Booksellers in Town and Country, price 1s.

price is. e_{0}° In proof of the necessity of the above siverilisement, may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the spatiactions, which expressly mentioned, that " Claridge's Asphalts" was to be used.

Also in the case of a work at Lewishnan executed by Measers. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyasel Asphalte was specified for, a spurious article was nevertheless laid down by them.

RAIN WATER PIPES, Heads, Shoes, weights, Railing Bars, Sink and Stable Traps and Gratters, Sasth Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 14 in. to 12 in. in diameter, with Bends, Branchez, Syphona, and Lamp Columns; also Hot-water Fipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, South-wark. wark.

NOVEL PLAN FOR CURING SMOKY ROOMS.

NOVEL PLAN FOR CURING SMOKY BOOMS. THE SMOKE ELEVATOR, secured to the Advertiser by Act of Parliament, can readily be attached to any old or new pattern room atovc, without dis-figurement or removal of the stove, at a less cost than any patent chimner pot, and with a certainty of auccess beyond comparison.—Sold by C. RICKETS, patentee of the calori-fere gas stoves, for warming churches, halls, rooms, shopa, or any other kind of building, without a chimmer, -No. 3, Agar-street, Strand, opposite Charing-cross Hospital.

TO ARCHITECTS, BUILDERS, BRICKMAKERS &c.,

TO ARCHITECTS, BUILDERS, BRICKMAKENS SC. DUMPS of Superior CONSTRUCTION, bored perfectly true by improved mechinery, in urisens plain and ernamental patterns for Conservatoriae, Semann. Market Places, Roads, Gardens, and for Liquid Manuers. BRICKMAKERS' PUMPS, in Wrought and Canalism, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 15-inch bore, kept for Hire. BENJ. FOWLER, 63, Dorest-street, Flect-street.

TO ARCHITECTS AND BUILDERS.

TO ARCHITECTS AND BUILDERS. DOOR SPRINGS AND HINGES... CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES is Brass and Iron for Doors to open one or both ways, and Rained Hunges for the convenience of Doors opening on uneven Flores. Like-wise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufictured by F. W. Gerish, East-road, City-road; and sold by all re-spectable Ironmongers in the United Kingdom.

BUNNETT AND CORPE.

26, LOMBARD STREET, LONDON,

AND AT THE WORES, DETTOED, Patentees and Sole Manufacturers of the REVOLVING IRON SAFETY SHUTTERS.

METALLIC SASH-BARS, MOULDINGS, ETC., IN BRASS, ZINC, OR COPPER,

SHOP FRONTS, WINDOWS, SEVLIGHTS, Sec. SHOP FRONTS, WINDOWS, SEVLIGHTS, Sec. STALL-BOARD PLATES MADE AND ENGRAVED, And all kinds of Metal Work exected to any Design. Estimates given for Patten i ron Shutters, Metallic Shop Fronts, Sashes, &c., Glassed complete, with beat Plate Gissa, in any part of the kingdom.

METALS ROLLED OR DRAWN FOR THE TRADE.

Superior and and and the second R. W. PIPES. (FR Messrs. NEILSON and MITCHELL beg to inform Builders that they have always on hand, at their premises, 15, Wharf-road, City-road, a large assortment of R. W. Pipes, Gutter-ing, Sash-weights, &c., which they are disposing of at very low prices. Castings of every description done to order. A 周 BALLUSTERS. E



SATURDAY, OCTOBER 25, 1845.

ANY bad measures are carried, and good measures kept back, by the mere spirit of party. Men are often led by ssprit de corps to vote with reference only to the

triamph of the section with whom they act, and not to the merits of the main question at issue. In numerous instances, improvements of the greatest consequence have been rejected, simply because they were brought forward by parties opposed to a majority,—unwillingness to aid the views of one they disliked, envied, or feared, serving to close their eyes to the merits of a proposal, which under other circumstances would have had their earnest support.

It is much to be hoped, that no such feelings will be allowed to operate in the Westminster Court of Sewers at the present moment : still we have fears on the subject, as is evident from the expression of the hope. That the sewers within its jurisdiction are sadly Inefficient, has already been made manifest in our pages. They are little better than one huge cesspool, filled with decomposing matter (tending materially to injore public health), and many of them, moreover, are in a state of great dilapidation, in consequence of the badness of the form employed, and other circumstances. Some of them are so chaked up with solid matter as to be almost impassable; and we have heard of an instance (but can hardly believe it), where a new sewer, built to accord with what was nsidered the level of the sewer into which it was to discharge itself, was of necessity taken down and reconstructed, on discovering that what had been supposed the proper bottom of the old sewer was simply the surface of the necumulated soil, and was more than a foot above the right level.

A writer who addressed us last week, with a desire to say the Westminster Sewers were not in the deplorable state set forth in our pages, and in the commissioners' own "Book of Infirmations,"*-but who evidently knows that they are,-remarks :--

" One of the greatest evils now existing, and which is continually the cause of almost innumerable cesspools, is the large, old-fashioned grates over the gulley-holes in the public streets. The large divisions between the bars of these grates are continually admitting into the sewers great quantities of stones and rubbish, which immediately fall into the sewers, and form dams or obstructions to the passage of all the light soil, in some instances to the depth of two feet; this defect might be (and I hope will be) soon remedied by substituting new grates of smaller divisions, which would almost datirely prevent a recurrence of this intolerable nuisance, and ultimately would be a saving of very great expense, as all these obstructions are obliged to be removed by opening the sewers, and bringing up the stuff into the streets to be carted away: an annoyance most desirable to be practised as seldom as possible."

Any, we can mention another cause of obstruction still consequent deposition, and that is, the liesp of gravel and rubbish, too often

See p. 493 anie,

THE BUILDER

left on the bottom of the sewer by the workmen when putting in the connecting drains from houses. In one long sewer an eminent builder informs us, the houses in the street above, may be counted by these little hillooks, which dam back the water, and necessarily induce deposition.

These, however, are but local causes, and if prevented, which most certainly they should be, would not remove the whole difficulty. The general cause is the shape and level of the aewers. A form of sewer with upright sides (as bad as can well be imagined), was in use in the Westminster division for many years; it has, however, been recently abandoned, and another substituted for it, yet this new form is but a slight improvement upon that which it superseded. The greater curvature given to the invert certainly somewhat confines the stream to a narrower channel, and so increases its velocity and its cleansing power, but the increased velocity thus gained over that afforded by the old form, under the most favourable circumstances, is so very slight, that it is of little or no avail in preventing deposits and accumulations of matter. The inefficiency of the form is admitted by the commissioners, and proved collaterally by the evidence published with the first Report of the commissioners for inquiring into the state of large towns; and in the report of the proceedings at the last court of sewers, which follows our present article, it will be seen that a day was then set apart to examine various new forms that had been submitted to them, including, after a struggle against it, the form proposed by Mr. Phillips, which we laid before the public last week.

Of the excellence of this latter we have no doubt; and what is of very great importance, its cost is much less than that of the present form; taking for example the No. 2 sewer, the cost as now executed is 17s. and 6d. per foot lineal; whereas the cost in accordance with our engraving is estimated at 11s. and 6d. per foot.

The opinion formed of it by practical men is shewn by the following document which was read by Mr. Leslie at the court on Friday, in support of a motion to the effect that this form should be adopted :--

London, 16th October, 1845. DEAR SIE,—At your request, we have examined the annexed lithographed sections of sewers, signed "John Phillips."

We are of opinion that sewers so formed would be most efficient as regards drainage, and durable and economical in their construction.—(Signed)

THOS. CUBITT, JOSH. & CHAS. RIGBY, GBISSELL & PETO, ELGER & KELK, WILLIAM HERBERT, HUGH BIERS.

WILLIAM HERBERT, HUGH DIERS

This certificate *must* enforce the attention of the commissioners; they cannot easily poob, pooh! any project thus accredited. Un-

• The following table shews what would be the cost, according to the depths, for one foot lineal of three several vises of egg-shaped sewers proposed by Mr. Phillips. The first size is 3 ft. wide, and 4 ft. 8 in. high inside, and the walls one brick thick all round; the quantity of reduced brickwork in mortar is 7 ft. 14 in., and in cement 2 ft. 8 jin.; one rod together will exceute 27 ft. 8 in., run. The second size is 2 ft. 6 in. wide, and 3 ft. 11 in. high inside, the walls one brick thick; the quantity of reduced brickwork in mortar is 5 ft. 9 in., one rod will exceute 29 ft. 8 in., run. The third size is 2 ft. wide, and 3 ft. 5 in. high inside, the walls one brick thick; the quantity of reduced brickwork in mortar is 5 ft. 2 in., and in cement 2 ft. 4 in. for ord will exceute 39 ft. 6 in., run. The third size is 2 ft. wide, and 3 ft. 5 in. high inside, and the walls one brick thick; the quantity of reduced brickwork in mortar is 5 ft. 2 in., and in cement 2 ft. 4 in. and in cement 2 it.; one rod will exceute 38 ft., run. The digging, including timber, strutting, 6 e., is calculated at 18. 8 dd. a cube yard; and the walls one trick thick; the set are ta 14. 14s. 8 d. a rod.

| | | NO. 1 5 | ewer. | | |
|-----------------|------------|----------|---------------------------|---------------------------------------|-----|
| TOTAL C | OST O | F DIGGI | G AND | BRICKWO | RK. |
| epth of digging | to be | ottom of | trench :- | | , |
| 19 ft. 25 | | | 12s. 6d. 16 0 | per foot. | ÷ |
| 10 ft. 20 | 6 in. 0 | No. 2 S | ewer. 10s. 3d. 12 7 | per foot. | |
| 7 ft. 15 | 6 in. | No. 3 S | ewer. 8s. 4d. 10 0 | · · · · · · · · · · · · · · · · · · · | 4 3 |

fortunately, however, such a captious spirit prevails at this moment, and so many commisaioners have expressed opinions perhaps too hastily taken up, or have acceded to views proposed by others, to which they consider themselves bound, that we can hardly anticipate such an unprejudiced discussion of the question as its importance demands and the metropolis has a right to expect. Weseriously urge the commissioners to put saide every other object but that of attaining the best and cheapest form of severe; and if any, from fresh evidence now before them, are satisfied that the egg-shaped sever must be better than one with straight sides (and we respectfully submit that this cannot be denied), it is to be hoped they will not fail to act in accordance with that opinion, even though they may have previously expressed themselves differently.

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It is not our intention at this moment to comment on the general management of the Westminster Commission, although it is unquestionably open to animadversion. We trust, however, it will not be woweidered impertinent if we hereafter revert to the subject. With so important a trust, a revenue of from 20,000% to 30,000% a year, or more if they please, and great powers, it is of the unnost consequence that the duties of the commission should be efficiently discharged, It is not a party question, not a mere parish question, but one of national importance (as can easily be shewn), and if any improvements are necessary, they should forthwith be attended to, or the public will themselves interfere, and see that they are made. The time has gone by for legislating from behind a' curtain, unquestioned.

WESTMINSTER COURT OF SEGURES.

ON Friday, the 17th instant, a semerous meeting of the court took place, and some very important business was transacted. It being on the business paper to pay Mr. Jay, the contractor, 3,000/. on account, Mr. Leslie objected to it, and called for the report of the committee of accounts on the subject. It appeared that the committee had had a meeting on the 7th instant, and the report stated that "the assistant surveyor, Mr. Doull, having presented the bills of the contractor, Mr. Jay, for the quarter ending Midsummer 1845, with the abstracts complete, resolved that the said bills, amounting to 1,4457. 2s. 9d., be approved and recommended for payment."

Mr. Leslie said Mr. Jay had received 2,500/. which he considered more than paid the whole bill, and stated that the committee of accounts were putting the public accounts of the commission into almost inextricable confusion, for while Mr. Jay had received 2,000/. on account in April, and 1,000/. on account in May, it was not until the 20th of June, he received 270/. 2s. 1d. balance of his bills to Christmas 1844. Mr. Leslie stated that the whole amount of the bills to Christmas 1844, were only 270/. 2s. 1d., and that it was utterly impossible for Mr. Hertslet to keep these accounts while such proceedings were suffered. The chairman and Mr. Hawkes both contradicted Mr. Leslie, urging that the 2,000/. in April, was on account of works generally, and the 1,000/. in May, on account of the restoration of the sever in the Gloucester-road, Paddington, as were the remaining sums mentioned by Mr. Leslie, in June 1,000/., and August 1,500/., on

Mr. T. L. Donaldson then moved, and was scconded by Mr. T. W. Marriott, "That 1,000/. bepaid to the contractor on account of the works of the eastern division, and 2,000/. on account of the Ranelagh division, and that it be referred to the committee of accounts to direct the clerk to apportion to such districts as they think most proper the sums already advanced." The following thirteen commissioners voting for Mr. Donaldson's motion, viz. Messrs. Baylis, Biffin, John Boodle, jun., Clowser,

Thos. L. Donaldson, Gutch, Harrison, Harvey, Hawkes, Le Breton, Marriolt, Willmott, Wood; and the four following commissioners against it, Hon. F. Byng, Messrs. W. Farlar, Fuller, Leslie, The order was then signed for payment of 3,0002. to Mr. Jay, Mr. Leslie stating that there was not enough money at the bankers on

...there was not enough money at the bankers on the eastern division to pay the 1,000/., but that it must be borrowed from the western diviit must be boarrowed, from the western divi-sion, the inhabitants in which had contributed this year already above 16,0002, although the contractor's (Mr. Jay's) four quarterly accounts to Michaelmas were only 1,2887.78.11d. The next business of importance was a motion by Mr. Hawkes, seconded by Mr. John Guoter, to delay the building of ~500 feet of sever in Gloucester-road, Kensington, until Mr. Alexander and Mr. Broadwood have

until Mr. Alexander and Mr. Broadwood have agreed to improve the line of the Gloucester road in front of their land."

Mr. T. L. Donaldson moved, and Capt. Begue seconded, an amendment "That the sewer in Gloucester road be built upon the gearantee offered by Mr. Alexander in his ommunications to this court."

The arguments against the amendment were, that the whole proposed expenditure was illegal, as it was to build a new sewer, at the expense of the district, where none had before existed, and that Mr. Alexander and Mr. Broad-wood should be at the expense of the sewer. The amendment was carried.

Mr. Allason then brought forward his mo-tion; seconded by Mr. Hawkes, "That the several diagrams submitted to this court, for al-tering the forms of sewers ordered by the court, 17th Sept. 1844, be referred to a committee for their opinion, and report thereon, together with the several diagrams furnished by the other commissions." Upon which Mr. Leslie moved an amendment, seconded by the Hon. Frederick Byng, "That the forms of sewers proposed by John Phillips, be adopted." Mr. Leslie read a letter in support of his motion, which uppears in our first article.

"The amendment was lost, as was another to "refer all the plans to an eminent civil engi-ineer; but a third amendment was carried, moved by Mr. Farlar and seconded by Mr. John "Gunter, to consider all the plans at a special bourt, on Friday, the 24th October, at one o'elock.

PROJECTS FOR THE NEW EXCHANGE ne diw boregAT MANCHESTER

El Tampresent Exchange, standing at the botthe of Market-street, was erected from the de-legge of Mr. Harrison, of Chester. The principal front is semicircolar in the plan, with Grecian-Dotic columns, and is remarkable only, as an carly instance of the revival of Grecian architecture. Internally, it is surmounted by a sound dome, rising from an order of Ionic columns, reeded in the shafts. Some few years ago, this portion had become so inade-quate to the object, that an addition was made quate to the object, that an addition was made by taking in 'the area, occupied by the Post-office; that building being removed to the op-posite side of the narrow street at the back, but subsequently to the market in Brown-street, altered for the purpose. The space thus gained added an accommodation, equal to thus gained added an accommodation, equal to two-thirds of that previously existing, and the new room was itself a very handsome ad-dition. The building now occupied the whole area inclosed by Exchange-street, Market-place, Ducie-place, and the narrow street above mentioned. We believe it was pre-vious to this alteration, that a competition for the subtration of the building was decided in who is to this alteration, that a competition for an extension of the building was decided in favour of Mr. A. W. Mills, architect, but which was suspended in favour of the arrange-ment adopted. Notwithstanding this increase, the area is still inadequate to the wants of the town, and on Tuesday, the "market-day," it is not easy to more short and ware discrete is not easy to move about, and very difficult for persons to meet. These inconveniencies led the committee some time back to consider whether, with the consent of the town, and by appropriating certain ground extending to St. Anne's-square, and intersected by streets, the accommodation could be afforded. The accommodation could be afforded. The authorities were favourable to the improve-ment, and the Exchange Committee allotted a number of new shares to raise the requisite funds. Mr. Mills modified his design in cer-tain particulars, and a model of it is now ex-hibiting in the Exchange room. We have

also seen the plans, and though the design is not what would have been produced, had the architect been unrestricted by the necessary adaptation to the order of the old building, it displays considerable skill. The present area is 700 square yards, being larger than that of the news rooms at either Liverpool or Glasgow, and were the extension completed, it would give a room containing nearly 1,400 square yards. On each side of the extension would be rows of shops, and rooms above. The semicircular part was to be raised, and towers erected to light the staircases, and ventilate the building. At the end towards St. Anne's-square, in Bank-street, a Doric portico 70 feet wide was contemplated, the building itself, 100 feet wide, being joined to the rounded by portico corners. The original entablature and order were to be preserved. One great advantage in this plan was, that, by taking in the shops, the area could at any time be enlarged one half. The contracts for the purchase of the property having been entered into, possession of apart was obtained, and some few months since, it was the intention of the com-mittee to commence taking down part of the buildings forthwith. Matters were in this state, when a question as to the fitness of the present site was revived. Within the recollection of many persons, Cannon-street, High-street, and others in that neighbourhood were occupied by houses. They are now, however, filled with warehouses, and during the last ten or fifteen years, the neighbourhoods of Mosley-street, George street, and Portland-street have become simi-larly occupied. Thus the tide of business has been gradually removing farther from the original centre; and the arguments in favour of the old locality were reduced to vested rights, the vicinity to the retail establishments, to the places of business of many, who made the greatest use of the Exchange, to the town of Salford, and to the railways, which were con-stantly bringing persons from the country, who attended the "Manchester market." But the number of mercantile houses, at a distance from the present site, was now so numerous, and it being even doubted by many proprietors of the old building, whether the property could not he leid out to being advector of the solution of the not be laid out to better advantage, several plans were suggested by various parties. Some of these individuals, having applied to Mr. (fregan, of Manchester, that architect auc-ceeded in producing a design of a highly me-ritorious character, which led to the formation of a company for carrying it out. The pro-jectors contemplated a building, which should rival those of Europe, to be erected at a cost of upwards of 150,000%, and wisely left their architect entirely untrammelled by any obsta-cles, such as, in the other case, had alone in-terfered with the production of a completely successful design. They fixed upon the site enclosed by High-street, Market-street, Pa-lace-street, and Cannon-street, including the present Marsden-square; the project was warmly taken up, and the consent of all the boldom of the property except they below warmly taken up, and the consent of all the holders of the property, except two, obtained. The building was intended to comprise a large exchange room, a music hall, a stock-ex-change, and a commercial library. A litho-graph of the design is now lying before us. The end of the building next Market-street, containing the news room, has a colonnade, of the Containing the news room, has a colonnade, of the Corinthian order twelve columns in length, standing upon steps, and surmounted by a balustrade. The same order runs round the building, which, in the High-street front, is recessed in the centre a considerable depth; the wings being united by steps, and balustrades. The whole is surmounted by a dome. The windows, which are in two ranges, and all the other parts shew considerable taste. The exchange room is entered by three doors under the colonnade; it is lit from the top, and has a gallery round it for the library .- It was now a matter of doubt which project had the best chance of success, and two others were talked about. One was to remove the infirmary to the outskirts of the town, where the advantages of salubrious air would be attainable, and to erect the exchange upon the site; the other to take the site of the late theatre in Fountainstreet, along with the assembly rooms in Mosley-street, and other land adjoining. The former proposal was never fairly before the public, but had the advantage of the co-opera-tion of an eminent medical gentleman, who tion of an eminent medical gentleman, who has lately rendered important services in the Hill, Greenwich.

investigations, carried on by the Health of Towns Commission. The general opinion seemed to be, that the site was not sufficiently central. Within the last few weeks, an gr-rangement has been entered into, by which the absended in the old huiding and the the shareholders in the old building, and the company for the building at Marsden-square unite, for the erection of a wew building on the land in Mosley-street and Fountain-street, the land in Mosiely street and Foundain street, and there is now great reason to believe, that this proposal will be carried, out. It is said, that a public competition will be advertised immediately; and there is some talk of er-tending King street, so as to open a view of the building. We trust that so fine an oppor-tunity, will not be thrown away. The site is perhaps not equal to that at Marsden-square, but has great advantages. Meanwhile, the owners and occupiers of property, in the neighbour-bood of the present building, are signing a petition against the intended change.

. The progress of stt mi Mattchester, during one or two years past, has been so prosperous, that we have made arrangements for giving a notice of several of the most im-portant buildings in a fature number.

MEMOIR OF GEORGE BASEVI, ESQ.

THE daily papers have already informed most of our readers of Mr. Basevi's melau-choly death in Ely cathedral, on the 16th inst. It appears that Mr. Basevi arrived at Ely from It appears that Mr. Basevi arrived at Ely from Wisbech, on the previous Tuesday, in com-pany with Mr. Fardell, the vicer of that parish, and took up his quarters as usual at the deanery. On Thursday morning Le purposed leaving Ely for Cambridge, but before doing so, he went with the Dean and the Rey. D. J. Steward, one of the minor capons, to examine the works now in progress in the great west tower of the cathedral. The party were in the old bell chamber, when the deceased gentle-man advanced towards one of the recently-opened windows, along a broad beam. from opened windows, along a broad beam, from both sides of which the flooring had been re-moved. He was cautioned as to certain nais moved. He was cautioned as to certain nails sticking up in the beam; but scarcely had the words dropped from Mr. Steward's lips, when Mr. Basevi tripped and fell through an aper-ture in the floor, upon the vaulting over the arch under the tower, a distance of above f0 feet, the plank upon which Edward Hall, stone-mason, was working, saving him from going through the ceiling and falling into the cathedral. His hands were unfortunately in his great coat pockets (a customary position with him), which prevented his making any effort to recover his balance or to catch hold of the adjoining beams, which he could not effort to recover his balance or to catch hold of the adjoining beams, which he could not otherwise have failed to have done, as the opening is very narrow. He was immediately raised, but never spoke more; indeed, he dicd almost immediately, having received most ex-tensive injury upon the head. The Dean hastened for medical assistance: immediate restoratives were applied, but in vain. The deceased was conveyed to the deanery where he had been staying, and an isquest was shortly afterwards holden before a jury of high respectability, who, after a patient investiga-tion, returned a verdict of "accidental death."

tion, returned a verdict of "accidental death. The unfortunate gentleman whose death in the midst of life we deplore (Take heed, ye who stand), finished his school education under the Rev. Dr. Burney, at Greenwich, and entered the office of the late Sir John Soane in December, 1810. Here he remained nearly six years, during which time he became a student of the Royal Academy, and when he served his articles, started for the continent be served his articles, started for the continent in the middle of 1816. He pursued his studies in the middle of 1810. He pursoes nussessing in Italy and Greece, and returned to Regland in 1819. In the following year he exhibited, at the Royal Academy, a view of the remains of the Temple of Theseus, and commerced practice on his own account in the Albany. His first works were the Church at Stock port. in Cheshire, built under the Church Commis-sioners, in 1822,* and a mansion at Summing Hill for Mr. Ricardo, with whom he was connected. In the year previous to that last named he was chosen surveyor to the Gasardian Fire Office, on its formation.

Belgrave-square was designed by Mr. Ba-sevi, 1825, for some of his connection when

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And taken the ground. He exhibited a Grawing of the north side at the Royal Acadeny, in 1826, and others in 1827-28. In 1838, he was called before the Select Committee appointed "to consider the possibility of making the House of Commons more commodious and less unwholesdme," with various other srelitects (Soane, Smirke, E: Blore Wystville, Burton, 'Allen, Hopper, Deering, Goodwin, and Savage), and submitted a model and plan for a new House of Commons. In 1885, Mr. Busevi submitted a design for the Pitzwilliam Museum, at Cambridge, in competition. Thirty sets were sett in, and, on the Source of December, at a meeting held in the Senite the gave a single vote for one of the four, and Mr. Basevi splan obtained themajority of votes. This building, which is but just completed, must be regarded as Mr. Basevi's chief work, and entitles him to a high rank as a classic architect. The Conservative Clubhouse, executed hy bim, in conjunction with Mr. Sydney Smirke, and but recently completed, has further served to establish him in public opinion.

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To Gothic architecture it does not seem that Mr. Basevi has paid much attention; a little church (St. Saviour's,) near Hans Place, Chelsea, designed by him in that style, has little to recommend it. This structure is on land belonging to the trastees of Smith's charity, for whom Mr. Basevi acted as architect. Pelham Crescent, Sydney Place, the new part of Brompton Crescent, and several other ranges of buildings on the same estate at Brompton (mostly carried out by the energy and enterprize of Mr. Bonnin, builder of that place), were designed by Mr. Basevi, as was also Thurloe Square, on adjoining land belonging to Mr. Alexander. He was a good draughtsman and had a cul-

He was a good draughtsman and had a cultivated mind. In his manners, Mr. Basevi "Was cold and somewhat haughty: he was "however scrupulously just, as between his emproper and the tradesmen, and though the "hitter" night never find affability or kind "words," they were certain that no undue advanitage would be taken or meanness practised.

Architects from its foundation, and once of Architects from its foundation, and once filled the office of vice-president, but never contributed to its transactions. He was also a fellow of the Royal Society, and the Society of Antiquaries; he was elected to the former on May 11, 1843. His father is still living, and be leaves a widow and eight children to deplore a great loss. Cut off hastily, at a moment when he was about taking a much higher place in public opinion than he had previously held, and when as he thought things looked most smiling, the death of our contemporary should induce in us reflection, and lead us to consider in what we can amend.

HISTORICAL PAINTING.

1.11

SIB, — Among many interesting articles in THE BUILDER of the 11th inst., I have been particularly pleased with that headed "An Kffort to Advance Historical Art." Though probably the production of a disappointed freero candidate, it is written with a moderation and temper that claim respect, and it is very much to the purpose at a moment when the fine arts fix so much of the attention of an intelligent public, and their capability of cooperating efficiently in the civilising progress of mational education, has become a leading question.

The writer of that paper is, perhaps, not aware that a proposal nearly resembling his own, was about the year 1838, entertained by the Central Education Society. A committee was appeinted to consider in what way the fine ants would best assist the objects of the sonicity of nomprised Mesars. Haves and Wyse, both members of the present Royal Commission nut the Fine Arts; Mr. W. S. O'Brien and the members of the present Royal Commission nut the Fine Arts; Mr. W. S. O'Brien and the members of the proposed plan was a pertorial history of England with tabular stasistice of the condition of the people and the progress of clvillimiton, law, and freedom, with an account of inventions or improvements

* See page 229, ante.

by importation, &c. Mr. Walters, the publisher, was present at the meetings, to suggest or receive hints as to the mode of publication.

The discussion of the plan of the work and of the practicability and expenses of the work were very satisfactory. But the whole was suspended, in consequence of one member of the committee, who had not attended that discussion, proposing other subjects to his colleagues of a less national character. The death of Mr. Duppa subsequently led to the extinction of the society and most of its useful projects. Fortunately, Mr. Knight's publication (on a somewhat different plan and vastly more extended and costly), begun about the same time, shews the necessity there was for drawing the people's attention to the history of their country; and the exhibition of cartoons in 1843 at Westminster Hall, tested and proved the taste of a British public for historical compositions.

I need not at present trouble you with all the details of the plan above alluded to, but will endeavour to apply to your correspondent's proposal, such modifications as experience indicates as practical and suited to the success of the enterprise, and to the educational wants of the people.

As to the merits of the subject proposed, all who have any experience must approve it, and I quite agree with your intelligent correspondent that the objections to costume and other technicalities, contained in the Third Report of the Royal Commission, are insignificant, the difficulty of overcoming them being very slight to artists skilful in composition and well informed of the varieties in each period. His proposal to invite criticism and advice from antiquaries, poets, historians, anatomists, &c. is highly commendable. Such a course would enlighten the artists and save them much trouble and uncertainty; it would also accustom men of science to the charms and capabilities of the arts; it would help to bring about that connection between knowledge and sentiment that orght surely to form the basis of historical art. Under such auspices, the history of our country, in a language impressive to the sight and feelings of all men, could not fail to be successful in its appeal to the public. The exhibition should be made to attract vast multitodes; that would be the beat advertisement for the publication of engravings with historical explanation.

The Boydell Illustration of Shakspere, and Bowyer's History of England shew that a vast outlay may be more than replaced by such an undertaking. They are beacons to direct us, and so have been in recent times the annuals and art-unions. The vast improvements in antiquarian knowledge and in every department of science collateral to the painter's art, give to the artists of the present day immense advantages over the unassisted talent of the time of Boydell and Bowyer.

The practice of cartoons has already drawn out some of the qualities in which British artists were considered most deficient. A continuation of that practice can alone confirm their talent for composition, drawing, and other essentials in high art. Fresco painting will help to wean them from conventional effects, horny tones, and too much reliance on meretricious qualities, injurious to simple pathos and refined perception.

will help to wean them from conventional effects, horny tones, and too much reliance on meretricious qualities, injurious to simple pathos and refined perception. Agreeing so far in all the principles connected with your correspondent's plan, I question the practicability or desirableness of one or two of his proposals. Ist. How far is it advisable to produce cartoons and freecos of the dimensions proposed, i. e. from 16 to 22 feet, for an exhibition of two or three months, and for the especial purpose of engravings of as many inches? This might be all very well if easily attainable, but the demand on the artists' exertions and expenses, the difficulty of exhibition, the necessity of calling for help from Government, and that of destroying the freecos, however fine some might be, are insaparable objections which would be felt and urged if such a proposal were made by the Royal Commission, and remain so under any eircumstances before us. Why not limit the curtoons to half proportion?—figures of three feet and a balf or feet feet : and freecos of one or two figures; life size, or half figures of colioasal proportions; with studies of heads and hands similar to the splendid cartoon studies of Raphael, or of Leonardo da Vinci, would cer-

tainly suffice. To follow their example rather than that of Louis Philippe may save is from the perils to which the peruquier would have exposed Yorick's wig. By this pradent modification, instead of 400 feet of wall; 200 would be sufficient, and that qualifier is forty times more procorable. What the people of England and good tasts require to not acres of painted walls, but "sufficient, is fortes, contion, expression; in fact, well told stories." A WARM ADMIARE OF HISTORICAL

A WARN ADMIRER OF HISTORICAL PAINTING.

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THE SCHOOL OF DESIGN, MANCHESTER; AND PROPOSED MUSEUM OF ART.

Some five or six years ago, at the meeting for the establishment of the School of Design, we recollect, that an extensive museum of art was one of the most important objects, contemplated by the projectors. It was to include works of interest in every branch of art and works of interest in every branch of art and science, and to be open freely to all persons. It is, therefore, no new project, and, has only been delayed through the comparatively slender patronage and success. of the school, during the first years of its existence. But, under the present efficient management, the school promises soon to exercise the infinence, demanded from the intimate connection, between manufactures and art, and it has already made a great advance in resources and impart-ance. Much of the credit for this flourishing state is due to the council, and more expectably to their active honorary secretary, Mr. George Jackson. He has laboured long and sealously to sid the infusion of tests in determine and to aid the infusion of taste in decorative ant, was one of the earliest promoters of the school, and is unquestionably a very fit person for the important office he holds. In a paper "On the Means of Improving Public Tests,"" printed last year, Mr. Jackson has urged the importance of cultivating the industrial arts, and of preserving the connection between or-namental and fine art. He says, "the false notions that exist in the public mind, as to what constitutes or may be considered as ant, may be assigned as one cause of its present state. What a powerful distinction existen in their estimation, between a carver in wood and a sculptor of marble! The former may pro duce the most splendid effects of form and grouping; but what share of the public spplause does his skill obtain compare d with an inferior production in marble fine The site is considered as a mere, mechanic, interferite convincing the public, by axamples, that share are difficulties to overcome, and talent arquired in the practice of any department, however in-ferior its application may at first sight appeter; and that perfection can only be attained by persevering industry and constant study. May not the present state of the model arts be traced to the fact, that a young man manentering upon this practice, ambitious and desirous of fame, soon discovers that no praise, no sclas, is awarded to their productions; and to obtain this he must bend his mind to the ideal? May we not also trace to this want of discriminating judgment, the complaint that is made by the professors of high art, -- of the want of pe-tronage for their efforts? It is not likely, or to be anticipated, that the public, whose seth-mation is regulated by comparison, —if they cannot appreciate heauty in the things of mecessity and common use, can have a mind suffi-ciently alive to the beautiful in those creations of faucy which are beautiful only to the edu-cated eye. Extensive patronage must not be anticipated for the ideal of art, ontil the useful is more generally appreciated., The industrial arts must be made the means not only of edu-cating the public taste, but of teaching the elements of art to those who would soar to its highest end., How could such a course depre-ciate the practice of high art, or reader its

* A papier read at a conversatione held at the Royal Institation, Monday, Neronder Stat, J. W. Frasor Eq., in the chair, and repeated, by request, sta public position et all Athenneum, Saturday, November Soin, B. Copden, M.P., in the chair, by George Jackson, honority scretzy, Mannchester School of Design. In connection with the Government schools, Somerset House, London, Printed by request of the council.

professors less competent to produce great work? Being made acquainted with its more extended application and utility, would not fail to increase their ardour and expand their influence.

"This would shon produce powerful effects; "This would shon produce powerful effects; "the useful arts would attain a degree of excellered that would render us eminent as a nation; and high art would be relieved from tubse attempts to reach it, which, by their multiplicity and inferiority, now depreciate it if public estimation." "We have never been able to understand why

"We have never been able to understand why painters, sculptors, and architects, should restrict their pursuits to conventional limits. Not to mention the identity of these arts during the best days of art in Italy, it is certain, that once no object was deemed too mean for the display of art. Every production, a vise, a candlestick, or a door-handle, was elevated to the rank of a work of art, under the treatment of the most eminent artists. Now, if we except the designing for silversmiths by some of our sculptors, who would not consider if a loss of caste to prepare designs for such things as carpets and hangings, or for furnitine burgers.

Mr. Jackson goes on to say-" It is those means that would insensibly educate the eye to the perception of beauty, that we stand in need of, and the perception for which I am anxious to impress upon your consideration; and, if possible, induce a spirit of activity that will avail itself, not only of that noble desire for the promotion of good that is now so active in the town, but also of the desire I have alluded to, on the part of the Government, to promote such institutions. . That there is talent amongst us as a people, cannot for a moment doubted." The important question is,-H ĥe The important question is,-How can this talent be developed and best directed? Certainly, no means are likely to be so effective, as opening to the view and constant study use, as opening to the view and constant study of the people, examples of art,—the relics of other ages,—in contrast with productions of the present time. I think the day is not far distant when the Government will find it ne-cessity is multiply facts invites of those splendid remains of ancient art which are in their possession, in the British Maseam and in London (the millionce of which is now confined London (ife influence of which is now confined of that locality, and of use only to a fraction of the community), and deposit them in the lead-ing provincial towns; thus forming centres in wardous parts of the kingdom where these es-sential helps to study may be seen, and the principles of sirf learned. Who can calculate the enclose the facilities would have upon art, or the results, in a national point of view? Out of the metropolis, where are the examples the metropolis, where are the examples-The of elevating public taste? Our thorough-fares present no beauty, --- no statues --- no foun-tains, and but little that is good in archited tures. There is nothing to excite emulation! pething to arouse a feeling for, or perception of excellence in the mind!

"Allowine to contrast this state of things ith that which exists amongst our rivals road. With them, art is made a leading with th abroad. feature not only of every system of instruction, but its examples are continuelly exposed to the public eye. Every public object is graced by its performance, and all events commemorated by its efforts ; -- the most common-place neces-sity is made subservient to its influence. Who, that has wandered through the streets of Paris has not been struck with the thought, that if the supply of water is not conveyed with as much facility as to our dwellings, it is turned into a powerful means of educating the eye; and instead of the common-place machines used in this country, with levers of graceless form, requiring much animal strength to put into motion, has there seen that the vessel cannot be filled with this necessary condiment until it has educated the eye and taste of the recipient,-that the water has been thrown high into the air, and descended from basin to basin until it reached the grand reservoir from which it issues, through some ideal or chimerical form. What must be the effect upon the juvenile minds of the lower classes who are sent, as soon as nature has im-sputed strength, to these fountains of com-bined necessity and beauty? This is a Apple, illustration of the way the things of necessity are made subservient to and become the means of public instruction. I shall not,

delay you to go through their public streets, walks, and gardens, where art is made a conspicuous and leading feature, always exposed to observation, and cannot be passed unobserved. There are also their museums and palaces, which are open and free of access to the people, and are places of constant and general resort, particular on feast-days and holidays."

"The effect of such exhibitions on the public taste is not the only important result that would arise from them. It is not merely as it regards their influence on art that I would advocate their establishment; I would also plead for them on account of the moral effects they would produce amongst the mass of the people. I think it will be readily admitted, that if such places of resort were opened and frequented by them, they could not fail to elevate their notions and purify their actions. At present we are deficient in those means of instruction which are adapted to the wants of the upgrown man. The institutions that exist are either above his means, or too elementary in their character, for him to find his enjoyment in them. I have long thought this an essential defect in all schemes that have been proposed to allure his attention. They propose to him to give up his present habits, but offer nothing in exchange; at least not that which is suited If we investigate character, we find few that have arrived at the age of maturity, that like to acknowledge or that feel their ignorance, and there is a disinclination to resort to the first elements of knowledge as a means of instruction. Age has begotten its conceits and accumulated prejudices, and there is an aversion to adopt any course which they conceive will increase their labour; they think that after their daily labour is performed, the time is their own. There is some point in which they fancy they excel others, -on which they their fame; this is enough to beget in their minds a prejudice to abstract learning, and keeps them aloof from those excellent institutions that have been originated for their benefit. How, then, are you to teach them their ignorance, or induce them to come within the meshes of those nets you spread to win them to their good ?- Again, we have at present no place of resort or means of iustruc. tion which does not require the separation of the man from his family; there is little that is done in them that allows of their assembling together; and I cannot but look on any means originated with the intention of elevating the character of the working classes, that does not include the moral elevation of both seres, as well as all ages, as defective in their plan. From this hasty sketch, I think it will be evident that the means of instruction that I am advocating will not only remedy many of the defects attached to those institutions that exist for the promotion of the welfare of the working classes, but be the means of placing their importance in that powerful light before their minds, that they will be led to desire to realize the advantages arising from them, not only for themselves, but their families. It does appear to me, that the most powerful means of teaching these people their true state, will be through the eye, - by setting before them, and giving them constant access to emporiums where the beauties of nature, art, and science are open to their study,where they may see the splendour and perfection of the first, the imperfect yet noble attempt of the other to reach it, and the state of those productions in which they have

a personal interest. Let us have a museum of art and nature, whose ample stores will educate the public eye — enable it to detect and appreciate beauty !— where, by contrast, we may elevate and purify our knowledge, and, from the works of other ages and other climes, learn our own standard at the present day.

The plan I would suggest is, that a respectful but earnest memorial be presented to Her Majesty, setting forth the commercial importance, and the dependance of the manufactures of this district upon a right understanding and application of the principles of Art, the deficiency that exists of any means of acquiring this knowledge, and the influence that such means of instruction could not fail to have on the welfare of all classes, together with the moral effects that would be likely to follow the adoption of such a course; and praying her that she be pleased to order this the competent authorities may be put in possession of the duplicates of overy department, and a safe of casts, from the suspany department, and a safe of casts, from the suspany department, and a safe of here. Then about two be unabled, not only to elevate the public tasts is improve the predections sof: industrial art, but found a schooly which I would fain hope would not fait to develope that takent, and will into accorde the new ional character, but reflect the brightest "says of how our on the town of Machester."

Mr. Jackson's suggestions arem to bave m with some attention, and copies of the pap were extensively circulated. Subsugaratiy, Mr. Brotherton determined to prepare a Bill to enable town councils to raise the funds requisite for museums of ait, and a Bill, with similar objects, was at length passed through Parliament by Mr. Ewart. The present plan, in Manchester, is to build an extensive edifice, which might contain the museum, the school which might control the motion, it is is a colleging, and perhaps afford the motions of a collegint institution. The probable summent of expenditure upon the building is supposed to be 100,0004. It is expected, that Government would supply fac-similar and duplicates for would supply yes summer and dupicated for the museum, and that there would be and difficulty in obtaining emoney in the test source. There is little doubt state the scorporation would aid by the grant of indic The proposed site is in Cooper-street, oppositethe dischanich Institution, and extending back a considerable depth, including the area of the wown's yard, which it is intended to arch over; the a saka ground may be retained for tits; present pe poses. At an interview between ourtain nions-bers of the council of the School of Design, and the mayor, that gentleman expressed tim self highly favourable so the plan, and and, the the town council were provented from untark - ini vigorously into the arrangements, wolsty by the very onerous daties at that moment q ing upon them. He, however, requested the council of the school to consider the prelimi-naries, and said that when they had not be arranged, the town council would not be fide one moment. of the permanent 60.1

An architect is at present ofcupied'in table plans of the land and buildings, prepinstory to pulling down; and we may hope to satisfy first fruits of the new Billy and as ship excess tions of the council of the school, carried out in the best manuer in the town of Man

NEW ROYAL PARK AT BATTERSBA

In one of the earliest numbers of our present volume^{*} we drew attention to Mr. Theme Cubitt's proposition for converting Batteviets fields into a park, and pointed out at some length the many and great advantages that must accrue, not alone to the immediate iscality, but to industrious London is targe by the conversion.

Within the lest few days a notice has appeared in the London Gazette to the effoct, that application will be made to Parliament in the next session for leave to bring in a Bill to empower the Commissioners of bur Majesty's Woods and Forests to make a royal park, and for that purpose to take cortain lands, &c., containing about 330 acres, situate in the parish of St. Mary, Battersen; bounded on the north by the river Thames, on the south by the public road leading from Nine Elms to Wandsworth, and on the cast and west by various portions of land belonging to private persons. We understand that it is intended to embank the Thames, and the the new park will have the advantage over all others in the metropolis of commanding the interesting river transit and scenery:

THE BRITISH MUSRUM.—OPENING OF THE NEW WING.—The trustees of the British Museum have recently opened one of the large rooms in the new wing erected at the west end of this building. It is stated that this wift be called the Chinese room, from the circumstance of the Chinese bell, which has becauresented by her Majesty, being deposited here. THE MADELEINE, PARIS.—The consecra-

THE MADELEINE, PARIS.—The consectation of this costly edifice and deposition of sertain relics have given rise to ceremonics which will last several days.

AGA CALCULATION OF CAST-IRON GIRDERS, Sec.

hTux section that we employed to illustrate the use of the table at page 499 of the last member of Tan BOILDER, is a very common and a very useful one, being now simost asi-venually employed in the construction of railversion of the properties of equal attempts of rate-ways and other works, where great strength is an object of consideration. If the dontour be monified into the figure of equal attempth, and due attention by paid to the proportions of the parts, so as to equalize the shrinkage of the match in colling this form in much he the metal in cooling, this form is probably the very best that could be adopted, a remark that is in some measure confirmed by experience, and the extent of its application in all beavy structures. But although the form of section here alluded to is good, and very gene-rally adopted by the most skilful esgineers, there are some other forms which, on account of their convenience on certain occasions, ought not to be altogether neglected, espe-cially as they present a very graceful appearnee to the eys, and are by no means deficient in strength acronding to the quantity of mate-rial employed; we here allude to the open forms of beams, whether plais or feathered, and in order, that our labours may be rendered as useful and instructive as possible, we shall have coasider both these forms, and prove the utility of the table by applying it to the calca-lation of the load, that ought not to be ex-contend in any permenent bearer, where safety is an object of selicitade. I Let ABCD, fig. 1, represent the transverse contend of a plain rectangular beam, and let the middle part E; skewood by the lighter shade be left out along the length of the beam, with the acception of cross stays to prevent the upper and lower A B parts: AB and CD, distinguished by a derkar shade, from coming to-gethen, and these cross stays may be made arouncets, in the form m useful and instructive as possible, we shall

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-made ernemental, in the form afiatehes or otherwise, according touthe facey of the architect or C a rí

shifting regard to the calcula-tion of the permanent and safe faid, with which a beam of this init, with which a cases or saw form aught to be charged, on the supposition that it is supported at the ends, and loaded at the middle of the length, we have only to con-sider the whole section ABCD as being entire, and to calculate its strength on that supposition, after the manner already exemplified at page 499. Do the same with the middle part E, considered as a separate rectangular section; then D

Reduce the strength of the section B thus computed, in the proportion of the whole depth to the middle depth, and the difforence between these two results will be the strength of the beam sought, including the affect produced by its own weight. From the mealt deduced in this way, subtract half the weight of the beam, and the remainder will he the load, beyond which the beam ought not to be charged, when intended as a permanent support.* • Example 1. -

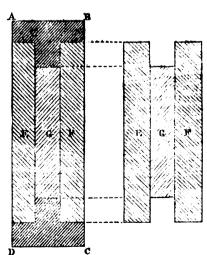
- An open plane rectangular sition on two walls, at the distance of 44 feet from each other; what load will it bear at the middle of its length averaging it. sen is loosely supported in a horizontal suiddle of its length, supposing the breadth to be seven inches, the whole depth four feet, and the depth of the middle part or opening three feet?

In the table opposite 48 inches in the information column, and under 0 at the top of the page, we find 875.52 tens for the load portresponding to the whole depth of the secsourcesponding to the whole depth of the sec-tion, when the breadth is one inch, and the length one foot or 12 inches: but the strength is directly as the breadth when the depth is given; hence we get 875.52 × 7=6128.64 tons, for the strength of a beam seven inches in breach, 48 inches in depth and one foot in length. Again, opposite 36 inches in the left-hand column of the table, and under 0 at the

will calculating the second example at page 400, the effect preduced by half the weight of the beam was inadvert-ently omitted, the omission, however, is very easily supplied. Yor the sectional area is 186°41 square inches, and half the lenge, we have 158°41 × 3°2 × 18 + 2,240 - 4°073 tons, half The weight of the beam; therefore, by subtraction, we have 98°072-4°073, 88.999 tons, the permanent load monght. It is whose stated in the question that the depth of the middle part is 3°5 inches; it empht to be 58°5 inches. tons, half

top of the page, we find 492.48 tons, for the load corresponding to the depth of the middle or open part E, on the supposition that it is an independent rectangular section of the an independent rectangular section of the same breadth as the former; namely, seven inches; consequently, multiplying by the breadth, we get $492 \cdot 48 \times 7 = 3447 \cdot 36$ tons, for the central load on a beam 36 inches deep, seven inches broad, and one foot between the **points of support**. But this, by the laws of mation muct be advand in the parameters of provides of support. But this, by the laws of tension, must be reduced in the proportion of the whole depth to the depth of the middle part; that is, 48:36: 3447.36: 2585.52 tons; let this be subtracted from the strength of the whole beam, and we get 6128.64-2585.52=3543.12, which hence divided by the length whole beam, and we get $512554-2585\cdot52=3543\cdot12$, which being divided by the length between the points of support, gives $3543\cdot12+44=80\cdot53$ tons very nearly, for the central and safe load, including the effect produced by the weight of the beam itself. Now, the area of the whole transverse section is $48 \times 7 = 336$ square inches; and that of the middle or open part, is $36 \times 7m252$ square inches; half the length of the beam being 22 feet; hence we obtain $(336-252) \times 3\cdot2 \times 22 = 5913$ 6 lbs. for half the weight of the beam, which being nait the weight of the beam, which being reduced to tons and subtracted from the load as calculated above, gives $80.53-2^{\circ}64=$ 77.89 tons, for the permanent central load which can be safely sustained by the given beam, without any danger of destroying the elastic force of the metal; and twice as much, or 155.78 tons, may be equally diffused over the length of the beam.

Another very elegant and useful form of section frequently employed in buildings, and to which our table is equally applicable, is that which has a web or flange on the upper and under side, with a portion of the middle part left out. This form of beam has a decided sidventage over that which we nave just con-sidventage over that which we nave just con-sidered, both as regards its stability and its strength; and it is besides particularly pleas-ing to the eye, for which reason it is well adapted for ornamental erections in places that the drawing fig. 2 denotes the section here alluded to, and the manner in which we may conceive it to be constituted. The rectangle ABCD is the section considered as entire, and the rect-angular portions E and F in lighter shade, are supposed to be taken away to form the flanges on the upper and under side of the beam along its whole length; the middle rectangular por-tion marked G being taken out to form the opening, which is understood to be braced with arches, or some other ornamental devices, for the purpose of preventing the upper and lower solid parts from coming together. The whole abstracted portions will therefore be as



represented by the detached part of the figure, and may, as regards the strength, be considered as three independent rectangular beams: this circumstance leads us to the method of calculation.

Example 2.--Anopen double flanged cast-iron beam, is 44 feet in length between the points of support, and 48.8 inches in the whole depth, of support, and so o mones in the whole deput, the distance between the flanges being 42.4 inches; with what load onght the beam to be charged at the middle of its length, the greatest breadth being 9 inches, the flanges projecting on each side to the extent of 34 inches, and the depth of the central opening 38 inches?

Here then, we have first to calculate the strength of the whole section, on the supposi-

tion that it is entire, as represented by the rectangle ABCD. This done, we have next to calculate the three abstracted portions, E, F. G, considered as independent rectangular sections; or the portions E and F may be consections; or the portions E and r may be con-sidered as one section, and calculated accord-ingly. Therefore, in the table opposite, 48 inches in the left hand column, and under 6 at the top of the page, we find 904 9472 tons, for the strength of a beam of the given depth, 1 inch broad and 1 foot long. But the whole burddith according to the question is 9 inches breadth, according to the question, is 9 inches, and by the principles of mechanics, the strength is directly as the breadth when the depth is given ; therefore we have, $904.9472 \times 9 = 9144.5248$ tons for the whole

section.

The flanges project 31 inches on each side ; this gives 64 inches for the breadth of the two projections; but the distance between the flanges is 42.4 inches; therefore, in the table opposite 42 inches in the left-hand column and under '4 at the top of the page, we find 683'1488 tons, corresponding to 1 inch in breadth and one foot long; hence, multiplying by the breadth, it is, $683 \cdot 1488 \times 61 = 4440 \cdot 4672$ tons for the

strength of E and F, jointly. But by the laws of tension, this must be re-duced in the proportion of the whole depth. to the distance between the flanges or profes-tions on the upper and lower side of the beam; that is, 48.8: 42.4:: 4440-4672: 3858-111 tons nearly.

Again, the whole breadth of the section is. Again, the whole breadth of the section is. 9 inches, and the joint breadth of the projec-tions 6 inches; consequently, the breadth of the middle part, or opening, is 2 inches; but by the question, its depth is 38 inches; there-fore, by the table we have 548.72 tons for the strength of I inch in breadth and I foot in length; and by multiplying by the breadth or thickness, we get $518.72 \times 21 = 1371.8$ tons. for the tabular strength of the portion G, which must be reduced in the proportion at the whole depth to the depth of the opening; that is,

48-8 : 38 :: 1371-8 : 1068-295 tous meanly

The reduced strength of the three parts, E, F, and G, taken conjointly, is therefore equal to 3858-111+1068-205=4926-316 tons; which being subtracted from the strength of the whole section, gives 9144-5248-4926-316= the whole section, gives 5122 040 - 2040 - 2040 - 4218-2088 tons for the strength of a beam of the section 1 foot long; but by the laws of re-sistance, the strength is inversely as the length, when the breadth and depth are given; bence by division it is,

4218-2088 + 44 = 95-968 tons; 1 15400

including the effect produced by the weight of the beam. Now the sectional area of the solid portion of the beam is 68.6 square inches, and half the length is 22 feet; hence it is,

68-6 × 3-2 × 22 + 2240 == 2-156 tons.

and allowing one-tenth of this for the weight and allowing one-tenth of this for the weight of the ornamental stays or braces, weight $2\cdot156 + \cdot 2\cdot156 = 2\cdot37/16$ tons; so that the per-manent safe load on the middle of the beam is $25\cdot868 - 2\cdot372 = 93\cdot496$ tons. T.

SINGULAR ORIGIN OF A FIRE .- The Worcestershire Chronicle says: On Sunday last, about two o'clock in the afternoon, a fire was discovered in the house of Cornelius J. Phil-brick, Esq., surgeon, Mill-street, Worcester. It appears that in a bed-room with a southern aspect, a watercroft foll of water, standing on a dressing-table, concentrated the calorific rays of the sun to a focus on an embroidered mat, which ignited, as also did another which adjoined it. The smell alarmed the inmates, and caused a search, which led to the discovery of the burning materials, and the timely preven-tion of further mischief.

tion of further mischief. THE NEW HOUSES OF PARLIAMENT.—An immense quantity of the slate from the guarries on the estate of the Knight of Kerry, Valentia Island, has been ordered for the new Houses of Parliament. It has been also ordered in large quantities for public buildings in France and other parts of the continent. So veined and variegated is it, and so succeptible of a high polish, that it is capable of being wrought into tables and other domestic articles. It is only a few years since that this guarry was disonly a few years since that this gatrry was dis-covered.—Limerick Reporter.

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EARLY FONTS.*

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EXAMPLE AT DEARHAM CHURCH, CUM-BERLAND,

"Tris curious font (there is every reason to suppose) is a Saxon work. As an architectural composition it evinces more elegance than Baxou work is generally supposed to present. Lysons, in the fourth vol. of the "Magna Britanuia," gives an elevation of this font, and states that there are several other fonts in the churches of Cumberland which may be referred to Saxon times : he mentions those at Bowness, Aspätria, and Cross-Canonby, and elevations are given of some of the most curious, including that of Bridekink Church, which he considers is the most curious one in the kingdom. "It hears the following Dano-Saxon inscripmentione of the super-

tion in Runic characters :-- "Er Ekard han men egrocten, and to dis men red wer taner men brogton;" i. e. "Here Ekard was converted, and to this man's example were the Danes bronght." Lysons adds, that the scroll in which this inscription is cut rests on two pillare, one of which is evidently clustered, and of a lighter style than that which prevailed a short time before the Conquest.

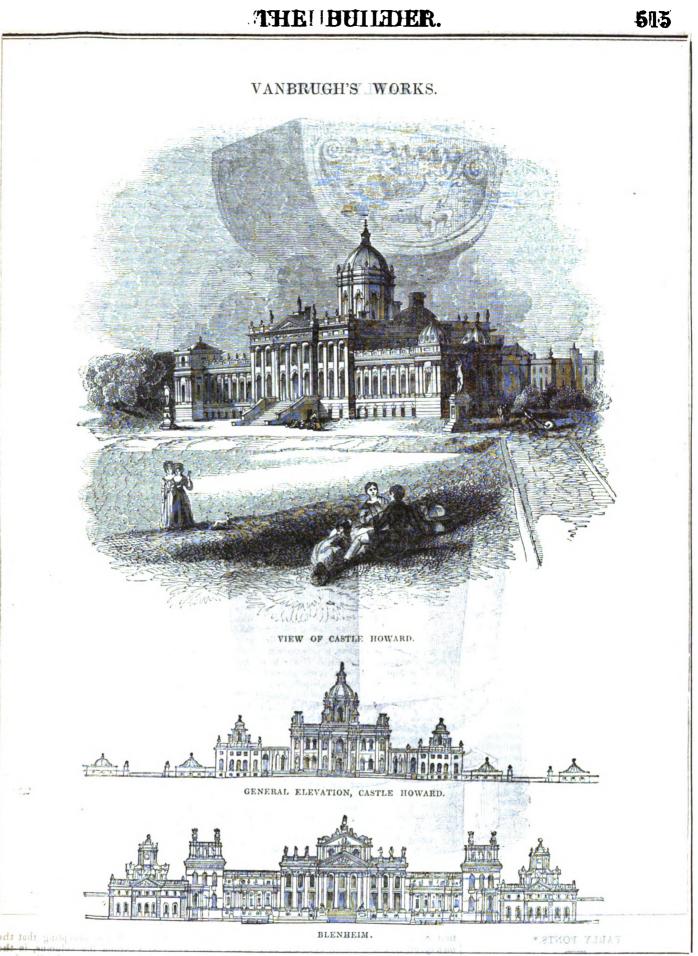
With reference to the font at Dearham church, I am inclined to think that the peculiar rope or cable moulding at the ncck, is evidence of Saxon architecture; a very curious and undoubted work of that period where it was used in conjunction with Roman mouldings came under my observation some few years since, it was the chancel of Reculver church, Kent. This chancel, the walls of which were constructed in the Roman manner, had every appearance of being a rude imita-

tion of a temple in Antis, excepting that the wall immediately behind the columns, in the centre of which was the doorway leading into the cell, had been removed.

This chancel which was the downay reading into the cell, had been removed. This chancel which when first erected was probably an idolatrous temple of the Saxons, had the columns in portico remaining; their

• That the ancient Roman and Saxon temples used by the idolatrous Saxons, were converted into Christian eturctes is well known. Pope Gregory advised Augustin that the temples ought not to be demolished, but only the idols that were in their should be removed and destroyed, and then consecrated to the service of the true God; the probability of these temples being added to, is apparent, the equipme being auffered to remain. The early Saxon writers, Bede, Alcuin, Heddhus, and others, frequently use the word for-ticus when describing the interior of the Saxon churches, thus in Bede's account of the internet of King Ethélerri, the espresse himself thus—he was buried, "in Portics Sti. Martini intra occlesian." In James Benthan's well known ersay on Saxon architecture prefaced to his history of Ety Cathedral, page 19, edition 171. rate will be found many particulars on this interventage objers.

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bases were composed of two triple rows of this rope or, cable moulding, arranged similar to two torus mouldings, and beneath them were an annulet and scotia. A drawing of this chancel, made previous to the last repairs, was submitted by me a few years ago to the Society of Anniquartes, it has never, however, been published and the moulding is to be seen in

the rope or cable moulding is to be seen in other wery early examples of fonts; for instance, they at Stratton church, Cornwall, given as the second example in V ab Voorst's work on Fonts.

The style of this font is Early English. There is a great pecultarity in the shortness of the columns which support the plain and massive top; the foliated capitals and the leaves shew more flow than is usual in this style. Altogether, I have seldom seen a more beautiful and simple specimen.

OLD ENGLAND. SHILL

IN illustration of some remarks on Vanbrugh and his detractors, that appeared in a recent number (see p. 469 ante), we avail ourselves of the last part of Mr. Knight's popular work, "Old England,"* which contains, in addition to a coloured interior of Whitehall Chapel, and a host of cuts illustrative of the buildings in Oxford, &c., two yiews of Castle Howard, and one of Blenheim. Although small

Published by C. Knight, Ludgate-street.

and slight, they shew sufficiently well the picturesque outline these buildings present, and Vanbrugh's great skill in composition. "It appears to me," says Sir Hugh Price (in "Essay on the Picturesque"), "that at Blenheim, Vanbrugh conceived and executed a very bold and difficult design, that of uniting in one building the beauty and magnificence of the Grecian architecture, the picturesqueness of the Gothic, and the massive grandeur of a castle; and that, in spite of many faults, for which he was very justly reproached, he has formed, in a style truly of his own, and a wellcombined whole, a mansion worthy of a great prince and warrior." His first point appears to have been massiveness, as the foundation of grandeur; then, to prevent the mass from being

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THE BUILDER

a lump, he has made various bold projections lous heights, which seem a egrounds to the main building; and, lastly, having been probably struck with a variety of outline against the sky in many Gothic and other anclent buildings, he has raised, on the top of that part where the sharing roof begins in any home of the Fallar style, a number of deco ritions of various characters.

These, if not new in themselves, have at lows been spplied, and combined by him in a new and peculiar manner; and the union of them gives a surprising splendour and magaificence, as well as variety, to the commit of that princely edifice. The study, therefore, not the imitation, might be extremely serviceable to artists of genius and discernment."

Castle Howard, in Yorkshire, was com-menced for Charles, the third Earl of Carliele, in 1702, and was completed by Vanbrugh, with the exception of the west wing. This extensive pile is 660 feet in length. The length of Blenbelm on the north front, from one wing to Blenheim on the north front, from one wing to the other, is 848 feet; the internal dimensions of the library are 130 by 32 feet. The hall is 53 feet by 44; and 60 feet high ("Gwilt's En-cyclopedie"). "The secret history of the building of Blenheim," in D'Israell's "Curi-offices of Literatare," shows the distressing difficulties in which Vanbrugh was involved by this commission. this commission.

The first volume of Twn BUILDER (p. 173) contains some observations on these structures. and a memoir of the architect. ومسمع معاملاتهم

POREIGN ABCHITECTURAL AND COL-LATERAL INTELLIGENCE.

Disproportion between the "dwellings of the rich and poor" at Berlin. If we perceive, that any inconvenience, which oppresses this country, is to be met with also in such places an we shought hithento exempt therefromstatistica ought to be the more intensively called to the remedying of three evils, which thus appear not merely national, but rather genoral evils, which oppress the present system handid manasions are raised on all sideswant at dwellings for the poor becomes every day more fait. It seems as if building was by carsied ... on for the sake of the richand the owners wou't take any one but generals, privy councillers, and baskers in their first Boors, substantial shop-keepers in the third.* What is before that, is only a nuisance for then. But now, Berlin increases every year by 10,000 scals, which, in a great proportion, belong to the working classes. The '*habita-*tional' circumstances of this class become every day more gloomy, and it seems to us, that while the authorities take care, that no light weight be used, no adulterated bread or putrid meat be sold --- they might also turn their attention this way. The rental of all houses attention this way. The rental of all houses in Berkin amounts annually to 1,101,031 rixdalsrs (at 3s. each); and the average price of a dwelling (Wohnung) is now 100 rixdalers; in 1808, however, it was merely 50, which is a very gloomy and astonishing fact. It is certain, that the number of dwellings, whose rent is fifty dollars or less, is more than half of the whole number—viz. 35,577; and even this most humble amount (about 74. a year) can't be afforded by a very great number of the labouring class of Berlin,"—Hamburg Corterrond ent.

Superrevision of Public Works in France The minister of public works has undertaken s journey of inspection of the berbourn of Sparney of inspection of the herbours of Ortte, Marseilles, &co. He is also examining the railcage of the south of France, either those in full traffic, or such as are construct-ing, or merely projected lines. The casal of Languedec, in all its details, has been meet. inntely inspected by the right honourable gentleman.

The late Carpenter's Strike at Paris (in a maked) .--- The late demonstration of the journeymon campenters can be viewed with a furtion by any lover of bis kind-as these men have brought forth their claim quite nasileyed with any admixture of intimidation or physical

In Gormany, several families of the first mark, or nearly

force. They have reasoned like reasonable beings, and it is their masters who are at fault. The rationale of the whole affair is as follows. In the year 1833 a formal convention (if we may translate thus) had been held between the masters and journeymen carpenters, by which the wages of a day's work were fixed at four france. From that period, however, a constant oscillation began to manifest itself between oboniation began to manness mean seven the latter itsm and that of five france. In asking, therefore, in 1845, that the latter sum should be made the fixed one for a day's wages, the journeymen wanted merely to have authorised formally, what already had become sanctioned by custom. The masters, certainly, had a right to refuse—but no more. Bat instead of confining themselves to this, they formed a coulition, and resolved on fixing egain the item at four france, viz., the price of labour twelve years ago. In the lawsuit, which has occupied, of late, the French coarts, it was argued, that this was merely a passive proce-dure-a point, however, on which we are not called upon here to dilate. The Cour regule will have now to decide on the appeal, interposed by the journeymen against the verdict of the inferior tribunale.

Brunswick. - At the restoration of the cathedral, some fresco paintings on the walls, have been of late discovered, which are of the period of Henry the Lion, amongst which is the portrait of this Monarch of the Brunswick They are painted on wet lime, and may line. be restored with tempore colours, and are so far preserved, that their age may be accurately ascertained. The figure of Henry (d. 1195), mach resembles his coeval statue still extant ; and the whole of the pictures, although not perfect master-pieces, possess some value for the history of art, as they may be the only ones in Germany from that early date.-Algomoine Zeitung.] [Algomoine Zeitung.] (Austria). - On the second of this course (Austria). - On the second of this

month was opened a new institution for the ed-work was opened a new institution for the ed-vancement of the working-classes, via., what is called in Germany "Real Schule," a school of realities. Here the children of workers are instructed gratuliously, or at a morely nominal expense, in arithmetics, algebra, geometry, chemistry and physic—the art of drawing and caligraphy. At the Academy of Arts young people may also learn the arts of de-sign. There is, moreover, in that city an Asso-ciation of Industry, a technical establishment joined to the Johannaum, a gymnasium (small college), and a University. Grats is a city, whose population is not much above that of Woolwich, or such other metropolitan villages. Meetings of the Académie des Sciences (R. S.)

at Paris, 6th to 13th October. - Mr. Colas, whe has made a very felicitous invention for copying (moulding) statues, even in different proportions (sizes), has solicited the academy to appoint a commission for examining his discovery and its proceedings.—Mr. Bains, the gentleman who claims the priority of inven-tion of electric telegraphs over Mr. Wheatstone, stated his new procedures for setting all the clocks of a city into motion, and to make them keep accurate time. He says, that it is by means of electric conducting tubes, that he will effect his purpose. -- Dr. Brack spoke nearly an hour on his new definition of "a straight line." The French press ridicules this attempt-still, if we consider, that not even the level of any fluid, water or any other, is, or ever can be horizontal, but (in reality) is conver, the subject assumes some meaning; which, however, can hardly ever become of a practical bearing.—An Improvement on Sir H. Davy's Safety Lamp for Mines.—As this, stheit, splendid discovery has not answered all the requisites of such an instrument, Mr. De la Rive has occupied himself with a new contrivance, by which the lamp is ennew contrivance, by which the lamp is en-tirely placed without the control of the person using it. This appears the more important, as statistical tables prove, that 400 persons loss their lives, in Europe, every year by the explosion of gas in mines and the like places. The main of Mr. Rive's discovery is a cylinder of charcoal, which is kept inca descent by an electric stream. Such a lamp oun be kept enclosed hermetically in a glass globe, as this development of light requires no oxygen, and thus every danger of explo-sion is removed; besides the light is more intense than can pass through the dense metal-wire wicker-work of Sir Humphrey's lamp. Mr. R. aoknowledges the yet imperfection of his himp, which conside in the high stanc y of the light developed, but hopes that a longer experimentalising will bring it to

a longer experimentaneur many many propiets perfections. "A hint" to the mashing clause - "of Paris."-It is reported on the best subbrity, that the Préfet de Police, has submitted to the King in council a report of great importance King in council a report of great importance: on: the dangerous -results, which would fel-low the exclusive concentration of all ourrancy, on railway enterprise. Mr. Prefet has ener-getically nignalized the grave inconvenience af-this total absorption of each in stock-jobbing and spicings. He concludes by pointing ont, that if there be no prempt remedy resorted to require this numbers, is to be anarched. accompanied by a very deplorable crisis. It is added, that the whole council (of mini sters) were struck by these observations, which they considered of the highest importance Measures are to be forthwith resorted to for obviating (as far an it is possible nose) this abnormal state of apsculation ---- or sather downright gambling by many persons, who indeed, can bardly afford such exponsive anasonent. -Gazette da France,

- Gasata an Arono, The Scientific Congress at Naples. To our former notion, we have only to add, that an the 3rd Octohen, a pigrimage was undertaken to the Temples of Partian. Aroyal stam-best conducted are than 300 of the assants to those sublime rulas. We hardly dave to speak of royal banques and balls, which, and the details of the second balls, which, and the details of the second balls, which is a speak of royal banques and balls, which is a speak of royal banques and balls, which is a speak of royal banques and balls, which is a speak of royal banques and balls, which is a speak of royal banques and balls, which is a speak of royal banques and balls, which is a speak of royal banques and balls, which is a speak of royal banques and balls, is a speak of the speak o owever, were very numerous, and splendid. On the great number of super here an bald an the following epigram was circulated at Naples ;---6) 1160 ADRIN

Quando în Grecia le scienze ebber primato; " Sol sette savii si trovar a sterrto, Or, che is scienze van più buon morente i de in Ne son guinti qui mille e acto cento. 1 . 45 . 5 A 18 8 3 1

covered : When in Hollos, seisnes held the highest, sway, in But seven sages formed the saint array : babbad Now, they are as cheap as apples in the problem Seventeen-hundred alone—in Naules 1 and big

RICHMOND, is an ba

Титя favourite resort of the Londoner, already celebrated in unnambered detached verses, has found a new and cloquest encomin in Mr. Charles Ellis, who has recently pub-lished a presty little volume descriptive of it. lished a presty little volume descriptive Tracing its history from the time when Sizes; as it was then called, was a residence of the reigning monarch,

he brings together all the associations connected with the neighbourhood, and sings the praise of honoured dwellers there.

The possession of the volume will materially increase the pleasure of a lounge on Richmondhill, or a stroll through the park. The followlatter, which all who know the park will remember well :----

A thousand gardens open to your sight, Unnumber'd cottages and villas peep-Now red - now dusky brown - now grey - now

white-There Kingston's dwellings rise, a numerous

heap Thus gazed upon, though still the church towers

keep Their fall distinction-then far shward start

L'en quite unto the clear horizon, sweep, In groups sublime, lazuriant trees, with the And swelling mound inwove by Natara's finite skill."

5 .-: doi:

It is not generally remembered, that it Kingston the first king of all England was crowned, and that Queen Elizabeth enged her

days at Richmond, March, 1603. Edward I. and II. resided at the latter plub and Edward III. died there. It was rebuilt Henry VII., and the name was changed by him to Richmond. Nothing now remains of the palace but an archway of ordinary construction, formerly part of one of the offices.

* "Richmond, and other Points, "by Chirles Ellis. Mid-dm, Leedman were, inst. 1 1.100 Points To a Digitized by GOOGLE

BUILDINGS ON A CLAYEY OR SILTY

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Foundations of this kind require great precaution to prevent subsidence of the build-ings created upon thom. The whole of the land in this neighbourhood (Beverley-road, Hell), and also of that upon which the town is Delty, and also of that upper watch and as care what-bally, is of this description, and as care what-ever is taken, with very rare exceptions; to guard against the settling of buildings; in fact, gived against the securary or unitary to use it does not been to be thought necessary to use ally means to prevent this serious svil. And the settling down of foundations is not the only evil; there is mother which is, if possible still more serious, as it effects the health of persons residing in houses built upon the soil, without any precaution to prevent the ascent of moisture through the brickwork in contact with the earth, and from under the floor of the several apartments lying immediately over the surface of the ground. The superior temthe surface of the ground. The superior tem-perature of the air within the walls of a house, always has a direct tendency to produce evaporation from the site upon which it is built, and to bring up with it the missma from the suckings of bad drains in the neighbóorhood: /

It is a common practice here in Hull, to simply excavate the ground for the foundations, and to lay them with the worst bricks and **more the set frand;** sometimes indeed, a little **more procession** is taken to provent settlement by laying York landings for the footings of the wells so rest upon, but then how are they laid P why just with the least possible trouble, and without ascertaining if the soil is of uni-form solidity, and capable of sustaining the superstructure in all parts without ainking. For want of this precaution and attention to drainage, part of a range of fine buildings has settled so much, as to involve a very serious outlay in repairing the mischief, although only excented within the last four years. In a large public building in this town, the whole of the walls, several hundred feet in length, were covered their entire breadth, when at a height of wix" incluse above ground, with sheet zinc bedded in loam, and the first course of bricks laid upon it also bedded in the same material. It was supposed that the zinc would prevent the ascent of moisture, and no doubt it would whilst it remained in a sound state, but it was found on breaking through the foundations nine months after, for the purpose of laying hot and cold water pipes in various parts of the building, to be every where pierced with beles and in a state of rapid exidation, and there can be little doubt that it has now (fourtem months since) nearly all disappeared. It was argued at the time, that the bedding in learn, instead of mortar, would prevent oxida-tion, but such was not the effect of the means here employed; moisture and the air mixed with it, appear to have been the principal sgents in the decomposition of this worthless starial, worthless at least for such purpose as the one for which it was in this case used.

In this locality, all buildings are sure to settle when built upon foundations laid in the ordinary manner, and the greater the weight of the superincumbent mass, the sooner this effect becomes visible, and it goes on impercaptibly through a series of years, until the house becomes seriously dilapidated, damp, and greatly reduced in value and rental. In smaller matters, such as fence-walls, gate-piers, dwarf-walls for iron railing, &c., the same cause is in constant operation, but with less effect; it does not so soon shew itself, but is equally certain to disturb the arrangement of every thing resting upon foundations so laid. It is a rare circumstance to find arreaded It is a rare circumstance to find any such creetions in a perpendicular position, after the lapse of a very few years.

The sottling here described, appears to be stand, first, by the compression of the clay, which is, as I have before said, everywhere more or less silty, and greatly varying in density, the latter condition being very much affected by the water it may contain. Secondly, after a house is built and supplied with drains which take off the water at a level below the foundations, the soil gradually becomes drier and as a matter of course contracts; this lets fown the foundation, and the house sinks, but not in all parts alike, as some parts may be-come less dry than others. Thirdly, the drains <u>may not be placed</u> so low as the footings of the walls, and where this is the case, and they are not soundly constructed, the leakage from

them will coak into the soil under the foundathem will coak into the soil under the founda-tion, and reduce the solidity of the earth upon which they rest. There is another cause in constant operation throughout the soil in this neighbourhood, I mean the drainage going on internally during dry seasons, when from the peculiar nature of the soil, large fissures are produced which form continuous drains in all directions tourned the means outfill the produced which form continuous scains in all directions towards the nearest outfall; the effect of such drainage is to dry the soil and cause it to contract, thereby letting down, buildings standing upon it. The same pe-cularity of the soil, causes a ready absorption of meter in met access which exclose the of water in wet seasons, which percolates horizontally and in other directions for a considerable distance under buildings, thereby reducing the solidity of the soil upon which they rest, producing the same effect from opposite C1084

The action of water or moisture in softening and reducing the solidity, and of drainage and spontaneous evaporation in contracting the bulk of the soils here described, would have no such effect on gravelly or stony foundations, as may be illustrated by filling one vessel with silty earth, and another with sea gravel : water poured into the first, will of course reduce its solidity, or if the same vessel is placed in dry air, the moisture mechanically mixt with the clay will evaporate, and the earth will contract; the effect in either case will be to render it less fitted to sustain a superincumbent pressure less fitted to sustain a supernormoundent pressure without settling; but it is not so with the vessel containing the sea gravel, the water poured into it will produce no change, the particles of hard matter being in contact, and not liable to be acted upon by the water passing through them, will remain unchanged as to solidity under all circumstances of pressure. This view of the case will shew the advantage of using concrete, in which we have, if it is composed of proper materials, a good example of the incompressible nature of a foundation so prepared, and of its other important property, namely, that of being impervious to moisture. The materials employed in concreting, should be sufficiently hard to suctain any weight placed upon them, without crushing ; the par-ticles should be in contact, and the lime used should be in such proportions, as would be just sufficient to fill the interstices betwixt them, which by adhesion to their surfaces would form a bond to the whole,--such at least is my view of the nature of concrete.

When concrete is laid in an excavation, it becomes a solid mass of uniform density, and in time so hard, as to sustain the weight of a building uniformly over the whole of the foundations; if the soil under it is less solid in one place than another, the concrete will equalise the pressure upon it, on the same principle as an inverted arch, or other well known modes of discharging pressure in the construction of walls. Concrete should be thinly spread, say from 3 to 6 inches, over the *whole* area of the space under the floor of ground floors, for the purpose of preventing the ascent of moisture.

I have noticed the settlement in many buildings in this place. In gates seven feet high, where sufficient care has not been taken to prepare the foundation, the settlement has thrown them from one to three inches out of the perpendicular, and the effect has been to produce a disruption in the iron railings, &c. attached to them. In fence walls, there is still greater mischief produced by this careless way of laying foundations, but then any be thought good enough for this thing seems to sort of walls. The settling of the walls in small two-story houses is not so readily detected, but it shews itself in a year or so, by defects in the openings of doors, windows, cielings, &c. In a range of large houses, built within the last three eres nor what was said to be the last three years, upon what was said to be dry ground, I have noticed a settlement al-ready in the front walls (and the landings under the small porches over the doorways have gone down with them) of from two to three inches. The late remarkable dry season has pro-duced a settlement in houses here, which had remained firm since 1839, caused no doubt by the contraction of the earth under them. Sp culative builders are not always aware of the circumstance, that a house does not begin to shew its defects until it becomes seasoned by

shew as detects which is below a seasoned by time and occupation. If the builders in Hall, and other places similarly situated, would reflect on the evils produced by building apon weak and un-

sound foundations, they would find oit theirs interest, and the interest of these who singley them, to pay more attention to this, the mast important of all matters connected with builds.

Important of an mattery wonnected with summery ing, There is one simple plan which I have never seen adopted here, and it seems atrange that it-is not; it is that of paying the bottom of the excavation for a foundation, with hard-burnt-bricks, on edge, filling up the interstices with a grouting of lime and small gravel, and then ramming them down with a payiour's ransmer; a man accestomed to this work (and such men may always he hired) would do the while of may always be hired) would do the whole of the foundations of a small house in one day. It is fair to suppose that the force here employed would be equal to the dead weight of the walls of a two-story house, and would con-solidate the earth as much as if compressed by the weight of the walls without such ramming, thereby preventing the settlement by compression.

It would confer a great faveur on many per-sons who build small houses, and who never think of employing any one but a common bricklayer, if some of your scientific corre-spondents would give a few examples for making concrete with different sorts of materials, and the proportions to be used; such things are known to professional man, but they never reach the ears of that description o-of persons who build houses, here and cleawhere, for the labouring classes ; it would add gauge to the comfort of the working; many if, the owners of small tenements could be made to understand that he could build his houses cheaper and better by using a fitle weiter n the foundations.—I am, Sir, Str. - Col HENRY LIDDELL

= martin frig PAYMENT TO BUILDERS FOR MAIL

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TENDERS, STR + 100,000 SIR,-Having been a subscriber to your journal from the commissioning, 1.07 stourse for the formation to the interest of your formation of your correspondents, and an shorefore induced in correspondents, and an therefore indused to request the favour of your opinion in the fol-lowing tase. On the lith August last, Linna invited to tender for the erections of stabilings' coachhouse, and other offices for a gentlement in this village. Accordingly, Latended the surveyors' office, and saw the drawing, and in reply to a question as to who the persons were that it was to be submitted to; was caution ously told "none but these in where they had ously told "none but those in whom they had the greatest confidence." I prepared up esti-mate, and at the appointed time, August 21sts at half-past ten n'clock, attended egain at the office with my tender. After waiting up was of an hour beyond the time, and only one of the person being in attendance, the two were opened in the presence of the employer and the junior surveyor; my amount was 4155, the other, 4771, 10s. 6d.

other, 4774. 10s. 6d. The employer expressed great supprises and said he had been much misled, as the surveyor had stated a much less sum than either, and he therefore thought he had better pay mu my per centage for my estimate, and abandon the job altogether. The junior surveyor thought otherwise, and that it had better stand over until he had seen his mission and write the until he had seen his principal, and write to me upon the subject. Before I left, I put the question, would they receive any tender that might come in after we had left? to which the employer replied, "certainly not, business was business, and as they did not come to time, he would have nothing to do with them." I never received any communication whatever from either party, but on September 3rd, to my still greater astonishment, found operations had commenced. I immediately wrote for an and planation, and received a reply to the effect, "that mother person had been applied to, whose tender (3601.) had been accepted, en-closing the several amounts, as under," &c. If need not ask you whether such conduct is not most disgracefal to any professional men wishing to be thought respectable. The reply evidently implies that the latter tender had been solis cited at the same time as ours, but I am firmly convinced, both from what fell from the terms ployer at the time of opening, and circums stances that have come to my knowledge since, that the surveyore, finding they had been druton the means, and swith wishing one maintain their statement, subsequently applied to the third person, who is doing other work

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under them, to assist in extricating them from their dilemma. Now am I not entitled to, and can I enforce the payment (and what sum) for my trouble and loss of time?

The difference of amount in the contracts the greater proportion of materials being old, and the greater proportion of materials being old, and the present old building being pulled down to use again.—I am, Sir, &c., A. Mitcham, Oct. 17.

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If the circumstances be here correctly and fully stated, our correspondent may justly elaim payment for the time and skill employed in making the estimate, and would probably recover it. In our mmber for September 13 (p. 442, ante), a decision at the Court of Bequests, in a similar case, will be found.

Correspondence.

17

AISLES. Sir.--Can you inform me whether there is any authority for the use of the expression, entre aiste. It would appear to me, that it cannot be more allowable than to speak of the centre wing of a building, and yet by some writers it is frequently used .--- I am, Sir, &c. OMEGA.

An aisle, strictly speaking, is a wing, and the term should be applied only to the side-passages or divisions of a building. It is now, however, generally understood to apply to all the lateral divisions of a church.

AND GLASS PAINTING AT HOUSE OF LORDS.

Sin,-A letter, signed "Justice" having appeared in your journal of 13th September, containing some statements regarding us in connection with the painted glass for the new House of Lords, which we have been ap-pointed to furnish, we ber your insertion of the following in reply, adding, that we knew nothing of the existence of the article in quetion till two days ago, otherwise we should have requested this favour of you before now. The mis-statements of "Justice" are, that

The mis-statements of "Justice" are, that we are glass cutters merely, and not glass painters. That we obtained the order to supply the painted glass for the House of Lords entirely through interest. That we have no practical knowledge of glass paint-ing; and, fourthly (this conjectural), that we will impose foreign glass on the Commission and the public, for home manufacture. With regard to our being marsly glass

With regard to our being merely glass rutters, and not glass painters, we beg to senter "Justice" that we are not glass cut-Agres, but that out firm has always been known in Edinburgh and elsewhere as glass painters Sui house 'Securators. - We) do not see that stan say more on this point, or that more Is necessary.

"Again, as to the charge of our having obtained the order for the painted glass for the House of Lords, through interest, we do most powitively and distinctly assert, that we did not employ, nor indeed could command, any interest whatever in the matter. We trusted entirely to the result of fair and open competition,competition in which we had to contend with vivals already in possession of high reputation, while we were comparatively unknown, and, consequently, without the influence which attaches to celebrity.

As to our having no practical knowledge of glass painting, we can only say that we have been at much pains to proving out been at much pains to acquire a thorough knowledge of both the theory and practice of our art, making the best existing examples of the middle ages in this country and on the continent our study. On this point it will not be considered slight evidence, we should think, that we do possess the practical knowledge which "Justice" would deny us, that the highest premium, offered during two consecu-tive years by the Board of Manufuctures for "Scotland for the best specimen of painted

glass, was on both occasions awarded to us. With regard to "Justice's" gratuitous assor-tion, that a pressure for time will compel us to have recourse to the importation of foreign glass, instead of using home manufactured, we heg to say, that "Justice" may keep himself perfectly easy on that head, as we have a suffiexigency of the kind he alludes to, should such exigency arise, which we do not at all anticipate.

"Justice" closes the paragraph in his letter that applies to us with the assertion " that there are not many more than fifty journeymen glass painters to be found," in the world, we presume he means to say. If this really be "Justice's" belief, it will rather surprise him to learn that we, ourselves, employ, chiefly of our training, more than half the number he mentions, and can at any time double that number, if required.—We remain, Sir, &c. BALLANTINE and ALLAN.

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BUILDER.

42, George Street, Edinburgh, Oct. 13, 1845.

CIDER.

THE

Aliscellanea.

MELROSE ABBEY.-DISGRACEFUL PRAC-TICES OF TOURISTS.-The mischievous propensities which individuals often manifest on their being permitted to visit public buildings, works of art, and other objects of interest, have often been alluded to as a subject of just reproach. It is indeed melancholy to think that, notwithstanding reiterated complaints and warnings against these practices, there should still be people who are insensible to the disgrace they incur in destroying such objects, whether out of pure mischief, or from the equally reprehensible desire of appropriating fragments as relics. The liberty of access to the monuments of antiquity which adorn the country, is a privilege which must be highly prized by every individual of any degree of taste and information; and the culpability of those who abuse it in the manner referred to is greatly enhanced by the consideration that, independent of the actual damage done, they inflict a grievous injury upon the public at large, who are necessarily visited with the consequences of such misconduct in being excluded from the precincts of these structures. A very striking proof of the prevalence of these shameful practices, and of the consequences to which they lead, appears in an advertisement which has just appeared announcing that, in consequence of the chipping and defacing which the beautiful carved stone-work of Melross Abbey has undergone, that edifice will henceforth be shut up from the public. We understand that his Grace the public. We understand that his Grace the Duke of Buccleuch has of late years been at great expense and trouble to preserve this venerable structure, perhaps one of the richest monuments of antiquity of which our island can boast, and now rendered interesting to the whole world from its association with the imperishable name of Sir Walter Scott. It can scarcely, under the circumstances, be won-dered at, that the noble proprietor should adopt this step for the preservation of the abbey,a step which we know his grace deeply regrets, but to which he has been impelled by these frequent depredations, and by feeling, as he ought to feel, not only a *personal*, but a national responsibility in the custody of this so valuable a relic of Scotland's history.—*Edin*burah Courant.

£. s. d. Cash paid for advertising, printing, 82 8 353 8 postages, &c..... Ditto for site of St. Stephen's church 2 353 6 Ditto for expenses at public meetings, laying foundation stone, opening church, &c..... Ditto to Myers and Wilson, as per 179 4 8 4,100 0 0 contract Ditto to ditto, for raising spire 90 0 0 Ditto for sundry extra bills, iron palisades and gates, flagging round 1.112 2 11 ō 220 0 0 2 50 0 Ditto to surveyor.....

COST OF ST. STEPHEN'S CHURCH, HULL.

9 15 Ditto for interest..... Ditto for insurance 15 9 4 Ditto for plans of St. Stephen's and St. Paul's districts 4 4 0

£6,216 12 9

PROVIDENT ASSOCIATION FOR CIVIL EN-GINEERS AND LAND SURVEYORS. - A party of influential gentlemen are attempting to found in the metropolis a Provident Association for the benefit of aged and decayed members of the above professions. Mr. J. Bailey Denton, of 9, Gray's Inn Square, has con-sented, during the initiatory proceedings, to perform the duties of honorary secretary.

THE FINE ARTS .--- It is singular that all the courts of Europe have, for more than two centuries, been earnestly engaged in forming public galleries, a national benefit and honour which England had beglected with her great wealth, and with opportunities singularly favourable, until within a few years; and even now we are making but very slow progress, and works of art of the olden and golden time are becoming more rare, and immensely rising in value. Had we as a nation, collected, even 50 years ago-speaking of the transactions as a money speculation, in which view, according to the taste of the day, we must look at every thing-our purchases would now have been worth treble the first cost in money. The unhappy fate of Charles I. was most adverse to the arts here. It not only scattered the collec-tion made by him, but, by the triamph of Puritanism, plunged the country first into a dislike of, and, for long subsequent periods, into an indifference for art. We even doubt if this gross feeling has altogether subsided. We do not yet take a national pride in works of genius, unless they immediately bear upon the art of living. No country is so rich as ours in private, and none so poor in public collections. And if we progress so slowly in our National Gallery we can scarcely wonder that public m. of in the provinces. We sincerely hope that the movement Mr. Ewart is making will be crowned with success, and that in time " collections" lections" in our cities and towns will be the result.-Blackwood's Magazine.

THE GRAVE-YARD QUESTION, -Mr. Atkipson, a surgeon of Westminster, has addressed a letter to the Lancet, shewing by circumstances within his own knowledge the dreadful state of St. Margaret's churchyard, Westminster. Describing the performance of a funeral there, he says :--" The mute, as the service advanced, staggered, was unable to keep himself erect, and became deadly pale; he was removed to the vestry-room, suffering from pain in the bowels, which ended in diarrhœa; his health was deranged during the two subsequent days; on the night of the funeral, the undertaker was seized with diarrhoea and faistness; and continued in a debilitated state for some days after; one of the mourners on his/return home was affected with the same symptoms, and rendered unable to follow his employment for an entire week; and it may be as well to observe here, as a remarkable coincidence, that the wife of one of the mourners, was, late on the night of the funeral, or early next morning, attacked with apoplexy, and expired in two or three days." These facts strongthen the preconceived impression, that illness of a serious nature may be produced, and even death in many instances ensue, by attendance at the burial grounds of this metropolis, which are known to be more than commonly charged with human putrefactions, and must be read by those who are seeking to with interest discover tangible sources of disease, and to employ preventible means of suppressing its operations.

EFFECT OF COMPETITION IN THE PRICE or GAS .- The British Gas Light Company, which supplies Stratford and its immediate vicinity with gas, have within the last week reduced their charge for that article from &s. to 6s. per thousand feet. A few years ago the charge was 10s., but in consequence of a rival company undertaking to supply it at a less rate, the above reduction has taken place. PLANS ON PARCHMENT.—To tint plans on parchment one correspondent says, "Take a

piece of *rough* paper, or very fine glass paper, and therewith rub the surface of the parchment until there is no grease remaining on it. Then proceed as on ordinary paper." A wash of diluted gum-water over the skin, before colouring, stops the pores, and tends to produce an even tint.

GLASS TILES .- In reply to numerous inquiries, glass tiles of the size and shape of ordinary pan-tiles, may be obtained of Mr. Jackson, 15, Duke Street, Lincoln's-Ian-Fieles. They vary in price from 11s, to 16s. per dozen, according to the thickness and weight.

lighthouse is to be raised on the coast at Fatouville, near the mouth of the Seine, in place of the wooden one now existing. It is to be 96 mêtres above the highest equinoctial tides. The cost will be 145,0004.

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Tenders.

| | togas for building the s, Mr. Donaldson, archi | | | choo | l, St. |
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| • • • | W. Benell | £367 | · D | 0 | |
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| • • | M. J. Benell | 297 | 10 | •0 | |
| • • | Chalk | 295 | 7 | 6 | |
| - | Dunbam | 258 | 10 | · Ø / | 1 4 |

FOR RAILWAY INTELLIGENCE, &c. SEE SUPPLEMENT.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the brick, stone, and joiners' work required in the erection of the Kingston Cotton-mills at Hull. For supplying the East-India Company with pigiron.

For building a Sower in Haggerstone-road, near Kingsland, being a length of about 600 feet, for the Commissioners of Sewers for Helborn and Finsbury Divisions.

For new roofing and covering with lead two com-partments at the west end of the nave of St. Mary's Church, Bridlington.

For the execution of the Works required in making part of the Taw Vale Railway, viz., from Barnstable Bridge to Fremington; and also for con-structing the Docks and other Works appertaining thereto.

For the execution of Works on the York and North Midland Railway, being a distance of about 18 milles.

COMPETITION.

The Provisional Committee of the National Glass Company of Ireland require plans and specifications, &c., for the erection of all the necessary Buildings, comprising an extensive manufactory for making brown (window) glass; also plans for an extensive manufactory of plate glass. 251. will be given for tactin plan selected, or 501. for both if to the same individual.

LAPPBOACHING SALES OF WOOD, &c. BY AUCTION. 21.60 5.00-

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260 Timber /Frees of large dimensions, both in

issight and girth. At Hale Wood, on the Roadside between Lid-gate and Wickhambrook ; about 100 Oak Trees of good quality, varying from 10 to 40 feet, in conve-nient lots.

At Parkham, near Framlingham : upwards of 400 fine and good Oak and Elm Pollards, and 11

Autor and good Oak and Line Fourier, and Fr Jarge Ash Trees, all standing. At the Anchor Inn, Eling, Southampton : about 150 loads of large Oak Timber, suitable for cutting into thick stuff, plank, and framing timber. In lots of 20 loads each.

BY PRIVATE CONTRACT. At Upper and Lower Connytrowe Farms, two miles from Taunton : 180 Maiden Elm, and 30 Maiden Ash Trees.

TO CORRESPONDENTS.

" Edward Davis."-We shall gladly avail our selves of the drawing sent, although not imme-

"Constant Sabscriber."—Felt may be obtained from MeNeill and Co., 14, Lamb's-buildings, Bunhill:row. from

"An Architect."-We will inquire as to the principal fact stated in his letter.

' Tenders for Houses at Mile-end."--If one of the parties who tendered under Mr. Single will ard us a copy of the specification we shall be for ylad to receive it.

"R. W. Herman."-We will take an early op-

portunity to call. "R. S. P." (Bristol.)—The letters referred to were destroyed. The reason assigned by our cor-respondent for the attacks made on him would

tend to secure our good feeling. "W. J. N."-We are compelled to decline the draining, simply because we have similar subjects in Rand. It shall be left at the office as requested. W. T." Bricks marked "drain" must be used

Morks on Architectural Buildings.—" H.B., Works on Architectural Buildings.—" H.B., " Sub.," " T. T.," " Constant Subscriber, " Tyro," ask what books they are to read. W Ŵe will endemour before long to answer them more easily achorily than in hesty wotes to corres-pondents. The reply is not an easy one.

"I.L.T." shall hear from us: "G.R."—We are obliged to decline our car-respondent's letter. Narrow alleys are to be

week.

apoided. "Arch Enemy."—We do not know of any Act

"Arch Enemy."—We do not know of any Act which would empower the trustees to lessen the height of our correspondent's cellars. Books received: "Penmanship Illustrated and Explained," by B. F. Foster (Souter and Law, Fleet-street); an ingenious and very useful little work. "An Entirely Original System for Ac-quiring the French Language," by Mons. Mariot de Beauvoisin (Souter and Law); "A Treatise on Painted Glass," by Jas. Ballantine (Chapman and Hall Strend) to which we shall shortly refer. Painted Glass," by Jas. Ballantine (Chapman and Hall, Strand), to which we shall shortly refer.

ADVELTISEMETS.

CAEN STONE. LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufference Wharf, Greenwich.-Further particu-lars at Mar. G. GATES', 16, SOUTHWARK-SQUARE, SOUTHWARK.

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"A most ingenious, simple, and effective plan." Mr. Reid's Lecture on Ventilstion, delivared June 7, 1845, before the Mechanics' Institute, Liverpool.

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DORTLAND CEMENT of best quality manufactured by J. B. WHITE and SONG, of BEL bank-street, Westminster. To be had at their Warehouses ; Dract's Wharf, Obeless ; Bollis Wharf, Padimpion ; did Earl-street, Blackfriam,

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For the slows purposes, is possesses pressedor unauty file. Wood, heing more goopprised and, durating resisting, first damp, and vermin.

damp, and vermin. For the floors of hall and fire-proof warehounce, its light-ness, durability, and uniform 'surface give'ild in initiateale advantage over stone, being, at the spane time, much spate economical. The most satisfactory references can be give, To be had of the Patentees, Flaster of Fairs' and Centerit Manufacturers, 160, DEURY LANE: 10, 980 (m) 117

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Canning-place, Liverpool. In the Different diff 'll TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MER-CHANTS, SHIPPERS, AND THE FUBLIC 'IN GENERAL, C. COTS PATENT SFUCCO CEMENT.-The following me the positive wire memory possessed by this Invention over every Centant, bitker to pro-troduced:-It will effectually resist Damp. It will pever vegetate nor turn green, nor otherwise disclosure. It will never eract, bilatet, see positive disclosure. It will stome casing to any Building covered with it. It so closely resembles to never that can be depended upon for export. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the second is the east in any climate for any substance, even to Wood, Iron, or Glass. It will entry a liver Proportion of Sand than any other Osment. It mains no effect upon it. It may be used on the Unner will so finew Houses, which may be spered over or painted directly. Boost is dis ex-pointed with this Cement will remain undamaged by the severest Storms. Any Plaster may apply it, the Instruc-tions for we being very clear and distinct. The first cost of this material does not acceed that of the classest Cement the material does not acceed that of the classest cement avainable advantages, nothing can approach it in point of Architects and Buildens who have used this Cement bare

Architecta and Builders who have used this Cement have claued that it requires only to be known, to be universally preferred.

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At the works, 15, Wellington-street North, Strand,

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called for.

called for. In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat. Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 54, Long Acré. Price 20s. per gallon.

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recommend them to the trade, as deserving of notice both in price and quality. Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unadulterated article. Fine Oil Varnish, from 10s. per gallon; best White Spirit Varnish, 21s. ditto; Best Spirit French Polish, 20s. ditto; White Lead, Oil, Turps, and Colours of every description at the very lowest prices.--WALLIS'S Varnish, Japan, and Colour Manufactory, 64, Long-acre, one door from Bow-street. Established 1750.

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to his GRAINING COLOURS and LIQUID WOOD STAINS. The graining colours are prepared in a damp state, and pon so true a principle, that the workman cannot fail in obtaining the natural colour, nor of giving to the work the same effect and appearance at all times. The difficulty of producing a true colour and of preserving the same unifor-mity with the admixture of earths and oxides, which are the ingredients used in graining, has long been acknow-ledged. This difficulty is at once removed by these prepara-tions, and the grainer is enabled to confine his attention to his art in graining, without being perplexed in proportioning and mixing his colour. The LIQUID STAINS are solutions of colours which not only carry additional stain on to the various woods on which the natural colour inherent in the wood, and is therefore a valuable acquisition to the DECORATOR and to the RENOVATOB of ol oak or other carvings. They are also capable of giving colour to the sappy and defective parts of veneers and fine woods used by cabinet-makers and others. In the decoration of churches, castles, baronial halis, and mansions, in which are often found beautiful specimens of and faded, these liquid stains will be found particularly ser-iceable. They also impart to woods of inferior character and of

and faded, these liquid stans will be found particular, ticeable. They also impart to woods of inferior character and of soft texture, such as beach, birch, pine, deal, &c., the colour and appearance of such woods (whether oak, maho-gauy, rosewood, &c.) as it may be designed to imitate, and thus as we the expense of more costly materials. The above preparations for graining and staining for pur-poses of imitation and of revival, are prepared by HENRY STEPHENS, and may be obtained at 54 Stanford-street, where specimens of their application may be seen, and also at the Office of "The Buildet,"

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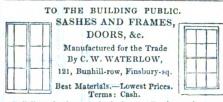


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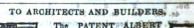
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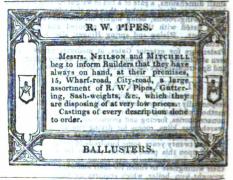
MORE than FOUR THOUSAND of M OKE than FOUR THOUSAND of these STOVES were sold during the first season-the winter of 1844-45-so decidedly did the public sanction their distinguishing principle, by which a genial heat and a pure atmosphere are secured and combined.—They are now ready for delivery, of all sizes, from 192, and upwards, at GEORGE and JOHN DEANES, opening to the Monu-ment, 46, King William-street, London-bridge.

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of prepared floo Any informat diate attention.



SATURDAY, NOVEMBER 1, 1845.



N Thursday last our gracious
 Queen and his Royal Highness Prince Albert opened
 formally the new Hall and
 Library at Lincoln's Inn,—
 a structure remarkable alike

for the rapidity with which it has been raised and its great merits as an architectural achievement. It is unquestionably one of the most successful buildings of our day, whether regarded as a whole for the general arrangement and grouping of the masses, or in detail for elegance of parts, variety, and completeness, and will hand down with honour to distant times the name of its architect,-Mr. Philip Hardwick. In the present wavering state of public opinion as to what style should be adopted in buildings not ecclesiastical, this successful adaptation of late Tudor architecture (the style of the period which immediately preceded the decline of pointed architecture, when the arch was flattened, and the horizontal line was acquiring precedence over the perpendicular), will doubtless tend to increase the use of it.

In the buildings of this period, and indeed of the pointed style generally, the elevations grew out of the plan and was subservient to it, and this was arranged with a view to convenience and the purposes of the building. A door was placed where a door was wanted, a turret where a turret was required (always, however, with judgment), and each was left to produce what effect it might in appearance. In classical architecture the positive sacrifice of convenient arrangement to regularity in elevation is often unavoidable; in Gothic architecture the distinctive merit of the style is the growth of perfect adaptation to convenience. The earliest revivers of Gothic architure arranged their Gothic much the same as their Italian buildings, where "grove nods at grove," each alley has its brother, and the result was unsatisfactory. Their successors in the present day seem to have made a discovery that irregularity should be the main characteristic. Their aim is to make no two things alike, to set a steeple in any place rather than the middle of the west front, in fact,-in direct reverse of the other mistake,and actually to make convenience subservient to irregularity.

To see errors is easy, to describe what Gothic architecture should be is difficult. Instruction in the practice of art has never yet been embodied in words; excellence is to be felt; the road to it hard to demonstrate. The whole theory of the causes of the emotion of beauty, more difficult of analysis in architecture than in any other branch of art, is involved in the question. Thus far, however, we may venture to affirm, that in every division and subdivision of the structure, convenience is made the framework, out of which every form is created without attempt at concealment; that, consistent with the attainment of this, there is, in the management of masses, a leaning towards regularity, whilst, in subdivisions and details, there is a very striking love of variety. Regularity, co-existent with the attained object of the building, we find in the plan of the cathedral; irregularity, the result

THE BUILDER.

of a similar sim at convenience, in the addition of the cloisters and chapter-house, and often in the position of buttresses and doors; ornament was the application to this framework.

Now, we are most pleased with the building under notice, because it evinces almost the first successful application of the principles which we have endeavoured, we fear inadequately, to indicate; it displays a perfect acquaintance with the principles of Gothic design, with those principles, which, being founded on truth, are destined to last many centuries.

Our purpose is to give a general description of it. The first stone of the structure was laid in April, 1843. It consists of a ball, arranged north and south, and a library, arranged east and west; the two buildings being connected by a vestibule of a lower elevation. It is erected in the gardens of the inn, and has, perhaps, greater advantages of site than any other building in the metropolis. Externally, the edifice is in two stories, the principal rooms being raised considerably above the ground level, and reached by long flights of steps from the exterior. The materials employed are red bricks, intersected with black brick in patterns. and stone dressings. The stone employed externally, is from Messrs. Peto and Grissell's quarries at Anston; for the interior, Caen stone is used. The south end, towards Newsquare, exhibits a lofty gable, flanked on each side by a square tower. These towers project slightly at this end, though in a greater degree at the sides of the building. They have small square-headed windows, three one above another, and are surmounted by battlements. Beneath the battlements are shields placed in square compartments. The angles have stone coins; and here, as well as throughout the building, we may notice, that the brick and stone are combined with the greatest propriety, decoratively and constructively, the irregularity not appearing too studied. Between the two towers is the great window of the hall. This is of seven lights, transomed; the head, which has a four-centred arch, being filled with very beautiful tracery. The design sppears to be original; and the small quatrefoils, which are introduced, add much to the effect of the whole, which is a little heightened by the red curtain that hangs on the inside. Beneath this window are three small openings, to light the basement.

On the apex of the gable is a canopied pinnacle, containing a statue of the Queen. This pinnacle has some very beautiful parts, yet from its peculiar plan, which appears to be triangular, and from the projection of its gurgoyles, in some points of view, seems to be broken and out of the perpendicular. There is a small window, above the large one, in the gable. In this elevation, the two stacks of chimneys, which rise in the angle, formed by the towers and flanks of the building, have a very beautiful effect. The whole of the chimneys are of red brick, moulded into a great variety of patterns, and in general design resemble those at Eton College, and Hampton Court Palace. In the gable, just described, the letters P. H., and the date 1843, may be discerned; they are formed in dark bricks. The whole base of the building is of stone, of which material are the walls of the esplanade on the cast side, as well as the walls of the steps of ascent. At the sides, the hall con-

sists of seven divisions or "bays" in length. Taking the side, next the Inn, the first division is occupied by the square tower, which except in the lower stage, is the same as in front. At this point, in the tower, is an entrance to the building. It is reached by granite steps from the esplanade, and from New Square, the ascent being well planned for effect. The door has a four-centred arch, with square label head, the spandrels being filled with quatrefoil tracery. In the jambs are small shafts. Immediately above the door, in a square panel, is a shield, bearing the arms of the Inn, and above that the clock. This is one of the most beautiful objects in . the building, and is perfectly novel in design. It is surmounted by a pedimental projecting canopy, in metal work crocketted, and containing tracery executed with great delicacy, and having the true metallic character. Indeed, throughout the building, the metal work must be considered a great step in advance in the treatment of the material. The fingers and figures of the clock, without being less easy to read, are also converted into beautiful objects. The remaining six bays are occupied by the windows of the hall and offices in the basement, the last bay-on each side-projecting as an oriel. The lower range of windows are of two lights, and square headed; the upper base moulding going round them as a label.

At a considerable height above are the windows of the hall; the bays being divided from each other by the buttresses, which project in three stages. The hall windows are squareheaded of four lights, with each light arched, without cusps, and transomed. They are close under the cornice, which has a row of grotesque and foliated bosses. Above this is the parapet and battlements, with the coping running horizontal and perpendicular. The buttresses are surmounted by octagonal pinnacles, with ogee caps. The oriel, which occupies the last bay on each side of the building, is square in the plan, with angular buttresses. It has a lofty five-light window in the front. divided by transoms, and a similar window of one light, on the return. The roof is leaded, with rolls at intervals. The north gable of the building is finished with a large stack of chimneys, which are well grouped, and highly ornamental. In the angles of the flanks, with the square towers, are staircases, and the stacks of chimneys before mentioned. In the centre of the roof is an elegant louvre. It is of wood, in three stages, with two heights of small windows, which are square-headed, cusped, mullioned, and transomed, and is surrounded by slender pinnacles, bearing vanes, attached by flying buttresses. The capping is ogee-headed, with crockets and gurgoyles, and is surmounted by an elegant vane, with direction points in gilded metal work : the whole of this part of the design displays very great taste.

The central building, which forms the entrance corridor to the library and great hall, is much lower than the two other buildings. On each side is a projection, with angular buttresses, from which again projects a square oriel of six lights, transomed. From the different angles project gurgoyles. The whole is surmounted, in the centre of the plan, by an octagonal embattled crown, each side having a window with pointed arch and rich tracery. The angles are strengthened by buttresses. The effect would have been improved if this crown had been raised higher; at present the windows can hardly be perceived. On the east side, that next the inn, is the main carriage

[•] There can be no reason why the architect's name should not be inscribed on every building, in some unobtrusive position; just as the sculptor places his name on a statue; unless architects are ashamed of what they execute. It would be looked upon as an interesting, and valuable record.

entrance, which is by a broad drive up to the steps to the esplanade. Thence, the ascent is by another flight of steps to a porch of en-trance. It has a simple four-centred arched door, and a gable, with an animal holding a vane, upon the apex. On this last side, the end of the library has

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a very rich and beautiful effect, mainly resulting from the elaborate design of the oriel. This is octagonal, with slight projection, with much panelling in the angular buttresses, and in the parapet. The whole of the carving in this part, indeed throughout the building, is well executed; and the proper depth, on which so much of its effect depends is given to the panelling. The principal division of this oriel is of four lights, with a four centred arch oriel is of four lights, with a four centred arch head, and spandrils enriched; the splayed sides have one light. They are transomed. The buttresses are crowned by pinnacles, and above the lights are quatrefoils and bosses with machicolations above, the whole displaying considerable variety and richness of effect. The oriel is surmounted by a leanto covering of stone. Above the oriel is a small window and the raking mouldings, which are finished be grotesque carvings. The apex of the gable be grotesque carvings. The apex of the gable has an elegant pinnacle; it consists of a cir-cular shaft, fluted spirally, supporting an animal holding a vane. Bound the base of the shaft are pinnacles clustered together, the whole being supported by a grotesque corbel. On the south side of the library are several chimneys of good design. The north side of the library is five bays in length, the buttresses and lower range of windows being similar to those in the other building. The angles have oblique buttresses, excepting at the northwest corner, where there is a belfry turret. The windows of the library have their lights in two stages, separated by armorial bearings. They are of three lights, and the mullions being continued through, the spaces just contain the shields and supporters. The pinnacles in this building have animals instead of ogee capping, and the cornice has a greater number of bosses. In the west side, next Lincoln's-ian-fields, the arrangement differs from that on the opposite side mainly in the ubsence of the doors and porch. It is inclosed by a long brick wall, with stone capping, There is an stepped down in long distances. oriel to the library, differing from the other only in the cornice, which has larger battle-ments, and is varied in the panelling. The beauty of the enrichments, and of the ornamental chimneys is here more apparent. The bell turret, at the angle, is octagonal in four stages, divided by strings. The angles have stone coins, and there are small openings to light the staircase. The belfry is of stone, to light the starcase. The beilry is of stone, with long openings in each face, cusped and transomed; it is united to the stage below by a weathering, and in place of horizontal louvres has a perforated panelling. The pa-rapet is of brick, with hattlements capped with betone. We thick that had leas how the heap stone. We think that had less height been given to this upper story, by increasing that beneath it, the effect would have been even better than it is, but the turret is well placed. At the back of the angular buttress, on the south side, there is another stair turret. Attached to the library, on the north-west side, is the residence for the steward.

Entering the pile by the central doorway, a vaulted corridor with two short flights of steps, leads into the vestibule, a rectangular apart-ment 56 feet long and 22 feet wide, having at the south end the door into the hall, at the north the door into the library, and east and west a door to the council-room and the drawing-room. Nearly in the centre of the vesti-bule four insulated, clustered columns, with others attached to the side walls, and connected by obtuse pointed arches, form an octagon, and carry an elegant lantern of the same shape, with a window in each of its sides ornamented with painted glass. The ceiling of the lantern is groin-vaulted, and has sculptured bosses at the intersections, which are illuminated and gilt. The ceiling of the triangular spaces, cut off by the octagon, is left open as a skylight in each case, with a single plate of glass in it, to give light by means of corresponding glass slabs in the floor, to the corridor below. The other parts of the vestibule, north and south, are ceiled in panels, with deal, varnished.

Eutering the hall from the vestibule, the visitor finds himself on the raised platform or

dais, one step above the general level of the chamber, aud, if we mistake not, will say it is one of the noblest apartments he has ever seen.

The illustration in our present number will serve to give a general idea of its appearance, as viewed from this end, to such of our readers as may not visit the building. The length of the hall is 120 feet, the width 45 feet, and the height to the apex of the roof 62 feet.* On either side of the dais is an oriel (as is usual in halls of the period), about eighteen feet wide, with a stone seat round The windows of both are ornamented it. with stained glass, chiefly brought from the old hall. Six other large windows on each side, as described when speaking of the exterior, and one at the south end, light the apartment. The upper part of the side window is filled with the arms of the benchers, in stained glass, executed by Mr. Willement, and the lower part with small panes, marked alternately L. and I. to form a diaper. The walls all round are lined with oak panelling, about twelve feet high, terminated with a cornice containing a carved running enrichment. The oak screen and gallery front at the south end are very original in design. As may be seen in the engraving, the screen consists of a centre doorway, with glazed panels, and two openings of similar form and size on each side under arched recesses, with oak mullions and tracery also glazed. Projecting buttresses divide them, and are continued up to form pedestals for six figures, over which are carved canopies connected by arches, so as to form five openings in front of the gallery, corresponding with those beneath. The figures are not yet carved, but are now in the hands of Mr. Thomas, the chief carver at the new Houses of Parliament, by whom also the statue of the Queen in the

south gable, already mentioned, was executed. There is much decorative carving about the screen, which is well executed. Under the gallery is the southernmost entrance door, already mentioned as having the clock over it outside. The bolts, hinges, latch, and escutcheon, are admirably designed and executed, and this is the case we may here mention throughout the building. Every lock, every knob, is different, and is full of the right feeling. So too with the stone spandrels of the various door-heads, every one is varied, shewing there has been no lack of pains to produce a perfect whole. Returning to the hall,—the roof, a fine piece of construction, is formed wholly of oak, and is divided by trusses into seven compartments. Each truss comprehends one large arch springing from stone corbels attached to the walls, and has two carved pendants (as in Wolsey's Hall, at Hampton Court), at the terminations of an inner arch that springs from hammer beams projecting from the walls on either side about one-fourth of the whole span. These pendants are illuminated blue, and rcd, and gilt, and they each carry a chandelier japanned in the same colours. Between the trusses, against the wall all round, is a machicholated cornice with a range of small panels under it, also de corated with colours. The louvre described externally, is in the fifth division from the south.

Against the wall, over the door, on the dais, is Hogarth's picture, "Paul before Festus," in a new oak frame, designed to accord with the hall. The heads of the windows being square and wide, great care was required in the construction to make all sound. A bond-stone was brought through the whole thickness of the wall at each angle of the head, and one in the centre, and these carry the longitudinal stones by means of a "sccret joint" and

joggling. The library, which is 80 feet long, 40 feet wide, and 44 feet high, has also an open oak roof: it is in five divisions formed by trusses, with pendants, and a series of arches placed longitudinally on each side, with a corresponding series against the side walls, termi-nating on stone corbels. The book-cases jut out on each side to form separate apartments for study, and have an iron balcony running round them about midway, and another gallery over them against each wall, the whole length of the room. There are five windows on the north side, and two large oriels of very elegant

• The length of the hall at Christ's Huspital, London, is 18/ feet, the width is 51 feet, and height 17 feet.

designs, all ornamented with stained glass and

circular embossed panes, The council room and drawing room are each 32 feet by 24. The walls are lined with panelling : they are ceiled with deal in panels, panelling : they are ceiled with deal in panels, stained and varnished, with deal in panels, the intersection of the ribs, and each is lighted by a large window, in six lights and two stories. They have both handsome, carved stone chimney-pieces : the bell-pulls, here are also worth examining.

Relative to the kitchen, which is beneath the hall, we have only left ourselves space to say, it is a lofty vaulted apartment, with a noble fire-place, and all proper appliances

In connection with the new buildings, the square of Lincoln's Inn has been inclosed with iron railing, and stone posts of similar cha-racter. The square is entered from Lincoln's-Inn-Fields by a large Tudor gateway, of which we shall probably give an engraving hereafter. It now only remains for us to say, that

Messrs. Baker and Son were the builders , and have well sustained the high reputation they enjoy. The works are all admirably executed; much more so, we will venture to assert, than they could be at this moment in any other country in Europe, notwithstanding our as-sumed inferiority in one or two respects. The amount of the contract was 55,000%, but of the total amount spent we are ignorant. Mr. Buvin, the architect's clerk of the works, on whom the whole local management has dewhom the whole local management has de-volved, deserves especial mention, for the energy and zeal with which he has carried out his principal's views. The carving in some was executed by Holmes, and the wood carving by Witman, of Marsham street, Westminster. They have both shewa them-solves to be able workmen. Of the single-Westminster. They have both snews them-sclves to be able workmen. Of the smiths work we have already spoken; it was executed by John James, of the York-road, Westmin-ster, who deserves to be known. The skill and artistical feeling shewn by him in this work, are, unfortunately, now rarely found in craft. John Asiton was the foreman of the masons. Caldecott, of Great Russell-street, made the furniture, and fitted up the hall for the reception, with throne, & and Strade and Ledger made the chandeliers,

IMPORTANT PROCEEDINGS IN WEST-MINSTER COURT OF SEWERS.

On the 24th ultimo, a mamerous Court of Commissioners was held, it being special, "To consider the various plans for improve-ment of the sewers hereafth to be built inder the authority of this commission!"

Mr. Edward Willoughby, the 'chairmun, made a few preliminary remarks us 'introductory of the business of the day, reminding the Court of the extreme importance of the subject for their decision, and considering that they had only twelve months ugo altered the forms that had been in use for many years, and that the one substituted had not given satisfaction, he called upon them to proceed with caution. There were one or two points he deemed it necessary to mention. The Court must bear in mind there was a marked distinction between this and the Hotborn and Dinshurt Commission. Finsbury Commission. The latter had no outlets of their own into the Thames, but were dependent upon other commissions; on the contrary, this commission had its own outlets directly to the river, hence the form of sewer that might be well adapted to the circumstances of the Holborn division might be not at all suited to the requirements of this com-mission; the Westminster division mended more basin, more reservoir, to meet the consequences of the tidal waters closing the outlets; and an increased capacity: of sowers was necessary as reservoirs for the upland waters during the period they were shut out from an entrance to the river by the tidal closing of the outlets.

Mr. Leslie then rose to propose a motion which he said would bring the antagonist principles to an issue, and which he hoped would secure to the large districts under their jurisdiction an efficient drainage, durable and economical in its construction. Ile had tried

* The library contains about 28,000 volumes; the most rare amongst them is a volume of Pryon's Mccords, pab-lished in the year of the great fire, and now very scarce, the greater number being then burnt. Mr. Bottes, who was unfortunately killed on a railway recently, was the official Master of the library. Mr. Spilsbury is the acting libraria.

on his property, and on that of some friends, the principle he now advocated, and with the most beneficial results. In the house he lived in he had destroyed six enormous cesspools. His procedure was thus : he sent to the Sewers His procedure was thus: he sent to the Sewers office, asany other person might do, to ascertain if any improved depth of insertion of his house-drain could be obtained, and having found that he could give an increased depth, he had the whole depth of his premises made one uniform inclination. As the most easily pro-cured material nearest to the form he wanted, and hadded cured material nearest to the form he wanted, some drain tiles were purchased, and bedded in cement; all the side drains into the princi-pal one were made with curves, and so effi-cient was this small economical drain, that even large McAdamized stones were swept away by the action of a very small quantity of water concentrated in this approximation to the egg form. Stones would not have been removed by four times the quantity of water in the house-drains built under the direction of the Westminster Commission heceuse in of the Westminster Commission, because in them the water-force was weakened by diffusion, and the friction of a much increased area. Having thus demonstrated the value and economy of the narrow channel as a selfcleansing drain, he proceeded to remark on the statement by the chairman, that there were two great obstacles to be considered, the tidal waters coming down during these periods. These were imaginary difficulties. Nearly every outlet of the sewers in the Westminster Chamission, from Temple bar westward to Whitehall, discharged its waters at all times of the tide, and it was even doubtful whether or no, so high westward as the Causeway, at Whitehall Stairs, the sewers were flapped or not. The main Ranelagh sewer, and also the Counter's Creek Sewer, discharged at all times

The surveyor, Mr. Dowley, was appealed to by the Court to ascertain if these statements by MF. Leslie were correct, and he at once con-

firmed their accuracy. Mr. Leslie proceeded to inform the court that originally the Regent's park-tunnel sewer, 'under the jurisdiction of the Commissioners of Woods and Forests, was trapped at its outlet into the Thames, and great damage was thereby occasioned to the inhabitants in the neighbourhood of Charing-cross; but subse-quently the outlet was left open, and the house-drains were trapped instead of the main channel, whereby the inconvenience was removed. That as to the egg form of sewer, with the parrow end downward," in addition to thesix eminent building firms who had approved of the lithographed sections exhibited last week, ho was now authorised by Major General Pasley, whom he had consulted on the subject, , to declare his approbation of those sections ; and he had, received an additional testimony since he came into court. This he would read : it was as follows :

1 . . forms of severe submitted in a drawing signed "John Paillips," which I inclose, and I am of opinion that they are in every way better adapted for their purpose than the old form of sewer with a flat invert and upright sides ; they are cheaper in construction, stronger in form, less liable to choke, as the current is concentrated upon a small area, instead of being spread over the invert: in fact, as regards form, they are the best I have seen.— I am, Sir, your obcdient servant, W. DENISON, Captain Royal Engineers.

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bus Mr. Leslie then proceeded to state that he had another document to lay before the Court, a namely, a letter, received also since he came into the room, from Mr. Roe, of the Holborn and Finsbury Commission, the chief introducer of the modern improvements in sewers. Having been requested by an influential commissioner to go to King's-road, Gray'sform of sewer that had created such a chasm .. in the street, he thought it would be as well to beer Mr. Roe's version of the story, and at the same time elicit his opinion as to the litho-graphed sections by John Phillips. The fol-blowing communication, which he read, was the result :-

"October 24th, 1845. DEAR SIR,-In the hurry of business yesterday, Plorgot to answer your remark on King's-road,

* As first published in THE BUILDER.

Gray's-Inn-lane: there has been no fall of any sewer or part of sewer of the egg shape (or any other shape). The cause of the remark may have arisen from a slip of earth, caused by the running out of sand at the bottom of the trench, but this was before any brick-work was put in.

Mr. Phillips' form of sewer is such a one as I submitted, together with the egg shape, to our court some years since, when the commissioners chose the latter for general use, for reasons they then assigned; but some thousand feet of the form Mr. Phillips advocates have been built in these divisions.

At Southampton, I have encouraged, and the commissioners are now building and are about to build several miles of sewer, whose form presents less amount of friction to a small hody of water, than even the form named by Mr. Phillips. I am pleased to see the manliness with which Mr

Phillips comes forward to corroborate facts, which the mere naming of caused heretofore such a hur-ricane.—I am, dear Sir, yours truly, JOHN ROE."

The speaker then read to the Court some extracts from the annual report of 1845 to the Holborn and Finsbury Commissioners by Mr. Roe, from which it appeared that the adoption of the improved forms of sewer, including the periodical washing out of sixty-one miles of sewers by the flushing apparatus, have ef-fected immense advantages with a total saving in three years of 22,461?, to the rate payers of those divisions. He considered that within the last four years alone, the loss to the public by the bad form of sewers under the Westminster Commission amounted to between 70,0002 and 80,0007, money worse than uselessly thrown away; while the forms be advo-cated would, at a very moderate calculation, effect a saving of between 20,0001. and 30,0001. per annum.

He concluded, by moving that the egg form of sewer, with the narrow end downwards, be the general form of sewer to be adopted by this commission for the public and private sewers, to be built within the jurisdiction of the Westminster Commission. The Hon. Frederick Byng rose to second

the motion, and stated that he considered Mr. Leslie had so exhausted the subject, that it would only be a repetition of the statements already made were he to occupy much of their time in the discussion; the motion had his most hearty concurrence. He could not sit down, however, without reminding the Court, of his previous objections to the unlimited power over the proceedings of the Court which the appointment of an annual chairman gave to an individual commissioner; and the court had before them another proof of that fact, inasmuch as the very able plans of Mr. Phillips, their clerk of the works, had been received by the chairman and returned to that officer; and but for the exertions of Mr. Leslie, the Court probably would not have had them at this moment on their table.

Mr. Allason objected to the motion, and said, that if carried it would only be affirming a general principle. What a situation was the Court placed in, that they could not rely on the advice of their own surveyors, but must have the opinions of six builders, together with General Pasley, Captain Denison, and Mr. Roe. He was satisfied that there must be different forms of sewers for different localities. He would ask the honourable mover of this question, would he build a sewer in the egg form if the sewer was required to be of the capacity of 10 feet by 10 feet? He should pose the motion. Mr. Hawkes followed on the same side. opj

He said he had not heard a single argument in favour of the egg-shape sewer with the narrow end down; it would only ob-struct the water, and overflow the houses. He considered that his friend Mr. Allason had given the knock down argument to the egg shape sewer with the narrow end down, and

Mould oppose the motion. Mr. Mayhew said, notwithstanding the mover had so frequently been severe upon the professional commissioners, he, as one of them, would on this occasion most cordially support his motion. It was impossible to have a better form for rapidly removing the soil and cleansing itself; he would cheerfully support the motion. Mr. William Donaldson would oppose the

motion, being firm in the belief that the up-right sided sewer with inverted bottom and arched top was the best form that could be

adopted; he thought the matter should be delayed until the Court heard a report from their surveyors

Mr. Cumberlege, as a professional member of the Court, would support Mr. Leslie's mo-tion; the Court had been for thirty-six years using a most extravagant form of sewer, with a broad base downwards; and he hoped the period was now arrived when the principles of common sense would guide them. The division was then called for; the mo-

tion was declared to be carried by 16 to 5. For the motion, Honourable F. Byng; Messrs. Baylis, Branscombe, Cumberlege, Fitch; Ful-ler, J. Gunter, R. Gunter, Hall, Harvey, Le Breton, Leslie, Marriott, Mayhew, Moss, and Wood; against it, Messrs. Allason, Wm. Do-naldson, Gutch, Hawkes, and Kendall.

Mr. Leslie then rose, and expressed a hope that the Court would not be like the cow which that the Court would not be like the cow which had given a good pail of milk, and then kicked it over; he trusted they would concur in the motion he had now to propose: ---" That the forms for general purposes, as in the annexed lithographed sections, by John Phillips, second clerk of the works, be adopted by this com-mission." This was seconded by Mr. Cum-berlege, and carried *nem. con.* The Court then adjourned to Friday, the 31st of October.

We congratulate the public on the result of this meeting with much carnestness, being entisfied of the great advantages that will be gained by the change. Moreover, we cannot avoid taking to ourselves some little credit for our share in effecting it. We have received an able, but somewhat intemperate commu-nication, from one who signs bimself a comof the views of a particular member of the Court, and at the same time praising the tone Court, and at the same time praising the top-of the remarks in our last number, which, al-though ostensibly not published till Saturday, was in the hands of the commissioners, pre-vious to the discussion above reported. We vious to the discussion above reported. beg leave to assure the worthy writer (and wor-thy he evidently is, notwithstanding his spleon) that we pay no regard to persons in matters such as this. We owe a duty to the public which we will perform to the best of our ability, and will advocate what we consider wise measures, and assist in obtaining necessary reforms, without reference to the party proposing them.

FURTHER REMARKS ON THE ORIGIN AND USE OF PISCINÆ.

THE present vagueness of our terms, "rela-tive to Gothic architecture and ecclesiology," must have presented itself to every one, who has attended to the study of antiquities. It leaves us in difficulty as to the meaning of many old authors, in whose works we find the greatest want of precise phraseology. The importance of a good nomenclature is in no respect so evident as in the science of chemistry, which has made rapid strides, probably due mainly to the better knowledge of its previous facts, which the infusion of a correct and ex-pressive system induced. As we have before said, it is the more systematic study of Gothic architecture in this day, over that which has passed by, which has led to the present com-paratively accurate knowledge of principles and facts. But the difficulty of applying a new nomenclature to a science which deals entirely with the past, is great, and would indeed tend to restrict that investigation of old autho-rities, on which much of our present knowledge must be based. All we can hope to do will be carefully to analyze, and arrange in tabular form, the several apellations, in order that it may at once he seen which are synony mous, or in what different senses each word is to be understood.

In no particular is this difficulty more evident, than in the various names attached to the piscina and the font, and it would be well should every writer who attempts to unravel such an intricate matter, have the advantage of the supervision of so able a commentator as Dr. Bromet.* The "piscina at Hadden-ham" t was so stylied after some consideration. It was thought that it could not have been an aumbry, because it does not occupy the place where that receptacle is usually found, and because there are no hinges; nor any signs of

* Vide unte p. 489. † Illustrated, ante, p. 477. Digitized by Google

themes: It was not likely to have been a confessional, because it was clearly a niche, and not an opening; and not a hagioscope for the same reason, and for this, in addition, that such opening would have been inclined in the direction of the high altar. It was assumed to be a piscing, because it *did* occupy the place which that appendage generally occupies, namely, a south wall. There being no basin was not deemed a sufficient objection, as, when we saw it, the bottom of the niche was covered with stucco and whitewash, -- quite suffi-cient to fill up a very shallow basin, such as we have frequently seen. It may be said, that there is no piscina in the chancel—which part of the church is of the same date—and, therefore, that it is anlikely that there should be a piscina here, but examples of chantry piscinæ, when there is none in the chancel, are frequest. It is also to be admitted, that a door may not have been a necessary appendage to every depository for sacred vessels. The question, therefore, is, was this an aumbry in the usual position of the piscina, and without the usual position of the piscina, and without doors, or turns on the former existence of a water-drain? The writer balanced the pro-babilities, and he is still compelled to decide in favour of the piscina. In reference to the "pensile piscina," re-specting "which a quotation from an ancient or diate prior the superior by Boscher

ordinance was given, as quoted by Fosbroke, from Da Cange, it may be well to give the from Da Cange, it may be well to give the exact words in question, along with others un-der the heads of "Piscina" and "Font":--"Piscinx;--Locus in quo manus Sacerdotes lavant; et qui ablutiones Sacerdotis, missam celebrantis, injlciumtur;"-- "Fons, -- Vas, in quo squa ad Missæ sacrificium ponitur.-- Ordo Romanus : "Subdiaconus accipit Fontem de manu Archiparaphonistæ, et defert Archi-diacono; et ille ex amula infundit, faciens crucsm in calicem." • • Fontem aureumcum gemmis, pavonem auro, et margaritis distinc-

"Fons,—Piscina, ubi Sacerdotes lavant manus antequam sacra faciant. — Synodus Valent. an. 1590 : 'Præcipimus Fontem ad abluendas Sacerdotum manus, qui se ad Mis-sam celebrandam accingunt, præparari, qui vel parieti infixus, vel pensilis aquam præbeat cum linostina palla!"" According to Du Cange—in one sense of the word "piscina"— that appendage was a place in which the priest washed his bands, and into which the vater was east, after he had washed—perhaps in some other place. The interpretations of the word fond seem to be precisely similar to each other, being in each case a vessel of conse-crated water used at the sacrifice of the mass, for washing the hands. All that the extract seems to us to prove is, that somewhere near the altar, pensile, or affixed to the wall, was a vessel containing water, and called a font, in abluendas Sacerdotum manus, qui se ad Misvessel containing water, and called a font, in which the priest washed, the water being afterwards drained down the piscina. † Whether the wards drained down the piscina.† Whether the piscina was ever large enough for washing the hands, for in most examples it has a very shallow basin — the pensile vessel being omitted, —is the point to be ascertained; if that is found to be the case, then the term "font," which was applied to the pensile vessel, may also have been applied to the piscina, as the words "parieti thixus" might lead us to sup-pose. "But it does not necessarily follow, that the term piscina was applied to the penthat the term piscina was applied to the peneile vessel; and in fine, it seems to us, that "font" was a word used for several vessels, in which there was a *supply* of water for ablution of for baptism, which was either only a vessel; or also provided with a drain; and that a piscing sometimes was that particular description of "font," attached to the altar, which was fixed to the wral, and was provided with a drain. So that the word " font " had at least three significations :-First, as applied

Ideast three significations :—F Ifst, as applied
• Which may be thus rendered :—'' PIRCINA,—A place in which the bands of the pricst are washed, and where the ablutions of the priest celebrating the mass are cast.''—'' FORT,—A tessel in which water is placed at the sacrifice of the mass ''—'' For band of the chief singer, and brings it to the archdeacon, and he pours into it out of the anala, making the sign of the cross over the challes; '—' A golden font set with gens, a peacock in gold, and set with pearls.''—'' FORT,—A pisce in which water is placed at the secrifice of the mass ''—'' FORT,—A pisce is washed in, which is the secret be preased a font for the hands of the pricets wash their band before they make the sacrifice. ' We order to be prepared a font for the hands of the pricets to be washed in, who prepare the male into the wall, or pensile, may afford water with a linen cloth.'' Du CANGE: flows and afford water with a linen cloth.'' Du CANGE: flows and a first be word font refers to another vessel in which the hands were washed, the carrying off of water, which, indeed, is hardly large enough for any other use l''—Anle, p. 477-8...

to the baptismal fost in the nave; second, to the pensile vessel, and, when the second was wanting, to a fixed vessel. The "font," when the pensile "font," never so. Lastly, the ne-cessary adjunct of the piscina was in all cases the drain.

the drain. The word "piscina," applied to the bap-tismal font, was mentioned in the previous article (at page 477). In the extract from M. De Caumont, given by Dr. Bromet, it cer-tainly appears to apply to that kind of font which had a drain, or to the "baptismal font." The meaning is very obscure; "piscina" may refer to the drain of the font, or more pro-bably the two words may refer to yeasal enbably, the two words may refer to vessels en-tirely distinct. The most obvious impression might be, that baptism was performed in the chancel, or chapel, the water being brought " in a small vessel" from the font in the nave, were there not certain considerations rendering such an opinion untenable. It seems most probable, that in the particular administration in question, the rite was performed at the "baptismal font," the water being brought from other vessels, and probably the chrismatory-oil, as suggested by Dr. Bromet. But the whole subject is still open to discussion, the whole subject is still open to discussion, and it would be rash to express any decided opinion upon it. The difficulty would perhaps be cleared up by the discovery of another drain, in the neighbourhood of the baptismal font. E. H.

AS TO THE USE OF OLD SOUND PARTY-WALLS OF INSUFFICIENT THICKNESS. AWARD UNDER BUILDINGS ACT.

THE following being the first of a class o very important cases, we report it at some length :-

Mr. Lee being engaged to superintend the Mr. Lee being engaged to superintend the taking down and rebuilding the house No. 61, Pall Mall, which it is proposed shall be a first-rate building, submitted to the official referees the following question that had arisen between him and Mr. Mayhew, the district surveyor for Saint James's, Westmin-

ster. "On the west side of the said house, be-tween it and No. 62, there is a sound and efficient party-wall, which was erected a few years ago, on the rebuilding of No. 62. This party-wall was built as a first-rate party-wall in conformity with the Buildings Act 14 Geo. III., cap. 78, and it is 1 ft. 101 in. thick in the basement floor, 1 ft. 6 in. thick in the next three floors, and 14 in. thick in the upper floor, and to 18 in. above the roof.

As it is proposed to build No. 61 seven stories in height, this wall, in accordance with the present Act, is 42 in. too thin on the ground floor, and Mr. Mayhew is of opinion it should be taken down.

I take the liberty of stating that I differ in opinion with Mr. Mayhew, and maintain that it was never contemplated by the Act 7 & 8 Victoria, cap. 84, on rebuilding a house, that a first-rate party-wall under the late Act, if sound, and built with proper materials, should be pulled down; I admit I do not find this in the Act, neither do I find the contrary. I believe Mr. Mayhew principally depends on the 12th section, but I submit this section to be operative only when the wall is rebuilt, and not in condemning it." Mr. Mayhew urged, that section 5 re-quires, that whether "Buildings be built,

quires, that whether "Buildings be built, or rebuilt, on old, or new foundations, or partly on old, and partly on new foundations, notwithstanding any thing contained to the contrary in any Act of Parliament now in force, every such building shall be built, rebuilt, &c., in conformity with the several par-ticulars, rules, and directions in Schedule C," &c., "subject, nevertheless, to any other rules and directions in this Act contained in the same behalf."

That the conditions of Schedule C, part 2, determine, that if the building contain seven stories, it is to be of the first class, and the thickness of the party walls must be at the least 211 inches from the top of the footing up to the underside of the floor, next but three below the topmost floor, which in this case renders the wall 41 inches too thin on the ground floor, as stated by Mr. Lee. That section 27 enacts, with regard to any

party-wall, so far as relates to the rebuilding thereof, that if the owner of one of the build-

ings, parted by such party-wall, rebuild such building of a higher rate, and do not pull down such party-wall, and build a proper wall in liou thereof, then it shall be the duty, and be is hereby required to build up an external wall against such party-wall. That section 12 is imperative as to the party

and external walls being of the required thickness.

He considered, "that the building owner in this case must either relinquish the seventh story, or pull down and rebuild the party-wall of the required thickness ; or build an external wall against it, for I appreheud, whether the wall were a new wall, built under the present Act for a second-rate house of the first class, or whether it be the present wall (for which the second-rate is the highest rate, that the prenor sent wall is thick enough) neither the one, the other can or could be used for a first-rate building. The 31st section, which permits buildings already built to be raised 10 feet if the walls be sufficiently secure to allow of the raising thereof, might perhaps admit of an ar-gument as to its applicability in this case to the wall only, but I apprahend that this section can only apply where the building erected before the passing of the Act to which the wall belonged is in existence, and canoot, apply to a party-wall only, after the building itself is wholly pulled down." In a reply to these points, Mr. Lee remind-

ed the referees "that section 82, under the head of 'Matters of Reference,' gives to the referees the power to determine all matters of doubt, difference, or dissatisfaction, and that-there was nothing contained in the Act to take from them the power of permitting the partywall in question to remain, and he thought a very strong argument in favour of this organion was, that in schedule D, part 2, under the head of 'External Wall used as a Party-wall,' the Act directs if an 'external wall to asy building already built be at the least 13 in. in thickness in every part, and be of sound and proper materials, and in good condition, then such wall may be used as a party-wall;" if, there-fore, an external wall 13 in. thick may be used as a party-wall, there could be no reason why a good party-wall 18 in. thick, should not re-main, when the want of thickness exists only on one floor. He further remarked, " If I am wrong in my opinion, most serious inconvenience must arise from the operation of the Act, in the old districts, more particularly in the city and west-end of the town, where from the increased value of ground, the houses must be built with an additional number of stories bringing them by that means into the firstrate of the present Act, and then in all cases of re-building both party-walls must be taken down, even when the houses on both sides of the party-walls have been built within a year or two; because in all cases the party-walls were only built as first-rate party-walls, under the Act of 14 Geo. III., cup. 78, or 213 in. thick to the underside of the ground floor, which there is no doubt is sufficient, whereas the first-rate party-wall under the present Act, must be 21 j in thick to the underside of the one pair floor."

Mr. Hosking, the referee, found on survey, Mr. Hosking, the referee, Loana on surrey, that "timber appears in several places in the east face of the wall, laid into the work, and brick on edge courses, which affect the thorough bonding of the wall, occur wherever bond timbers have been placed in the wall. In other respects, the wall is a sound structure, and is for to be used again as a party-wall. and is fit to be used again as a party-wall, though in doing so, it should be made as far as possible conformable with the provisions of the Metropolitan Buildings Act, by the removal of all timber from its structure, and by taking out the brick on edge courses, and restoring with proper and sufficient materials, such as bricks, or brick and plain tiles in cement."

The award, after reciting the premises, was as follows :

"Now, although the proposed building will, by reason of the number of stories thereof, be of a higher rate than a building to which the existing party-wall in question would be applicable, in reference to party-wall in dostion would be appli-cable, in reference to party-walls built with buildings, after the passing of the Metropolitan Buildings Act; yet inasmuch as the said party-wall is, in the opinion of the official references, a proper and sufficient wall to serve as a party-wall with reference to the built in the transwall with reference to the building to be rc-...built, 'except as to certain timber laid in the same otherwise than the said Act permits, and ;

except as to the brick on edge courses, which lie upon the timber :---I, the said William Hosking, with the assent of the said Arthur Symonds, do hereby certify, determine, and award, that if the timber in the said partywall, on the side next the proposed building, and the brick on edge courses thereon, be re moved, and be replaced by brickwork pinned in and properly coursed and bonded to the satisfaction of the district surveyor, it shall not be necessary to pull down such party-wall, or to build up an external wall against the same; and that the said wall may be raised to an ad ditional height, not exceeding ten feet, so that such raising be done to the satisfaction of the surveyor of the district, and in every respect according to the provisions of the 31st section of the said Act."

The costs to be paid by Mr. Lee.

FOREIGN ARCHITECTURAL AND COL-LATERAL INTELLIGENCE.

New Library at Berlin .--According to a late royal decree a new building for the large royal library is to be erected-and thus in a few years, when the British Museum and the library of Paris (whose new site and erection is also decided) will be completed, Europe will possess three such structures of first magni-tude. The Berlin library is to be erected on the banks of the Spree, and will extend over a vast space. The site is most felicitous, as the vicinity of the river will diminish every danger by fre-while its close proximity to the university is most desirable. Stall-street, where it is to be erected, will then form one line with University-street (by the demolishing of a few military stables), and an uninterrupted sight will be afforded along the latter street from the monument of Frederick the Great to the new library. In the lower compartments of the old Bibrary, which have been used, of late, as a repository for the astonishing increase in books----the dry rot has shewn itself to a great extent.

Scientific Congress of German Naturalists at Nurnberg .- This association (the prototype of all aimilar ones) has just concluded its meet-ings. Dr. Kastner, of Erlangen, delivered a discourse, " on the influence of natural science on the ennobling (Veredlung) of mankind." He pointed to its paramoent connection with all other branches of human ken-and stated how by their adaptation to arts and trades, the examination of the laws of nature, conveyed to the people a momentum of reflection, thought, and elating sentiments. Drugist A. Frick-inger, from Nordingen, read a paper on his experiments on the influence of sal amoniac (salmiac) on metallic iron. He stated that an aqueous solution of this salt, under the free access of the atmospheric air, considerably accelerates its oxydation, which, however, begins with a conversion of the metallic iron into a chloride, under considerable development of ammonia.

Cheip Instruction at the Polytechnic Schools of Germany.-The rectorship of the Royal Polytechnic school at Munich (one of the best in Germany) state, in their late circular, the following terms for the pupils of the school. The matriculation fees are from 10s. to 12s. Persons who do not belong to the states of the German Confederation, pay 11. sterling for attending all courses-during a whole year. Persons who have not entered the college as regular students, but merely wish to hear one or another course of instruction, pay for each a fee of 10s. [We should say-that any young mard, with his wits about him can study at Munich, at the rate of from 30%. to 50%, per annum, without meanness.] Naples : Excavations at Pompeii.--- These

took place under the controul of Mr. Carlo Bonucci, before 1,200 savants. The results were, in the main, satisfactory, as some golden ornaments, several marble statues, a great many bronzes, vascs, and some tubes of an aqueduct, were found. After a visit and in-spection of the whole of Pompeii, the return-ing members had occasion to see these things again properly arranged. It was an interest-ing sight-although some (of the 1,700) were foolish enough to think, that it was a colluded affair. Mr. Bonucci, by a long experience, might well be supposed to know where lay

Public Work and Buildings in the Brazils: A New Versailles.—This is, after all, a great

epoch, when reports one any department have extend over the while globe. Тре Brazils are vigorously stricting on the path of civilization. The first is the con-stant opening of splendic roads through the mountain chain, which surrounds the bay of Rio de Janeiro, for connecting the fertile, nay luxurious in land, with this great emporium of South Americas. On this high table-land, in fine, in the most felicitous situation, near the old road to Minus Geraes-the Emperor is erecting a magnificent palace, around which (in imitation of Versailles) a new town is to be laid out, which will bear the name of Petropolis, after the name of the present Em-peror and his father. It is to be regretted, that merely French and German builders are employed on these works, and called to these settlements.

Musée d'Alyer (Algerine Museum in Paris). Before leaving Atrica, Mareshal d'Isly has published a decree in the name of H. M., cnjoining the collecting of specimens for the formation of the Musée d'Alger in Paris. Although many things collected by people not quite ail fait, are to be expected, yet the idea is felicitous. The frieze of the Diana Temple of Magnesia has not yet been exhibited, and these relievos, uppertaining to the very worst period of decaying Roman art, scarcely de-serve this distinction-not to be compared even to those of Lycin, lately brought to this country. Much is it to be regretted, in fine, that while something novel like the above museum is in contemplation, the sculptures of Olympia and Assos are not yet accessible to the public view. The same spaces, where the latter are deposited, are also encumbered with the most cious Égyptian relics, statues, sarcophagi, pr and stelas of most perfect preservation-which lay forgotten here since the death of Champoillon. Next spring, however, the ornaments of Niniveh are expected to arrive in Paris, which will absorb public attention, and place overy thing else in complete shade.

Employment of English Engincers on the Continent.-A discussion has been carried on of late between the senate and the burghesses of Hamburg, about the utilising of the Gras-brook, an open place, situated at the Elle, between the city and the Upper—and Nether Haven—which if converted into a new dock, would be most useful to the increase of the shipping of Hamburg. Last week the com-mission of professional gentlemen, especially appointed for that purpose, laid an extensive plan before the competent authorities. The commission consists of the Water-building-Director Hübbe, and Messrs. Walker and Lindley. The speedy execution of this undertaking is the more to be wished for, as it would be the means of a communication between the harbour and the chief station of the Hamburg-Berlin railroad.

Draining of the Zuiderzee in Holland.— This vast bight of the sen-equalling in its area the largest province of the kingdom, is spoken of as likely to be drained in a very short time, by which a considerable increase of artificial territory would be gained. According to actual survey, this gigantic pro-ject does not present such great difficulties as might have been anticipated. There exists, already, at low water, a dyke at Medemblick, which, if a proper enlargement thereof would take place, might be so far extended as to check entirely further influx of the ocean. It is clear, however, that for effecting this, a canal ought to be made through this dyke, for facilitating the efflux of the sea.—Journal de la Haye. New York and Pittsburg.—Most of the con-

tracts and even preparations for the rebuilding of the former city, are now completed, and Pittsburg has nearly risen (much improved) from its ashes. It is to be hoped every precaution will be taken against the recurrence of such calamities.

Prospect of an "Overland" Railway to India and China (St. Petersburg, 6th Oct.)-The Russian government is actively engaged in the project submitted to it of a railway from St. Petersburg to Adessa, and the public may be convinced that if there be a possibility of realizing this project, Europe will see its realization, which will have an immense influence not only on the destinies of this part of the globe, but clean on the innermost parts of Asia. As it is intended, in the first, to unite the Baltic with the Black Sea, branches will soon start for Isphahan, and the inte-

rior of Persia. Thence, to the East Indies, di and even China is but one step. A railwayes: will 'run over 770 French leugues (nearly or 3,000 English 'miles), and will be, therefore, or the longest line of communication ever conceived by man, leaving far behind all conceptions and works of Roman or other ancient genius. May it be built with a solidity and stearlingness worthy of such a thought. 11 . 1 - J. Ľ-

THE GRAVE-YARD QUESTION.

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SIR,--I was greatly concerned, and may say , horrified, on reading your account of what appeared in The Lauget, of the state of St. Margaret's church yard, Westminster, from the a over-crowding of the graves, most of them **ч**р being filed up to the surface; and I was not at all surprised at the very serious and alarming effects likely to be produced by interments where such is the case. But what surprises me the most is, that you have a House of Commons and Lords close to this mass of pestilence, with scarcely a member in either who have courage enough to grapple with the question. And why? Because it. is said the interests of the elergy are involved $y_{0,1/2}$ and thereby their fees interfered with $y_{0,1/2}$ is this a sufficient/reason why, then lives of non-the those whose melancholy duty calls them to at $y_{0,2/2}$ tend the last office of a departed relative our who

It has been stated over again, that in crossr our ing this spot the effluxia accasionally arising off from the graves is sensibly felt; surely after that such facts being known, another interment Lie ought not be allowed in such crowded places, particularly when there are ample and efficient are repositories for the dead, for at least a centhe Westminster Cemetery, Kensal Green, Norwood, and other establishments within a reasonable distance of this great city. I am, Sir, &c. Out 27, 1845

Oct. 27, 1845.

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The manner in which the circumstances attending the melancholy death of Mr. Basevi" were stated in the newspapers, has led to the erroneous impression that the unfortunate gentleman in question was the architect employed in the restorations there. This, howproyed in the restorations there. This, how-ever, was not the case, Mr. E. Blore is the ar-chitect. Mr. Basevi being a personal friend of the dean, who devotes much time to the works, was accustomed when in Ely on other business to go over the cathedral with the reverend disnitary and size the data with the reverend dignitary, and give him the benefit of his suggestions simply as a friend, without in any degree trespassing on the province of his brother architect. Mr. Basevi was buried." in the cathedral on the Elst inst., where, we understand, a monument will be ererted to his memory. und we have been dealer

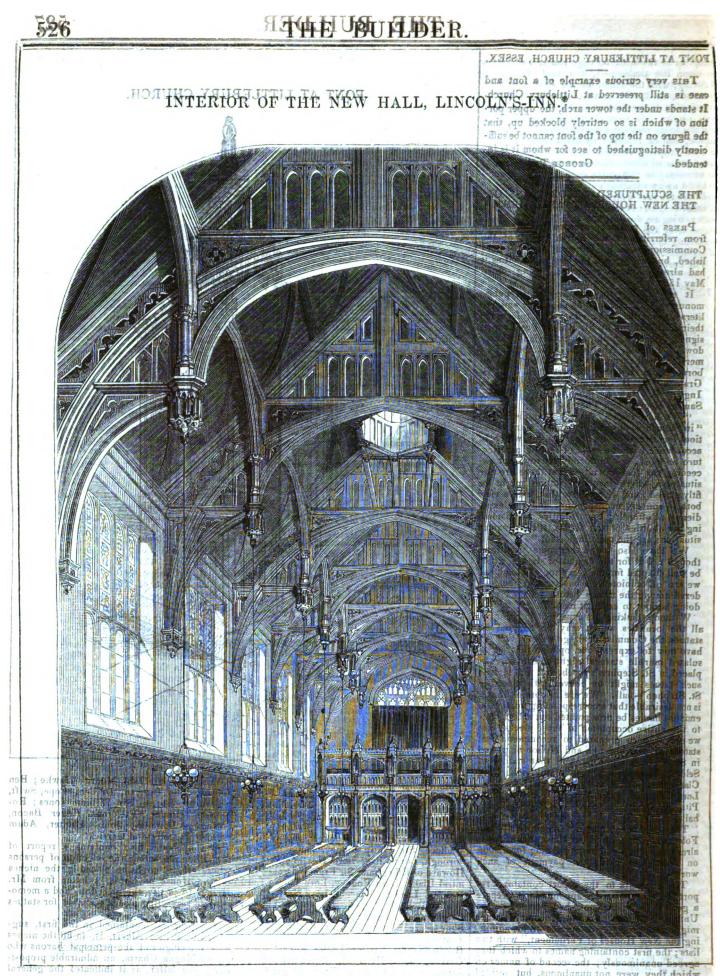
PATENT WOOD CARVINGS

WEALE is publishing in parts, a series of lithographed representations of decorations in wood executed by the Patent Wood-carving. Company, and which are practically useful to, architects, builders, and decorators. They, consist for the most part of examples in the. French and Elizabethan styles, to the execu-tion of which the patent process is more par-ticularly adapted. The carving is effected as our readers are mostly aware, by first burping the pattern into the wood, and then complet-ing it by hand. By this means the proprietors profess to supply fine specimens at one-fourth of the expense formerly incurred. We lately visited the offices of the company (Henriettastreet, Covent garden), and were much pleased with some of the works recently executed.

ARCHITECTURN AT THE SCHOOL OF DE-SIGN.- Mr. C. J. Richardson, with whose works as an artist our readers are well acquainted, has been appointed teacher of architectural drawing and perspective, at the London School of Design. Furniture, decorative ironwork, painted glass, and chasings, are to be within his province. His attendance is given only in the evenings.

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ROOMS FOR LARGE ASSEMBLIES.

"THE Manchester Athenaum Soirée" is

"The Manchester Athenaum Soirée" is now recognised as one of the most brilliant gatherings of literary talent annually recurring in England, and around the galaxy of in-telligence there to be found, are assembled, thousands of charmed auditors, and would be thousands more if covered space could be found to contain them. The intention of the writer is not to give a description of the meet-bing of 23rd mismod that, duty will be well performed by other bands, but some remarks from the leffects of the building, admirable as 11 the Free Trade Hall is in many respects, will

* See p. 521,

not be out of place in THE BUILDER. It has long been a common remark, that the doorways of rooms of extraordinary dimensions are rarely proportionate in size or number; still the defect is as great as ever in many of our newest buildings, although it is found an intollerable grievance on such occasions as that which calls for these observations. There was an elegantly drossed throng, a majority of the fair sex, and in all amounting to three thousand five hundred, to be passed through thousand five hundred, to be passed through one entrance door, with the exception of three or four hundred, consisting of stewards; ladies, and invited guests; who enteredual the other end of the buildings of the pressing was unavoidably great, so too hust on acebeen the daraneement of attice tide diffe Hule remeted. derangement of attire ; and the lime occupied

ich they extremely inconvenient, as there was not time for the wast assemblage to settle in their places for the wast assemblage to settle in their places completely before the opening of the intel-lectual treat; and had all the tickets been properly serginized by the receivers; a very considerable number would not have been within the walls at the appointed hour. No doubt, many are deterred from attending large meetings by their dislike to such a prelude, and as there is no absolute necessity for the continuance of such a mistake ove recompend architects to apply their minds to this point, feeling a strong conviction that have meetings feeling a strong conviction that large meetings of various descriptions will increase in number, and that the time required for admission and departure are considerations of growing im-EMabeth, Robert Bruce; LordonBatrog

FONT AT LITTLEBURY CHURCH, ESSEX.

This very curious example of a font and case is still preserved at Littlebury Church. It stands under the tower arch, the upper portion of which is so entirely blocked up, that the figure on the top of the font cannot be sufficiently distinguished to see for whom it is intended. GEORGE TRUEFITT.

THE SCULPTURED DECORATIONS OF THE NEW HOUSES OF PARLIAMENT.

PRESS of matter prevented us last week from referring to the fourth report of the Commissioners on the fine arts, then just pub-lished, but this seemed the less important as it had already kept five months, being dated May 15th May 15th.

had already kept five months, being dated May 15th. It refers solely to the question of public monuments to men distinguished for eminent literary, scientific, and civil services, referred to their cousideration by Sir Robert Peel, and is signed, Albert, Lyndhurst, Sutherland, Lans-downe, Lincoln, Aberdeen, J. Rassell, Pal-merston, Melbourne, Mahon, Ashburton, Col-borne, C. S. Lefevre, Robert Peel, J. R. G. Graham. T. B. Macculay, Robert Harry Inglis, B. Hawes, jun., Henry Hallam, Samnel Rogers, and Thomas Wyse. "We have found," say the Commissioners, "in the course of our inquiry that many situa-tions forstatures consist of niches only, which, in accordance with the style of Gothic architec-ture adopted, are uniformly narrow, not ex-ceeding two feet in width ; that there are also situations where insulated statues might be fitly placed ; and we conceive that, with a view both to convenient inspection, and the expe-diency of affording opportunities for display-ing the abilities of the artists, the fast-named situations are the most important." We have also found that some situations, though not fit for the display of statues, would be well adapted for the reception of busts ; and we are of opinion that busts might be consi-dered among the means before referred to of doing bonour to eminent men." Without thicking it expedient to point out all the localities which may be adapted for

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doing bonour to eminent men. Without thinking 'it expedient to point out all the localities which may be adapted for statues, the Commissioners go on to say, "We have now to express our opinion that six in-sulated marble statues might be conveniently placed in Sci Scholor's porch and that sixtee placed in St. Stephen's porch, and that sixteen such statues might be conveniently placed in St. Stephen's-hall. We are of opinion that it is not desirable that a corresponding number of eminent names be now pointed out with a view to the entire occupation of those places; but to the entire occupation of those places; but we are at once prepared to recommend that statues of Mariborough and Nelson be placed in St. Stephen's porch; and that statues of Selden, Hampden, Lord Faulkland, Lord Clarendon, Lord Somers, Sir Robert Walpole, Lord Chatham, Lord Mansfield, Burke, Fox, Pitt, and Grattan be placed in St. Stephen's-hall."

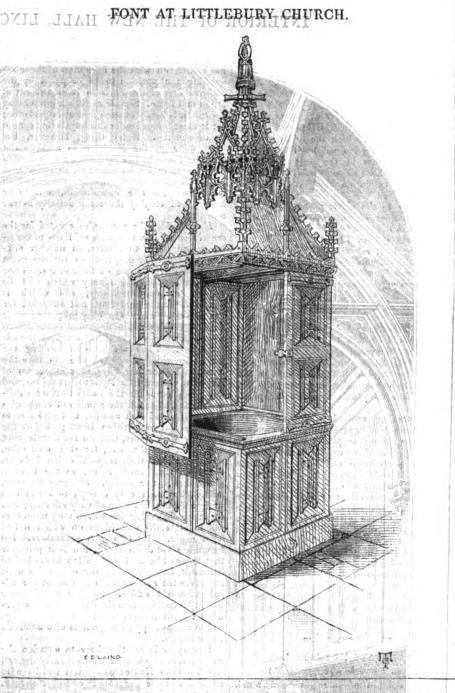
They then recommend Marshall, Bell, and Foley to execute three of these statues (as is already known), and end by asking for 2,000/. on account, towards the payment of such works.

The appendix to the report contains a re-port of a sub-committee appointed to " prepare a general list of distinguished persons of the United Kingdom to whose memory statues might with propriety be erected in or adjoin-ing the New Houses of Parliament," with two lists; the first containing names to which they agreed unanimously; the second of names on

 agreed unanimously; the second of names on which they were not unanimous, but decided
 "by greater or smaller majorities; and this is
 "signed, Mahon, 'T. B. Macaulay, Robert Harry
 Tuglis, Henry Hallam, Samuel Rogers, Thomas Wyse, and B. Hawes, jun.
 "The report says, "The aggregate of these
 "two" lists consists of 121 names, which may
 "probably afford scope, not for indiscriminate" adoption, but rather for choice and selection "bon the part of the commission at large;" a re mark which appears to have been overlooked

Digiven it and have found fault with the manes and At the risk of telling a twice told tale, we think it necessary to print the lists, if it be backfor the sake of reference hereafter.

" "The names agreed to unanimously :- Alfred, Elizabeth, Robert Bruce; Lord Burleigh,



John Hampden, Earl of Clarendon, Lord Somers, Earl of Chatham, Edmund Burke, C. J. Fox, William Pitt; Sir Thomas More, Sir Edward Coke, John Selden, Sir Matthew Hale, Earl of Mansfield, Lord Erskine; Ve-nerable Bede, Bichard Hooker; Sir William Wallace, Sir Philip Sidney, Dake of Marl-borough, Lord Clive, Lord Heathfield; Lord Howard of Effingham, Sir Francis Drake, Ad-miral Blake, Lord Rodney, Lord Howe, Lord Duncan, Lord St. Vincent, Lord Nelson; Sir Walter Raleigh, Captain Cook; Sir Thomas Gresham; Chaucer, Spenser, Earl of Surrey, Shakspeare, Milton, Addison, Richardson, Dr. Johnson, Cowper, and Sir Walter Scott; Bacon, Napier, Newton, Locke, Robert Boyle; Caxton, Watt, Herschel, Cavendish; Inigo Jones, Sir Christopher Wren, Hogarth, Sir Joshua Reynolds, Flaxman; John Howard, William Wilberforce; Harvey, Jenner. Names agreed to by a majority: --Richard

Names agreed to by a majority:-Richard Cour de Lion, Edward I., Edward II., the Black Prince, Henry V., William III., George III.; Cardinal Langton, William of Wickham, Cardinal Wolsey, Earl of Straf-ford, Lord Falkland, Sir William Temple, ford, Lord Falkland, Sir William Temple, Lord Russell, Sir Robert Walpole, Earl of Hardwicke, Earl Camden, Grattan, Warren Hastings; Speaker Onslow; John Wickliffe, John Knox, Cränner, Archbishop Usher, Archbishop Leighton, Jeremy Taylor, Chil-lingworth, Barrow, Bishop Butler, John Wesley; Sir John Talbot, Sir John Chandos, Marquis of Montrose, Cromwell, Monk, General Wolfe, Sir Eyre Coote, Sir Ralph

Abercrombie, Sir John Moore; Hawke; Ben

Abercrombie, Sir John Moore; Hawke; Ben Jonson, John Bunyan, Dryden, Pope, Swift, Goldsmith, Burns, Sir William Jones; Ro-bertson, Hume; Fielding; Roger Bacon, Smeaton, Brindley, John Hunter, Adam Smith; Parcell; and Garrick. The appendix also contains a report of committee respecting the selection of persons whose efficies might be placed in the niches in the House of Lords, a letter from Mr. Hallan to justify the selection, and a metho-randam respecting places available for statues in the Houses. The proposal contained in the first, sug-gested by Prince Albert, is, to fill the niches with the efficies of the principal barons who signed Magna Charta, an admirable proposi-tion; the latter, as it indicates the general arrangement, we give nearly entire.

entrance to the houses of Parliament by St. Stephen's porch will contain statues of distin-guished statesmen, warriors, and other eminent ubjects, the entrance by the grand staircase, the landing-place, guard-rooms Victoria gal-lery, and lobby to the House of Peers, should contain the statues of sovereigns.

The statues of Eghert, Edgar, Canute, and Edward the Confessor might be fitly placed on

Laward the Confessor might be filly praced on the first fanding prace of a ni in strain of "That" the "principal "landing place should contain the Conqueror to Edward IV!" That the statues of "Edward V of Richard III; might be placed in the more ream might be placed in the guard-room.

That in the Victoria hall the series should be continued, beginning with Henry VII., and ending with Queen Anne. That the lobby to the House of Lords should

That the lobby to the House of Lords should contain the statues of the sovereigns of the house of Brunswick, beginning with George I., and ending with her most gracious Majesty.

In this proposed arrangement it appeared that one pedestal in the lobby to the House of Lords would still remain unoccupied. A regsolution was referred to (recorded in the minutes on the 21st of April, 1843), to the effect that a statue of his Royal Highness Prince Albert would be appropriately placed in the Victoria gallery (of which the lobby in question originally formed a part), -Thus-the situations for statues in the state apartments and the approaches to them would, in the event of the above resolution being confirmed, be entirely occupied.

According to the above proposed distribution, the number of statues on the landingplaces and in the guard-room would be 22; in the Victoria gallery 12 (William III. and Mary being both represented); in the lobby, including the statue of her Majesty, seven.

It was considered that the statues in the robing-room might, according to a resolution proposed by Mr. Gally Knight, with reference to another locality, consist of allegorical figures.

It was further proposed that the lower waiting-hall should contain eight statues of celebrated scientific men; that the apper corresponding hall should contain eight statues of celebrated poets, and that the panels in the latter should be adorned with paintings. The lower hall has no panels available for paintings."

ings." The report has excited much controversy, as might have been expected, and has received much abuse from the press generally. We will not say that there are no names omitted to which precedence ought to have been given,—we should have been pleased to see a more lengthened list of men, distinguished for their *literary* services or their skill in the *arts*, but are nevertheless satisfied that the ub-committee have given the subject very serious and unprejudiced consideration, and that the assertion of one of our contemporaries, that "some paltry fear or incepscity has prevented their going straight to their tusk," cannot be justified.

We trust to hear of further commissions to sculptors before long: if the statues are to be executed three at a time, a century will not fill all the miches.

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RAILWAYS IN FRANCE. (From our own Correspondent.)

PUBLIO opinion of late has been much alarmed at the prodigious number of com-panies-from fifty to sixty - which have formed themselves for the five lines of railway authorised by the Chambers, and of which the adjudication has been almost duily expected ever since the month of July last. These com-panies, notwithstanding the slight hopes of success that many of them could only entertain, succeeded in placing their respective shares, and in obtaining the first deposit thereon. and an optaining the first deposit include Those deposits amount in the aggregate to about 540,000,000fr.(21,600,000/, sterling), and have been withdrawn from the tills of shopkeepers, the funded property of public creditors, the cash boxes of merchants of every grade, and the saving banks of artisans and workmen; and they have been permitted to accumulate and remain idle in the hands of bankers; so that great prejudice has been caused to com-merce and much inconvenience to the public in general by the scarcity of money. But a measure recently taken by the government will remedy, at least to some considerable extent, the harm that has been done, and will prevent further inconvenience. Notice of the adjudi-cation of the Tours to Nantes, and Paris to Strasbourg railways has been given for the 25th of November next-a measure that will have the effect of setting at liberty several millions of capital. It is to be regretted, no doubt, that the Paris to Lyon, the Lyon to Avignon, and Creit to St. Quentin lines have not also been annonneed for adjudication; but the Minister of Public Works does not merit the censure to which he has been subjected for not advertising them, for it really does not de-

pend upon him. He has employed all due zeal and activity, even spending several weeks in tedious voyages, to examine the works in progress, decide upon disputed bracés, study projects, and settle local squabbles as to the positions of stations, and such like important questions. If he has not succeeded in settling all of them, it is not his fault; but I believe he has settled all with the exception of those respecting the position to be occupied by the *embarcadères* of the Paris to Lyon railway at Dijon and Lyon. Simple as such a matter may appear, it is really of the greatest importance; for it closely touches local interests that cannot be overlooked. Every thing, however, has been done by the Minister to arrange the question; and he has instructed a commission to view it in all its bearings, in order that he may decide with all that knowledge which is necessary. The commission, it is to be hoped, will employ the same activity as the minister.

minister. En attendant, the companies created for the soumission of the two lines of Paris to Stras-bourg and Tours to Nantes, in number six-TEEN, make their preparations for the great day which will decide on their offers. They are consting one the money which will be are counting out the money which will be needed as caution-money, and which is 500,000% for the first line, and 120,000% for the second. They are busy preparing their statutes, which must be deposited at the Minis-tère of Public Works ten days before the adjudication. They are also calculating the period for which they shall offer to take the lease, which the law fixes at a maximum of forty-five years for the Paris to Strasbourg, and thirty-five years for the l'ours to Nantes railway. But, after all, the number of companies is so great, and that number will give rise to such dreadful competition, if all go before the minister with offers, that no reasonable man can doubt that they will, for their own sake, and the sake of their respective shareholders, effect an amalgamation, or, as the French phrase has it, une fusion. Madame Rumour, indeed, has been busy enough to assert that such a fusion has been already effected; and the same chattering dame even took upon herself to state the conditions on which it had been made. But this was premature. No fusion has yet been made, nor is it probable that any will be made until a few hours before the 15th, on which day the companies must announce their intention to appear at the ad-judication of the 25th. To effect a fusion now would be nothing less than holding out a premium for adventurers to get up a new company, and to menace opposition, unless also admitted to the fusion.

It may be interesting here to mention the condition to which the Paris to Strasbourg and the Tours to Nantes companies will have to submit. For the line from Paris to Strasbourg, with two embouchments (on Rheims and on Metz and Saarbruck, a length altogether of nearly 700 kilometres), the company will have to disburse, for the purchase of land and the putting down of two lines of rails (the government having only at its charge the earth-works and works of art, to be finished in six years), about 5,000,000%. The profits of the line will reach about 340,000%, after making a deduction of forty-five per cent. for expenses. For the Tours to Nantes line, 195 kilometres long, of which the government will have to execute the earth-work and the works of art, the company will have to incur an outlay of about 1,450,000%. The annual profits will be about 100,000%, after the deduction of forty-five per cent. for working expenses.

These calculations will leave good interests to the companies for their investments; but it must be borne in mind, that a reduction, perhaps a considerable one, will be made in the period of concession or lease of the line, which will lessen its value.

Such was the fury to which speculation and gambling were carried last year, that the Chambers considered it necessary to pass a law, declaring that dealings in promises of shares issued by different companies should be illegal, and that any *agent de change* negociating such promises should be fined, as also should any person publishing the prices obtained for them. Nevertheless, numberless speculators, of both sexes, all ages and conditions, decided to tempt fortune in dabling in the aforesaid promises, and there were not wanting men of the Bourse to charge themselves with the conduct of the

negociations. Informed by general rumour, and incited by the brawling of some of the opposition papers, the authorities resolved to prevent such violation of the law. They caused to be arrested two persons, regarded as the principal agents in the illegal traffic; but they were im-mediately afterwards set at liberty, though their papers and registers were detained. It was said, that several companies had mixed themselves up in this sort of business, in a way any thing but oreditable to themselves. But they, or at least one of them, deny it indig-nantly. This one has been en masse to the juge d'instruction, and has sent letters to the newspapers, to protest against what they call-calumnies. Malicious people, however, say, that their protestations remind them of the story of the schoolmaster who had his garden robbed : he assembled all his scholars, and de-manded, "Who robbed the garden ?" con-vinced that the first who cried, "Please, sir, J didn't," would be the culprit; and so it turned out.

The company of the Great Northern Railway appears to have at last coded to the impatience of the public, by doing all that is possible to hasten the opening of the line. Since the line has been adjudged to it, the works advanced very slowly on the first section from Paris to Amiens. The locomotives, twenty in number, commanded nearly a year ago, arrived slowly, one by one; and the carriages and waggons were not ordered at all. But thanks to powerful remoistrances, an *clas* has been given to the persons employed, and the opening of the whole line is not oxpected to be far distant. A trip was made upon it, for the first time, a faw days ago, hy some members of the Council of Administration, but not, as the *Times* announced, by the Baron de Rothschild. The station at Paris is nearly finished, and workmen are actively engaged on the other stations—seventeen in number—bos tween Paris and Amiens. Eight locomotives at the Belgian extremity.

The first annual meeting of the Amiens to Boulogne railway company took place last Thursday. The report of the directors was very satisfactory, and represented the preparation for the commencement of the works as in a very forward state. Part of the line will be opened in about twelve months, and the whole in two years.

The Bourse has not freed itself from the panic which seized it some days back. Yesterday the report that a convention had been entered into between the banks of England and France to prevent a convercial crisis, increased its alarm to such a degree, that it was almost impossible to sell ruilway shurse. Almost all the principal lines-Northern, Harre, Rouen, Orleans, Bordeaux, and Brulogne-declined 15 to 20 fr. on the prices of the previous

day. Paris, October 28.

THE VALUE OF RAILWAY SHARES.

Ir needed no prophet to tell that the palmy days of share-jobbers were numbered, even at their commencement. All who entered into the speculation, simply as a speculation, must have done so with their eyes open to this fact, that as the time approached for lodging the plans, and otherwise complying with the Paraliamentary standing orders, the character of many projects, started simply to meet the demand for shares, no matter in what, and the weakness of other *bonâ fide* schemes, as compared with rival lines, would appear; and that those who held the shares at the moment this did become apparent, would positively lose the money they had paid.

Men wrote for shares, not because they considered the scheme sound and likely to pay, but because they anticipated the demand would put upon them an adventitious value at which they might sell to realize a profit; others, with the same feeling, bought them at a premium, when unable to obtain allotments, expecting that a higher price still would afterwards be obtained, and in many cases, enormous sums of money have been made by those who did so. Some one, however, must hold these pieces of paper last, and fear has already fallen on those in whose hands they now are. November is here; the *Times* has opened its batteries on the speculators, and pours a daily fire into their. ranks; and the result is, other circumstances concurring, that something very like a panic has occurred, even earlier than might have been anticipated.

If the effects of what has been said and done "In the energy and enterprize will be were confined to schemes without foundation -the lawyers' babbles of the day-all must have rejoiced at the result. Unfortunately, however, it has extended, in a degree, to rail-road property of every description; and al-though it will, doubtless, recover speedily, it is possible that energy and enterprize will be checked, and many really good underbidgers checked, and many really good undertakings inju**sed.**

To our readers who possess shares, and doubt what course they should take, we would say, examine well the character of the lines, if you have not done so before; and if they have two good termini, respectable directors and solicitors, an efficient engineer, and a reaand sonctions, an encient engineer, and a rea-sonable prospect of obtaining an Act, hold on. And if the shares be in lines for which Acts have been obtained, hold tighter still.

The real value of railways is not altered by any existing circumstances. The fact that the lines now at work are making large returns for the money invested, and will pay more as the system becomes perfected (and which fact led in the first instance very naturally, to the demand for shares in new lines that ultimately caused the late mania), must still have its effect. Railways, as we have often said, must take the place of common rouds, and the capital wisely expended in their construction will produce a good return, in-crease the national resources, and tend to the general good.

RATING OF RAILWAYS.

SALFORD QUARTER SESSIONS, Thursday, 22nd. GRAND JUNCTION RAILWAY COM-PANY, Appellants. OVEUSEERS OF SAL-

FORD; Respondents. This was an appeal by the United Grand Junction Railway Company, against an as-sessment made by the overseers of the poor of the township of Salford, in respect of 2 miles and 364 yards of the Liverpool and Manchester Railway lying within that township. From the statement of Mr. Brandt, who appeared for the appellants, it appeared that they had been rated at 2,400%, per mile for the railway, and 951%. 3s. for the stations and warehouses, and 9517.35. for the stations and warehouses, and it was the rate per mile which was in dispute. The net produce of the whole line, between Manchester and Liverpool, was admitted by both sides to be 150,3917. From this the ap-pellants claimed certain deductions for tenants' profit (20 per cent. on the net produce), inter-est, depreciation, rent of stations rated sepa-rately in other tempthics and months of tende rately in other townships, and profits of trade, as engine, carriage, and waggon-makers. The total deductions so claimed amounted to Solution of the second contended that this was not the proper rateable value for that portion of the line within the township of Salford, as it contributed to the earnings in a less proportion than other parts of the line; and that, taking into account the amount actually earned in Salford, the rate-able value of that portion of the line was only 1518%. A still further deduction was claimed from the gross amount at which the appellants had been rated, on the ground that 173 yards of railway had been included, which was merely used for conveying goods to and from the old station in Liverpool-road. Mr. Charles Parker, an officer in the service of the Grand Junction Company; Mr. Edw. Woods, engi-neer; Mr. John Hawkshaw, engineer; and Mr. Thos. Makin Fisher, valuer, were called in support of the appellant's case. Mr. Hulton addressed the Court on the part of the support data the

of the respondents. He contended that the 20 per cent, deduction claimed for tenants' pro-fit, had been wrongly calculated upon the net produce, instead of being calculated upon the capital which the tenants had to lay out; and that some of the other deductions claimed, especially one of 35,462% for rent of stations, had

The magistrates relied for three quarters of an hour, to consider the case. On their re-turn into court, the chairman said the result of their deliberation was, that the 2,400%. which

had been mentioned as the rateable value of the line per mile, must be reduced to 2,2002 and the calculation made upon 2 miles and 191 vards .- Munchester Guardian.

WORKS IN THE PROVINCES.

A PROSPECT exists of Liverpool becoming ere long a cathedral (?) town. Mr. Pugin has already submitted plans to the Roman Catholic authorities, who, it is said, have approved of them. The building is to be 460 feet in length, and to have two lofty towers, and a steeple of great height. It will stand on two-and-a-helf acres of land, and the cost will ex-ceed 130 0000. The purchase of Heaton ceed 130,000/. ____ The purchase of Heaton Park and mansion has been completed by one of the four rival railway companies projected between Manchester and Bury, a distance of eight or nine miles. The Earl of Wilton is to eight or nine miles. The Earl of Wilton is to receive the sum of 500,000% for this property. The park, which is about three miles north of Manchester, is to be laid out in sites for villas. The new corn exchange, at Romford, is fast approaching completion. The new build-ing is about 60 feet by 34 feet; the side walls ing is about 60 feet by 34 feet; the side wails are 22 feet in height; the roof is nearly all covered in with glass. The stands are ar-ranged as follows:—each desk is placed on a temporary platform, raised about 9 inches from the floor, and is inclosed (except in front) by a panelled partition, extending a few feet in front of the desk, so that each stand is secluded from the observation of others. A subscripfrom the observation of others. A subscription-room and other apartments are attached to the exchange, the floor of which, being boarded, renders it suitable for every public appropriation. There will also be show-rooms opening from the northern end of the exchange, for the public exhibition of agricultural implements, and a sale repository for the disposal of property generally.——Last week two persons were killed and several more or less injured, by the falling in of the floor of a methodist chapel at East Waldran, at the very time that a meeting was being held for the purtime that a meeting was being held for the pur-pose of considering the plans of erecting a new chapel, the present building being in a dilapitated state. — The foundation-stone of a new church was laid in Preston-street, Whitehaven, on Thursday se'nnight. — It has been found that the cost of the neces-sary works in restoring and enlarging Swin-don church, has considerably exceeded the estimate. — We lately gave currency to a re-port that a railway company had made pro-posals to the faculty of the University of Glasgow to purchase the buildings and grounds of the college, and convert them into a great of the college, and convert them into a great railway station. We have since learned the following particulars :-- The Glasgow, Airdrie, and Monklands Junction Railway Company, in order to become possessed of the property belonging to the college, have offered to erect and complete suitable buildings, at an expense variously estimated at 70,0002, to 100,0002. The company has, for this purpose, purchased Woodlands, consisting of 22 acres of land, situated on the crown of the height on which Woodside and Claremont-terraces are built, and extending thence down to the banks of the Kelvin. This property has cost nearly 29,000%, and is subject to a duty of 190%, per An architect has been instructed annum. prepare a plan for the proposed college, to be submitted to the university authorities for their submitted to the university authorities for their approbation. The Scottish Guardian in no-ticing the proposal says, "Doubtless an offer so advantageous in every point of view will be accepted. The university is at present situated in one of the worst districts of the city, and the one to which it is proposed to be removed in certainly most choice beth forbe removed is certainly most choice both for situation and salubrity. — At the quarter sessions for the North Riding of Yorkshire, held last week at Northallerton, a report was read from the committee appointed for building the New Lunatic Asylum for the North and East-Ridings. After stating that the pur-chase of the land of Earl de Grey, for the purposes of the asylum, was completed on the 8th of August, and that the conveyance had been executed by the Archbishop of York, who had enfranchised one acre of leasehold land, proceeded to allude to the progress of the works, which had been so slow as to cause the committee to have the contractors sum-moned before them, and to adopt stringent measures to compel them to execute the works,

in compliance with the tenor of their several contracts. The report concluded by stating that there had been received from the North-Riding the sum of 7,718/. 15s., and from the East-Riding the sum of 5,281/. 5s., and that there had been expended the sum of 8,017/. 13s. 1d.—A monument has just been erected in the church of Goathurst, Somerset-shire, near the family vallt of Halswell, to the memory of the late Lieut. M. Kemyss Tynte, of the 4th Dragoon Guards (unfortu-nately killed by a fall from his horse in Marchlast), as a testimony of their regard, by Colo-nel Chatterton, K.H., and the officers of that regiment.

METROPOLITAN BATHS AND WASH-HOUSES.

TENDERS have been received for the erection of the new baths and washhouses, proposed to be built in Goulston-square, Whitechapel, from Mr. P. P. Bally's designs, already men-tioned on several occasions in our pages. The

| following are the amount | 8: |
|--------------------------|---------|
| Grimsdale | £22,274 |
| Wilson and Son | 22,000 |
| Locke and Nesham | 21,280 |
| W. Cubitt and Co | 21,157 |
| H. and J. Lee | 21,148 |
| Curtis | 20.844 |
| T. and W. Piper | 20,380 |
| | |
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Miscellanea. 🐇

and go baods ABOHROLOGICAL ASSOCIATION AT TESK " wich .- A branch society has been established at Ipswich under the title of the East Anglian 201 Branch of the Archæological Association. information, and to forward it periodically, to the parent association in London; and there is no doubt that it will be well supported. The remaining business of the meeting was to ap-point an honorary secretary, and Mr. Pawsey was elected to perform the duties pro tem. The periods for the meetings of the society were then fixed, after which the parties separated under the conviction that, when the existence of the society is known to the public, and the rules are matured, there will be a large accession of valuable members. We wish the society all the prosperity its promoters can desire; for such an association is calculated to do much good, by using its exertions to pro-tect antiquities from the hand of spoliation, and by fostering a taste for archeological re-search in East Suffolk, where many monuments of antiquity impress us with the importance of former times.

CARBONIC ACID A MOVING POWER. -- Expectations have from time to time been raised to the effect that carbonic acid in a liquid or solid form might be safely and economically em-ployed as a moving power. Sir Isambard Brunel, some time since, and Mr. Fox Talbot, more recently, have turned their attention to the subject, but thus far without any useful Its dangerous properties have been results. Its dangerous properties nave been the chief difficulties to contend with, and to-wards the surmounting of which much inge-nuity has been directed. Dr. Murray, of Hull, after granting that metallic materials of sufficient strength may be found to control the results. terrific power called into existence, imagines that the constant and continuous chemical action of the carbonic acid on the metal will prove an insuperable obstacle to its adoption.

PUBLIC EXPENDITURE FOR RELIGIOUS BUILDINGS .- A parliamentary paper has just been issued containing returns of grants of public money for the building and repair of churches and chapels of all demoninations churches and chapels of all demoninations' from 1820 to 1829. In England, the total was for churches, 1,588,401%, 195, 7d.; in Scotland, 68,564. 158. 6d.; and in Ireland, 633,7454. 14s. 2d.; of which 2,1137. 3s. 1d. was granted for building and repairing Roman Catholic chapels. The grand total applied was 2,290,7127. 9s. 3d. GAS.—Hamburgh has just been lighted with

gas for the first time, with apparatus upon an entirely new principle, lately patented by Mr. James Malam. The works are stated to the largest in the world.

PRICE OF GAS.—The Bath Gas' Company: have given notice of a reduction in the price of gas from 8s. to 7s. per thousand cubic feet, to all consumers by meter,' after.' Christmas . 11 next.



INTERESTING DISCOVERY AT HARTLE-POOL, IN TAN COUNTY OF DUBRAN, - (Figh append the site of an ancient append Hardepool, dedicated to St. Helen, wis last week discovered by Mr. James Yeal, if the above fown. If had low the second wis last week discovered by Mr. James Yea, if the above town. It had long been supposed that the ruins of his chapel were buried under a large mound in the Farewell field, and in 1813 an attempt was made, bad without suc-cess, by Sir Gathbert Sharp, is d discover some remnant of the building. Mr. Yeal, however, directed some workmen to remove the earth mear the centre of the mound, beneath which was discovered the base of a most beautiful Gothic pillar. This baving placed the matter beyond a doubt, howas directed by the corpo-ration of the town to pursue for researches, and exhume, whatever gottion roight rymain of and exhause, whatever particul might remain of this ancient and interesting building. The base of three other columns a portion of the of the chapel, and a magged pavement at the west cod, have already been brought to light. A very considerable quantity of beautifully carved stone, in a state of excellent preserva-tion, and two mutilated images, have also been dug out. From these it is evident that this dug out. From these it is evident that this was at one time a Gothic building of great ar-chitectural richness and beauty. It is impos-sible as yet to accurring the form and dimen-sibles of the third of the form and the sible of the third of the form and the formation. The building, of which only the rules remain, is believed to have been erceted be William de Bras, who died in the rules of William de Bras, who died in the reign of William de Bras, who died in the reign of The John, and who is said to have given this obspection a light to be burnt at the great or Many other similar buildings in the time of Henry the Eighth or Elizabeth, or was pre-Fighry the Eighth or Elizabeth, or was pre-Figure 1. States of the sta Autiquarian gentlemen to witness the operatiou.

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BROUGHAM CHAPEL.-The outward ap-BROUGHAM CHAPEL. The outward ap-perance of this intercenting place of worship, which stands in a beautifully secluded situation at the top of a woody bank on the north-east side of Brougham. Hall, shaded by fine old frees and thriving evergreens, while the green inverceps up and elings to its molent walls, billion but a faint their their to its internal compactness and beauty of finish. The ceiling is most tastefully emblazoned with the coats of stras of a loose emblas of ancent and noble of arms of a large analyse of ascient and noble finities, which are glued and coloured ac-cording to the sples of heraldry. Amongst them are the arms of the Cliffords, Vetrithem are the arms of the Cliffords, Vetri-ponts, Pembrokes, Crackenthorpes, Wyberghs, Broug borres, Sou, from the carliest periods. The pulpit and pewsure near but not gaudy. The chapter is most heautifully decorated with gwaral actipized, figures at ancient carved works. During the time that Lord Brougham is flocated at Brougham Hall, divine worship a performed in this chaptel by the incumbent of Set. National Charch, to which it is a chapt of case, every Sunday afternoon. - The Patrietan.

NEW PTER AT BLACETRIARS' BRIDGE. This structure, which has been for a considerable time in progress, was opened to the public whards the close of last week. It is 140 feet towards the close of last week. It is 140 feet to leogth, with a dumb lighter placed at a right angle to the siver of 130 feet. Two waiting-rooms have also been built, which, with the pler itself, is lighted wild gas. It is the most commodious and substained structure of the Fluid in London, but interferes somewhat with the castoon view of the bridge.

LARGE CONNITTRES - Among all the long LARGE. MON NILT, BES. - Aluang an the long lists of provisional committee men published, that of the Great Northern and Southern Di-rest milway, from Huddersfield to Derby seems to be the he longest. NO "less than 300 names are structized as a new source route

CALCUTTA CATHEDRAL .- The Lord Bishop of Calcutts" has "presented to the Bodleian library, a beautiful alabaster, wodel, executed at Piss; of Str John's outbedral, Calcutta

THE BUILDER.

Discoveny of Relies. — The workmen employed in experiation the railroad by Tho-mas Salmon, Esq., at South Shields, for the conveyance of Ballast, from his wharf at the Type, to the place of deposit at the Lawe, have struck upon what is upprestionably the ancient military way, called Wreken Dyke, leading from the Roman station discovered in the same field, near the Lawe, by the late Nicholas Fair-less, Esq., in 1798. The bones and antlers of deer have also now been dug out, being, pro-bably, the remains of animals consumed as probably, the remains of animals consumed as provisions by the Roman soldiers; but though Mr. Fairless, when the former discovery of a Hypocaust of Sudatory took place, became pos-sessed of a beautiful gold coin of Marcus Au-relius, and several of brass, from Claudius Gothicus to Valentinian, yet the only coin which has now been discovered is a Danish one of brass. Lawe is, we believe, a Saxon word, signifying a fortified eminence.- Tyne Mercúrý.

ASYLUM FOR DECAYED FISHMONGERS AND POULTERERS.--- A meeting of the friends and subscribers to this undertaking was heldlast week at Anderton's Hotel. A committee was appointed and empowered to purchase a site of ground at Woodgreen, near Tottenham and Hornsey, represented as being perfectly suited with respect to size, price, &c., for the con struction of an asylum for twenty-four aged and infirm members of the two trades; also to collect plans and estimates, &c., from which to select several, and lay them before a subsequent general meeting.

WIDENING PICCAPILLY. -- Workmen have been busily employed during the last two weeks in putting back the wall and iron railing from opposite Park, lane, to about the end of Bolton-street, so as to increase the width of the thoroughfare. From 20 to 30 ft. of the Green-park will be taken in. In consequence of the inequality of the ground, this alteration will involve a larger expenditure than appears at first sight. It is to be hoped that the trees which, by the removal of the wall, will be placed "out of the pale," may, nevertheless, be allowed to remain.

FURNITURE WOOD .- We recently noticed the sanction of the Lords of the Treasury for the admission of certain descriptions of wood used by cabinet makers, duty free. Within the last few days the same authorities have issued an order that teak wood imported from the river Gambia under the head of furniture wood shall also be admitted, duty free. In the latter case the revenue officers must be satisfied that such wood is imported solely for making articles of furniture, and that it is inapplicable for other purposes.

THE NELSON MONUMENT IN TRAFALGAR-SQUARE.—Can any obliging correspondent in-form us what has become of the celebrated man and hoy formerly employed on this ill-used monument? It is whispered about, that the statues for the New Houses of Parliament are to be confided to their gentle bands, but we do hope for the sake of "the finest site in Europe,' that they may be permitted to finish their work here first, so that some, at all events, of the present generation may hope to see the steps and the lions. RAILWAY BANK.—The Iron Times says,

We have it upon undeniable anthority, that in consequence of the recent procedure of the bank, and the conduct of the *Times*, a public meeting will be held at the London tavern in the course of a few days, for the purpose of establishing a railway bank.

M.P.'s AND RAILWAYS. - It is said that some M.P.'s have taken one or two shares in each of the new lines of railway simply with the view of avoiding to serve on committees; we can't wonder at it. Last year must have fagged many, and this year the prospect is worse.

DOVER .- The formation of the new docks is proceeding rapidly. Hundreds of working are employed. The well known Xark Hotel is about to be pulled down. Serious doubts are entertained by those whose opinion is worth consideration whether after all it can ever be made a harbour of refuge.

COLONIAL TIMBEB .- The practice of thereveoptimizers in London with respect to British colonial timber, viz, ho record the number and contents only of each pisce, and not the lengths and sides, as in the case of foreign timber, is about to be adopted generally throughout the kingdom. Same 12 ici.

STATUE OF SIR THOMAS GRESHAM.— This statue was installed last week in the niche which has ad long stood varant for it in the clock-tower of the new Royal Exchange. The figure is erect, 14 feet 6 inches in bright, and is formed out of two blocks of Partland stone, weighing jointly between glayth and stone, weighing jointly between efertin and twelve tons.

. NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Offer to opit the names of the parties to whom tenders for, are to be addressed. For the convenience of vin renters, however, they are intered in a book, and miny be set on application at the office of "The Builder," 2, Virt. attect, Covent-garden.]

For executing the different Works required to be done in the alterations and repair of the Guildhall, Lichfield.

For the execution of the Works connected with the improvement of the Crown-street station, II-verpool, including a Tunnel of about 128 yards long, and a Bridge or Viaduct, &c., for the Grand Janction Company.

For the execution of the entire Warks of the Cockermouth and Workington railway, being about 10 miles in length, For the execution of Works on the Witterford and

Kilkenny Railway, forming the first contract, viz, from Kilkenny to Bennett's Bridge, being a distance of about six miles.

For the execution of Workston the Bast Lancashire Railway, forming the Bichley Contract. I iacludes the execution of all the newskiry Excert tions, Babankments, Bridges, Oulverst Widder It &c.

For the execution of Works on the Hull and Selby Railway, being a distance of about thirty long miles.

For the execution of Works on 'the Dublin and For the execution of Works on the Dublin and Belfast Junction, and Navan, Hearch, Railway. There are two separate contrasts: No. 1. being a distance of nine miles, 1,512 parties. (No. 2), being a distance of eleven miles, 1,273, parties. (No. 2), being a distance of eleven miles, 1,274, parties. (No. 2), being for supplying her Majesty's resonant Ducksyaris with 20,000 Loads of British Oak Thereich, and the second Loads of British Oak Theenails. (No. 2), being 400,000 British Oak Theenails. (No. 2), being the second second second second second second second distance of British Oak Theenails. (No. 2), being the second second

APPROACHING SALES OF WOOD, St. EX AUCTION.

At Wainford's Farm, Little Bardfield, \$30 tal Elm Timber Trees, 50 Ash ditto, 70 Get

tal Eim Annow ditto, &c. At Haslegrove, Quech Camel, Somerist, and wards of 1,000 maiden Oak, Elm, and Ash Timer Trees, now standing.

TO CORRESPONDENTS

to trans "S. H." - An occusional notice, such the thet sent, will be acceptable." Every week would be too often. Architectural news might also be for warded.

"J. G. C." The style of the Wesleyan The

"J. G. C."—The style of the Wesleyan, Theo-logical Institution, Bichmond, is less pointed, The do not know the architect's name. An station of Richman was published, wa believe, at the born ning of present year. "Ants."—A correspondent rails, That many of the houses in the neighbourhood of the Regard's Park, and in Regent street, are infestid with a opecies of small ant, to such an extent, that the bilchens and larders are rendered allocal science. Can any of our readers suggest a remains a

Can any of our readers suggest a ready to "G. F. T." (Repton) would pribably obligh the Report on Schoole by addressing a letter to the Secretary of the Council on Education, Whiteheit sent.

sent. They shall be returned. "Plana on Parahment."—Another sorrespondent seys, " colourless as gall," mixed with the colouries envires an even tint. "G.B." - It is always understand. that add.

bional works, or allerations, shall not funditate a contract. The difference should be estimated and

bional works; or atterations; and be estimated, and contract. The difference should be estimated, and added ar deducted, as the case may be... "A Subsoriber" is thanked for the Reter. "W: B. (Birmingham.) — The address of the Carving Company is given in another page. Mr. Pratt's carving works (Eccleston-street; Pimbres), where show be completed to.

Subscriber and Builder " objects strongly is the fee of 10s. charged by district survey

the fee of 10s, chargen of asserver surveyors when a pot or zinc tube above 4 feet high is fixed. "G. W." is not sufficiently clear for us to me phy. He would, probably, find the information of seeks in "Nicholson's Masonry." "An Architect." If the letter was not acknow-ledged, it did not reach us.

if did not reach us. and a statistical and a sta postponed.

Correspondents are requested to address all communications to the Epiron.

The next number of the THE HO COLLER in the next number of the THE BULLIER will con-tain an engraving and, description of the very singular triangular Lodge at Rushton, where the memorable "gun powder plot" was arranged. "Early orders should be given to the Newsmen to increase the appointment. prevent disappointment.

TO BUILDERS AND OTHERS. TO BUILDERS AND OTHERS. THE IT, 39, Dean-street, Soho, begs to invite the attention of Builders and others to the fact that he has opened an Office for the sale and Purphase of Freehold and Leasehold Property. No charge is made for the registering the narticulars of property for diaposal, or the inspection of the hooks. A moderate com-massion whose any transaction is finally settled.

TO RAILWAY ENGINEERS, SURVEYORS, AND OTHERS VELLING STAVES, SCALES, &c.,

TRATEST OFFICE, 5, CHANCERT-LANE, NEAR TRATEST OFFICE, 5, CHANCERT-LANE, NEAR TOTAL JT ELEST-STREET. TOYENTORS triquiring protection by L. LETTERS RATENT should apply direct to the PATENT OFFICE, as above, where Paunts can be speedily produced, for the United Kingdom, &c., and by which a real at the office, for the same best of the same strend at the office of the same best of the same REGISTERED. Apply at the PATENT OFFICE, 5, Chancery-lane, near Fleet street.

PRIZES IMPORTANT TO INVENTORS AND PATENTEES.

A THE AND PATENTEES. PATENTEES. A "GOLD MEDAL, value 1007. and a SILVER MEDAL, value 507., will be given by Mr. MISSONENT, and the River for Gold metal for the best Patent, and the River for Gold for the best Design taken out or Megingent at the OFFICE for PATENTS and DE-SYGNS' 20, Hair Moon-street, between the 1st of Novem-ber, 1844, and the 1st of Jener, best. The Prizes will be awarded by competent judges on the 10th June, 1840. The conditions to be observed, together with instructions, charges, and gwerg firstprinting To-obsigning. In England or Foreign Countries, or liegistering Designs, will be forwarded gratis, on application to Mr. M. JOSCELIN COOKE, at the Office for Hamma and Registanties of Designs, 20, Half-Mdan surver, Paccadill, Landon.

HOLBORN AND FINSBUWY SEWERS, MIDDLESEX. HOLBORN AND FINSHUWY SEWERS, MIDDLESEX, THE COMMISSIONERS of SEWERS for the LIMITS i've NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and hours to Finchase or Rent Hours or Property, or take I and for Building parposes, at the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. By the Court, STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDULESEX, No. 1, Grock-street, Sobo-

COURT OF SEWERS FOB WESTMINSTER, AND PART OF MIDULESEX, No. 1, Grock-street, Soho-mukre. TO BULEDERS and Others interested in buildings or in ground for building upon, within the street mater the parishic tion of this Court, drained by vater-tourus falling into the river Thames, between the city of Decommissioners hereby give notice, that by an Act of the artis Geo. 111. (chap. 7, local) it is required that, pre-tion of the mater the parishest pre-tion of the mater the parishest pre-tion of the mater of the service of a street, law, or the carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurishteiton, a notice in writing had be given to them, or to their oleft at their office, and the sech manner and form as shall be directed and made downloaded to be the section being and a street, how of the second of or a solution of the shall be given to the sech manner and form as shall be directed by the said dumnistorers, and as otherwise. Ad, in order to prevent the serious evits and since veni-mers that must arise from ground proposed to be build upon the given as to the lowest depth at which the same in the Ground and the serious shall be and the same area that must arise to admit of their being drained with a prover, to be made for the serice of such buildings shall be to return they will not allow any sector, sold and the given as to the lowest depth at which the same area bedramed. Add the Commissioners do allo give hoters such werkers. The secondmarked to all proposed at the buildings shall be and and the manne of any party not present when called the submissioner and any party not present when called to submissioners and with any sever willow at a set of a strue of the shall be given as be delivered at this officer such party for the shall be subject themselves to any of the aptrise making of any before allow and were proved at the differer such areal there the submissioner of the Management at the

THE BUILDER.

PROSSER'S EXPERIMENTAL BALLWAY AND, BURNETTS FATENT.

HURNETT'S HEATENT IN A Arth, THE attention of Bailway Companies, Builders, and others, is respectfully called by the Proprietors of Sir William Antector Preserve to the Wordan Bails laid downet. Prosses a Experimental Railway on Winn-bledon-commor, part of which, having been prepared by their process, in addition to being effectually preserved from Dry Bot, will be found an Exhibit all the sharacterization of thoroughly seasaged timber, although only aut down to the month of May last, and prepared while, in a perfectly green state. Hydraulic appeariants and Tanka. Sillwrst, Puphar, nearly opposite Greensich ; Althoug, 53, Kieg, William-street, London-bridge.

PROFESSOR KELLER'S POSES PLASTIQUES.

PROFESSOR KELLER'S POSES PLASTIQUES. ROYAL ADELAIDE GALLERY. This day, and during the week, Professor Keller will exhibit at the Adelaide Gallery his Grand Tableau Visang from the Ancient Masters, which have received so largely the encombines of the press. Every morning at half-past three, and in the evening at nine o'cleck. Great efforts have been made to add to the effects of this exhibition. A variety of new subjects have been added to those already presented to the public The Concerts as usual. Also Pilbrow's Atmospheric Rashway model, with explana-tory lecture.

ROYAL POLYTECHNIC INSTITU-TION.—A Lecture on the prevalent discess in Po-taioes, and the means of extracting the starch as an sprice of food, will be delivered by Dr. Ryan, daily, at half-past Three, and on the Evenings of Mondayr, Wednesdays, and Fridays, at Niss. Lectures on the Music of Spain, by Don Joe de Ciebra, with Guitar and Vocal Illustrations, on Tues-days, Thursdays, and Saurdays, at half-past Two o'clock Professor Bachhoffoor's varied Lectates, with Experiments, in one of which he clearly applicing the principle of the Atmospheric Railway, a Model of which is at work daily. Coleman's new American Lotomotive Engine, for ascending and descending Inclined Plates: A new and very beautiful series of Dissolving Views. New Optical Instruments, Sc. Experiments with the Diver and Diving Bell, &c. &c.— Admission, One Shilling. Schools, Half-price.

A Models of tropical fruits. A new and very beautiful series of Dissolving View. New Optical Instruments, & Co-Admission, One Shilling. School, Halk-price.
Artis PATENT WINDGUARD, for venitating churches, hospitals, factories, theats, and the set of this innerity of preventing down draft; and its guaranteed to cure all the use of revolving coll., or any thing merculas down draft, and the spontaneous action of the tropication construction to carry out the principle on which it is based, which consists of the wind giving a distort of the square within, however boatcrouts for the vent and upward current about equal to the velocity of the wind giving a distort to squares, and therms of all forms of a preving a construction to carry out the principle on which it is based, which consists of the wind giving a distort to square within, however boatcrouts for the vent at all time care up upon it, which averages about all foer prevints and state the use of the square within, however boatcrouts the will a wind the prevint affording careling the tropic to be a square within, however boatcrouts the will be the constant as can be desired. It is fact at the tory of the chineses prevents allows and the apartment to be cara diversed by a nack vention of the constant as conseding within a careful of the room, to allow the constant ascending visual and wind y dip that it handle to evalue the store of the square will be an of the square diplet of the based by an ack vention bind the constant ascending visual and the room, to allow the constant ascending visual and but at the prevention bind the cold car by an ack vention bind the constant ascending visual and the room, to allow the constant ascending visual ascending visual and the

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MOREWOON AND ROUTENS FATENT WALL

T VAN IBBBERGI DN ED'FROM I action and the pute T VAN IBBBERGI DN ED'FROM I action at the pute T AVI I BEA DD Diegs to action at the pute plain or correspond, and dis plass, guiders & &. Also every description of chinney-tops, and ventilating cowls, of this incorredible shall dispired metal; and that he manufactures all kinds of basis, a big shower, silpes, Rogan, open; and sponging-baths; alia suite cans and gails, shoppails, con-scuttles, cash and deed bosts, and freproof sales of every description, 10 per cent, unsaper than any other bosts an London. An experiespeed workman sent to any part of she ling dom. All orders punctually attended to. For particu-lars, apply to T. W. BEALE, 40; Bridge House-plate, Newington Causeway



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smach crystallase surface. MOHEHOOD and ROGER'S PATENT, GALVA, NIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordmance, being extensively must in Ser Majostry's Decksyards, at the Theories, and alsophere, for severy variety of Roofleg, and other purposes, where a strong, light, cheap, and durable material is to quarter.

quired. If his boin found by upperience that this allifie is beyond all comparison supprior to rince; suscering, as it does all the advantages arising from the strongth and firmages from, combined with perfect immunity from vast; while it is fron from the very actions objections builds at is fron from the very actions objections builds at is fron from the very actions objections builds at is fron from the very actions objections builds at is fron from the very actions objections builds at its contraction and expansion, consequent upon actions, viz. its contraction and expansion, consequent upon actions to tamper of temperature, and from which circumstance leakage mist of course result.

realing of temperature, and from which circulations the last mist of touries result. In the which circulations the last one with zinc and hash which mail and stand dy the attraction freely admitting fresh alt to the fire, and causing it to hurn more fifteely. It is, therefore, obviously well displied for all the purposes above-sequent is an area; disploying the suitable for chinney-tops, gratters, sponting, and out-door work generally, possibility of fire. It is after, preujarly is in the consensus of the strengtheor fires (without its is high of the consensity the strengtheor fires (without its rooting that can be obtained, in consequence of its strength, as it may be laid without body as the strength of the lighters rafters. This mode of purserving mathefrom speedesings main by to absettione, but size or manufactured itry (without its as builts must, hinges, nails, for a speedesing of the strength as builts must, hinges, nails, for a speedesing of the strength as builts must, hinges, nails, for a speedesing of the strength as builts must, hinges, nails, for an and from a speedesing of the strength as builts must, hinges, nails, for a speedesing of the strength as builts must, hinges, nails, for a speedesing of the strength as builts must, hinges, nails, for a speedesing and the speeder chareheatreet. If the source of the strength of the strength as builts must, hinges and the set of an and form and form chareheatreet. If the source of the strength of the strength as builts and a speeder and a speeder of the strength of the strength as builts must, hinges and a for a speeder of the strength of the strength as builts must, hinges and a for a speeder of the strength of the strength chareheatreet. If the source of the strength of

Lindrahen Cracherth

COUPLAND'S PATPENT at 1911 of C is confidently sibulited Settification of provide in an connect degree the two query simple, and a sinck and saving fuel. The furness is received provident sinck and saving fuel. The furness is received to the furness of the sinck of the builters of land and matthe trighter, and a alike adapted for the builters of land and matthe trighter, and a sinck and saving fuel. The furness is received to the since the smoke is allogenber prevented, and the taying of side is the the ordinary coals used for furnaces, about 20 per cent, but, when small coals or eccentage we used (of the barri-ing of which the furnace is well statuted), the saving of furnace well suited to their boller, dud at with it since, a prevented, the outsance and can spatch the of the tright the will be avoided.

furnace well suited to their boller, and a with it misters prevented, the mulaness and sanisytator thereof plus edges will be avoided. "We have been farmur, and an avoid the prevention of anote and a single of fact; and we must confest that, which will be imposible and aring of fact; and we must confest that, which will be imposible and another that the second second second second second that Mr. C upland has schieved whith the imposed of the is sport to consume - has the prevention of another will be achieved by the numerical plane which it is that the schieves achieved by the numerical plane which the imposed is sport to consume - has the prevention it is not the full is sport to consume - has the prevention of another were achieved by fore - not the Constructive of it is mone investiged is sport to consume - has the prevention in the second second it is sport to consume - has the prevention it is an investiged in of the fuel, none of it going of instrans of shall carten but it those invenible gases, the frequency for performed ing the receivers of portation is instability for the machiney for perform ing the receivers of portation is instability for the the stability of the second second receiver of this planes, is designed by the based of another in the action of this planes, is designed by the based of another in the action of the test smoke consuming (is, it is termed) for mace the one under notice number based is the second further of the second is another and another with the further is the second for the second in the second further to be second for the second in the stability of the further based is another and another and a connission is appresed in an appresed in a state of the further is an another and the stability of the further formation is the second in the second in the second in the further formation of the the further is the state is a state and and the second is a state and another is an appresed in the action of the first is the second in the second in the second further is the second in t

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MUIR'S

PATENT



HEAL & SON'S LIST OF BEDDING

CONTAINING a full description of Weights, Sizes, and Prices, by which purchasers are enabled to judge the articles that are best suited to make a good set of Bedding, sent free by post, on application to their establishment, the largest in London, exclusively for the manufacture and sale of bedding : no Bedsteads or other furniture being kept. HEAL and SON, Feather Dressers and Bedding Manufacturers, 169, Opposite the Chapel, Tottenham-court-road.

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THE Proprietor of this Establishment has, by his connections with the most extensive Manufactories, selected the largest and best-suited Stock of Builders' Ironmongery yet offered to notice. It includes every article in Ironmongery suited to Building purposes, such as Locks, Nails, Screws, and every requisite for internal fittings, finishing, and decoration; also Rain Water Pipe, Sash Weights, and all kinds of Castings, and combines the entirely new) all modern improvements in principle and design. The Prices throughout, even in the most minute article, have been the object of the strictest economical consideration, the profit of the undertaking being anticipated only by a large return. From this Stock every article may be selected, exactly adapted for its intended use, of any requirate quality or quantity, at a moment's notice, and Catalogues of Prices had, per post (on prepaid application, enclosing posting-stamp), at 18, BLANDFORD STREET, MANCHESTER SQUARE, LONDON. leading from BAKER STREET, PORTMAN SQUARE.

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Established A. D. 1830; universally known by the "Dust Pan." R. KAY BUT LE R Invites Architects, Builders, and the Trade to inspect his stock of STOVES, KITCHEN-BANGES, &c., which is universally allowed to be the most extensive in London. Bright Register Stores from 41. each to 30 guineas. Best Black Metal do., 7d. 8d. 9d. 10d. 1s. per inch. Ditto Ditto Elliptic Do. 3jd. 4d. per inch. Cottage Ranges, with Oven and Back Boiler: 21. 18. 21. 0s. 21. 2s. 21. 4s. 21. 6s. Strong Self-acting Kitchen Ranges, with Back Boiler, Oven, Wrought Bars, and Bright Fittinges 3 ft. 3 ft. 2 3 ft. 4 3 ft. 6. 3 ft. 8 3 ft. 10 4-ft 31. 4s. 34. 9s. 34. 12s. 34. 16s. 41. 0s. 44. 4s. 44. Es. Sash Weights, 7s. per cwt. - Estimates given for every description of Wrought and Cast-iron Work.

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THE progressive increase in the use of this invention during a trial of seven years, in which it has had to contend with many spurious initiations, induces the proprietors to recommend it with the greater em-fidence to the public generally, and Building Trade in particular, to whom they are now enabled to offer greater indecements for in advertise. for its adoption

tery, No. for its adoption. Full particulars, with tariff of prices, may be obtained on application to FAIRS and Co., at the Manuface Gillingham-street, Pimlico; FAIRS, 2, Hanover-street, Regent-street; and BUNNETT and CORPE, 26, Let



A RCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE. GRATHEN, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their estandire Stock of FURNISHING IRONNOCCERT. Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japaned Ware, Table Cutter, and emprehension of the state of the same advantage. The Proprietors of affiring the price to cash endowing the state of the same dvantage. The Patent Thermio Store is in daily operation. THORY, ALLOWS & COMPANY, 80, Baker-street, Fortman-square, London.

A BE SAW MILLS, GILLINGHAM-STREET, PIMLICO. TIMBER of any Size, PLANK, DEALS, principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advan-tages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge. Address to HENRY SOUTHAM, Saw Mills, Gillingham-street, Pimlico.

ALWAYS ON SALE, a LARGE AS-SORTMENT of DRY PREPARED FLOOR. B ING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from the to 14 inch thick. Rough Boarding for Flats. TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c. Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS. A LWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHAIF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variet.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

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THE GENERAL WOOD CUITING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Water-loa-bridge.-SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with underliating accuracy. The operation economizes time, money, and material. accuracy. material,

PAYNE'S PATENT PROCESS FOR THE PRESER. VATION AND IMPROVEMENT OF TIMBEB, &c. PAYNE and LODER beg to invite the at-

ALINE and LODEK beg to invite the at-tention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal. Farther particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleet-wood-on-Wyre, Lancashire ; Wisbeach. Cambridgeshire; Union-Wharf, Souttampton; and Guildford, Surrey.

IN Warming Churches and Chapels, DAY and JOYCE'S PATENT STOVES have been found to answer the purpose where others tried have failed of their efficacy: will be forwarded by post, or otherwise. These stoves will render the atmosphere of a church, or chapel, or other large building, most agreeably warm, without pro-ducing unwholesome vapour, or injuring the vital quality of the air. The Patentees are prepared to supply them on the shortest notice. They may be inspected at the manufactory, 113, London Wall.

PATENT PORTABLE SUSPENSION STOVES.

MORE than FOUR THOUSAND of these STOVES were sold during the first season-the winter of 1844-45—so decidedly did the public sanction their distinguishing principle, by which a genial heat and a pure atmosphere are secured and combined.—They are now ready for delivery, of all sizes, from 19s. and upwards, at GEORGK and JOHN DEANES, opening to the Monu-ment, 46, King William-street, London-bridge.

WILSON'S PATENT VENTILA-TING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty have been recently fixed on the chimneys of Bucking-ham Palace, and several on Windsor Castle, with great suc-cess. This Chimney-pot is not only the best and most ef-fectual ever invented for the purpose named, but stands un-rivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respect-able iron Roofing Works.

VENTILATION.

"A most ingenious, simple, and effective plan." Mr. Reid's Lecture on Ventilation, delivered Jane 7, 1845, before the Mechanics' Institute, Liverpool.

Accourse on venuiation, delivered Jane 7, 1845, before the Mechanics' Institute, Liverpool. The channes' Institute, Liverpool. Market Space Strategy and Strate



SATURDAY, NOVEMBER 8, 1845.



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HEN the Common Council of the City of London decided, a few weeks ago, on appropriating 20,000% a year for twenty years, out of the coal duties, for improve-

ments in the various thoroughfares of the city, and other public works, the best mode of applying this sum was discussed out of doors. One party urged that the total amount should at once be made available, and improvement be effected on a grand scale; and the other, that so far from absorbing the sum obtainable by the mortgage of this 20,000% a year, in some immense achievement, steps should be taken to prevent the committee from spending more than the year's income in any one twelvemonth. " Everybody," said the Morning Herald, taking the latter view of the question, " can understand the difference between splendour and comfort. We are not saying that the metropolis of England should not aim at magsificence; but we do say, that if every thing that can be raised is to be spent in the main thoroughfares, so as not to leave an available shilling for the clearing away of a noisome alley, or the widening of an impassable lane, the result will be-that which we all lament without being able to cure-that magnificence and misery, laxury and equalid wretchedness, will be for ever found dwelling in the nearest neighbourhood."

"" It need not be feared that in this way improvement would proceed at a tardy pace. A sum of 20,000*L*, in minor improvements, would do a great deal. One year's income would probably complete the improvement lately commenced in Fetter-lane. A second would break through from the site of the Fleet-prison into the Old Bailey. A third might open a road from Farringdon-street into Fetter-lane; and a fourth would carry that road on into Chancery-lane."

The writer then asks the members of the corporation to look round their own neighbourhoods, and see whether each ward in the city did not require some minor, but important, impreveneent; which a grant of 10,000%. or 20,000% would easily effect. "And if they feel this to be the case, let them determine, not to lavish the whole capital away (by a mortagage) on some one new street; but to keep the income always in hand, yearly accraing, never forestalled, but always disposable for real practical use, in those many nescenary improvements which every part of the eity requires."

The committee, to whom the question was referred by the common council, brought up their report on Monday last, and from this it would seem that the course urged by the journal'in question is to be pursued. The report states that the committee "thought it desirable that some improvement should be carried into effect in the next year, and they had selected two plans which they considered would be great improvements and beneficial to the inhabitants of the city of London-one for forming a street from the south end of Waterland, now called Blackfriars-street; and the other in the Old Bailey, from the south side of the New-inn to the south side of Prujean-

THE BUILDER.

square; and they recommended that they should be empowered to give the necessary notices of an application to parliament for an act to carry the same into effect."

Now, with the greatest respect for the common council, we are compelled to dissent, in the strongest terms, from such a mode of commencing the discharge of the trust committed to them. If the improvement of London be attempted in this way, it must inevitably prove a failure; half the money will be wasted, and discredit, instead of glory, be the result.

They have now the opportunity of rendering London the grandest and most convenient city in the world,—of cleansing, opening, connecting, and adorning its thoroughfares, of improving the arts, and handing down to posterity proofs of the opulence, knowledge, and taste of the nineteenth century. This, however, is not to be done by bit-by-bit, chandler'sshop dealings,—opening a back street here, taking off a corner there; knocking down one house in the north, and two in the south, without reference to some general plan, and a view to the ultimate result of the whole.

We see no reason to urge, the immediate realization of the whole sum proposed to be expended by the city in twenty years, but we do most strenuously call on the Committee to proceed as if this sum were in their hands for immediate disposal; to view the subject in a comprehensive manner; to see that every thing that is done be a part of a whole; and, overlooking merely local demands and personal claims, work out steadily a well-considered and settled scheme of improvement.

To obtain this, they should call to their assistance the first talent in the country; careful surveys should be made, and a general plan laid down, to which all private projects should be made to conform. At present there is not even a correct map of the metropolis, although Sir Robert Peel admitted its necessity several years ago, and promised that it should be made forthwith by the proper department. If this were now called for by the Common Council, it would probably be proceeded with forthwith; its paramount importance will be admitted at once, by all who have given attention to the subject.

In an "Account of the proposed improvements of the western part of London," by Mr. J. White, published in 1815, a copy of a treasury minute, dated July 1793, is given; wherein the surveyor-general of Crown lands recommends, that "before agreeing to any proposal for the alteration or disposal of any part of Marylebone Park, a general plan should be formed for the improvement of the whole of it, lest such partial alteration should afterwards be found inconsistent with what should be deemed most for the benefit of the Crown." He further proposed that certain plans should be lithographed and sent to architects, and some "considerable reward" given to the person who should produce such a plan as may be adopted. The Lords agreed to the report, and directed the offer of a reward not exceeding 1,000%. for the plan. To what extent the offer was made known, and what was the result, does not appear.

Surely, however, this minute should be an admonition to the city authorities. In the discussion on the report that has led to our reports, and which, it must be mentioned, was ultimately sgreed to by a large majority, it was insisted that the improvements referred to in it, could be effected without any considerable autlay, " and would be the most judicious precursors of the extensive changes which must rapidly take place." Why, who in the court

will venture to deny, till the whole question of city improvement has been competently investigated, that the two streets now proposed to be formed, may require to be pulled down within five or six years, in order to carry out some general plan, or worse still, through dislike to removing what has been recently put up, may prevent the consummation of a comprehensive and efficient scheme? Indeed, remembering the decision to which the court came on the same day, as regards railway termini in Farringdon-street, it seems nearly certain that this must actually be the case.

OPENING MEETING OF INSTITUTE OF BRITISH ARCHITECTS.

ON Monday evening last the members of the Institute assembled to commence a new session; Mr. Tite, vice-president, in the chair. Amongst numerous donations annoanced were some works on Norwegian Antiquities, from the University of Christiana (with a very nice letter), and the concluding part of Mr. Owen Jones's fine work on the Alhambra—a work unequalled for beauty and costliness.

unequalled for beauty and costliness. The chairman said it was customary for the president of the first meeting, to allude to the circumstances connected with architesture that had occurred during the recess; and hewished the duty had fallen into abler hands. He was glad to say they were commencing the scassa well, the funds were increasing, and their em-The principal difficulty, nections extending. The principal difficulty, as they were aware, was to obtain papers and induce discussions, ---- a difficulty, however, which was not confined to them, but was found in all the societies. The latter he considered of great importance :--- "Iron sharpeneth iron, so doth the wit of man his friend." It was desirable for men to rid themselves of mauvaise honte, and afford others the benefit of their ex-He would ask all to contribute a oerience. little ; if they would do this, every evening of meeting would be spent not merely pleasantly bat usefully. Since he last met them, he had twice visited the capital of France, and he considered it his duty to say how much they were doing there, not only to increase the elegan the city, but its comfort, particularly by the construction of broad open streefs, and good drains. The magnificence of the modern ardrains. The inightened of the model at chitecture was very striking, and was not confined to churches, but extended to the dwelling houses. The French architectu had an advantage in the custom which prevailed there, of several families living in the same building, on different stories; this gave them larger masses to deal with than architects in England had. He then alluded to some of the principal public buildings lately completed there, the aburch of St. Vincent de Paul, Notre Dame de Lorsette, and the Hotel de Ville. Of the former building, slready described in THE BUILDER,^{*} he spoke at some length. On this 163,000L had been sport. The stained glass there, was the best modern glass he had ever seen. The remembrance of hese churches led him to express a desire felt by many of the elder members of the profes-sion, that during the prevalence of the present fashion, as he would call it, for Gothis architecture, we should not overlook the effects may be produced by classic architecture. The then alluded to the melancholy death ker of Mr. Basevi, and sketched the principal events of his life, as already put forth in our

pages. Mr. Poynter, in continuation of the chairman's remarks on works in Paris, described the coloured decorations of the Sie. Chapelle, now completed, as the most perfect he had ever seen. In England, some detestable effects had been produced by the use of heavy colours, but there, from the manner in which all was detailed and relieved, the appearance was admirable. All the multions and shafts, of versaillion or green, was conside with fine Nnes of gold, besutifully embossed. Every leaf and piece of folding and a sharp black line round it, by which the effect was greenly improved. The vanking (a deep blue, coversed with stars) was not so attractory; still they had authenity for all. It was worth remembering, that, when first constructed, this and St. Stephen's Chapet, London, were decarated

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in rivery. Of the stained glass at St. Vincent we Paul, it was impossible to speak too highly; it was better than any old glass he had ever seen, combining the ancient effect with really good art. The stained glass at St. Denis was detestable. The speaker then described the monument for the Orleans family, recently erected at Dreux, in Normandy, of which we gave an engraving in Tak Buitass, in June last. It was originally of Italian character, and was afterwards made Gothic, — and al-though the details were bad, and the connection of the two styles not made artistically, the general effect was good. The exceution of the sculptured decorations was beautiful; it was in this respect the French far excelled us. Mr. E. Trotman then read a very able paper on the *economical* application of Gothic archi-tecture to modern domestic purposes, illus-trated by a large number of sketches. No one, he said, had yet fully urged the proposi-tion included in the title of his paper. A few years ago the Gothic style was looked at as too averanize even for churches; he felt satisfied the in ri Of the stained glass at St. Vincent ally.

years ago the Gothic style was looked at as too expensive even for churches; he felt satisfied the years ago the Gothic style was looked at as too expensive even for churches; he felt satisfied the more closely it was studied, down to the time of Wolsey's fall, the more clearly its econo-mical application would become evident. He did not mean what he would term "Watering-place Gothic," of gables, pinnacles, crocketts, and decorations without meaning or purpose, bat the actual architecture of our Gothic pro-genitors. He justly reprobated many of the Gothic buildings of a few years ago, espe-cially some of the colleges, where the back and froat, the outside and the in, were per-fectly dissimilar, simply a Gothic facing being thrown on. The negligence, if not ignorance epparent, shewed that the architect had not thought with a gothicised feeling. All should be in the same spirit, even to the garrets and cellars. In the buildings of the period imitated, the same feeling was apparent in the palace and the cottage. For domestic archi-tecture, he would not look for earlier models than works of the late perpendicular period; than works of the late perpendicular period; and these were not understood as they ought to be, as regarded construction, character, and ornament. He would point them out for study. The progress of decay and the ravages of fire were fast diminishing our authorities, and no time should be lost in obauthorities, and no time should be lost in ob-taining memorials of those that remain. All seemed to think in initiating Gothic works that much ornament should be used; parts were broken up merely to produce an effect, and the greatest pains taken to appear ir-regular. If we compared such modern gew-gaws with an old English cottage, the difference was striking. The pitch of the roof deter-mined the form of the gables; superabundance of wood produced the half-timbered houses; one story overhung the lower in wooden constructions as protection, and throughout, picturesqueness was guided by common sense. For every-day practice the desideratum was, cheap details. Some architects had taken their notions from *church* details; he him-self had done so, but would then recant and self had done so, but would then recant and

self had done so, but would then recant and retrace his steps. Beginning with doors, — they did not require to be arched headed; even in chancel screens they were often square headed, indeed usually so. In some, there was no other moulding thin, a champher down the outer edge. At the main external entrances, however, he had never found square heads. In modern win-dows, we always looked for stone mullions; hat in ancient examples, of about 1500, plain but in ancient examples, of about 1500, plain lights with deal uprights were general. Where stone was scarce, moulded bricks were often stone was scarce, moulded bricks were often used; the Rye-house, near Hoddesdon, gave used; the Kye-house, near Hoddesdon, gave examples. In copings, cheapness and good effect were constantly combined. He then proceeded to illustrate internal fittings, and concluded his paper by urging the importance of secondary matters in building, which are too often disregarded.

The Chairman, in conveying the deserved thanks of the meeting to Mr. Trotman, said, the results of the investigation that had been brought before them shewed the good sense of our ancestors. Nothing was done without a good reason; all decoration grew out of construction. It was difficult now to adapt an-cient forms to modern usages. It was no loncient forms to modern usages. It was no lon-ger sufficient to copy merely, we must *think* in the style adopted. With reference to the ne-cessity for making things seem to be what they

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are, the Chairman expressed an opinion, that if the ornamental gothic tower, at the Croydon Atmospheric Railyay, had been made to look like a chimney, as it was, the effect would have been better

like a chimney, as it was, the effect would have been better. Mr. Donaldson followed with his usual plea-santness, and urged, that if every member would send one example of a door or window, or other detail, easily obtained during their rambles, a valuable collection would be formed. In examining ancient buildings, even of the simplest class, it was impossible to avoid no-ticing the extremely good taste, without affec-tation, that prevailed ; in modern times, the converse was often the case. He was satis-fied that good taste depended on good sense. The meeting was then adjourned till the 17th inst.

17th inst.

THE PRESENT STATE OF THE ART-MUSEUM OF NAPLES.

THIS Museum surpasses, in many of its de-partments, the great expectations entertained of it. The collection of large works in bronze fills a whole gallery, while other museums are satisfied if they possess single specimens of that magnitude. The dancing Faun, the sitting Mercury, the two youths reclined for-wards, and who have been taken for discthrowers, but are surely wrestlers, in the very attitude of the beginning contest; the four socalled Herculanum maidens, shew what an-tiquity could accomplish in this its manliest and most noble branch of art-real Plastic. A short time ago, the collection was en-riched by a Venus found at Nocera ; about half natural size, dressed, up to the hips, arrangeing her hair with one hand, while arrangeing her hair with one hand, while the other held, undoubtedly, a glass. She sir-passes in correctness and gracefulness of form, and sweetness of expression, every thing else in this, albeit richest collection. The smaller bronzes are endlessly rich in ancient utensils, less so in figures.

The collection of marbles contains, amongst a great completeness of specimens, about twenty, which can doubtless, range amongst the works of first rank-the very ancient combating-Diana, with traces of red painting in the Diana, with traces of red painting in the drapery and gilding in the tresses; the com-bating Pallas in a more advanced, but still archaic style; a group, hitherto supposed that of Orestes and Electra, but perhaps represent-ing Venus and Mars, in which from out of the compactness of limb of primordial art, the already complete perfection of Plastic is pierealready compare purposes the wonderful figure or ing. Then follows the wonderful figure or the Venus of Capua, a later copy of that of Melos, of the same beauty, but more finely worked than the latter — spoiled as to ef-fect, however, by the Amor made of Paris-plaster, which, instead of the Mars, properly belonging to her, has been placed by her side; incomparable Torso of a Bacchus; a Minerva, the finest we have ever seen :* the Faun who carries a Bacchus-lad on his shoulders ; a Venus formed after that of Knidos, almost equalling that of Medicis ; the lad encompassed and carried by a dolphin; the group of Pan and the young Satyr, whom he teaches to play the flute[†]—the latter, in the cabineto reservato (the reserved room). Then follow the relievos of Orpheus and Eurydice, of Paris and Helen, and the three famous works of the Farnese collection,-Flora, Hercules, and the group of Dirce. This élite also has been of late of Dirce. This *élite* also has been of late enriched by a new acquisition. It represents a Nereide sitting on a sea monster, found at Puzzuoli-the figure is of extreme graceful-Puzzuoli—the figure is of extreme gracetul-ness and fineness of form. It has most pro-bably belonged to an array of Nereides, which were represented carrying the arms of Achilles – a representation recurring on several other relievos, which exhibit a figure quite re-sembling the above. According to those relievos, she ought to be restored with her hand holding up the helmet of Achilles, which relievos, she ought to be restored wun ner hand holding up the helmet of Achilles, which The collection of terracottas was found

much under our expectation, as far as figures are concerned, and most of the delicate things. may have been dispersed. The integlios, on the other hand, have been surprisingly enriched by the *Cameos* of the Farnese collection. It

* Our apology for copying this long list of statues is an asy one. Few casts, if any, of these splendid figures are be found in our national collections, although they bught

to be. † Most of our readers know that the National Gallery possesses a splendid little picture on the same subject, by Poussin,

is here also, where is to be seen that gr famous cup of, one piece of sardonyx, on i outer side of which the head of Meduas, the inner a hitherto not quite explained see are engraven—still, we think, that it symb-izes the occupation of Egypt by Alexan-the Great. The diameter of this splen show-piece is a full span, and hearly two incl deep. A few years back a vase of blue g and white encausted figures; was added, if Pompeil, which represents a very pleas Bacchic scene of a vintage, and a repast Amorines—the delicacy of execution, hower is inferior. is here also, where is to be

Pompeii, which represents a very pleasing Bacchic scene of a vintage, and a repast of Amorines—the delicacy of excettion, however, is inferior. In the collection of modern plastic works, we were surprised by a specimen of the greatest importance of Michael Angele. It is a buts of Pope Faul III., of exceedingly spirited character and life-full excettion— from whose form hursts forth the comprehen-sive, deep-minded, and at the same time subte and cunning character of this combination senile. The worth of the bust is still increased by the pontifical garment, which descends on the neck and shoulders, ornamented by allegore relievos, representing the achievements of the Pope in clurch and polities, and which breats the very mind of M. Angelo—although very aged at that period. We shall not diate on the treasures of the Picture Gallery, which, besides an array of real art-specimens, paintings? Gian Bellini, Pietro Perugino, Raphart, Cor reggio, and Titian—contains also the master of the old-Neapolitan school, and those subse quently issued from that of the great Trip inte, all in great number and significance of specimens. A Madonna, *marked* as a work Pietro Perugino, seems to point at Rapharf. In the Milan Sposalizio, and those little figures shortly after his leaving the publicg Perugino. We like also to mention an other Madonna of Raphael, as it shewed rises shortly after his leaving the publicg Perugino. We like also to mention an other Madonna of Raphael, which we foun in the Palace of Principe Terranuo. The picture contains, besides the Virgin and Christ-child, two other lads, John the Bapta and Evangelist, and it belongs to the secon Florentine epoch of the great matter, which he master of Maphael, which we foun in the Palace of Principe Terranuo. The picture contains, besides the Virgin and christ-child, two other lads, John the Bapta and Evangelist, and it belongs to the secon Florentine epoch of the great matter, which he impressed on his creations fithe which he impressed on his creations fits the highes

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ni to BATHS AND WASH HOUSES FOR THE LA BOURING CLASSES IN ST. PANCRAS.

A NOTICE of the establishment of the A NOTICE of the establishment of these baths appeared a short time since in this jour-nal (p. 470, ante). The building, which is one story in height, occupies nearly three sides of the square, at the foot of the reservoir of the New River Company, in the Hampstead-road. It stands immediately behind the old blank wall, the entrance being in George-street, Euston-square; and the cost will be little short of 2,000*l*. The range of buildings is about 12 feet in width, and 800 in extent. The entrance is by a long passage, at the side of which is a committee room and five vapour of which is a committee room and five vapour baths. The passage leads into a receiving-room. To the left of this are twenty-two com-partments for men's baths, each of which may be either cold, warm, or shower, at the option of the bather. The baths are made of slate, with which each room is floored and liked. The rooms are well ventilated by a small conical light, working by pillies and weights. At the end of these will be two swimming baths, 60 feet by 21 feet, with separate en-trances: they will be charged two-pence and six-pence. To the left of the receiving room are the women's baths, some of them being fitted up in a superior style. Beyond these, having a distinct door of en-trances, without passing through the bath room, is the washing department. This room is divided into compartments by state parti-it. This stems to be a pendent to un Portland uses 1 This seems to be a pendant to our Portland states | bis tropely compressed air is admitted into this,

tiere is nothing more mischievous start of 252 and 50 and

which may no

tions, which are to be raised still higher than they are at present; and, when the room is inder the superintendence of the matron, the different parties will be strictly private, and one of the objections, often brought against the scheme avoided. Each compartment con-tinus a double two, the larger portion of which is mended for washing to, and the smaller, by means of a jet of steam, which will keep the water in a boiling state, to be made to asser the purpose of a copper. A slab of state is laid in front of the tots, which will receive the clothes as they are washed. In the published plan, which may be obtained at the abude tots, but we believe, that certain alto intons have been made in the plan, by which which is share been made in the plan, by which ecoppers are shown for boiling liner. An apartments, but there are extensive drying closets, and near them a table for ironing. The use of the double washing two with ample supply of hot and cold water, of the oppers, drying-room, and ironing apart tas, will be charged for at the rate of one prive, will be charged for at the rate of one prive, will not be afforded. It has been by which infect others; it is therefore necessary to state that passing a current of hot and passing the clothes, at a certain temperature, so most powerful disinfecting process, which is most powerful disinfecting process, which is a most p

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will entirely destroy the means of contamina-tion. In examining this building, we saw with some regret, that a mode of construction was adopted in several respects injudicious. In a building to cost 2,000%, indeed in any building, sound construction is always the cheapest. We believe, there is no architect at present en-gaged, the committee deeming his superintend-ence would entail unnecessary expense. Poor people always live at the dearest rate, and half the people who build, achieve it at a similar expensive onligy. Unstable building, and future annual disbursement are not thought of at the commencement, but are soon painfully evident. In the present case, we regretted to find, that the framing of all the partitions was not constructed in the best manner, that joists, which support them, were bedded upon blocks, or bricks — instead of continuous sleepers, and that they were at one end in-serted in a wall, without any continuous sup-port; a bit of slate under each joist is a miserable substitute. The joists are of old ship timber, and areabout 2 feet 6 inches apart, or the width of the slate flooring, which they or the width of the slate, flooring, which they support. The provision for draining, the ground, behind the wall placed against the foot ground, behind the wall placed against the foot of the hill, is scarcely satisfactory; every pre-contion should be taken on such a site.—It only remains to be stated, that the different rooms are lighted by windows in the ceiling, or close beneath it; that ventilation is provided for by openings in the roof, and that the timbers are open, and stained with asphalte, as a protection from the steam, and that the whole is slated. The place is open to inspec-tion. The range of building

NEW APPLICATION OF AIR AS MOTIVE

A PATENT mode of working a railway, deemed so safe by its conductors, that the company who adopt it, propose to make every taket issued a policy of insurance upon the life of the passenger, so that in the event of accident, or death, he or his representatives will have a claim of so much a year upon the company for life, demands consideration. The project alluded to is the invention of Mr. Vichels, and is a new application of air as a motive power. A model has been laid down on Messrs. Keene's premises in the York-road, and is in daily operation. It works by means of condensed air, instead of an ordinary amosphere against a vacuum, and the arrange-ment is novel. A tube, with air tight com-pressible sides, and a partition down the middle of it, so as in reality to form two tubes, is hid in the centre of the time between the rails. Brongly compressed air is admitted into this, Strongly compressed air is admitted into this,

which suddenly inflating the pipes, their sides impinge upon two drums, or large wooden rollers, pressing upon them, which are by that means set in motion, and these being fixed by simple mechanism to the carriage above, carry it off with astonishing velocity, the conductor at the same time retaining a control of the

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at the same time retaining a control of the movement. The action, it will be seen, is that of the wedge; two or three superficial objections to the mode of applying power occur to us at the moment, sufficient to prevent us from express-ing any opinion upon it at first sight, but cer-tain it is that by the model exhibited, great speed is obtained, and very little air used.

THE INTELLECTUAL IMPROVEMENT OF OUR OPERATIVES.

SIR, Your correspondent, of the 4th inst., *A Journeyman Carpenter*, makes the following request :---"What are we to do?" As he has alleded to my remarks, of the 4th inst., in THE BUILDER, I will endeavour to offer an answer to his request. In the first place, I an answer to his request. In the first place, 1 will make a few extracts from my 19 Address to the Manufacturers, &c., 2 which I published in 1838, to induce the manufacturers and the legislature to establish schools of arts on a true foundation. Now, as there is no true ar-tistic school established, in is evident that neither the one nor the other have that knowledge of the subject-the due cultivation of the faculties for the arts-which they ought to have, or they would have established, long before this, such schools for artistic instruction as the artisans of this nation should and are entitled to have; and if both parties knew their own interest, they would not have negleeted the important duty they were long ago called upon to perform; the master manu-facturers would have had more skilful ar-tisans, and have stood unrivalled in every extisans, and have stood unrivalled in every ex-cellence that mind, handicraft, and machinery could produce, and the legislature would have made, by its wisdom, an intellectual and grate-ful people, capable of appreciating its-legislat torial labours. In the first page of my address above alluded to, are the following remarks "We know that no two human beings have ever, been seen exactly to resemble each other in holy or mind, and yet we conclude that

ever been seen exactly to resemble each other in body or mind, and yet we conclude that mankind should think and act alike, and equally agree on all subjects whatsoever. In the belief of this, we are continually establish-ing schools of education for the purpose of making all equally informed; but what is the result? Any thing but what it ought to be;³⁵ and, in page 2: "Throughout the whole of nature, variety is a striking feature. In plants and flowers, as regards their forms and colours, how often is it stated, in those qualities there is no difference. No one ever saw two roses or is no difference. No one ever saw two roses or two bludes of grass alike; or one yea perfectly corresponding with another. Knowing this, and that the highest of animated beings in the scale of intellect vary as much as the lowest order of the animal kingdom, we ought not to be surprised at the failure of the present educational systems, as they do not embrace a legitimate exercise of the faculties for the arts, and are consequently unsuited to the nature of the human mind," &c. Pages 3 to 11:--"How often has it been said that genius is buried in cellars and attics, and yet no one found to relieve it from that thraldom. But if a mational system of education be soundly established, and based entirely upon a thorough knowledge of human nature, we should then have no genius wasted, no faculty lost, and have no genus wasted, no faculty lost, and the whole power of the human mind turned to good account. We should then see this na-tion rise in the greatest of all her resources— manufactures—and which it is at present so much in need of. Our manufactures have long been defective, through the arts being at such an immeasurable distance from them. The designs which constitute the ornamental part of our models being imitative instead of invendesigns which constitute the ornamental part of our goods being imitative instead of inven-tive, keep us in the back ground, and lower us into the degraded state of servile imitators, of which no nation in the scale of intellect should ever allow itself to be. To raise ourselves, then, from this state of degradation, schools of arts should be established in every city and manufacturing town, throughout the United Kingdom, that the rising generation may no longer be excluded from that source out of which so much valuable knowledge springs. which so much valuable knowledge springs.

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Such schools of art should be formed for the purpose of opening the wide field of nature, that the true foundation may be laid in the youthful mind, when the only materials for forming new arrangements and combinations will be received quickly, and permanently held, and so an endless store of information will be laid up in their minds for design—original thinking and invention. To bring youth of different capacities to the fullest development of their peculiar powers will be more or fess successful, according as their instructors are men of intelligence, of enlightened minds, and well informed on that part of creation that they undertake to demon-strate. Artificialists will be worse than use-less, is they will worry the minds of their hearers with worn out, hackneyed notions, instead of bringing to view nature's ever-vary-ing features, which she is always ready to bestow.

heaters with work out, and heat the students, instead of bringing to view nature's ever-varying features, which she is always ready to bestow. The supposition that men who have been active observers of nature, and well able to demonstrate that which they undertake to do, will be appointed, the mechanic will be raised in the scale of art, and have the power of delivering naturally all that he may contemplate constructing, and become a produces of good forms, instead of those of composition that it is a stransformer and the superinted of the second se

from, as that would be sure to hiss the mind, and dispose it to copy, instead of gathering new materials for original works, and of gathering new There is one point, above all, that I con-sider to be of the utmost importance in the instruction of youth, as regards design, and that is, the greatest care should be taken by the instructors not to enforce their notions, or any others, of design, on their pupils, as that would have a tendency to destroy, the peculiar combinations, arrangements, contrivances, and would have a tendency to desiroy, the presultary combinations, arrangements, contrivances, and other, qualities, of the varied minds of the students, and thus arrest the progress of origi-nality. There is nothing more mischievous than to endeavour to ingrait the peculiarities of one mind on that of acother, which may no one mind on that of another, which may no

only be dissimilar, and guite unfit to receive them, but may be so differently organized as they may be, but if wisely directed would pro-duce, by its own original ideas, designs equally duce, by its own original ideas, designs equally as beautiful and extraordinary as those of its instructors. The instructors should shew how far natural forms and colours may be ar-ranged, combined, and contrived, in every variety of way, to accomplish the design re-quired; and when those of the ancients may be quired; and when those of the ancients may be thought necessary, to refer to for a principle, and to ascertain the use they made of the like materials, so far it would be well; but they should not be brought forward for imitation. On this part of artistic instruction much more work that that the the the the the second second may be said, but that must be hereafter and elsewhere.'

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The journeyman carpenter's inquiry of "What are we to do?" is in some degree answered by the above extracts from my address. He and our artisans will see what ought to be done for them; and I would further state, that the school which should be established for them ought to be upon the soundest foundation, and the most efficient instructors should be obtained, if possible. It will be of no use to set up such artificial concerns, for so valuable a class of men as our operatives, as we have already. They are attended with too have slready. They are attended with too great a loss of time and mind for artisans to great a loss of time and mind for artisans to endure; for they want not to be entertained or amused, they want to be really instructed, and nothing less than the best of instruction should be offered to them, and even that should be gratuitously, for an artisan's wages will never allow him to pay for artistic instruc-tion for himself and his children; and those who reap the benefit of his labours should not be behaviored for the second of the second of the be backward in their benevolent assistance for promoting their intellectual cultivation, for the end of such aid would be sure to be in favour of the supporters of the artisans' artistic institution.

I trust that your valuable journal, THE BUILDER, will not lose sight of this important subject, but keep it alive before that part of the public who are able to appreciate and to further its purpose; when in the interim I will, as occasion may require, offer some further remarks upon artistic instruction in connect tion with the development of the intellectual facilities of our artisans.

GEO. R. LEWIS. am, Sir, &c. Upper Norton-street, Oct. 14, 1845.

THE GRAVE-YARD QUESTION.

SIR,-It is with great pleasure I have no-ticed in your columns frequent remarks and letters relative to the grave-yard nuisances, a subject which has forced itself into notice by its very monstrosity, breaking through every obstacle which careless indifference on the one hand, or interested motives on the other, could bring forward to " pooh ! pooh ! " and ridicule the question. The agitation (which, by the way, is the only legitimate means to induce reform of abuses) has, I am happy to find, extended itself to the provincial press, and it now only requires to be zealously followed up by the leading London journals, to enforce the attention of the legislature to a reform of the present system. The pertinent and practical present system. The pertinent and practical remarks of your correspondent Z., in THE BUTLDER of Nov. 1st, deserve the most serious attention. Can it be, for one moment, held a sufficient reason for non-interference, "that the interests of the clergy are involved?"—that a section should be greater than the whole? I cannot think so disreputable a motive can have one weight with the great motivity of have any weight with the great majority of our clergy, it is possible that a few worldly-minded men, as in all other classes, may fatten upon the miseries of others, but they can be only blots and blemishes of their order, and should be swept away without compunction or pity. Sir, it is not with the clergy the diffipity. Sir. culty lies,culty lies,—it is rather with the inert mass, the public; they, in the toiling, stirring scenes of busy life, have, as a mass, little time or care to consider such questions, and, unless you can interest them by some profitable scheme or speculation, it is vain to hope for reformation in what, if they think at all about the matter, they would call a mere abstract speculation.

It may be thought, from this view, that all attempts were useless; far from this being the case, we are now in a fair way for success.

The (press ever in the van of improvement), Ine (press ever in the van of improvement), have already taken their position, a position creditable to themselves, and which will eventually call for the warmest thanks from the public. During the last session, they wrung from the unwilling commons an admis-sion " that the frequent mode of interment in the metropolis and other large cities and taken the metropolis and other large cities and towns. was injurious to the public health, and de-manded the serious attention of parliament." This is the first introduction of the wedge, and it now remains, by a judicious application of blows to drive it home and compel attention. No columns can be more suitable for the purpose than yours; a reform of the present system necessarily requiring the selection of other sites as burial-grounds, &c. The pe-culiar talent embodied in your publication, could more skilfully point out the most appro-priate positions and plans than other journals

THE-BUILDER:

of a more general character. I trust to your praiseworthy efforts, and I, for one, have little fear for the result.—I am, Sir, &c. H. C. H.

DECORATIVE ART SOCIETY.

Nov. 4th, 1845.

Oct. 29.-Mr. Crabb, V.P., being in the chair, read an address, on opening the third session of the society's meetings, setting forth the advantages already derived from free and friendly communications between practical men on matters of taste, or in connection with decorative art.

Mr. Bailes read a paper "on Marquetrie;" be explained that he had been recently in-duced to devote his attention to the manufacture of Marquetrie, from the success of some experiments he had made as an amateur, and that his processes were essentially different from those generally adopted. He then re-ferred to various descriptions of inlaying with wood of different colours, and the inter-mixture of ivory, pearl, tortoise-shell, precious stones, or metals, producing ornamental com-binations upon furniture, &c., as known by the name of buhl marquetrie, mosaics par-quetrie, Florentine, or Tunbridge manufac-ture. He assumed that marquetrie applied to the production of an imitative object by inlaying with wood in natural or dyed colors, the ordinary mode of doing this is to and attach in a slight manner to each other veneers of various colours (from four to seven), as may be required by the design, an outline upon paper is pasted on them, and the whole cut through with fine saws—the vencers are afterwards separated, and the parts inter-changed, so as to produce varied arrangements of greater or less perfection—no two being alike—they are then glued down on a larger piece of wood, worked to an even surface, the with hot sand in parts that require shadow, and finally polished.

This method, by using wood of different growths, causes in time, through their unequal contraction, &c., an imperfect surface and defective joinings, as is evident in nearly all old marquetric. Mr. Bailes then explained his own method of using a white vencer, which, own method of using a white veneer, which, after cutting through the outline of the device, he separates, and dying each part to the re-quired colours, restores them to the places they originally held in the veneer, and finishes the whole in the usual manner. He has also discovered (accidentally), a mode of discharging the colours in any part, so as to heighten the effects of light and shade; and he expects to acquire a skill in this, which will enable him to produce pictorial effects never before equalled in wood.

His process, besides possessing advantages on an even surface, and having more colours, is less costly than the usual method; and he believed, that as it afforded a fair field for cultivation by patrons and lovers of art, marquetrie would soon become more generally esteemed.

CHURCH LOOKS .- We have recently examined with much pleasure a door-lock, of Gothic patern, manufactured by Messrs. Chubb, for the "Industrial Schools" at Liverpool. The steel bandings and escutcheon are made to take an ornamental character; and the key is in accordance with the style. For a churchdoor we have seen nothing better ; the workmanship is excellent.

THE BROAD AND NARROW GAUGE.

THE commissioners are still taking evi-dence. Mr. Brunel, in his examination said, be first formed the idea of changing the gauge during the progress of his surveys in the years 1833 and 1834, not considering the gauge of 4 ft. 81 in sufficient. He looked to the speed which would take place. He thought the machinery too small, and required to be made more commensurate with the mass and velocity of railway transit. The trains at that time used were comparatively lighter than they are at present. The impression in favour of the broad gauge grew gradually upon him; he proceeded to carry it into immediate effect after the passing of the Act in 1835. He must have mentioned it before that time to the directors, as he had made great efforts to have the clause which fixed the gauge omitted from the Act. He should rather be above than under 7 feet, upon the principle that the ma-chinery upon the 4 feet 84 in. gauge was too small. Considering the work which was required to be done, he thought it would be better done with a still larger machinery, not only with regard to the engines, but the machinery of the system generally. There would of course result economy with regard to stokers and drivers. There must be economy, when with one engine they did the work of two. He, however, looked rather to the result of the system, than to any specific economy. They were required to take from 70 to 80 tons weight on passenger trains, and 900 tons on those for goods. Taking then these masses, and the speed at from 50 to 60 miles an hour for passengers, and 20 miles an hour for goods, he considered it better for such traffic as that to have larger carriages and more powerful engines than those they formerly paed. He engines than those they formerly pass. The thought that all the important lines in Eng-land, as the railway system extended, would be worked at a much greater speed than at present. Railways would eventually take the place of the turapike roads throughout the country. There would be of course great traffic upon them, and consequently the appli-cation of larger machinery would be desirable. He did not consider the difference of expense great. There was but little difference between the expense of the longitudinal and transverse sleepers. With longitudinal sleepers there was more timber required, but the rails were was more timber required, but the traits were a lighter. He thought the cross sloepers were a little cheaper. He considered the system ap-plicable in Ireland. The principal lines in that country would have nearly as large a traffic as those in England. The Irish are becometing nearly locomotive people.

RAILWAY JOTTINGS.

LAST week at a Court of Common Council, Mr. Anderton presented a petition from James Moon, architect, proposing the formation of a railway terminus in the city on the site of Farringdon-street, &c., and suggesting that a new street should be constructed from Holborn opposite Hatton Garden to 6t. Bride's church, and that a viaduct should be made from Hatton Garden to Sea Coal-lane. After some trifling opposition, the petition was referred to the improvement committee. On the same day, and at the same court, Mr. D. W. Wire presented a petition signed by between 600 and 700 merchants, traders, wholesale, and retail dealers, and others connected with the trade and commerce of the city, praying that requisite facilities might be given for establishing a terminus for passenger traffic in Far-ringdon-street. This petition was also re-ferred to the Improvement Committee. Preparations are now making for com-mencing the stupendous work of the High Level Bridge across the Type. As a pre-liminary step the engineers have lately been boring in the bed of the river for the foundations boring in the bed of the river for the foundations of the piers. In view of these and other ex-tensive operations Mr. Hudson, M.P., and Mr. Robert Stephenson, have paid fre-quent visits to Newcastle.—Last week, one of the large brick arches, in the con-tinuation of the Glasgow and Garakirk railway, now forming in Cowcaddens Quarry, gave way and came down with a tremendous crash. The arch had been finished, but suffi-cient weight had not heen laid on what are crash. The arch had been norman, what are cient weight had not been laid an what are technically called the "haunshes," and the effect was that it sprung. Fortunately no person was hurt,-----Last week the directors of the Mid-

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land rallway assembled at the Derby station for the purpose of receiving tenders for the construction of railways from Peterborough to Stamford, and from Syston to Melton, and for a junction from Sheffield to Manchester. The contract of Messrs. Mawson and Co., of Spitial, near Doncaster, to complete the latter in eight months for 12,7621. was accepted; and the tenders by Mr. William Worswick, rail-way contractors, of Sileby, Leicestershire, to form the line from Peterborough to Stamford, a distance of twelve miles, for 47,000*l*.; and a branch from Syston to Melton, a distance of nine miles and a half, for 48,000*l*., were both accepted, and the two lines are to be The Thames Embankment and Railway Junccontemplated the purchase and offered 0004. The width of the bridge is only 42 tion 150.0004 -Last week an accident occurred on feet.— Lest week an accident occurred on the Midland Railway, near Barnsley, which caused the death of William Boteler, Esq., one of the commissioners of the Leeds Bank ruptcy Court. Its origin is thus described in a local paper:—As the Leeds and London mail train, which is due at about five o'clock in the morning, was running between the Mas-boroagh and Cudworth stations, some part of the engine became out of order, awing to which the train was unable to travel beyond the rate of eight or nine miles an hour. In consequence of this, messengers were sent back to the Masborough station in order to procure another In the engine to carry the train on to Leeds. meantime the train proceeded at a slow pace, with the usual lights fixed behind, and when passing between the Wath and Darfield stations, the assistant engine came up behind at arapid pace, and ran with immense force into the train. The concussion was of course a tramondous one. The last carriage, which was second class, was forced up from the rails, and the buffers were driven through into the first prevailing speculative mania warping the pro-bity of sound and honest men, the following ving anacdota is given in the Railway Chronicle :-A friand, not stall of a speculative turn, has become a director of a good and substantial project, the execution of which would certainly be a great metropoliten if not a national bene-fit... Meeting him, the following colloquy took place betwees us :--- 'You haven't applied for azy shares ?'' 'f No; I have studiously avoided every new project.'' "But mine will be a great every new project." "But mine will be a great improvement to London; you know it is one of my hobbies, and that is the reason why I have joined the direction." "Well, viewing the matter in that light," I said, "I have no objection to having five shares." "Five shares?" inquired the director, with an air of surprise, not to say contempt. "Yes, five surprise, not to say converge. shares; that is as much as I care to have, for of convers I should keep them." "My good marce; tagt is as much as I care to have, for of course I should keep them." "My good fellow, it's of no use your asking for five shares; nothing less than fifty will be heeded." "What am I to do with fifty?" "Dol sell them as a premium, which they are sure to bear." Of coarse I declined. Now, Sir, here was a man who I believe had become a director chiefly from patrietic motives, so bitten by the plague that, though I made him a real offer to help his scheme to a small extent, he re-jected my offer, or at least thought contemp-tuously of it, unless I converted it into a piece of unreality and of speculation.

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FOREIGN ARCHITECTURAL AND COL-LATERAL INTELLIGENCE.

Nevoly-discovered Mural Painting by "Raphael."—(Florence, 21st Oct.)—A surprising discovery has been made here of late—viz. a picture al fresco, representing the Last Supper, on the wall of the refectory of a monastery in the Via Faenza, Florence. The place had been used as a coach-house, and it was known that some old painting existed there, but a large envering of indurated dust prevented any further insight into the matter. Generally, it was considered a work of Perugino, until M. Zotti tried is cleause it, when the very first attempts shewed a far superior style to that of the above unstery and shortly after, the initials of Ra-

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phael's name, and the date 1505, left no doubt as to its authorship. The picture, full of the youthful buoyancy of Raphael, and in the style of his first Florentine period, is very important for the history of art—the more so, as it will be easy to restore it completely. It belongs to the owner of the coach-house, who has had it already protected by a wall, but it is to be hoped, that such a splendid performance will pass into the hands of Government for the general use of the public.

nopeo, that such a sprenduperformance win pass into the hands of Government for the general use of the public. Statuary embellishments of Brussels and other Citics of Belgium.—Statuary, like other arts, received some impulse at the late declaration of Belgian independence — as W. Geefs obtained a great name by the monuments he erected, commemorating the late political struggle; for instance, the imposing structure on the Martyr-place of Brussels; the statue of General Billiard in the Park, &c. This impulse was still more fostered, by Government deciding on erecting monuments to all their great; the expenses of which were placed on the rolls of the budget. Thus Antwerp obtained its monument of Rubens, Luttich Gretry; while it is certain, that the statues of Godfrey of Bouillon, Charles V., and Froissart, will soon adorn the public squares of Brussels, Ghent, and Chimay. The return, moreover, of religious liberty, has allowed the spirit of mediaeval architecture to move unshackled in any direction. Thus the choir of the Holy Virgin church of Antwerp has been of late ornamented with carved stalls; which have not their equals in Europe, executed by Geerts, professor of sculpture in Löwen. He and Bouré have also been amongst the best late exhibitors of sculpture at Brussels. This art will now have the more scope in Belgium, as the Government and the Common Council (1) of that city have come to the resolution of having executed the 150 or 200 statues, which are required for the ornamenting of their Town-hall. M. Bouré has received orders for executing eight, st 800 francs each⁶ — the price of the marble not included. It is said, that by the middle of next year, the new restored façade of the Brussels Guildhall will be ornamented with about twenty statues of their sovereigns and chief megistrates.—(Allgemeine Zeitung.)

and chief magistrates.—(Allgemeine Zeitung.) Railway through, and "over" the Alps.—In these "times" of railway disappointment, we may as well say in the way of preface, that there is nothing adventurous or unsound in the financiel of the above gigantic plan-as the first nobility (landed proprietors) of Genoa, Turin, Milan, and Chur are amongst the originators and shareholders of this undertaking; Marquis Giustiniani (chairman) of Genoa, Barboroux and Co., of Turin, &c. 164,000 frances (the 120th part of the whole sum) have been, in fact, already put aside for the preparatory plans and other business. The line of this stupendous undertaking is the following. From Rorschach to Chur; it is to go over Rheineck and Ragaz. Up to this place, and even further up to Reichenau, neither the slope, nor other circumstances of the land, present any considerable difficulties. More difficult will be the further tract, either land. brough the Vorder-Innthal, or the Bundten Oberland. Here, in a direction of E.N.E. to W.S.W. the slope is 3,400 feet in a distance of about sixteen leagues. On the north side, there are few valleys between the Vorder Innthal and the main tier of the mountains. Then follows the Medelser valley in a southwest bent, and reaches up to the Lukmanier pass. Most intelligent surveyors assume, that it will be over this mountain that the passing of the Alps (!) will be most easy, as it is the lowest of all in this part of the country, viz. 5,600 feet absolute height. The Mons Lucumanius was known in very ancient times, and constantly used as a transit point into Italy. (Another project independent of the present, of a railway from Lyon to Turin, is to pass Mount Cenis.) The exact place where the rails are to be laid here for meeting those of the Valley of Blegno, on the other side of the tier, is not yot decided upon. Other tracts also, for instance, over Bellenz to Locarno do not present insurmountable difficulties. It is calculated that ten years will suffice for connect-ing the lake of Constance with Turin and Genoa. It may be the case, that the first rails

• A very moderate price, indeed - even if the chcapness and greater simplicity of Continental living is considered.

wilt be hid next opring, pushing the work in two directions, towards Chur and Olivone, and Locarno.

Locarno. The Working Classes in Holland. — The educational system of that country is placed on a universal basis, as it affords to all children, of whatever condition or creed, the opportunity of learning to read, write, and arithmetics. It is now intended, that one step more should be made in this direction, and besides these schools of literal education, schools of industry are urgently called for, where all poor children are to be instructed in some or other branch of technical skill. The latter, very truly, is considered even, under actual circumstances, the more important, as this is the only way of vigorously combating pauperism; and until this second more important desideration is accomplished, the state has done only half its duty.

Great Helvetic Railroad Companyat Berne. This company projects an important addition to the railway net of the continent, by connecting the Lake of Constance with that of Geneva. It will start from Constance, and after passing through the cantons of Thurgovia, Zuric, Zug, Luzern, and Berne, have its other terminus at Freiburg and Vevais. The society claims all metallic or other useful mineral substances laid open by their operations, and the free importation of eightes and materials from foreign parts of fride be necessary.

MUSEUM OF NATIONAL ANTIQUITIES.

OUR anxiety on this subject is known to our readers, and many of them will participate with us in the wish that a report to the effect that Lord Prudhee has offered his collection of national antiquities to the Britch Misseum, on condition that the trustens will satapart a proper place for, the reception of rediscions bearing on the same subject, may be true. The committee of the Archicological Institute are said to be the parties to the propender.

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USING NAMES WITHOUT PERMISSION. --Mr. Barry Baldwin, M.P., abtained summonses at Bow street, last week, against the projector and solicitor of a railroad for using his name in the list of provisional committee without first obtaining his consent. They were granted under the 7th & 8th of Viotoria, chap 110, the 65th clause of which enacts, "That, as great injury has been inflicted upon the public by companies falsely pretending to be patronised, or directed, or managed by emined to opulent persons, now, for the gurpose of preventing such false pretences, be it enacted, with regard to every company, or pretended company whatsoever, whether registered or not, and whether now existing ornot, that if any person shall make any such false pretences, knowing the same to be false, in any advertisement or other paper, whether printed or written, and whether published in any newspaper or handbill, or placard, or circular, then every such person shall forfeit for every such offence a sum not exceeding ten pounds." NEW WKST-KND POST OFFICE.-Several houses on the south-side of Pircadilly, near St.

NEW WEST-END POST OFFICE.—Several houses on the soath-side of Piccadilly, near St. James's church, have been sold for the purpose of being immediately razed to the ground, on the site of which is to be erected a capacious new Branch General Post-office.



ligious emblems and inscriptions mean it, and from the well known character of its first owner, it might have been a chapel, used for the practice of, at that time a prostribed re-ligion, and a place of shelter for its persecuted ministers.

The lodge is situated at one extremity of the park, in which stands the fine old building Rushton Hull. At the period of the crossion

of both buildings, the estate belonged to She by queen Einzabeth to the Earl of "Determent," (* 2 at Kehilworth, received the honour of knight, 23 mail frood.' The family of Tresham Spear to bere, ***? first possessed Rashton in the sixteenth year of the reign of Henry VL; the enough the set of the not very long afterwards become for the statements the crown, in consequence of the statements

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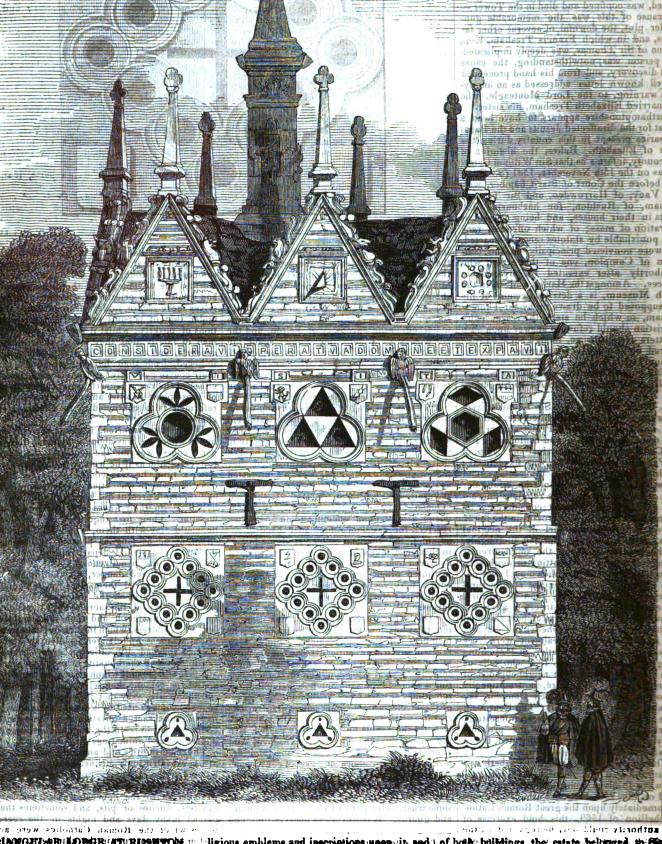
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TRIANGELARI LODGR (ATUROSHYON, 1997) In ettag sidtesson in tonia media to the Abourvfonia Neurostaussoffen the town of Kysteringpin Modulating tankiles, sub-to Rithively sidaddittin yingdar beiteing, a relic of atum gehimestandbeitenge indutte to spinistruktifickoviele to here beentiatended for scheming diedber beitige in without re-tionin the forest, but from the quantificiely of re-tionin the forest, but from the quantification of the second states and the second scheme to the second scheme to make the forest, but from the quantification of the second scheme to the second scheme to the second scheme to the forest, but from the quantification of the second scheme to the second scheme to

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of the first Sir Thomas Tresbam, who was beheaded at the commencement of the reign beheaded at the commencement of the reign of Edward IV., the property was subsequently restored to the family, which during the illus-trious reign of Elizabeth, reams to have the tained the height of its greatness, possessing large estates and several residences, and having formed connection with the principal families of the county, whose armorial bearings may still he seen upon the market house at Roch well, an unfinished monument, among others, of the taste which Sir Thomas Tresham dis-played in architecture. The succeeding reign worked a melancholy change in the fortunes of the family; their extensive possessions were again confiscated, and the head of it being at-rder plot, the downfal of several other fapow powder plot, the downfai of several other ta-milies, and in which Francis Tresham, Esq., the son of Sir Thomas, was deeply implicated. This person was, netwithstanding, the cause of its discovery, and from his hand proceeded the well known letter addressed as an anosy-mous warning, to the Lord Monteagle, who had married Elizabeth Tresham, his sister.

Northamptonshirs appears to have been a retreat for the disaffected Jesuits and the Papal reign of Elizabeth, Baker, the historian of this country during the reign of Elizabeth, Baker, the historian of this county, informs to that Sir William Categ-by was on the 15th November, 1581 (23-Eliza) cited before the Court of Star Chamber, with by was on the 15th November, 1561 (25-4118.) cited before the Court of Star Chamber, with Lord Vany, of Harrowden, and Sir Themas Treaham, of Rushton, for harbouring the Jesuits in their houses, and being product at celebration of mass; of which offended, ren-dered punishable by statutes recently inacted, they were convicted principally do the cha-fousion of Campion, one of the other other, who was shortly after executed for freasonable practices. Amongat the Harleian MSS in the British Museum, is a detailed account of his trial, supposed to be drawn up by Sir Thomas Tresham, in which he states the reasons why a Christian abault refuse a saver upon oath in matters of a states the reasons why a Christian abault refuse a saver upon oath in matters of a states in the reasons why a Christian abault refuse a saver upon oath in the 300 states and and a states the reasons why Billis Mr. Budde and the states of the former y Billis Mr. Budde and the states of the states the the haps more accutately a non-conforming Ro-man Catholic, until the string of Campion

haps more securately a son-conforming Ro-

haps more accurately a non-conforming Ro-man Catholic, until the atrival of Compion and Parsons; by whom he was fixed in the church of Rome. South of the triangular lodge, it is evident that the religious charac-ter of the building was not considered at its first commercement. The grosses in the lower windows did not form part of the original design, as they are cut or formed so roughly, that the mouldings round the small circular openings are injured by cutting through., In the wood-cut, this is not shewn as I was de-sirous of exhibiting, rather the architectural character of the window, than its history. The cross was certainly inserted after the window was finished." There can be little doubt that this lodge served as a shelter to Campion. that this lodge served as a sheller to Campion. That like places of consealment were very common we learn from Butler, in "Memoirs of English Cathedrals," iil. 193, who tells us that a tangled dell, in the neighbourhood of Stonor park, in Oxfordshire, is traditionally said to be the place in which Campion hay concealed whilst he wrote his "Ten Remons." The means of Mr. Brune is conference.

The paper of Mr. Bruce is so interesting, and elucidates so completely the probable history of the building now illustrated, that a xtracts from it may be excused.

few extracts from it may be excused. "The papal bull by which Elizabeth was excommunicated and deposed, and her subjects were absolved from their allegisnce, was issued on the 25th February, 1570. Following immediately upon the great Roman Catho-lic rebellion of 1569, this bold exercise of papal authority could only be regarded by the Protestant Government as a most dangerous incitement to such of the queen's subjects as were disaffected towards the reformed faith, to renew;thgir revolt with, better hopes of m cess, and with a more certain assurance that, in having recourse to arms, they were playing the part of good subjects to the pope, if not to the queen. The Government met this daring the queen. The Government met this during attack upon the safety of the sovereign and the peace of the state by various penal ensot-ments, which produced their desired effecty for, although the public quiet was for a time disturbed by the effrontery of Felton, and the conspiracy of Ridolfi, the Papal agent, in which the Duke of Norfolk was implicated, these troubles arow newsel, over and a fiber he these troubles soon passed over, and, after is few years, the bull began to be 'slighted,' says one of the translators of Camden, 'as a vais crack of words that made a noise only." one of the translators of Camden,

"To stay the progress of this growing defec-tion was the great object of the priests sent into England by the foreign seminaries. They strenuously opposed occasional conformity of the 'protesters' (so called because they thought that they might go to church provided they secretly, and in their own minds, protested against the doctrines they heard there), and themselves supplied the places of the old 'Queen Mary's priests.' Their labours pro-duced a very great effect; and in 1579 they received the assistance of a new hand of coadjutors, the English college at Rome being, in that year, taken from the secular clergy and In that year, taken from the secular clergy and delivered over to the Jeanits, then a recently instituted order, full of activity, and endued with a fiery zeal which, even in the annals of missionary enterprise, has perhaps never been surpassed." "Of the general course of the proceedings of the missionary and have information

the missionaries we have information from members of their own body. They were dressed in strange antic dresses," sometimes as soldiers, sometimes as gallant gentlemen, sometimes as roaring-boys or roysters, some times as clergymen of the national church,+ sometimes as apparitors, or summoning officers of the Ecclesiastical Courts, and these various contumes they changed continually, as they also did the names by which they passed. In the morning they generally preached, and afterwards wrote, beard confessions, and determined controversies or cases of conscience. After dinner they removed to some fresh place, studying, whilst on horseback, the sermon of the following day, and escorted by some trustworthy persons who served as guides and guards. It is worthy of observation, and

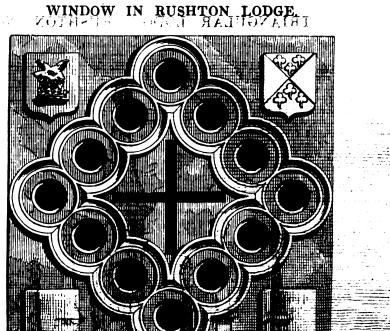
Campion deforibed his drum thus : Habitu dimentimino sion, quore sape commulo ilempte somina. Bridgemater's Concertatio. p. 24. Thomse Heath, britcher of Nichtins, Archbishop of York; ind Lord Chambelloria Queep Many, musher a license from the pope and the superior, of the Jacuin, went the length, not merely of orienting puritanical sermons in churches. A paper, buil of preaching puritanical sermons in churches. A paper, mich fail out of the checker, which is a license from the superior ter athedral, led to the discovery of his real character. Stryne's reine is a series of the discovery of the real character. Hist. vi. 403, sett. Babban to 2011.

is not without its parallal in other the our history, that their eccurt was opimposed of young mea of noble. Besides the advantages of their and and wealth, the priests must have selves more secure under their gu serves more secure under their guident under that of persons exposed to the tra-tions of poverty; whilst it was announce men of family that they found the converts, and their most faithful display followed, from their having such their followed, from their having such their their course generally lay from hours either of their new converts, or of the of these noble families amongst whom refermed faith continued to be affect

cheriabed When these escorted, a priest arrive have where the was about to remain, d name where the was about to remain, d to receive him as if he were an entire After a time, has was conducted to in the chamber, which was filled up as an opt and there will present fiel homege to his by fulling on their first inquiry was be he would stay with them, which the of might be, as long as pushes. If the them that he should depart on the mark which was the moul charger, all the inni-the house prepared themselves for confession. Early on the plotter the the mass was said, the sacritude the inverse was said, the sacritude the inverse was said, the sacritude the prepared themselves for confession. Early on the plotter the the mass was said, the sacritude the inverse an address, which its such circulate of concealment and danger, spaken by a who had defied difficulties of every kin order to extend the blossing of religions of and there all present did homeye to his who had denea disastering of religions and order to extend the blassing of religions order to extend the blassing of religious parts ments to the persons whom he was and those persons themselves liable to cution for the very act is which they war engaged, and excited by a recent participation in the most sacred mysteries of their faith, could not fail to be in the very highest degree impressive and animating. The uncertainties and antietien of this

of life are strikingly delineated in one of the letters of the letters. Sometimes, upon sudden alarm, or during a hot pursuit, they were driven to the concealment of woods of thickets, ditches or pits, and sometimes they passed many days and nights in the secret places which the Roman Catholics were acpinces which the Koman Catholics were se-customed weenstruck in the Chineseys, Walls : cellars, or other almost inaccessible parts of their houses in Sometimies asymptotic invites, when weither, setting tak mobils anywering is a cheerfully and dismission which anywering is a concern our field gand schooling, for any constant versation is most commonly of which things, a fiber on the set of all and in the string of the set of a is the set of the set of all and the string of the set of the set of the set of all and the string of the fiber of the set of all and the set of all and the string of the set of a set of all and the set of all and the string of the set of a set of all and the set of all and the set of all and the set of the set of all and the set of all and the set of all and the set of the set of all and the set of all and the set of all and the set of the set of all and the set of all and the set of all and the set of the set of all and the set of all and the set of all and the set of the set of all and the set of all and the set of all and the set of the set of all and if by abance any one kingels loughy at the date, with a the second state of the second second

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all start up like deer who have heard the voice an start up like deer who have heard the voice of the hunter. Immediately every one is upon bis feet, with open ears and beating heart. The refreshments are laid aside, we commend ourselves in a short prayer to God, and then no voice nor sound of any kind is heard, until the cause of the disturbance is reported to us? us.

The old manor-house of Bushton, fully il-lustrates this account by Mr. Bruce. We are told by the historian, that the most ourious and undoubtedly the most ancient part of the building, is a small oratory, leading from the great staircase, containing a representation in basso-relievo of the crucificion, composed of numerous figures, and a Latin inscription in gilt characters; the date 1577, appears above it, and underneath are the arms and motto of

it, and underneath are the arms and motto of the Tresham family viz: --sable, six trefoils slipped or, between two flanches argent. The above date (if correct), is against the opinion expressed by Mr. Bruce, of Sir Thomas Tresham being fixed as a Jesuit by Campion, who only arrived in England about the middle of the year 1580. But he adds in a note, that Sir Thomas speaks of himself as being liable to be suspected as a well-known Roman Ca-tholic. tholic.

As Northamptonshire was a retreat for the Jesuits, it cannot be matter of surprise that it formed the nursing place where the gunpowder plot was first conceived.

Historians point out the triangular lodge at Rushton, and a summer-house at Newton, be-longing to another branch of the Treshams, as longing to another branch of the Treshams, as the places where the conspirators used to meet, to arrange their plans. Baker states, that Ro-bert Catesby, Esq., the son and successor of Sir William, of Ledgers Ashby, is "damned to averlasting fame," as the projector of the dia-bolical gunpowder plot in 1605. He was a man of considerable talents, insinuating man-ners, and inflexible resolution; daring and fertile in expedients, but subtle and circum-spect in the development of his nurnees: and spect in the development of his purposes; and ready to sacrifice his life, his fortune, and every ready to sacrifice his life, his fortune, and every feeling of humanity, in defence of the Roman Catholic cause. Towards the close of the reign of Elizabeth, he and Francis Tresham, Esq., son of Sir Thomas, engaged with Garnet and Tesmond, two Jesuits, in secret intrigues for the overthrow of the Protestant establish-ment. It was Catesby who conceived the diabolical idea of accomplishing the restoration of popery by ingulfing the king and both houses of Parliament in one common tomb----it is needless to state the history of the plot. it is needless to state the history of the plot, which is so well known, except that Francis Tresham contributed 2,0001, towards carrying

the plan into execution. The plan of the lodge is triangular; it ap-pears to have been designed by Sir Thomas with some reference to the commencement of his own name. It will be seen that the upper windows are mostly triangular openings, and that all the finials are three-sided.

The building contains one room of hexa-gonal form, with a table corresponding to it in the centre. As the door to this room has several steps in front, there must be a valled apartment beneath. I regret that at the period of my visit no access whatever could be obtained either to the lodge or the manor-house,the estate being in charge of an agent noto-rious all over the county for his boorish, rude disposition. The exterior of the lodge con-tains on its three sides the following inscriptions-over the door :-

TRES-TESTI, MONIV. M. DANT. 5555.

In the centre of the gables " Visita mentes, In the centre of the gables "Visita mentes, non mihi: 3898, respicite, 3509." In the frieze round the building, each side having thirty-three panels, with a letter in each — "Aperiatur terra, et germinet Salvatorem: Quis separabit nos a charitate Christi:—Consi-deravi opera tua, Domine, et expavi:" In the different fronts of the building are the follow-ing dates, 1580, 1593, 1595, 1626, 1640, be-sides various religious emblematical designs, and thirty-six shields of arms. The date of and thirty-six shields of arms. The date of the completion of the building is probably shewn by the iron ties in the three fonts, which are, T. 15. 93. The turret at the top has the date 1595, the year that part was änished.

The manor-house on the estate is a much better specimen of the talents of Sir Thomas

as an architect than the triangular lodge. The interior of this building is said to be very curious; the hall has one of those fine open roofs which are such masterpieces of ancient carpentry. Besides the market house of Rothwell, previously noticed, as a work of Sir Thomas Tresham, and which is now in ruins, in Farming woods, near Northampton, in the heart of the forest, are the unfinished remains of Liefden house, probably his last work. This is a very regular architectural composition, well worth inspection; it is now only occasionally seen by the sportsman while in C. J. R. pursuit of game.

, The cut at the head of page 539 represents one of the lower windows at large. 'W e shall give two windows from other sides of this very singular building, next week, so as to illustrate more fully an architectural caprice which is almost unique.

WILLIAM THE CONQUEROR'S DAUGH-TER GUNDREDA.

MANY of our readers have heard by this time, of the discovery by railway workmen, of two cists amidst the ruins of the old Priory at two cists amidst the ruins of the old Priory at Lewes, in Suffolk, containing the remains of Gundreda, fifth daughter of the Conqueror, and of her husband, William de Warren, the first Earl of Warren and Surrey, and founder of the monastery. Ancient records prove that Gundreda died in 1085, and William de Warren in 1088, and that both were interred in the Chapter-house of Lewes Priory, the latter being, as is stated, "buried in the Chap-ter-house, in a tomb adjoining that in which ter-house, in a tomb adjoining that in which his Countess Gundreda was laid."

The priory was destroyed with the other monasteries by Henry VIII., and so complete was the destruction, that, as Horsfield observes in his history of Lewes, "the very site of the chapter-house could not be ascertained." This point howarar the present discovery will clear point, however, the present discovery will clear

up. In Southover church, hard by the site of the discovery, the monument that originally covered Gundreda's remains is preserved. According to the author already named, it was discovered about the year 1775 by Dr. Clarke, of Buxted, in the Shirley Chancel of Isfield Church. "It formed part of a burial monument of Edward formed part of a burial monument of Edward Shirley, Esq., by whose father probably it was preserved at the demolition of the priory, and conveyed by his directions to Isfield. Dr. Clarke obtained permission of the represen-tatives of the Shirley family to remove the stone from the changed where it had hen so how prefrom the chancel where it had been so long preserved. It was the intention to replace the stone over the spot where the body of Gundreda had originally been deposited ; but as the very site of the chapter-house could not with certainty be ascertained, the stone was placed in Southover Church, that being the nearest ascertainable site of its original station."

site of its original station." It is a coffin-shaped slab of black marble sculptured with foliage in bold relief: a very interesting remnant of Anglo-Norman art. The cists, which are of lead, and about 3 feet in length, 1 foot wide, and 10 inches deep, have been removed to Southover Church: their contents will probably be transferred to the monument already men-tioned. The discovery is one of great interest. Nearly eight hundred years have passed away since these bodies were interred, a period which may be said to embrace nearly the whole history of our country. the whole history of our country.

WESTMINSTER COURT OF SEWERS.

A SPECIAL court was held on Friday, the 31st ult., "To consider the steps necessary to be taken in consequence of the resolution, sanctioned by the court on the 3rd of October, with regard to contracts, and as to execution of jobbing works. In the absence of Mr. Edward Willoughby, Captain Bague, R.N., was appointed chairman; and a form, on the basis of the form in use in the Holborn and Finsbury divisions, was ordered to be prepared. The chairman then called on Mr. Leslie, who pro-ceeded to state that he had always objected to the vague and uncertain information put forth to parties about to contract, as to cleansing of gully-drains, and the all but entire want of check on the cleansing of sewers, as also of the nuisance to the inhabitants of having the

soll lifted up from the sewers, deposited on the carriage ways, and carted away without, my real check at so much perioad. The cleansing of open and covered sewers and gully-drains cost annually, notwithstanding the imperiect and objectionable manner in which it was done, about 2,000%. He was of opinion, that this sum could be more advantageously applied, and that for all the works not comprehended in the resolution he had previously carried, to be done by public contract for each separate work, that the remainder, including the cleanwork, that the remainder, including the clean-sing of the sewers and gullies, should be done by a small establishment of workmen and labourers; and that the cleansing in every practicable case should be done within the sewers, thereby avoiding one of the greatest possible nuisances in the metropolis. Mr. Dowley and Mr. Doull, being called on, both stated to the court that they thought the plan

well worth trying. Mr. Leslis then proceeded to propose, seriatim, the several motions to carry out the object; the whole having been seconded by Mr. G. N. Cumberlege, were carried *neme. con.* the few objections being as to detail.

"That the cleansing of sewers and gully-drains, and all works not publicly contracted for, be done by the establishment now proposed to be commenced.

Proposed plan for works under 501., includ-

| 12 labourers, | at 3s. | a day, £ | 561 12 0 |
|--|-------------------|----------------|----------------------------------|
| 4 bricklayers, | ,, 5s. l | | 499 4 0 |
| 4 bricklayers, 4 labourers to ditto | , ,, 3∎. ∫ | ··· • | |
| A yard man | •• | · • • | - 5 2 10 0 |
| One cart and one mu | id-cart | | 5 . |
| Horse hire | •• | · : . · | 4 . 1 [*] . |

In cases of emergency, an extra number of workmen must be employed, but must be spe-cially reported to the next court.

That the daily accounts be kept in the most since the daily accounts be kept in the most simple and intelligible way, so that each dis-trict may be charged with the correct accounts. That the workmen and labourers be paid on Friday in each week the certificate of the clerks of the works and surveyors be, affixed thereto."

thereto.'

The surveyors were ordered to prepare a short report of the quantity of materials, water-boots for the labourers, &c., that would be re-quired when cleansing the sewers; and the best site for a shed in the vard, wherein the brick-layers could be employed; in spare time or wet days, in preparing blocks of brickwork in ce-ment, for future use.

ASSERTED FAILURE OF SEWER IN GRAY'S INN-LANE.

To the Commissioners of Severs in the West-minster Court.

GENTLEMEN,-My attention has been called to a report at your meeting on the 24th illimo, relative to a slip of earth at the end of the Queen's Road, Gray's-inn-lane.

I beg to state that no part of the sewer was built. The workmen were levelling the ex-cavation ready for the blocks to be put down: that operation being finished, one of the men incautiously struck one of the struts about three feet from the bottom of the excavation, three feet from the bottom of the excavation, so as to enable the bricklayer to carry up the side walls, and turn the arch for a ten feet length. All being gotready for the brickwork, a heavy fall of rain came, and also at that time the engine was at work at the new river head, and one of the mains runs through the excavation. This caused the fall of earth be-fore alleded to, and not the giving way of the sewer. Finding more difficulties approaching, timber was instantly procured, and placed across the street from curb to curb on the paving: all hands were put to work at this spot, and all hands were put to work at this spot, and the fallen earth was removed with all dispatch, the men worked both night and day, and again got ready for the bricklayers. They then again got ready for the bricklayers. They then got up the side walls, and turned over one-half the centre, which was ten feet long, leaving five feet not turned; another slip took place, and broke off quite short, the five feet of centering, and left the remaining portion under the sewer. No part of the brickwork was at all damaged, but all was perfectly sound when the centre was taken out.—I am, Gentlemen, your oledient servant. Gentlemen, your obedient servant, GKORGE SNITH.

Newton Road, Bayswater, Nor. 1, 1845.

ALL SAINTS' CHURCH, WESTMINSTER ROAD.

A CHURCH is how nearly completed, situated in York-street, Westminster-road, which claims attention on the score of novelty. The tower, a slender structure, stands at some little distance eastward from the body of the church, and is in a line with the houses in the New Cut. It will be connected with the church by means of a corridor or cloister, not yet built. Both the tower and the body of the church are of brick, but the upper story of the former has stone dressings, small shafts and arches on the face of it, coping, pinnacles, &c., and is surmounted by a stone spire, in the whole 135 feet high, from the ground. The main doorway too, is of stone. The church itself is spacious, being as we were informed on the spot 125 feet long and 56 feet wide, inside. It consists of a nave and aisles, separated by a range of lofty cast-iron columns of small diameter on each side, which carry semicircular arches adorned with the "open-heart" cement. There are galleries all round the church supported on cast-iron girders, rather eleverly arranged at the east end, there is a semi-circular absis with a lofty semi-circular arcade against the wall, corresponding with the main arches.

There are no windows in the absis, but there is a small opening filled with stained glass in the apex of the half dome that covers it. The church is lighted by semi-circular headed windows in the sides, and a rose window (the tracery of which is formed outside wholly of bricks) at the west end. The roof is open, it consists of a common queen post truss, with small open brackets against the walls at each foot, and being of small scantling has rather a mean appearance. It is of deal, stained. The pews, pulpit, &c., are also of deal, varnished. The style of the structure can hardly be cha-

The style of the structure can hardly be characterised, but may be called Byzantine for want of a better term. It reminds the observer of some of the Rhine churches; like them it has small arcades on the outside running up the line of the gable. Although there is much that may be cavilled at by a rigid ecclesiologist, we cannot refuse praise to the architect, Mr. Rogers, for some skill and boldness. Mr. Wilson of the Borough is the builder.

DESIGNS FOR LAYING OUT THE PUBLIC PARKS AT MANCHESTER.

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"The three sites to be laid out, are—No. 1. The Bradford property, containing about 31 acres; No. 2. The Hendham Hall property, containing about 30 acres; No. 3. The Lark Hill and Walness Vale property, containing about 31 acres. Nos. 2 and 3 are partially laid out and planted. The sum which the committee contemplate laying out in planting, fencing, draining, &c. &c. (including the provision of sents), for the three sites, is in all about 4,000*l*. This sum does not include the costs of lodges, for which, and for other erections, a sufficient sum will be provided. The committee, having but limited funds at their disposal, will be obliged to consider *facility* and *cheapness* of execution in their adjudication. Each plot must have play-grounds, with due appropriation for archery grounds, quoit, skittle, and ball alleys; a refreshment room, officient lodges; and the places for these must appear on the plans. The houses on Nos. 2 and 3 will be used as refreshment rooms, and the outbuildings may possibly be rendered available for some of the games contemplated. The utmost regard must be paid to giving ample room for the promenading of large numbers of persons; and the designers must keep before them the practical usefulness of the scheme, remembering that they are sketching *a park* for the *public*, to be constantly accessible, and not a private pleasure-ground. A carriage drive round the parks would be desirable, but no carriage drive to intersect them. Footpaths or promenades will, of course, be

suggested to the taste of the designers. • • Competitors desiring to append designs for lodges, &c. are at liberty to do so, should they think fit."

E BUILDER.

About thirty plans for each park were submitted, and these have been publicly exhibited at the Town Hall, the charge being one shilling each person for the two first days, sixpence the two next, and threepeace for the two last.

The following observations are extracted from the Manchester Guardian :-

⁴ Having had an opportunity of seeing the various plans about to be exhibited, we may offer a few general observations upon them, without the slighest desire to recommend or condemn any particular plan. As we have said, there are ninety different plans, thirty for each park, and these are numbered in the order of application, and, (for the reason stated) not consecutively. As to the estimates furnished with each, of the probable cost of carrying out these designs, they take a very wide range indeed, some being as low as 2,000/., and one as high as 9,800/.; the limit stated by the committee being 4,000/.

There must be considerable difficulty experienced, especially by non-professional persons, in coming to a decision in preference of any one plan or set of plans over the others, from following amongst other reasons :the -The plans are drawn to a great variety of scales; some are delineated in pencil or faint tracing, others in Indian ink, others again in Sepia tint, and some are coloured, and hence made exceedingly attractive to the general eye. While most of the plans are strictly ground plans, others represent trees, hedges, &c., in elevation ; and in one or two instances we have very pretty birds'-eye views of the parks, shewing all their "alleys green," their groves, and arbours, in full and luxuriant verdure. Some of the plans seem to us very jejune performances, and in several instances, one great consideration seems to have been overlooked. About 30 acres being the average area of these parks, it becomes important to make the most of this extent of ground; to plan the walks so that as much space as possible should be gained within those limits. Hence straight lines, intersecting each other at right angles, should be avoided; and winding curves, or what are called " serpentines," seem naturally to suggest themselves. Yet, some of the plans look like the laying-out of the streets of a city, rather than the walks and places of exercise and sport in a park.

In one or two of the plans, artificial lakes are the chief features; in others, the fountains are made prominent objects; while in some, the planting is so close as to resemble a maze. Only one or two furnish elevations for lodges, refreshment rooms, shaded seats, &c. Or point seems to us worthy of consideration, Òne the retaining in one or more of the parks in one place, a large extent of green sward, on which to congregate on particular occasions of festivity, a considerable number of persons for a short time, as, for instance, to hear a short address from the civic authorities, or an open air concert, or to witness some display or exhibition suited to the scene. Some of the plans have left some such space, especially in the Walness portion of Lark Hill park ; others of the plans have filled up every portion of the area with walks and hedges, leaving only small patches of grass between the windings of the walks. Some of the plans resemble the figures seen in a kaleidoscope, all the curves being made to converge to a common centre; others again, retaining the centre, have radiating straight walls, somewhat like the spokes of a cart wheel. Some of the candidates have sketched their designs on the small lithographic plans issued by the committee, and it is much to be regretted that all the competing plans have not been drawn to one scale. When plans have not been drawn to one scale. these variations have been duly allowed for, it appears not to be very difficult to reduce the number of plans to some eight or ten, and then it will require a little more care, circumspection, knowledge, and judgment, to make the final election. We presume that it is quite open to the committee to adopt a plan of each of three different competitors for one park, or even to combine in one plan such portions of several as may be deemed most suitable or desirable in carrying out the object in view, as expressed in the instructions issued by the committee."

Rette Books. And the la

A Treatise on Painted Glass; shewing its applicubility to every Style of Architecture. By JAMES BALLANTINE. Chapman and Hall. London, 1845.

Thus very nice little book may be read by all with advantage, although it cannot be said to carry out the subject to the full extent of which it is capable. The chief point urged by the writer is, that while decorative art must be guided in her leading features by geometric proportions; she must also imitate in her details, the productions of Nature; ----that Nature and art must go hand in hend in every artistic effort, or failure will be certain.

The writer objects to the imitation of bad ancient examples, simply because they are ancient: "As if in penance for former transgressions, the national taste has prostrated itself before the spirit of antiquity, and is now offering it a homage at once abject and indiscriminating. This folly has been most injurious to several of the decorative arts, and to glass-painting in particular, in which the good, bad, and indif-ferent have been all copied, and repeated with equal fidelity and zeal. Several glass-painters have acquired an extensive and profitable re-putation, simply by pandering to this vitlated taste, and by anticipating the effects of time in their imitations of antique glass. The conse-quence is, that, even in new churches, we find painted glass windows deformed with mower-ous black spots, in order to produce the "e-quired antique appearance; a deception some-what skin to that practised by needy artists, and swindling picture-dealers, when they ma-nufacture and sell smoke-dried imitations of Teniers and Rembrandt as genuine originals. Defective drawing, meagre design, and anskilful composition, have been laboriously copied, while, in order to stamp the work with the features of genuine antiquity, and to imitate the awkward workmanship of the old speci-mens, the pieces of glass have been purposely fractured, then clumsily soldered together.

Glass manufacturers, too, taking advantage of the prevalence of this ridiculous taste, have of late years realized large profits by imitating the sandy texture and wavy uneven surface of the old windows. In several recent instances, laboriously executed designs, replete with 'appropriate meaning, and carefully adapted in form and character to the architectural style of the edifice for which they were intended; have been set aside for service transcripts from old windows of these stereotyped figures, the repetition of which saves the trouble of 'invention. In the department of painted glass; art 'has been decidedly retrograding ; and should the public suddenly awaken to a sense of 'its folly, in admiring and encouraging the deformities thus perpetuated, there is a danger that the art may be left without sopport, when it may both require and deserve it."

He afterwards refers to some recent altempta to make the imitation of nataral objects appear a minor part of ornimental composition, and endeavour to refute the association, that little more is required in this department of art than graceful geometric combinations of lines, and harmonicusly balanced combinations of colours.

"The advocates of such opinions seem to forget, that harmonic proportion forms but the pedestal on which the triamphs of genus are to be exhibited—the foundations of the temple of art. They would substitute the alphabet of æsthetics for the alpha and omega of art, and having discovered that, by a systematic arrangement of colour and form, without reference to sympathy or association, it is quite possible to produce an agreeable effect, they forget, that while the artist seeks to please the eye, he ought also to address himself to the feelings and fancy of the spectator.

Man is not a creator, he is a mere adapter. The most wonderful inventions of modern times are based upon discoveries made by diligent observers of the operations of nature. Those specimens of art, which have been transmitted to us from a remote antiquity; excite pleasurable feelings, proportioned to their approximation to the beautiful in nature?

"If the greatest triumphs of art be felicitous imitations of nature, and if it be its chief sim to achieve such imitations who can doubt it is—why should we not have the walls and windows of our apartments decorated with

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542 there, ther most interesting of all the produc-tians in gename. Why should we be deprived of the pleasais of contemplating the represen-tation of objects endeared to us by the most delightful associations? Why believe ourselves criticle of producing or conceiving more bear tild forms than those of nature - mote har-menious arrangements of coldur than we had in earth and sky. Let it by retilevine we had in earth and sky. Let it by retilevine we had in earth and sky. Let it by retilevine we had in earth and sky. Let it by retilevine we had in earth and sky. Let it by retilevine we had in earth and sky, the fit of retilevine we had in earth and sky. Let it by retilevine we had in earth and sky, the her mere alphabet of colour, the mere anatoms of form and the genius show can arrange the farmer into the genius alone can arrange the farm and the genius of the mere anatoms of form and the genius of the mere and the show of the moter with ani-mation. Geometric confidentions and propor-tiess morely mark the similar which genius eight to confine the superstand proport inter, the study of which will enable him do will correctly.

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architecture that work place; painted glass changed its character; and this change, so far as relates to foliage and geometrical forms, the author endeavours to trace. The following

pilated plass of the stavents and twelfth cen-turies, like the Norman architecture, of which it formed a part, was stately, and of a megnia additional states, which clours were no the maste wirded and positive cloar were no the wirds state the post of the eye to repose the no-neared duce were introduced. The while of the production of the were filled with intenses edited duce were filled with intenses edited the same develop which it is and state of semicle the state of the invariably inclout inter-ing not the windows of that period, and the generative windows of that period, and the generative method in the state of semicles the state of semicles the windows of that period, and the generative method in the semicles of the generative method is prive of the semicles and the generative method in the semicles of the generative method in the semicles of the semicles and the semicles and method is prive of the semicles and the generative method is the semicles of the semicles and the generative method is prive of the semicles and the generative method is prive of the semicles and the pelated glass of the deleventh and twelfth cen-

romantic and martial spirit of the age of abi-yary . The realing forms, also, were at asce-massive and aimple, sithough they were starses in a spirit and a simple, sithough they were starses being and Roman friezes and capitally." Many and the second second second second second planty, both in solout, and form. The post-My, both in colour and form. The post tive coloars were now used more sparingly, and, indeed, were almost entirely confined to repreteis bandas central points chiefly quarter foils, and borders outstinued round each online window "The general prounds or liter mediate spaces mere of a basisful tint of seutral grey, spaces were of a basifiel tint of neutral grey, produced by dimes interacted at right angles, fridd which were followed, by bold black lines, sould be to be a start of the second start of the great To the way the bring and the second start of the big way the bring and the second start time to the big second start of the second start to of simple geometric figures gave it an entirely new forther, and evinced an adaptive power not formerly us big to be dealed to the power not formerly us big to be followed of the two way the forther and of classic architec-ture way the start of the followed of the ture was abasely initiated in the fulinge of the gentral ground and During the fourteenth

century, which the secondary pointed or decorative style of architecture prevailed, the architells in galaxies and the have advanced still further in bit and the have advanced still further in the aff of alleptation or invention. Thus, we find that, in accordance with certain fixed rules of proportion, they elcagated, intersected, di-versified, and arranged; rectangular, triangular, and curvilinesh figures, and made these har-monious geometric combinations their leading points for colour. They were thus enabled with vertainty to produce a pluasing general effect, and to fill up the detail according to eustry and to un up in energian according to their own famoy with an initiation of the com-mpli where, in weith an initiation of the com-growing around them. The ornamental glass of this period is therefore, schemeterised by a rich, joir of features, as well as an easy play rich; yorcy trestmess; as well as an easy play of characteristic and a praceful propertion. In mark instance, who, the rev background produced by littlessetted lines was abandoned, and a time of gray becare abasineted; which inter the statistic transmission of the first, and gave a laster third to the outlaned foliage, of which the line rate to the outlaned foliage, of which the line rate of group becare. There were now at adaptations, from any other nd adaptalions from, thy other sources than nstore and geometry." Perpendicular.-" During the period of per-

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pendicular architecture in the fifteenth, and a portion 1.of. 4he. sistemth [[cynturies., the glass painters.scentte.here / kes, at ides. of netural or geometrie.bashty.;) The Jeading:forms.are fast: and interenning, send "hee, combinations. fist and i nemetining, and "the combinations formed without unity principle: Of Balancesion contrast. 1/The folling, and for the pro-interaction of the states of the states of the totypes in a states of the well-graunded finedom in inventing and adapting source to have been lost, and in its staad there was retablished a sort of manufactory of state and doorative a write as and converties a contained the states of the states of the states of states and doorative a stinte ceity. The architects and decorative artists sppear to have wrought without rule or play and with an utter disregard of the true princi-ples of design."* Elizabethan. — " The ornamental painted

glass of this period appealed to no sympathy, or association, and in form, as well as in colour, was vapid, vague, and indefinite. The mosaic mode of joining together various coloured glass was set aside, and the brilliancy which can only be obtained by that method, was superseded by semiopaque colours, imperfectly fused on the surface of large sheets of glass." The work is illustrated by many coloured

diagrams, and will be found useful by all who are interested in the subject.

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Miscellanea.

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DUTIES OF PAROCHIAL OFFICERS IN CON-RECTION WITH THE REPAIRS OF THE CHURCH-Such evils, then, it is ours to repair; and that in so many places you have so well and cheerfully begun the work, I heartily rejoice. But, if these evils are to be thoroughly removed, we must first form a just estimate of the disgrace of their continuance, and the duty of abating them. And this is the more neces-sary, because their existence is, I believe, in ad, slight degree to be traced to the action of false principle of honour, which has attached special praise to those parochial officers who have kept the church-rates lowest in amount. Now, such an administration of a common fund is worthy of all honour, if it is the result of a care, watchfulness, and prudence which have first secured the objects for which it is created : but if a low church-rate is obtained by the neglect or penurious reparation of the church, ne such honour can belong to its appointed justifiant ; rather should it be his object, as it is his daty, to stir up his co-parishioners to willing, and united offerings, until their common house of God is a worthy expression of their hearty thankfulness for all their common blessingsuntil its decent fabric, ornaments, and fittings bear some due proportion to their common means. Surely he who acts in this spirit will best consult the welfare and honour of a parish; he best provides for the real wants of its poor; he best provides for the real wants of its poor, he will gain for himself the enduring preise of being "the repairer of the breach, the restorer of paths to davell in." T Cherge of Archdeacon Wilberforce. EXTENSIVE SALE OF MARGOANS AT LIVERPOOL. — The largest mallogany sale at Liverpool on record took place last week. It consisted of 24 corpose and extended outs

Liverpool on record took place last week. It consisted of 24 cargoes, and extended over several days. Messes Challoner and Fleming were the auctioners. The prices of Honduras mahogany, of which there were six cargoes, ranged from 6d. to 17d. per foot. St. Domingo mahogany, of which there were IQ cargoes, fetched from 6d. to 9s. 4d. per foot. Cuba mahogany from 54d. to 12s. 9d. per foot. SOMETHING LIKE FATALITY.—Mr. Basevi, only a few days before his unhappy death, re-

only a few days before his unhappy death, re-marked to Mr. Sydney Smirke, with whom, as our readers know, he was associated in more than one undertaking, the risks prchitects were compelled to run in performance of their duty. Since then, Mr. Smirke has met will a nearly similar accident, which has confirmed him to his bed.

CHURCH FOR SEAMEN. The corporation of the eity of London have just forwarded the sum of 1051. in aid of a find for the building a " Church for Seamen in the part of London.

Meanras Elmon THE ROVAL ACADEMY T. S. Cooper, and Frith, have been elected associates of the Rayal Academy.

• The heraldic blacon, and have figures, which is the period were much is use, tended in many index to the first and windows a very imposing appearance, but these belowing to what may be denominated pictorial grass; the ormain and braceh of glass paining, which we are now illustrating, only embraces natural foliage and geometric forms.

Victoria Pari, Cenetery, An and an accelery, and an wire accelery, being and an analysis, being and acceleration, being and, an which the being and a statistic terming which the bolk is the approximation of black the bolk of the right or left. Four cap areamade in band statistication of the statistic areamade in band statistication of the statistic bolk of the statistic of the statistic of the statistic areamade in the statistic of the statistic of the statistic bolk of the statistic of the statistic of the statistic areamade in the statistic of the statistic of the statistic areamade in the statistic of the statistic of the statistic areamade in the statistic of the statistic of the statistic areamade in the statistic of the s two below, and ness data we and the space or opening in the bolt. The first cog above and below on the spindle are on the same plane, and sol toget at the back face of the open is the best bird trans there there to a set of a on a plane durtherstacht, mid nick so allasingell of the bolt of this driving edicates allasingell by tarning the knows in ditter this wise is a by tarning the knows in ditter this wise is a lower dogs bias the tart to be an any word over dogs bias the tart to the first and the copy were on the same plate. The hang or the patentee is Jamie M. However all the EFFORT TO A PART of the tart of the tart is an advantaged of the tart of the tart Manchester School of Design are about the Manchester School of Design are about the day is not far, digtant, when London will came Heen

an exhibition of industrial when London will car an exhibition of produces of section in the sec-on the grand scale lifely achieved in Paris. It is an important white Asil the lifetime density It is an importation the just an it in the binned est tion of government; while point i ad norther progress of severy while point and on the sever meantime, we merely an ever and the several effort in Manchester, which will be productive of manch goods and will be productive of machine and will, and hope, at the of the several destributes of many summers our several datues, ever dat as being Scattering of Burn was placed in its several

sen's statue of Byron was placed in its perma-sent position in the Library of Trinity College last week ; it is needless to say that it attracts very groat attention, 'had' in daily mist tad by humerous _members hof olther oUsin Adaibary humerous members ideolibe of Usionsteily and others. The spainty installed here merided this week by a status of Bases, by a Usion presented by the Bay Dry Warsell, the Mass ter. It is placed in the Asta Castal and the Screen, and almost under the Astal and the Mass worth. The philosophysic supported for the clining in his chaining birst we do bills of the Monument to Mr. VERTUE. The part of the

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COMPANY.— The following are the candidated for this appointment, lately hold by Mr. Baseli, - Messre, Hunt, Jenburg, Mae, Henry Har-rison, Tattersall, Mawley, and Mocalita The RATE of THE DATA To The The holders of Leicester have converted the the tre Thro a railway cellamight is a show only

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a distance of about 18 miles. And yours increase tunnel and vieduct. For, the execution of the works formatic the sec-and 6th divisions of the Dublin and Belfue, Just-tion and Navan Branch Railway, being repetitive of the lengths 8 miles 128 yards, and 7 miles 12 yards. Both contracts comprise the unit works

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"H. B. G. "Varnich stained with asphaltum "Gonneyance, of Water." A correspondent "Gonneyance, of Water." A correspondent wights to know the cheapest and best mode of conveying a small current of water for 300 yards down a genila inclination to a cistern, for the supply of one family: the smallest pipe that would preserve a reviator current will be large enough." "Valuation, of Brecholds, Ec." Inwood's Tables" will be found worfit. "A Subaction." War for moulds may be obtained from any plasterer. "Iron Work at Lincoln's Inn Hall." Ware,

"Iron Work at Lincoln's Inn Hall," We are work at the way, Hall me justly praised for week, is Jakez Janes, of York-road, Lambeld, not John

is Jahez Janez, of York road. Lambell, not John Janes. Janes. Jorden Jahes Janes, of York road, Lambell, not John Janes. Jorden John Janes, John Janes, Jorden John Janes Jorden Jorden Janes, John Janes, Jorden John Janes Correspondent. J. K. M." (Lombeth.) – The gentleman named more on the subject. Jorden John Janes, We shall be gold to hear more on the subject. J. X. A." – A letter addressed to Sir Henry Billis, at the Museum, by any person of reputation, social obtain for our correspondent the required interior to the Reading-room. J. Thours." – We do not propose to insert ten-derts, excepting for large works, or under peculiar examples of the large works, or under peculiar

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ADVERTISEMENTS.

ROFESSOR KELLER'S POSES PLASTIQUES

ROFESSOR KELLER'S POSES PLASTIQUES. ROFESSOR KELLER'S POSES PLASTIQUES. ROYAL ADELAIDE GALLERY.—This chibit at the Adelaide Gallery his Grand Tableau Vivane from the the Adelaide Gallery his Grand Tableau Vivane made to add to the effects of this exhibition. A variety of new subjects have been added to those siresdy presented to the public The Concerts as usual. Also Filbrow's Atmospheric Railway model, with explained tory lectures.

Also Filbrow's Atmospheric rearray around the file of the file of

TO RAILWAY ENGINEERS, SURVEYORS, AND OTHERS.

OTHERS. LEVELLING STAVES, SCALES, 26. without detriment to the quality of the goods. Leveling Staves of the most convenient and best construc-tion, now in general use on all the lines under k. 6. Parliamentary Scale, and Offset for railway surveys, box wood. Curves, sech. Curves, sec., made to order on the shortset notice. VM: HOBORAFT, Habmantical Instrument Minkow, 34. Princes-street, Leicester-square, London.-Orders by pose, constaining a remittance, immediately forwarded to all parts of the country.

DORTLAND CEMENT of best quality manufactured by J. B. WHITE and SONS, of Mill-bunk-street, Westminster. To be had at their Warnhouses Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Earl-street, Blackfriars.

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A TKINSON'S CEMENT. — The public is respectfully informed, that the price of this very ex-cellent Commany owich has new bena in use for Architectural and Engineering works upwards of thirty years, is reduced to be 3d. Per bucher, and may be had in any quantity at Wyatt, Parker, side Co.'w Whatt, Holkmad-wweet, Surrey side of Blashiriart-bridge. N.B. — This Cement being of a light colour, requires no arti-ficial colouring or painting, and may be used for stueco with these parts is own quantity of sand.

REENE'S PATENT MARBLE CEMENT.

REENC'S PATENT MARBLE CEMENT. THE PATENT FES of KEENC'S CEMENT beg to draw attention to the use of this material in the works recently executed at the COLOS-SEUM, Regent's park. The POLISHED COLUMNS in the Hall of Sculpture, the ornamental paring in the corri-dors and conservatories, and much of the stucco on the walk, are upcelinent of the very successful application of this compart. Patenteet and Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

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ring the marine and hostions of pointed architecture that to took place; painted glass chinged its character; and this change, so far as sufficient to follage and geometrical forms, the author endeavours to trace. The following

Acriment Berind The ornamental The ornamental prior of the ornamental prior defined plane of the second of the second second the second second the second secon pelated glass of the delayenth and twelfth cen-

ty both in colour and form. The post beauty, both in colour and form. The posi-tive colours were now used more powingly; and, indeed, mate almost entirely confined for goognetic bands, central points, chiefy quater foils, and border boostimood read cases entire wardow in The general 27 durids or liter mediate spaces were of a boastiful tint of seutral grey, spaces.were of a basitial tint of neutral grey, produced by lines mursected at right angles, fraid which were pulsively by bold linck lines, and lines dolinted ormaniestim clear, colourless good. The thir way the wramental glass of the style was much more agreeable to the eye tharrists of the Nummer; while the introduc-tion of simple geometric fluires gave it an artical new feature. and evinced an adaptive enticely new feature, and evinced an adaptive power not formerly bolitied. Still, however, the sublate been bornsmont of classic architecan adaptive the variation of the statistic the folinge of the

cattiny, which the secondary pointed or decorutize style of stchitecture prevailed, the architetts in gaass painters soon to have become sell diaming that the first principles of pro-porties, and to have advanced still further in the aff of effectation is invention. Thus, we fund that, in accordance with certain fixed rules ofproportion, they elagated, intersected, di-versified, and arranged; rectangular, triangular, and curviliners ingures, and much their leading points for colour. They were thus enabled with certainty to produce a plusing general effort, and to fill up the fletail according to eught, and to unit an initiation of the com-their awn famey, with an initiation of the com-mpli Weeth, flowers, and plants that they found growing around them. The cramental glass of the period is therefore, whereacterised by a rich, joiry freshness, as well as an easy play of etagane out istand .procetting of the provider. In the of the stands, the provider of the provider. Produced by istances, the provider of the provider of the standard of t and a tint of provide a substant of a control of the substant Bd adaptations from any other sources than nsture and geometry." Perpendicular.-." During the period of per-

THE BUILDER. ABDLIUE BHT

pendicular architecture in the fifteenth, and a pendicular architecture in the filteenth; and a, portion tof. the sixteenth; crainies, the glass paintees seem to have jost all tides of natural or geometric basenty; the leading forms are fake and (manenting, and) the combinations formed without any principle: of balance for contrast, "The' foligie, also, tim faiturations for artificial with the balance and dometh faiture for artificial with the set of a do dometh faiture for the totypes in a states of All, well grounded freedom in inventing and adapting seems to have been lost, and in its stead there was setablished a sort of manufactory of stale and pointless conceits. The architects and decorative artists appear to have wrought without rule or plan, and with an utter disregard of the true princi-ples of design."* Elizabethan. — " The ornameutal painted

glass of this period appealed to no aympathy, or association, and in form, as well as in colour, was vapid, vague, and indefinite. The mosaic mode of joining together various coloured glass was set aside, and the brilliancy which can only be obtained by that method, was superseded by ee counced by that method, was superseded by semiopaque colours, imperfectly fused on the surface of large sheets of glass." The work is illustrated by many coloured diagrams, and will be found useful by all who are interested in the subject.

estranting the course ARiscellanes.

DUTIES OF PAROCHIAL OFFICERS IN CON-BURGHINS OF THROUTH OFFICERS IN CONpair ; and that in so many places you have so well and cheerfully begun the work, I heartily rejoice. But, if these evils are to be thoroughly removed, we must first form a just estimate of the disgrace of their continuance, and the duty of abaling them. And this is the more neces-sary, because their existence is, I believe, in a alight degree to be traced to the action of ad flight degree to be traced to the action of a false principle of homour, which has attached special praise to those parochial officers who have kept the church-rates lowes in _____ Now, such an administration of a common fund we kept the church-rates lowest in amount, is worthy of all honour, if it is the result of a rare, watchfulness, and prudence which have first secured the objects for which it is created : but if a low church-rate is obtained by the neglect or penurious reparation of the church, ne-such honour can belong to its sppointed ruentian; rather should it be his object, as it is his daty, to stir up his co-parishioners to willing, and united offerings, until their common house of God is a worthy expression of their hearty thankfulness for all their common blessingsuntil its decent fabric, ornaments, and fittings bear some due proportion to their common means. Surely he who acts in this spirit will best consult the welfare and honour of a parish best consult the welfare and honour of a parisf; he best provides for the real wants of its phor; he will gain for himself the enduring praise of being "the repairer of the breach, the restorer of paths to dayell in." Tr Charge of Archdeacon Willerforce. EXTENSIVE SALE OF MARGOANT AT LIVERPOOL. — The largest malogany sale at Liverpool on record took place dust week. Mat

Liverpool on record took place last week. It consisted of 24 cargoes, and extended over several days. Messrs. Challoner and Fleming were the auctioners. The prices of Honduras mahogany, of which there were six cargoes, ranged from 6d. to 17d. per foot. St. Domingo mahogany, of which there were 10 cargoes, fetched from 6d. to 9s. 4d. per foot. Cola mahogany from 54d. to 12s. 9d. per foot. SOMETHING LIKE FATALITY.-Mr. Basey, only a few days before his unhanny death. re-

only a few days before his unhappy death, re-marked to Mr. Sydney Smirke, with whom, as our readers know, he was associated in more than one undertaking, the risks architects were compelled to run in performance of their duty. Since then, Mr. Smirke has met with a nearly similar accident, which has confined him to his bed.

CHURCH FOR SHAMEN .--- The corporation of the eity of London have just forwarded the sum of 1057. in aid of a fund for the building

a "Church for Semen in the pert of London." THE ROVAD AGAPTING MEANS Elmore T, S. Cooper, and Frith, have been elected associates of the Royal Academy.

The heraldic blarch, and have find with at this period were much in the terioded in mining which at this windows a very imposing appearatic, but this before the what may be denominated pictorial grass the ormanic and branch of glass painting, which we are now illustrating, only embraces natural foliage and geometric forms.

Luran and the spin of the spin

day is not far distant when London will oner an exhibition of products of mational induction on the grand scale lifely acflieved in Paris. It is an important subject for the stimulers. tion of government, and a powerful ald contism progress of every transford and prelited

sen's statue of Byron was placed in its perma-sent position in the Library of Trimty College sent position in the Libbar of Wintly College last week; it is needless to say that it attracts very great intention, that in additional the by numerous members information bero with the state others. This enaity has also a structure of the best of the structure this week by a status as **Saeen**, by Warkson presented by the Rev. Dry Warkson bero like ter. It is placed in the Auty i have a structure Screen, and almost under the here of the black worth. The philosophers is successful the Monumer to Mr. VERTUR. The structure tractor, agenta, and aby contractors on the

cliang in his clienci due hology vi bolliss of yield MONUMENT TO MR. VERTUE. — The particular tractors, agenta, and colorant statute. — The second inned upon erecting a monument in Partition churchyard is the memory of the date with Robert Vertue, superint solend, of the date with district, whose death we required apply a fortnight ago, — *Cumberland, of the date with* district, whose death we required apply a LADT SHEER, PENSION STATUT, when a sole of the pleased to bestow, a pension of 2000, s been pleased to bestow, a pension of 2000, s there is an artist and with the print a sole of dident of the Royal Academy during a person of fourteen years. THE STRIKE OF, THE NALOSE. — The antiors have returned to their which the sole of May 15th, 1838. — Wordstriker of the sole of May 15th, 1838. — Wordstriker of the sole of May 15th, 1838. — Wordstriker of the sole of the sole of the color of the sole of the May 15th, 1838. — Wordstriker of the sole of Cokremy. — The following are the condition of the sole of the price, as a sole of the May 15th, 1838. — Wordstriker of the sole of the cokrester of the sole of the sole of the sole of the cokrester of the sole of the cokrester of the sole of the sol

Cohrany.—The following are the candidates for this appointment, lately had by Mr. Basen; -Messrs, Hunt, Jennurge, Alge, Heavy Har-rison, Tattersall, Mawley, and Hocalin, The RATE OF THE DATA TO THE TAKE holders of Leicester have converted the final of tre Third a railway exchange. I at Any nori "

NOTICES OF CONTRACTS AL IS AT We are competied by the interference of the Stillap of a to a rose to omit the names of the parties to where tenders, WHEP are to be unbranchill. For the compenied of the Jections, however, they are an areas in a back and

are to be unit each. of or the extrementary of our response however, there are entered in a next may may be seen on application at the office of the Bellin of the seen etreet, Covent-garden.] For the execution of works on the Tark and There Midland Rallwry, wir, the trarrowgate Branch, bend Midland Rallwry, wir, the trarrowgate Branch, bend a distance of about 18 milles. The works Branch, bend transel and windnet.

a distance of about 18 miles. The works license stand and visdact. For the execution of the works forming the 5th and 6th divisions of the Dublin and Being respectively of the lengths 8 miles 128 yards, and 7 miles for yards. Both contracts comprise the unit works of excavations, embankments, bridges, envert of the lengths 8 miles 128 yards, and 7 miles for yards. Both contracts comprise the unit works of excavations, embankments, bridges, envert For the execution of works required in anticity at For the Taw Vsie Railwar, viz, from Barnathie, Bridge to Fremington , and also for contact the the Docks and other works approximited thereas For the works necessary is students of some the the parish of St. John at Hackney, bling about 1 4,500 feet in length.

For the supply of a large quantity of Fencing for the Victoria Park Cemetery. For the works necessary in extending the sover from the north and of William street, along Green street, to? Preston Street, being about 980 feet in length 3m the paish of Sto Matthew, Bethnal green. Four

For the works forming the Portsmouth exten-sion of the Brighton and Chichester failway.

e space or opening in the bolt. The first og above and below on the spindle are on the og above and below on the spindle are on the

Plans for the enlargement of the Suffolk General Hospital, and tenders for the execution of the work, are required by the Hospital Committee. 10d adt

are required by the Hospital Committee. I of and Plans, specifications, and estimates are, required by the committee for the creation of the South Staffordshire, General Hospital, Wolverhampton, The sum of 1001, will be given for the one selected. The Provisional Committee of the National Glass Company of Ireland require plans and specifications, &c., for the erection of all the necessary Buildings,

comprising an extensive manufactory for making crown (window) glass; also plans for an extensive manufactory of plate glass. 257. will be given for each plan selected, or 507. for both if to the same individual. t a VI 170

APPROACHING SALES OF WOOD, &c.

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Atehne Black Lion 201 (10 Molecular Construction) Atehne Black Lion Land, Bradford, 49 prime maiden oaks, 15 meiden ash, 291 large pollard oaks, 18 ppllard eins, 79 pollard, ash, poplar, and swalinwanter view and and and a set and a set and a set a

Now lying on Upper Comeytrowe Farm, two miles from Taunton, 180 maiden elms and 30 maiden ash trees, suitable for railway contractors

n's statue of Byron was placed in its perma-int position RTAEDROGESARAGO OT College

to say that it attracts it is needless

toCast Iron Girders." We shall next week give extended table for calculating beams.

Adolphus!" We advise him to consult some

respectively green house builder uses of a several sev

offered drawings's they are hardly sufficiently pre-

petency of the person mentioned. "Works on leveling."—Recommendations will be found in recent Nos. We cannot be expected to repeat replies to the same question. "R. Q."—Bruff's Treatise on Engineering Field Work. Whishaw's "Railways of Great Britain and Ireland" is a very useful work, but no one book will give all that is required. "H. B. G."—Varmish stained with asphallum is much weed

"" H. B. G." Varmish stained with asphalium is much used. "Converance of Water." A correspondent wishes to know the cheapest and best mode of conveying a small current of water for 300 yards down a gentle inclination to a cistern, for the supply of one family: the smallest pipe that would preserve a regular current will be large enough.

enough. "Valuation of Freeholds, &c."-" Inwood's Tables" will be found useful. "A Subscriber." War for moulds may be

A Subscriber."—War for moulds may be obtained from any plasterer. "Iron Work at Lincoln's Inn Hall."—We are requested to say, that the name of the smith whose work at the new Hall we justly praised last week, is Jahez James, of York-road, Lambeth, not John James

to omit the names of the parties to whom tenders. 2020 A to the shall be most happy to receive communications from so accomplished a

to receive communications from so accomplished a correspondent. * F. M." (Lambeth.)—The gentleman named must be Mr. John Martin (the arist), of 36, Al-sop-terrace, New-road. We shall be glad to hear more on the subject. * Y. X. N."—A letter addressed to Sir Henry Ellis, at the Museum, by any person of reputation, would obtain for our correspondent the required admission to the Reading-room. * Tenders."—We do not propose to insert ten-ders, excepting for large works, or under peculiar circumstances.

ders, excepting for laye include the second states of the states of the second states of the states of the second states of the second

4,500 feet in length.

THE BUILDER.

Received ... "G. R." "W S." (Dorking.) "G. C." (Cardiff.) "Q." "W, J. S." "Bu-downik", chrostlin at ai subtrational and a subt downik "Chrosofield States and a subsection of the Dro-Books Received States of Part IX., completing the works (Taylor and Watton; Upper Gower-street) "Pie-torial Gallery of Arts," Part X.n (Knight.) b"-Old England," Part 230 ("The Bhilathenic, or Insti-tutional Intelligencer, "No. 1110 (Gilbert.) Fos.) ter's "Pencilled Copy-books." (Souter and Law.) ** Correspondents are requested to address all communications to the Entropy base Souther and Part

communications to the Epiton ba bas 200

ERRATA, In our last number, page 525, to-wards the bottom of the middle and the top of the third columns, for "Adessa" read " Odessa."

ADVERTISEMENTS.

ROFESSOR KELLER'S POSES PLASTIQUES. ROFESSOR KELLER'S POSES PLASTIQUES. **ROYAL ADELAIDE GALLERY.**—This day, and during the week, Professor Keller will exhibit at the Adelaide Gallery his Grand Tableau Vivans from the Ancient Masters, which have received so largely the encomiums of the press. Every morning at half-past three, and in the evening at nine o'clock. Great efforts have been made to add to the effects of this exhibition. A variety of new subjects have been added to those already presented to the public The Concerts as usual. Also Pilbrow's Atmospheric Railway model, with explana-tory lecture.

tory lecture.

tory lecture. ROYAL POLYTECHNIC' INSTITU-Tatos, and the means of extracting the starch as an article of food, will be delivered by Dr. Byan, daily, at half-past Three, and on the Evenings of Mondays, Wednesdays, and Fridays, at Nine. Lectures on the Music of Spain, by Don Joe de Ciebra, with Guita and Vécal Huistrations, on Tues-days, Thursdays, and Saturdays, at half-past Two o'clock. Professor Bachhoffner's varied Lectures, with Experiments, in one of which he cleady explains the principle of the Atmospheric Railway, a Model of which is at work daily' Coleman's new American Locomotive Engine, for ascending and descending Inclined Planes. A magnificent collection of Models of tropical fruits. A new and very beautifue series of Dissolving Views. New Optical Instruments, &cc, Experiments with the Diver and Diving Bell, &cc. &cc. The Admission, One Shilling. Schools, Half-price.

TO RAILWAY ENGINEERS, SURVEYORS, AND OTHERS.

THERS. EVELLING STAVES, SCALES, &c., without detriment to the quality of the goods. Leveling Staves of the most convenient and best construc-tion, now in general use on all the lines under s. d. survey, each. Parliamentary Scale, and Offset for railway surveys, box wood.

box wood Ditto, Ivory Curves, &c., made to order on the shortest notice.

WM. HOBCRAFT, Mathematical Instrument Maker, 38, Princes-street, Leicester-square, London.—Orders by post, containing a remittance, immediately forwarded to all parts of the country.

PORTLAND CEMENT of best quality manufactured by J. B. WHITE and SONS, of Mill-bank-street, Westminster. To be had at their Warchouses Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Earl-street, Blackfriars.

TO ENGINEERS, ARCHITECTS, AND CON-TRACTORS. GREAVES'S LIAS CEMENT and GROUND BLUE LIAS LIME, at 2, South Wharf, Paddington, London, and Works, Southam, Warwickshire. Agent for Liverpool, Mr. WILLE, 56, Closter-street; ditto for Manchester, Mr. J. THOMPSON, Back King-street; ditto for Chester, Mr. J. HARRISON, Linen Hall-street,

TKINSON'S CEMENT .- The public is A TRINCON S CEMENT.— The public is respectfully informed, that the price of this very ex-cellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 28. 3d, per buchel; and may be had in any quantity at Wyatt, Parker, and Col's Wharf, Holland street, Surrey side of Blackforms thirdes

N.B. — This Cement being of a light colour, requires no arti-ficial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

REENE'S PATENT MARBLE CEMENT.

KEENE'S PATENT MARBLE CEMENT. THE PATENTEES of KEENE'S CEMENT beg to draw attention to the use of this material in the works recently executed at the COLOS-SEUM, Regent's-park. The POLISHED COLUMNS in the Hall of Sculpture, the ornamental paving in the corri-dors and conservatories, and much of the stucco on the walls, are wpecimens of the very successful application of this cement. Patentees and Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

THE PROJECTED RAILWAYS.

MARTIN'S FIRE-PROOF AND ORNAM CEMENT.

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MARTIN'S FIRE PROOF AND ORNAMENTAL CEMENT. CAUTION A Mestre STEVENS! and 'solve patientees, beg to caution their friends and their trade generally against confounding this invaluable Coment on and S. piedge themselves, that MARTIN'S CEMENT isn's totally dissimilar an ecomposition and manufacture from everyph other, and, being a neutral compound, is not cally free from chemical agency 'upou any substance with, which it may come in contact, but completely resists the action of the strongestandards. They field the data to direct attended, sen the following properties, which it exclusively possesses. 1. It reploy acquires the hardness of stone. 3. surface (which may be made equal to that of the finest marble) never throws out any salt, and will reserve? The above purpose, it possesses that are worken? To the above purpose, it possesses great advantage over wood, being moust without possible and will reserve? To the above purpose, it possesses great advantages over wood, being moust and fire-proof warehouse, its light, man adverming. I'm data the of the fire above purpose, it possesses that are stronge over stone, being at the same time, much more comored. The flow of the mark be determents of all the above purpose, it possesses great advantages over the above purpose, it possesses great advantages over the above purpose. It possesses great advantages over the above purpose, it possesses great advantages over the above purpose. It possesses great advantages over the above purpose, it possesses great advantages over the above purpose. It possesses that be above for warehouse, the form of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DH HM TLANE. Agent for Liverpool and Manchester, Mc. R. PART, 28 at Caming-place, Liverpool and Manchester, Mc. R. PART, 28 at Caming-place, Liverpool and Manchester, Mc. R. PART, 28 at Caming-place, Liverpool and Manchester, Mc. R. PART, 28 at Caming-place, Liverpool and Manchester, Mc. R. PART, 28 at Caming-place, Liverpool and Manche

Canning-place, Liverpool. and Branchester, BR.: R. PART, 28, 25 (Canning-place, Liverpool., and Distribution of Strong Strong

now in use 1 but with the net acover influe containing the second second

GRAINING COLOURS AND LIQUID WOOD STAINS." H ENRY STEPHENS begs to tell the Painters, Cabinet-makers, and all those leasanced on the prection of churches where the appearance of oak is desir-able, and those also who are employed in the revisit of old earvings, faded furniture, oil other semanacial wood work, to his GRAINING, COLOURS and LIQUID WOOD STAINS.

carvings, inded furniture, of olders and indential subset widers to his GRAINING, COLOURS and illucit a subset wider STAINS. The graining colours are prepared in a damp state, and obtaining the natural colour, nor of giving to the work the same effect and appearance at all times. The difficulty of producing a true colour and of preserving the same uniform inty with the admixture of carlts, and a carles, which are the ingredients used in graining, has long been acknow-ledged. This difficulty is at once reinoved by these preparations and mixing his colour. In the the admixture of carlts, and a carles, which are itous, and the grainer is enabled to confine his attention to only carry additional stain on to the various, wood on, which they are employed, but when used on the particular wood whose object if is to review. If combines with and heighten will be decoration to the various. The difference capable of giving colour to the samply and heighten waluale, acquisition to the arbites. They are also capable of giving colour to the samply and defective parts of the answings, which used by the wing in the fighten waluale, acquisition to the arbites. They are also capable of giving colour is to the samply and defective parts of its nearers and dime yous used by environmentations. The area is a sub-ter are approved to the carrings. They are also capable of giving colour should subset the state of the manistors, in which are offer found beautiful "glecimens" of an diaded, these liquid stains will be found particularly ser-ineent. They have import to woods by the form a day is a charged of the decoration of the factor wills. The state of the manistors is the stains will be found particularly ser-ineent carbon in the stains will be found particularly ser-ineent and the wood is the stains will be found particularly ser-ineent and the wood is the factor of the stains will be found a state of the stains will be found particularly ser-ineent carbon in the stains will be found particularly ser-ineent and the wood is the to his to STAINS. The gr

and faded, three liquid stains will be found garticularly ser-viceable. They base impait be woods bit inferter libraratus and of o soft texture, such as beach, bitch, pine, deal, Ke, they colour and appearance of such woods (whether ask maho-gany, rosewood, Ke, mouth woods) and the such as the the says sho same see and a section and the same see and the says show and of revival, are prepared by HENNER where specimens of their upple stion, may be seen, and also is the Office of "The Builder" and Mrs. ROWLAND The Books of Infinition and of tevers, Golden squared abs for a the office of "The Builder" and Mrs. ROWLAND Painter and Glazier, 3, Broad street, Golden squared abs for a star of boors of a gain of mouth as a such as a cytomous parameter of the start of the start of start of start as the start of start of start of the start of the start of the start as the start of the start of

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THE BUILDER.

HOT WATER APPARATUS. HOT WATER APPARATUS. — The attention of architects, builders, and others, is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapeh, halls, stair-cases, conservatories, forcing and green-houses, manufactories, and warehouses, klins, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were exocuted are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. ENJAMIN POWLER, ds. Dorset-street, Fleet-street. - The

PROSSER'S EXPERIMENTAL RAILWAY AND BURNETT'S PATENT. THE attention of Railway Companies, Public companies, THE attention of Railway Companies, Builders, and others, is respectfully called by the Proprietors of Sir William Burset's Patent to the Wooden Rails laid downest Prosset's Experimental Railway on Wim-bieden-common; part of which, having heen prepared by Steir process, in addition to being effectually preserved from Dry, Roi, will be found to exhibit all the characteristics of theorogally seasoned timber, although only cut down in the month of May last, and prepared while in a perfectly green state. Hydraulic apparatus and Tanks. Millvall, Poplar, party opposite Greenwich; Offices, 53, King William-singe, London-bridge.

DOLONCEAU'S BITUMEN PAVE-MENT for paving Foot walks, Terraces, Garden walks, Stability, Coach Houses, Gramtrics, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwell-ing Houses, Forticos, Balcories, and Sheds. "Price as: 6d. per square yard." "BTDMEN for covering the Arebes of Bridges, Culverts, fc, Ec. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

TO ARCHITECTS. In consequence of many complaints having material baving been used in the execution of Works where the Sursel Applaints had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorised CERTIFICATES to be granted to Builders where the Surveys Applaints

SEVSSEL ASPHALTE

SEVSSEL ASPHALTE has been used. For the purpose of securing the use of the Generica Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Cla-ridge's Patent," and not merely "Asphalte," or "Bitu-men," as in many cases where these terms have been used, generar and other worthless and offensive compositions have been introduced. I. FARELL, Secretary. Bridge, Jan., 1845. Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

"The Builder," and of all Booksellers in 10wn and county, price is. "s" in proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Mesers. CURTIS, builders, of Stratford, a spinions material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be need. [Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Sepsel Asphalte was specified for, a sputions article was nevertheless laid down by them.

LUMBER'S BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the grantest attention and care in the manufacture, and will be frund superior and cheaper than at any other manufactory. Here Pan Water Closets, 34s. ; 24 Lift Pumps and Planks, dT-for. Odi; 6-inch Pumps, 64. 102. odd. ; 2-inch Bill Ball and Step, Cocks, 30s. per dosen, and every article in this branch multy low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

VABNISH. TTHOS. MILLINGTON begs to inform the THOS. MIELINGTON hegs to inform the Trade, Builders, Painters, and others, that this article can be had at his Marunfactory, of the best quality and at the very lowest price. T. M. has long been a manufacturer, and has devoted much time and attention to ft, using only the best of gums, state sparing no expense in the manufacturer. Fine Pale Oak or Wainscoat Varnish, per imperial gallon, 10a.; Fine Carriage Varnish, 12s.; Coogl. 18s.; Body Copal, 24s.; Gold'Size, 10s; White Hard, 18s.; Brown Hard, 18s.; French Polish, 16s. per gallon. Paint, Dryers, Colours, ready and groupd, and every article in the trade. If quality is taken into chaiderstion, this will be found the cheapest house in London. Address, 87, Bishogsate-street Without. KOREIGN WINDOW GLASS.

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L. Friends, that he still continues to manufacture the above in the same manner, and using only the best materials, that have given so much satisfaction for many years past. Every article will be made in the best manner, and the very lowest price charged. Lists may be had upon application. Drawings prepared.

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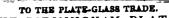
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SATURDAY, NOVEMBER 15, 1845.



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CONTRIN & Larger amount of contain a larger amount of information, connected with the Metropolitan Buildings Act, than is to be found in any other work. They have

been open always to communications on the subject; and we have from time to time laid before the public the more important awards and directions issued by the official referees, and all the modifications of the Act, ordered on their recommendation, by the Commissioners of Works and Buildings. Our anxious desire has been to render the operations of the new Act as extensively known as possible, to explain any doubtful points as they arose, and so prevent litigation : to induce the expression of public opinion with a view to an early improvement of the Act, and, by a vigilant surveillance of those who were in authority, to aid in securing a proper administration of it. Our efforts in this respect, we say it with gratitude, have been favourably viewed on all banda.

* right honourable lord, interested officially in the administration of the Act, has been pleased to offer his approbation of the conduct of THE BUILDER, and to express an opinion of " its practical utility;" and from the public generally, we could give many gratifying proofs of confidence, if we thought it right to do so. Even at the risk of a charge of egotism, however, we cannot avoid availing ourselves of this opportunity, of mentioning one unexpected testimonial, recently received from a class of our readers, for whom, though humble, we have much respect, and whose interests and progress we desire, with all earnestness and sincerity to advance. We allude to a letter from the Institution of Builders Fememen (signed W. Allard, secretary), which we should print, if it were not personally flattering

We have been led without wishing it, away from the simple object of the present notice, which was to say, that from this time forward our opportunities for illustrating the workings of the Buildings Act, will be much greater even than they have been. Every AWARD AND CERTIFICATE PUBLISHED BY THE RE-FERRES, WILL COME BEFORE US THE MO-MENT IT IS ISSUED, and the gist of all that are important, will be immediately laid before our readers, Careful references to these cases will be given in the index, so that the volume when completed, will be found of the greatest importance, indeed, we may almost say, indispensable, not merely by architects and builders, but by all who are interested in house property, as owners and holders.

The following are amongst those recently issued :-

CHIMNEY-BARS, CURB-ROOFS, DRAINS, AND COPING.

Mr. T. H. Wyatt gave information against Mr. W. Bellamy, that in building various dwelling-houses in Hackney, he had "done certain matters or things contrary to the provisions of the said Act, namely, having formed certain chimney openings, the jambs whereof project from the face of the wall more than 41 inches, and the front on either side is less in and further, that the said building has been

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width than two-thirds of such opening, without inserting proper iron chimney-bars; and having built the walls of the said houses to a height of 10 feet, without having properly built and made good the drains thereof; and having built the party-walls between the said houses, so as not to project 18 inches in front of the curb-roof; and without being coped with brick on edge in cement, or stone, or being plastered with cement,"

The referees, by their sward, ordered, " that the said William Bellamy do forthwith provide and let in an iron bar over the opening of every chimney in the said houses (not already provided with the same), as directed by schedule F of the said Act; and that the said William Bellamy do forthwith pull down and replace, by a proper external wall, of the thickness of 13 inches at the least, all the lower and nearly vertical portion of the curbed roof in the back of each of the said four houses, or do make the same conformable to the said Act by adding, upon stone corbels, and to the satisfaction of the surveyor of the district, so much to the party-walls between such roofs as that the said party-walls shall project, at the least, 1 foot and 6 inches beyond every such roof, measured at a right angle with the back of the rafters of such roof, or do in some other way make the same conformable to the said Act; and that the said William Bellamy do forthwith finish the top of each of the said partywalls, with some properly-secured and sufficient water-proof and fire-proof covering, as directed by the third part of schedule D of the said Act.

As regards drainage, the award sets forth what may be important to many of our readers : it states, that " upon the express understanding that it is intended to make sewers, and that the same are now about to be made, and that the said William Bellamy has paid, or has engaged to pay, seven shillings per foot towards the expenses of the said sewers or part thereof, and that it is his intention to form proper drains, from all of the said houses into such sewers as soon as the same shall be made, and inasmuch as many instances have occurred, in which buildings are commenced in streets and roads, in which sewers have not been built, but in which it is the declared intention of the parties immediately to build sewers ; and inasmuch as the said official referees are of opinion, that the intention of the said Act to promote the improvement of the drainage of buildings would be defeated if, in such cases, cesspools were made, and the buildings drained to such cosspools instead of sewers, and have therefore determined to recommend to the Commissioners of Works and Buildings a modification of the said rule, to the effect that it shall be lawful in such cases to defer the making of such drains, with the special consent of the official referees first had and obtained,"-they will make no direction thereon, until the result of such recommendation be known.

TEMPORABY WORKSHOPS.

Mr. S. Fowler having erected a workshop at Bermondsey for temporary use, not in accordance with the Act (through ignorance), received notice from the district surveyor to that effect, and appealed to the referees.

It was admitted that the external inclosures were not wholly formed of brick or of stone; "that the said Building is detached from any other building, and that it is separated from the next adjoining premises by a brick wall; that the roof is covered with pantiles, and that no fire-place has been built therein;

built as a temporary workshop for the execution of a pressing outract, and that it will be pulled down in the CUP. months from the date of hearing four or five

Mr. Hosking determined " that the building in question is not conformable to the said Act, but I defer to make any direction thereon for a period of six months from the 22nd day of September last."

INSULATED BUILDINGS.

With reference to an application from Mr. Lee, for leave to crect smiths' and coopers? shops (of timber and wood-work) at Wandsworth, at the distance of 22 feet from one building, and 25 feet from another, both in his own occupation, the referees awarded, "that if the buildings be in the same possession and occupation with the proposed building, and be themselves insulated within the meaning of the said Act, and if the proposed building he so situated that there he not within 30 feet therefrom, any land or any building not in the same possession and occupation therewith, then such proposed building will be an insulated building within the meaning of the said Act."

Wood construction was therefore permitted.

SLAUGHTER-HOUSES.

With regard to a request by Mr. Weymouth, to know, amongst other things, whether a small slaughter-house, at Crouch End, Hornsey, was a building of such a nature that, in accordance with the 55th section of the Act, no structure could be erected nearer to it than 50 feet, the referees decided, "that if the slaughter-house be used for the slaughtering of animals for human food only, and be not used for the business of a general slaughterer, but in connection with the trade of a retail butcher, and particularly with the trade of a butcher's shop thereto adjoining, then the said slaughter-house is not to be deemed to be a building used for the business of a slaughterer, or for a business noxious or offensive within the meaning of the said Act."

OBSTRUCTION OF LIGHT AND AIB.

Messrs. Elger and Kelk, being about to eract premises at the back of No. 16, St. James'ssquare, which Mr. Howell, the owner of No. 15, considered would obstruct the light and air of his premises, applied through his architect, Mr. Marsh Nelson, for the interference of the official referees to prevent the builders from proceeding. The opinion of Messrs. Barry, Hardwick, Tite, and Penner thorne confirmed his view as to the obstruetion. An area was to be left as prescribed by the Act. It was contended for Mr. Howeld that if the referees were called on by the Act (as is the case) to prevent any projections from wall which would obstruct the light and air, orbe injurious to the adjoining houses, the Act could not permit the wall itself to be built or raised, so as to effect in a greater degree, that which the projections from it would do in a smaller degree.

The referees determined that so far as related to the interruption of light and air, they had no jurisdiction in the matter referred to them.

THE ROYAL SOCIETY .- The session will commence on Thursday next, the 20th instant. The anniversary meeting will be held on Mon-day, December 1st.

Schools AT CARDIFF .-- A building for a day-school on the British system is now being erected in Cardiff by subscription, principally of the Baptists in that town and the vicinity. The style is Tudor. Mr. Clinton is the architect.

_ CLAY SOILS AND CONCRETE.

.....s 10 No. 142 of THE SIR,--The observ Liddell, on the dangers o buildings erected on clay soils, BUILL Without cue precautions being given to the foundations, and the instances which he brings forward of the fatal results exemplified in the buildings about Hull, are of serious impor-tance, and merit the consideration of all practical persons. I will venture to make a few additional remarks.

In all foundations, but especially in un-certain soils, a great degree of security is obtained by making the footings and lower obtained by making the footings and lower part of the walls of increased thickness. The foundations, from the better bond thus obtained, are less liable to fracture and are more capable of bearing heavy weights by the greater spread of surface over which they are diffused. In illustration of the security thus obtained, the use of snow boots in Canada has been referred to, which extend, almost like sledges, under the feet, and thus effectually prevent the impression which the small extent of the bearing surface of a foot would inevit-ably make. By the diffusion of the weight scarcely any compression takes place, and the same result may be obtained by similar means same result may be obtained by similar means in soft or clayey soils, by extending the width of the footings.

In clay soils, another point to be attended to, is that the foundations be of sufficient depth, to prevent the soil on which they are constructed being affected by the changes of the weather, from wet to dry, or otherwise. The cracking of these soils by the heat of summer, and their swampiness in winter is well known. If it is necessary for an architect to take into consideration the effect of the dilatation of iron by heat, how much more should he consider the effect which such changes have upon a soil, the very foundation of his building. In clay lands, I think the bottom of the footings should never be less than five feet below the surface, to avoid the effects of temperature. The drainage for buildings also on these soils should not be made *below* the level of the foundations, as great injury is likely to arise from withdrawing the natural moisture of the ground beneath them. I have known serious injury to arise, and a building to be fractured in all directions, from the sinking of a well in a clay soil, whereby the under soil was drained of its moisture.

Your correspondent alludes to concrete, and doubtless it is a most efficient means for securing good foundations, but I apprehend its beneficial effect arises, in a great measure, from its enabling the builder to effect the two conditions above named, at a moderate expense; viz. of extending the width of the footings and increasing the depth of the underground work : -for it must be remembered that the concrete itself is only an artificial wall, and subject therefore to all the contingencies which may affect the soil on which it rests. In addition to concrete on clay soils, I have adopted the plan (and with much success) of building all the footings four or six courses in height of brickwork in cement, each course strongly bonded with iron hooping, laid both longitu-dinully and diagonally. Iron hooping has been looked upon so much as a mere substitute for wood bond, that its advantages of being a connecting tie to the individual bricks, and the increased mutual strength which they thereby obtain, are not sufficiently appreciated. I make this observation, as the use of iron hooping in footings has been objected to as unnecessary and useless by several practical builders; but I hold that the footings thus constructed of sound stocks and cement, linked together by iron hooping, form a stronger and more compact bearing surface than could be obtained by Yorkshire landings. The con-necting bond is in no part broken throughout

the footings, as must be the case with landings. I should have supposed the use of concrete was too well known to need your correspondent's inquiry, had I not myself found a difficulty sometimes of getting it executed in the country. In London, the ballast from the river bed is invariably used, but in the country, any clean pit gravel, fragments of stone and brick, the hingle from the sea-shore, and broken flints, may all be advantageously used, mixed with coarse, rough sand sufficient to fill up the interstices. Six parts of this material with one of ground lime is recommended; or, if

is strong and hydraulic, a smaller the lime portion of it may be used. As it is difficult in the country to obtain ground lime readily, a labourer can be set to pound it into powder. To slake it with the other material is wasteful. I subjoin a translation from one of the chapters in Philibert de L'Ome's work, published in 1568, giving an account of the use of concrete in his time, which I have not seen noticed in any publication on the subject.

2nd Book, Chapter 2 :-- " How foundations are to be made, when large stones cannot be obtained, for building bridges across rivers, harbours on the sea-coast, and other works in marshes and in water.

"The excavations being made, whether for houses, harbours, bridges, or buildings, in a marshy soil, or even on land, and if being deep and wide, stones of a large size cannot be obtained for the foundations, the best and surest method is to prepare a mortar, composed of quick-lime recently burnt, as described in the first book, mixed with a river sand, which contains a quantity of pebbles of all sizes, provided the largest be not larger than the fist, or the size of an egg, and that the whole be also interspersed with smaller pebbles and gravel, such as are usually found in rivers. This material, moistened with water and mingled with lime, serves both for mortar and stone, and mixed with a sufficient quantity of sand, must be thrown at once into the excavation without any labour from the mason's trowel. It is only necessary to dress it with the spade. Having thrown in a layer, about half a foot in thickness, large single stones may also be thrown in, and mixed here and there with it as may be convenient, but without touching each other; after this, you will again throw upon them the mortar of pebbles and gravel as before done, and this must be repeated till the excavation is full, throwing the whole from above with all sorts of small pebbles. This composition thus executed hardens and solidifies so firmly in the foundation, that being heaped up in a mass, and bound together, it becomes a uniform body or rock, such as Nature forms, of a single block, and it is so strong and hard, that when dry, it cannot be broken either by piles or any other instrument, nor can the pebbles be separated from it without breaking them in pieces. The reason is, that the excavations, retaining their hu-midity dissolve the mortar and prevent its drying for some time, so that the large gravel and pebbles during this period imbibe and draw in the fatness and power of the lime even to their very centre, as I have myself observed; for on examining the pebbles thus employed, and breaking them, I have found them white to their very centre, and of the same colour as the lime. Quarry stones can do the same, for they attract the fatness and power of the lime. A foundation of small size cannot be executed in this manner, as the stones or pebbles would dry too rapidly, and before they had time to absorb the virtue of the lime. Lime made from hard stone or marble is the most pene-trating and proper for this purpose, but ob-serve especially that soft free-stone lime is useless.

It is needless to continue the extract, and your readers will probably not understand the old architect's philosophy; but the chapter is interesting as evidencing the use of a material three centuries ago, which we are inclined to consider a modern discovery. I am, Sir, &c. October. 1845. T. L. October, 1845.

••• In the prize essay on concrete, published in the first part of "Transactions of Institute of British Architects," 1836, numerous in-stances of the use of concrete in very early times are cited. In reply to our first corre-spondent, Mr. Liddell, we give the following

brief extracts from the essay in question. "The concrete now generally employed is compounded of Thames ballast and Dorking lime, in certain proportions, varying, according to the opinion of the user and goodness of the materials, from one of lime and four of ballast, to one of lime and twelve of ballast. They are sometimes mixed together, slaked as mortar, and thrown into the foundation from a certain height; sometimes the ballast is laid on the site of the intended erection, and the lime poured over it, in the shape of grout; while at other times the spaces to be concreted are filled with water, and the lime and ballast, having been first mixed in proper proportions,

are thrown 4. are thrown into it day. Instead of granit, Kentish-rubble and broken pieces of granite, properly grouted, have been extensively em-ployed, more especially by Sir John Soans, who has used a preparation of this sort for most of the public buildings in Westminster executed under his direction; viz., at the Lay Courts, the additional buildings to the House of Lords, the library of the House of Com-mons, the Board of Trade and Privy Councal Offices, the State-Paper Office, and others The foundations of these edifices were formed of granite, or other hard stone, broken in small منعن it. 11 of granite, or other hard stone, broken in small pieces (none exceeding the size of an ordinary hen's egg) and laid in layers, closely rammed. and grouted every third layer, closely latin the composed of Dorking lime and sharp river-sand; other layers of similar pieces of stone were then laid, and rammed and grouted as before; and so the operation was repeated, until the required thickness was attained.

"In order properly to apportion the quantity of lime necessary to be used with the ballast, it will be well that you ask yourself this ques-tion: What are you in reality doing when forming a mass of concrete? or rather, what ought to be done? To this the answer must

ought to be done? To this the answer must, be, that you are building a stone wall. The pebbles, then, are the materials with which it is to be built, and must be regarded only in that light; so that in considering the ought of lime necessary to be added, in order quantity of lime necessary to be added, in order to form a proper mortar wherewith to unite, them, regard must alone be had to the sand them, regard must alone be had to the sand contained in the ballast, and according to the quantity and quality of that ingredient must be apportioned the lime. It is true, that opon the proportion borne by the pebbles to the mortar, the strength and goodness of the con-crete materially depend; but this, except under, peculiar circumstances, must but little interfere with the preparation of the mortar: it is another onestion separately to be considered. question separately to be considered.

Now, practice and a variety of experiments have shewn that Darking stone lime, being ordinarily good, will form a most excellent mortar when mixed with three times its own mortar when mixed with three times its own quantity, by measure, of sand; and although it is quite certain that if it be well burned, ground, and used hot—and thus it must alcosy be for concrete—it will make excellent mortar when mixed with four of sand, even better, if the lime be powerful than with less, this may serve us as a generally admitted good. proportion.+

With respect to the amount of stones essential to a good concrete, it is generally main-tained by those practical men who bave thought mon the subject—unfortunately but few-that upon the subject—unfortunately but few—that it should be double that of the sand by measure; and my own experience fully bears out this belief."

Various experiments shewed that two parts of stones and one of sand, with sufficient time-dependant on the quality of the material-to make good mortar with the latter, formed the best concrete.

Thames ballast, of the best sort, consists, nearly, of one of sand and two of stones; in ordinary practice, one of lime to seven of ballast is used, and found amply sufficient.

the second second ARCHITECTURE AND ART IN ME 1 death MANCHESTER.

AFTER a long period of depression, art in Manchester has sprung into vigorons existence. The tide of prosperity in trade has influenced ar-chitecture, and the town is now a striking example of prevailing good taste. An increased want of buildings of every description, churches, houses, warehouses, manufactories, and public buildings; the formation of several new and large streets, and the widening of old ones, have created a demand for the services of architects, such as we do not recodlect any other instance of. A new school of architects has sprung up, including a large number of individuals, many of them very young men; modi it is greatly to the credit of the merchants of the town, that they have had the judgment to use the services of architects, in buildings, in which they are seldom appealed to, and to the credit of the architects, that these appeals

* It was usually thus compounded by the lake John

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111 THE BUILDER.

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have been replied to by them, almost universilly, in the best manner, and so as to confirm the impression of the advantages to be derived from professional assistance. The speculative mania has infected Manchester, probably in a greater degree than any other place in the higdom; and it would be easy to name several remarkable instances of good fortune. Tradesmen, attorneys, surgeons, dentists, and many more needy adventurers of one time, we DOW find metamorphosed, every man of them, into share-brokers. They are the monarchs of the day; note-book and pencil in hand, they crowd the Exchange, and reap all the advantages of the lucky game. The quondam shop-boy, to whom a yard-stick was the familiar instrument of success, and who sped from his ill-digested dinner punctually to the bour of two, now books the name of a new client, and whistles as he books it, or alights at the door of the stock-exchange, in all the consciousness of well-appointed horse-flesh. The man of lint and bandages, whose early career was brightened only by an occasional tooth, now invites you to dine at his countrybouse, and calls for you in a carriage, which people look at, as it runs by. Amidst all this good fortune, in which all, for the present, step: to be partakers, there are many who condemn, and who talk of impending ruin, yet none who show the influence of example; few to recollect a time when shares were at a discount, and scrip could be had for asking. People consider the questionable issue out of the approaching climax, but, with the infatua-tion of the hazard-table, hope, that one more cast may yet yield gain. In drawing attention to the prosperous state of architecture in Manchester, we have thought it necessary thus to allude to the causes, which might soon there, as well as elsewhere, produce a state of things the exact reverse; and should the scarcity of money be felt for some period to come, as seems too probable, the arts will be affected to a disastrous extent. But to return

to our more immediate object. It is not only in the *art* of architecture, that great progress has lately been made; an equal advance is apparent in the arts of construc-tion. The railways have brought excellent stone from the immediate neighbourhood of the quarries, at so low a rate of carriage, that its cost is often exceeded by brick work, and conits cost is often exceeded by brick work, and con-sequently it is much used for whole fronts of buildings. That bad substitute, stucco, gene-rally unsightly, and often entailing an annual expense, is seldom made use of, and we could wish that everywhere, where stone is ex-pensive, people were equally aware of the superior advantages of good brickwork. The stone most used is known as "Yorkshire highsuperior advantages of good brickwork. The stone most used is known as "Yorkshire pier-points "it is a sandstone of good yellow colour," and according to one architect, is nearly as cheap as the best red facing bricks, and quite as cheap as what are called in Man-chester. "seconds," and much cheaper than chester "seconds," and much cheaper than brickwork, according to another. It is used with the natural fracture for the beds, and is rough dressed on the face; it is generally laid in blocks, averaging perhaps, 9 inches by 6 inches on the face. It is generally backed with brickwork, but sometimes with the red sandstone of the neighbourhood (Collyhurst stope), of which the Gollegiate church is built, but, which is only adapted for parts protected from, the weather. Collyhurst stone is, at irom ine weather. Collyhurst stone is, at present, much cheaper than brickwork. For mouldings and for finer work "Summit stone" is still used; it is a very good stone, and is highly, crystalline. The use of iron is still greatly extending in Manchester, where the principles of its application are well under-stond and all the costing articlicherts. in schive operation. The most novel appli-oation of this material is in the Independent chapel, erecting in Salford, near the Broughton-bridge, from the designs of Mr. Richard Lame. The roof is framed of cast iron principale, ourved, and meeting at the top in a Gothig arch. Each half is in two pieces firmly bolted segether, and the principals are con-nected by the rods. The feet of the principals are apread out, and rest on blocks of stone, but mare further supported by iron columns, built into the wall, which stand upon stone corbels at the ground level. There are shoes, cast on the principals, to receive the purlins. There are two heights of iron columns, the upper supporting the iron girders for the

galleries. These girders are curved in form, sate of the galleries. The roof may be so as to approach nearer to the section of the steps of the galleries. The roof may be made a very effective feature; and that a similar treatment of iron work in Gothic ar-chitecture is desirable, has been pointed out in a former number of this journal.* The style adopted in this building appears to be "per-pendicular." The windows are in two heights, and the roof spans the whole width of the building. The principal front will have a building. The principal front will have a window with crocketed canopy over the en-trance door, and is divided into three com-The principal front will have a partments by canopied buttresses, surmounted by crocketed pinnacles. The style is not well treated, and the mouldings are exceedingly

treated, and the mouldings are exceedingly meagre, and spiritless, but the constructive effort is worthy of some praise. St. Simon's Church, Springfield-lane, is not far from that just described. It is on the Salford bank of the river, in a very favourable situation for the display of archi-converted the state of the second state. tectural skill. It is also by Mr. Lune, and is certainly an improvement upon the Independent Chapel, though neither much better, nor much worse than the general run of cheap early English churches. It consists of a nave, and aisles, a short chancel, with octagonal east-end, transepts, a south porch, and a western tower. It is built of Yorkshire stone, backed with Collyhurst stone. The tower will support an octagonal spire, rising to the height of 150 feet. The chancel will be groined, and will have three windows to the east. At the ends of the transepts will be windows of three lights, with quatrefoil tracery, and the aisles east. At the will have windows of trefoiled tracery, with two lights. There will be cusped windows in the clerestory, and a window of three lights over the western door. The tower is ascended by a turret in the angle formed by the tower, and the north aisle. There will be open benches.—Near the Norman church, built about four years ago, near Broughton Bridge, are some schools in the same style, and though we are not usually inclined to commend its adoption, we must allow, that it has here been adoption, we must allow, that it has here been rather effectively made use of.—St. James's Church, at Birch, is a very elegant structure in the early English style, and is, in every respect, a striking instance of the present tendency in church building. The estimated cost is 3,500%, but this is exclusive of the spire. It will accommodate 700 persons, 400 of the sittings being free. The design is by of the sittings being free. The design is by Mr. Derick, of Oxford. The plan consists of a nave and aisles, with the tower at the south-west angle, a chancel, a chamber for the organ in the position of a north aisle to the chancel, and a sacristy, north of the chancel. At the west end will be a large double window, sur-mounted by a quatrefoil, and in the aisles will be double windows. At the east end will be a triplet, and a rose window. The clerestory will have windows and arcades. The proportions of the parts, throughout the whole church, are excellent, especially in the piers and arches The roof is an open timber one, of very good design. All the arrangements of an old Gothic church will be here reproduced; and there will be sedilia, credence table, and piscina (?) When quite completed, there will be a consi-derable amount of decoration; and it seems a judicious proceeding to provide for future de-coration, by leaving blocks of stone, which may be carved into bosses, and corbels, as may be carved into bosses, and corbels, as opportunity may arise. Subscription lists have been opened for different objects of detail, and these are filling rapidly. — St. John's Church, at Longsight, is in the early English style, and is from the design of Mr. Gregan. The plan consists of nave and aisles, tower at the south-west angle, and chancel with short aisles, and a sacristy, on the north side. The church has no great amount of decoration, but is effective in outline, and highly creditable to the architect, who had many difficulties to con-tend with, from alterations in his design. The three chancel arches are effective. There is a stair turnet to the tower, a south porch, and a north door. There are two lancet windows at the west end, and an eastern triplet. The aisle windows are plain lancets coupled. The roof is of plain open timbers. It seemed, that the capitals of the pier arches would have been more effective, had their mouldings been a little bolder.—A church, now building of terra cotta, at Plat, we must reserve for future de-

• Vide "Gothic Ironwork," ante p. 397.

scription .- The church of the Holy Trinity, in the Stretford New-road, is in the early English style, and is a good composition, with a considerable amount of decoration. It has a square tower, with detached shafts, arranged at the various stages in a very effective manner. It is a cross church, with a western tower, a north porch, and short chancel. There are aisles to the nave. The porch is inclosed with gates of wrought iron, which are in good taste. In this porch there is a benatura, or stoup for holy water. We suppose it is not used, and see no reason why it should be there. The inclosure wall and gates are excellent. The interior of the church is of lofty proportions. It is fitted up with open seats, and has a row of candelabra, in the form of floriated crosses, down each side of the nave. The font is a copy. The pulpit, which is of stone, stands on a short pillar. At the opening of the church, it stood on the north side of the chuncel arch. In this porch there is a benatura, or stoup for it stood on the north side of the chancel arch, in the angle, formed by the responds of the chancel, and transeptal arches. It was soon found, that the clergyman could not be heard, and it was therefore brought out to the western face of the transeptal respond, and there is now no difficulty in hearing. This alteration, which was one demanding some constructive and artistic skill, has been very ably managed by Mr. Travis, architect, of Maochester. The architects of the church are Messrs. Scott and Moffatt, of London.

The church at Red Bank is one, which we are sorry we cannot speak of in terms of commendation. It consists of nave, aisles, and chancel, with porches in the usual position of the chancel aisles, the east end being next the street. The aisles are very lofty, with coupled lancets of enormous length. These aisles have lean to roofs, with sham gables towards the street. The style intended is Early Eng-lish, but has some mixture of "perpendicular," and much of a style, not to be associated with any thing previously known in architecture. The porches have each two gables, and in the centre a door with square label head. The buttresses are surmounted by pipnacles of most attenuated form. The enclosure wall and gates might pass for meagre imitations of those of the Holy Trinity Church. The gable crosses, the triangular window, with its vo-lutes, or twists at the angles, the bell-turret at the end of the south aisle, are all points which a certain contemporary, who is less given to encouraging criticism than THE BUILDER, would do well to notice. There There does not seem to be any sufficient reason for placing the entrances at the cast end. They are designed in what some one called the two and two principle, though, inside, one of them. is a vest p. Certain chimney-pots are to be seen on the roof. There is an open timbered roof, and some very bad stained glass. The church has pews. The proportions of the interior are very ill arranged. The chancel roof is of steeper pitch than that of the nave.—The Catholic church of St. Wilfrid, Hulme, of which views have been published by Mr. Pugin, the architect, in the two papers in the Dublin Review, is a plain structure of red brick, with very little stone, and is in the Early English style. The chancel has lately been decorated in colour and gold, and has a very splendid appearance.† Approached from the nave, which is extremely plain, it is strikingly effective; and is not less so by night, when we saw it, lit up with numerous candles, than it is by day. The stained-glass windows of course require the effect of daylight. The diapering, in red, blue, and gold, is carried or a signature part of the surface, amongst which may be dispart of the surface, amongst which may be us-cerned, the lily, emblematic of the Virgin; the monograms of the Saviour, and the letter W, for Wilfrid. In the heads of the arched compartments of the reredos, are the heads of saints, painted by Mr. Kaeling, of Manchester. The decorative printing was executed by Bandware. There is a here recording of Boardman. There is a large proportion of blue in the colouring, yet the effect is by no means cold. The roof, which is of plain rafters, is powdered with stars. All the ac-cessaries of the altar, which would require a long description, have been designed by Mr. Pugin, and evince much thoughtful consider-ation. There are three sediliu. The piscina is elaborately embellished; it has a deep bowl, and is furnished with a shelf for the cruets.

* Ecclesiastical Architecture, by A. W. Pugin, reprinted fre om the Dublin Review. † Some account of these decorations appeared, ante. p. 356. The rood screen is richly embellished with colour and gold, and supports a rood, with images of the Saviour, of the Virgin Mary, and St. John. The chapel of the Virgin is in the north aisle of the chancel, and is also embellished with colour and gold. The eastern triplet, and rose window above it, are of elegant design, and all the east windows are glazed with stained glass. The church itself, exclusive of the decorations, was erected at a cost of 5,000*l*. The font is a very beautiful one, of original design. The tower is not yet completed, it will, probably, not be as represented in the *Review*. The house of the priest immediately adjoins the west end; it contains some good fre-places and grates. A remarkable feature in the exterior of the church, is the weathering out of the base of the wall, to the extent of the projection of the buttresses. A Presbyterian church, and schools have

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A Presbyterian church, and schools have lately been erected near the workhouse, from the designs of Messrs. Travis and Mangnall. The architects had great difficulties to contend with, which we are bound to say they have surmounted in an able manner; and, notwithstanding the restrictions of site, and the injunction placed upon them, to avoid all impediment in the nature of piers, they have succeeded in producing a highly meritorious work. The style is perpendicular; there is a square tower, and an open timbered roof. The schools are to the east of the church. The whole is built of stone, and will cost 3,400%. "Much skill is shewn in the arrangements for ventilating the school-room : the air is admitted by three apertures, which take the form of quatrefoils, and thence by perforations through the floors; being carried through other apertures into the space above the ceiling, whence it passes out by thelouvreon the ridge of the roof. A new Catholic chapel is in progress in Chapel-street, Salford. It is in the Decorated style, and is wholly of stone. The architects are Messrs. Weightman and Hadfield, of Sheffield. The plan consists of a nave and aisles, four bays in length, a chancel, a north transept and chapels. It occupies a large space of ground. The windows contain some good tracery.—A new steeple is being built to Christ Church, Salford, which is Italian in style, in accordance with the rest of the church.—The Methodist chapel at Red Bank is remarksble only from its ill-success as an attempt. It is designed by a mason, and is built of red brick and stone, with clumsy and ill-proportioned details. The roof, in part an open timbered one, is very faulty.—Some alterations are making in the seats of the Collegiate Church, under the direction of Mr. Gregan, and it is proposed to devote the western door to its original use as an entrance. There are many other churches in progress in the neighbourhood of Manchester, which we have not

here space to notice.—Amongst the schools we may mention, the Roby schools, in a street leading out of Portland-street. The style is Elizabethan, and they were designed by Mr. Walters, who has succeeded in producing a very meritorious work. The building is supported upon fron columns, being built over the play-ground. The lower story has a series of arches of different sizes, filled with iron-work. Above are lofty bow-windows, projecting

Above are lofty bow-windows, projecting chimneys and gables; the whole arranged in a very skilfal manner. The materials are red brick and stone. The Queen's Hotel, in Piccadilly, is also by

Are Greens riotel, in Piccaulty, is also by Mr. Walters. It is a large building in the Italian style. The porch is projecting, with a broken pediment. The capitals of the pilasters are original, and in very good taste, and this is equally true of some other ornamental parts.— The station of the Manchester and Birmingham Railway is a very clever design. It is considerably elevated above the street, the carriage ascent being by a long inclined road, and that for foot people by a staircase. The principal building is entirely of stone, Italian in style. The front consists of a projecting centre, with a large segmental-headed gateway, and two wings. Each wing has a door and window on each side, the mouldings, rustics and basement, being well designed. The cornice is peculiar in the stone imitations of tiles, which project to the edge, from about two feet back. There are two heights of windows, the upper ones being square. The basement in the street is of brick, the entrances to the staircase being of stone. Each entrance has an arch rusticated, inclosing a doorway flanked by an

order. The stairs are ascending and descending in the same well-hole, quite distinct, so that the two streams never meet, and as this arrangement is not common, we subjoin the dimensions. The well-hole, is 22 feet 9 inches square in the clear, and the height to be ascended 29 feet. The stairs are six feet wide, and each tread is 12 inches. There are 72 steps and landings, each riser being nearly 5 inches high.—Two wings have been added to the Manchester workhouse; they are of good plain brickwork. The offices near this building pleased us much. They are in the Italian style, of red brick, with stone dressings. The cornice, coins, and decorations of the windows are all excellent, if we except those of the upper range of windows, which are rather too meagre. The bell tower would have been improved by an addition to the height. The central doorway and porches manifest much ability, with some novelty. The architect is Mr. Dickson.

BUILDER.

The greatest change in the architecture of Manchester is apparent in the warehouses ; in many of which there is much architectural display. That of Messrs. Philips and Co., in Church-street, is of brick and stone; the The whole is of "fire-proof" construction, though its safety is interfered with by the central well-hole staircase, adopted for the advantages of light, an arrangement lately much in vogue in that class of buildings. The rapidity with which fire was communicated from floor to floor, by this arrangement, in several instances, led the insurance offices to increase the rate for that class of buildings, and they are now seldom adopted .- There are many other warehouses of red brick with stone dressings; one in the Oxford-road, with a stone basement, enriched with pilasters. Some of the warehouses have very good door-ways, particularly one in George-street. Mr. Walters is the architect of a warehouse in George-street, which has the entire front of stone, backed with brickwork. The work is rough dressed: it cost 5,500%, which is less rough dressed: it cost 5,500%, which is less than it could then have been built for in brick-work. The design is in the Italian style, plain, but expressive of the use.—Near this ware-house, we noticed another, with a stone front, finished with a pediment. There is also a warehouse, building in Falkner-street, of stone, in which there is some attempt at design, the upper efforts of freedom. upper stories having an order of Grecian Doric columns, with a fret in the freize; but we cannot report favourably of the result.— The joint station of the Manchester and Leeds, and Manchester and Liverpool railways, at Hunt's bank, is a wonderful work for any age. The line is carried across the river, and the road, by bridges, each of one arch, of great span; and as works of construction, they are, perhaps, unrivalled. The passengers' shed above is of great length, and has a roof of wrought iron. To form the road for carriages, it was necessary to arch over the river Irk, for some distance. Some new offices are building at this spot, in which fire-proof con-struction is largely used. The ground had to be excavated from 31 feet to 37 feet down for the foundations, and the difficulty must have been increased by the near approach to the river. Near the station, is the Palatine Hotel, a plain Italian building of stone, but in good taste, in which there is a staircase wholly of iron. It was executed by Bellhouse and Co., and whilst admirably conducive to its object of providing a means of escape from fire, is not in-elegant, and may be given as an example of successful treatment of ironwork. the The strengthening ribs beneath each tread are ar-ranged, so as to intersect each other, with good effect, when seen from below. Some gilding might be introduced with a good re-sult.—The directors of the Bank of England are erecting a new branch bank in King-street. It is from the designs of Mr. Cockerell, but is not sufficiently advanced to enable ren, out is not sumciently advanced to enable us to speak of its merits. It is expected to cost between 17,000*l*. and 18,000*l*. In private houses, less progress has been made than in larger buildings. Some of the Gothic houses lately built, as for example in Broughton, are the most whimsical desires we are some We ought, however, to mention, that the Broughton rectory and schools are creditable productions; and a chancel in the decorated style is about to be added to St. John's church by Mr. Gregan.

The Free Trade Hall was lately decorated for the Anti-Corn Law Basaar, by Grieve, of London. It was styled a Tudor Hall, but had very little in common with that class of apartments, further than the character of the painted decorations. These were done on canvas and then nailed up; the coloural were red, blue, and gold. The dimensions of the hall are 136 feet by 105 feet, and on the late occasion of the Athenaeum Soirée, it is stated that 3,800 persons were present. Some meation of this meeting was made in a late number." The Manchester Exhibition, which has now closed, contained some good picture. Poole's picture, of Solomon Eagle preaching, gained the principal premium. There was also Roberts's Interior of Roslin Chapel, and Stanfield's Castle of Ischia. The architests seem to have quite given up contributing ; the only drawings worthy of praise were a design for a Gothic church by T. Worthington, and Pullan's clever design for the Queen's robingroom, lately in the exhibition at the St. James's bazaar. The last has been deservedly rewarded. In saying there were few architectural drawings, we had almost forgottes, some attempts, which are so bad, that the very porter ought to be ashamed of them. Martin had some good drawings, one of them rewarded, and, on the whole, the exhibition, which was of great extent, had several pictures of sufficient merit, to make us regret the presence of some glaring exceptions. The hall has lately been repainted, and a plentiful application of the brush, having been given to the east of the Elgin marbles, these fine works, which were presented by George the IV., have lest nearly all their beauty.⁴

THE IDENTIFICATION OF ARCHITECTS.

SIR,—That architects should affix their names to their productions as other artists, at least sculptors and engravers do, would seem to be only reasonable and proper, and had such always been the practice, we should new know with certainty, who were the architects of many structures whose authorship is either entirely unknown, or exceedingly doubtfal. For instance, it has never been clearly decided if the late Royal Exchange, and Temple Bar, ought to be attributed to Wren or not. In some few cases, indeed, the authorship of a building is of such universal notoriety, that its architect's name cannot possibly be unknown or ever fall into oblivion. One would as soon think of asking "Who wrote Shakspere?" as of inquiring who built St. Paul's, who made the alterations at Windsor Castle, or who is erecting the new palace of Westminster? But there are a great many other buildings, some of them of sufficient public note, the names of whose architects are not known either to the public or to architectural writers. In this latter class is the India House, which has all along (till very lately, when it has for the first time, I believe, been claimed for Holland, the architect to Jupp, who was, it seems, only the East-India Company's surveyor, and who certainly is not known to have ever done any thing else. If it matters not at all whom buildings are

If it matters not at all whom buildings are by, why is so much importance attached to the ferreting out from old records the names of mediæval architects, which when brought to light are mere names, *nominum umbræ*, and only so many letters of the alphabet? It is not, indeed, to be recommended that

It is not, indeed, to be recommended that architects should display their names on the fronts of buildings, as conspicuously as those of "Barclay and Perkins" meet our eyes upon many public structures, that make no secret of their publicity. But a name and date may be recorded much more modestly, and where it may not be observed until sought for; for which reason they ought to be inscribed uniformly in some one particular situation about the level of the eye, or rather below than above it. Basevi did so in Belgrave-square, where his name may be read on a plinth next one of the porches to the ho uses; and the same has also been done in one or two instances by other architects. BUDOWNIE.

• Vide p. 526. + For some remarks on this disease, vide " The Flagues of Whitewash," p. 39, and of Digitized by COOSIC

LIGHTING AND VENTILATING.

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Tuz lighting and ventilation of the Central Similar Court, are much, spoken against. During, a trial there on the lst inst. the Chief Baron complained that he could not see the gentlemen of the jury, and that coursel exposed to the same inconvenience. Mr. Garkson hoped to the same inconvenience. Mr. Garkson hoped to be excused if he suggested to his Lordship that he should use his influence i with the city authorities to relieve the bar, and indeed every person sitting in the body of the sepurt from the intolerable annoyance which parese from the operation of Dr. Reid's system of ventilation. At one moment they were exposed to a volume of hot air which was inexposed to a volume of hot air which was in-supportable, and at another, to currents of cold wind, forced into the court by the workmen engaged outside. He could assure the Court, that it was almost killing his brethren of the bar, two of whom were now suffering in con-sequence of their attendance in court, and consequent expasure to those varied currents, during the present session. The Chief Baron said, that he had taken a severe cold on Wedneeday last from, he presumed, the same cause, i.y. The Jury, at a subsequent period of the day, made an appeal to the Coart, to give directions that they might be relieved from the cold droughts of air which were poured upon them. Mr. Ballantine remarked that the nuisance was most serious, in its prevention of the due and proper administration of justice. The jury ware more likely to be thinking how they should escape from stiff necks and sore throats, than to be attending to the case submitted to it their equaideration.

Jam In connection with this subject we have re-

Chronicle of the 4th inst. an account of the de-fective state, or rather the complete failure, of the system of ventilation adopted at the Centrail Oriminal Court. It appears the court and jurymen were seriously affected with colds tral and sore threats, by the hot and cold air alter-nately admitted. If this is the professed system of ventilation adopted in large buildings in ²³ the great mictrapole, it is apparent, notwith-standing the various advertisements for perfect ventifiation, that there is a very great deficiency of knowledge on the subject. The scientific ventiliation, that there is a very great denciency of knowledge on the subject. The scientific gentlemen da not appear to have hit upon a simple system, by which churches, chapels, courts of justice, or any large room, can be ventilated, without subjecting those in the buildings to inconvenience. Yet it is possible to be done, by a far more simple and cheap method than by blowing in volumes of hot air or by blatts of cold at really is laugheble to or by blasts of cold : it really is laughable to read of such a system. It reminds me of an eminent medical gentleman being called in to give his advice on the best method of ventilating a large public building, containing then about 300 persons; many of whom were afflicted with fevers and smallpox; moreover, several had died. The learned gentleman, though an excellent M.D.; was entirely unacquainted with ventilation: he proposed a system which would have bazarded the health, if not the life, of every person in the building subjected to his system. It was objected to, and the opinion of an obscure country individual was asked: his plan was approved of; the building was venti-iated under his direction, and though six years have etapsed, not a single case of either fever or smallpox has occurred as yet, though the means were as simple as possible. No volumes 21 £ of hot air, nor blasts of cold, are admitted.

It appears, by the weekly advertisements in THE BUILDER, that various remedies are proposed, but they are not considered by any means perfect, by persons who have had some little experience in ventilation.

It is the same with smoky chimneys. Adver-tisement follows advertisement; but it really is astonishing that, among so many scientific men in London, there should be so few who under-stand the method. What induces me to make this remark is, having to ticed, in most parts of London, the tops of chimneys, and, conse-quently, the houses, disfigured by various sorts 1-3 a. of chimney-pots, cowls, &c., more particularly at the West-end. The noble buildings-I may call some of them palaces - in Pimlico, are, think, more disfigured than any other part. I Could not help saying, when looking at them, what a pity such beautiful structures should be

to sounding used. It is matter of surprise that of wrought iron.

THE BUILDER.

both ventilation and the curs of smoky chimneys should not be made the subject of study, by practical experienced workmen, more than they are; the difficulty surely might be sur-mounted in a great majority of cases, unless, which is too often the case, the fault is in the construction of the flues. There are many causes of chimneys smoking; the means made use of to cure one would make another worse; the first object should be to find out the cause practical experience will point out the remedy. I have known large buildings in the country, erected in the Elizabethan style, in which nearly every chimney smoked; many of the flues, which ought to have been 14 inches by 14, or 14 by 9, were not more than 7 by 7, in parts of the flues. The architects, or their clerks, forget, that the larger the fire the larger the flue is required. The practical workman, when engaged in building, knows what will be the effect, but he is compelled to work according to the plan, right or wrong. If he points out the error, he being only a workman, it is thought nothing of. This brings to my mind thought nothing of. This brings to my mind a complaint in THE BUILDER, a short time since, of the want of scientific practical workmen. There is nothing surprising in this, because few, if any, meet with the encouragement they deserve; if they see any thing going on wrong, and mention it, very likely they expetience a rebuff; they are thought to be nothing more than labourers, to be discharged when no longer required. This knowledge deters and longer required. Inis knowledge deters and keeps many ascientific man from exercising his talents to advantage. The drawing clerk in the office is generally thought more of than the best of workmen. I might have added much more on this subject; let this suffice at present; at some future period I may resume the subject, if you think this worth a place in the columns of THE BUILDER.--I am, Mr. Editor, yours, &c. A WORKING BRICKLAYER.

NEW CHURCHES AND BUILDINGS IN THE NEIGHBOURHOOD OF BRISTOL.

THE number of new churches lately consecrated, especially in the western part of the country, is very striking. In Wiltshire there have been half a dozon within a few months. St. Saviour's Church at Coalpit Heath, near

Bristol, was consecrated on the 9th ult. It is situated about seven miles from that city and is spoken of in the neighbourhood as a good specimen of modern skill. *Felix Farley's* Bristol Journal contains a description of the building from which we extract the following : "The principal parts of this church are a nave and chancel with open roof; north and south aisles; vestry situated at the east end of the north aisle; and south porch. The south porch is the only entrance for the congregation; there is a private entrance for the clergyman on the south side of the chancel, and an entrance to the vestry from the churchyard.

The mave is lofty, 60 feet long, and 20 feet wide; the chancel, 23 feet by 17 feet; the aisles 11 feet wide. The nave and aisles are filled with substantial open oak seats, with carved heads. On each side the nave are four pier arches, but no elerestory windows. The west window has three lights; in the windows of the nave are two lights, with quatrefoil heads. The chancel is entered by one step, and distinguished from the nave by a perforated wood screen, of a light and elegant design. The floor of the chancel is laid with encaustic tiles, arranged in devices. On the south side of the chancel are a piscina and sedilia, and a credence table on the north; there is an east window to the chancel with three lights and three trefoils in head, filled with stained glass. The lower part of this and the other three windows of the chancel, are also filled with stained glass. The altar is approached by three steps.

The pulpit is of stone, panelled, with cham fered base and corbel, and entered by a flight of steps from the vestry. The lectern and reading desk are of oak. The font is octagonal, with trefoil cusped panel, and surmounted by a handsome oak canopied cover. It stands sgainst the pier to the left of the south entrance.

In the vestry we observed a massive oak chest studded with wrought-iron work. The hinges and furnitare on all the doors are also 549

· Upon entoring the church, it pres than usually ecclesisatical appearance. The open and substantial oak seats with carved heads, the light piers and arches, and above them the framed timbers of the roof, the quatrefoil headed windows of the aisles, the oak lectern and font, with its canopy, the stone pulpit, and lastly, the capacious chancel em-blazoned with the rich and solemn light prooceding from its stained-glass windows, produce a good effect.

As to the exterior, the high pitched roofs of the nave and chancel, the tower pierced with its belfry windows, and terminated by a foliated wrought-iron cross, the oak doors, the decorated stone crosses on the nave, chancel, and porch gables, the geometrical headed windows and massive buttresses, and the freestone quoins and dressings, contrasting with the various grey tints of the native stone, the various grey tints of the native stone render the appearance of the exterior remarks ably picture-que. About 100 yards on the north-west side of

the church, stands the rectory-house, of similar date to the church.

The churchyard is surrounded by a nest, low wall, flanked with shallow buttresses, and is entered through a lich gate, of massive cha-racter, with stone covering."

In this description we cannot avoid remarking on the introduction of a *stiscing*, at being unnecessary in a Protestant place of worship and quite out of place.

The lich-gate, some of our readers may need to be informed, is a govered gate into a churchyard to rest the corpse under, and shelter the mourners. Its literal meaning is corpse gate. Fylton church, three miles from Bristol,

was opened publicly on Tuesday se'nnight. has been entirely re-built on an old foundation with the exception of the tower at the west end. An aisle and porch have been added on the south sides of the nave, and a robingroom on the north side of the chancel. The style is early decorated. The materials used are rag, and bath stone dressings. The structure is very small, the chancel quite a miniature, but nevertheless contains stalls, a credence table (with the outward semplance of a piscina) in the north wall of the shancel, and is paved with encaustic tiles. The roof, both of nave, chancel, and aisle, is open, the scats (without doors) are of deal, varnished. The pulpit is of stone, and is attuched to the north wall of the pave in the angle formed by the pier of the chancel arch; the reading pew, is in the opposite angle. The lower story of the tower is open to the church. The tower externally is a low square structure, with a slated pyramidal roof. The parapet of the tower projects before the face of the wals and is carried on rudely sculptured heads,

Mr. Hicks was the architect; Brown and Phillips, both of Bristol, executed respectively the mason's and carpenter's work. The hinges, locks, latches, and other iron-

work, have received attention. Throughput the country very great improvement is to/ be observed, both in church architesture , and church-building. Minute points are stiended to, and a good feeling is observable even where great excellence has not been sttained.

Some extensive barracks are in the oparse of construction in the Gloacester-road, between the church last named, and Bristol. Numerous villa residences are also springing up around the city, to which a respectable appearance is given by the use of stone facings,

there cheaply attainable. The foundations are being laid, adjoining the new Guildhall in Bristol, for a branch bank, from designs by Mr. Cockerell. Will-cox and Son are the builders.

NORTON HALL.-The Earl of Ripon's family mansion in Lincolnshire, which was destroyed by fire in 1834, has been rebuilt, and is now nearly completed. The first stone was hid by Vicentia Carl laid by Viscount Gederich on the 25th of October 1841, with some ceremony. Mr. Shearburn, of Dorking, is the architect

NOVEL PROJECT FOR LONDON STREETS. A project is said to be contemplated that would strikingly alter the aspect of Lundon; it is to cover the footways with transparent verandahs, projecting from the houses, so that even on the wettest day the metropolis could be traversed from one end to enother without an umbrella.

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HAUFDWINDOWS BROM RUSHTON LODGE.

WINDOWS FROM-RUSHTON LODGE, NORTHAMPTONSHIRE.

In the last number of THE BUILDER. we gave illustrations of the very curious triangular lodge at Rushton, in Northamptonshire, built by Sir Thomas Tresham, and noticed as one of the hiding places where the gun-powder plot was concocted. The annexed engravings represent two of the windows, and are further illustrations of the punning reference made to the owner's name, throughout the structure, previously pointed out: the openings themselves are trefoils; the divisions are all triangular, and the three-leaved shamrock, in threes, appears as a decoration. Any correspondent who may be able to send us an account of the interior of this building, would oblige us by doing se.

FREEMASONS OF THE CHURCH.

Nov. 11.—The Rev. G. Pocock, L.L.B., in the chair. The minutes of the last meeting were read and confirmed. The completion of the seal was announced, and the probability of conferring the diplomas by the maxt meeting.

bability of conferring the diplomas by the mattingeting, 5:11 Rogers then read a paper on the subject of "I liuminated Books in their memorian in with Architecture," illustrated mitheless of diagrams, about thirty in numbers, enlarged from MSS. preserved in various spublic, and private libraries. The first paint insisted upon was the fact, that the miniatures of illuminated MSS. of the middle, ages, contain a peculiar style of arohitecture which has never been carried into effect, but, that ip these examples, the successive changes by which the architectural chareserve, for each century is dustinguished, are elsently traceable. They are, however, varied, from chauses which in many cases are to be meertained. The Anglo-Suxons, for example, in their edifices always gave, the columns, of which they made a most frequent use, a abors and stanted form, consistent with their idens of immense durability, but it was by no greans the case, in the architegural details which they introduced into the miniatures of their books. An these we find them in almost revery enveloped actions of the tenth sentery, we produced to pay allel lines, was found, to she significant distray allows from a linest revery enveloped action of the shaft of a sylumna. futured to ray and the pay is indeed, an enlarged, drawing from a Miss. From the found, they was produced to pay length i indeed, an enlarged drawing from a Miss. From the found, to she significant to an a site of the shaft of a sylumna. futured when in almost from a books of the shaft of a sylumna futures and the shaft of a sylumna futures of the shaft of a sylumna futures and the shaft of a sylumna futures and the shaft of

* Ses page 538, ante.

celebrated "Durham book" the capital of a column was enlarged; in this example, as in others from the same and similar volumes, the dog was a very prominent characteristic, a circumstance which was endeavoured to be accounted for by the fact, that this animal was venerated by the Ancient Phœnicians, "and we may," remarked Mr. Rogers, "by no tortured bypothesis assume, that what was originally represented from motives of devo-tion, habit contrived to perpetuate." The dog was afterwards the customary grotesque in Anglo Saxon, and eventually in Lombardic manuscripts. From a remarkably early volume Angressian, From a remarkably early volume of the Greek Gospels, the chair of St. Matthew and a tower at the back of St. Luke were given, and interesting specimens they were of architecture of a period with regard to which so little is generally known. In MS. architecture of the beginning of the twelfth century, the columns are represented very short, much enriched, and having bases generally of a disproportionate size, but towards the eud of this century we sgain find that yearning after attenuated forms and long columns, which formed so remarkable a feature in the architecture of the early English style, which was soon so totally to supersede it. An example of this, from Mr. Holford's collection, was referred to as described by Noel Humphreys, and a curious diagram from a MS. in the British Maseum, exhibited a column of considerable length, and a lectern, in the formation of which lightness seemed to have been procured at the sacrifice of strength. A lec-tern of the early English period was enlarged from "the Chronicles of Johan de Waling-ford," in the Arandel Library, and the next volume glanced at was a superb book exe-cuted in England in about the reign of Edward I., and kindly contributed by Mr. Sedgwick from the College of Physicians. The example enlarged from this MS. was an illustration of the 79th psalm, in which men, with various instruments, were represented in the act of demolishing a temple. Some examples were next given of MS. architecture of the "Decorated" period, and to elicit the style of the fifteenth century, drawings were prepared from "The Life of Richard, Earl of Warwick," in the British Museum. Mr. Rogers next re-ferred to the discovery of the baths of Adrian in Rome, as an important crisis in the bistory of book illustration. The Italian style was exemplified by some beautiful MSS, contri-buted by Mr. Jarman. The last specimen given was from an edition of Eussbius, of the six-

served in the Harlein Library. The next lecture was nonunsed for December 9, "On Architectural Acoustics," by Mr. Richard Cull.

teenth century, beautifully illuminated and pre-

BURFORD CHURCH, SALOP, DIOCESE OF HEREFORD.

THIS church contains a nave, chancel, and tower at the west end; the chancel has been recently restored by the present rector, the Rev. J. W. Joyce, the ceiling taken down, and roof thrown open. The stained-glass window which was put in a few years ago, in what was called the modern style, siz. with a circular head, has been taken out; in doing which the arch of the original window was brought to light; the tracery had been taken out. This is now restored. In taking down the old patsonage-house, the tracery of the window was found in part of the foundation. The altar steps are relaid, and a new arch formed between chancel to nave. In this chancel are buried some noble and ancient families, the barons of Burford, owners of the mators, and, amongst others, the daughter of John of Gaunt. The toms stands in a gothic arched recease in the north wall, on which reclines a sculptured stome figure of the above lady, sopported by angels at the head, and a dog at the foot; over the figure is the following inscription :—

A new organ has recently heat given to the church by the Hon. Misses Rushout, whose brother, Captain Rushout, nephew of Lord Northwick, is patron of the living. The state ladies have presented a new carpet and ahar cloth, with appropriate figures, worked with their own hands. In the churchyard stands the remains of the stone cross, upon three steps: the top and arms are broken off. Adjoining the churchyard stand three pareings heases, which were formerly occupied by the incombents of the different portions of the parisb. Only one of the houses now remains, and this has recently been rebuilt.

NEW THEATRE AT LISBON. — The new theatre of "Donna Maria Segunda" which was commenced in the spring of 1843, was opened to the public on the 29th which a is of the Ionic order, and advreed within a portico of six columns crowned by a prediment. Its extent may be inferred from the fact that its front contains two rows of were teen windows each. The work the fact that its front contains two rows is the Lodi, brother-in-law of the scound of Refrobo. Its cost is said to be 50,000%.

STORS TO CHAMPERS IN GOTHIC ARCHITECTURE.

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STOPS TO CHAMFERS IN GOTHIC ARCHITECTURE.

IN all the architectural works of the middle ages, the greatest ingenuity is everywhere apparent, producing pleasing effects even when attending wholly to convenience and usefulness. It is shewn even where the angle of a wall or pier has been cut away in part, to give room; the junction of the angular line where left, with the plain face formed by cutting it away below (or chamfer as it is termed), being eleverly made into an ornament. Figures 1, 2, 3, and 4 (sketched by Mr. Wylson), shew Norman stops to chamfers, in Sherburn church, Yorkshire. Figure 5, represents a termination to a hollowed angle in Elgin Cathedral, Morayshire. Figures 6 and 7 shew the sec-tion on line A B, and line C D. This last mode of termination is often found in buildings of the thirteenth and fourteenth centuries.

Figure 8, represents the base to pier of central tower, Kirk-Fenton Church, Yorkshire; A.church which has lately been restored by Mrl G.F. Jones, of York.

WORKS IN THE PROVINCES.

Fig. 3.

Fig. 2.

THE foundation-stone of an extensive Gaol was laid last week at Winson Green, a distance of about two miles and a half from Birmingham. The ceremony was performed by Thomas Phillips, Esq.; Mr. Hill is the architect, and Mr. Walthen the builder. — The corner stone of a New Church at Alnwic, to be built and endowed at the sole expense of the Duke of Northumberland, was laid last week by His Grace in person. A glass plate, bearing the following inscription, was deposited underneath the stone, in a cavity prepared for its reception: — "Saint Paul's Church, erected by Hugh, third Duke of Northumberland, A.D. 1845." The plan is arranged as a nave and chancel, with aisles capable of containing 1,000 persons, in open seats, without galleries. The principal entrances are by a door in the tower at the west end, and a porch on the north side. The style selected is the decorrated, of the time of Edward III; with the high pitched open roof, the clerestory, and varied windows of that period. Mr. Salvin is the architect, and Mr. Novell the contractor.——The church of St. James the Apostle, at Greensted, Essex, was consectrated last week by the Bishop of Londob. The *Essex Herald*, in giving an account

of the ceremony, says, — The design is Gothic, in the early English styles of open benches, carved, terminating in the west by a recess, formed by the tower, wherein seats for children. The chancel is onnamented with two stained-glass windows on one side, and one on the other, also one in the east end. This window forms the most striking object to the eye on entering the church; in the centre is a representation of our blessed Redeemer upon the cross, and the remainder is taken up with scrolls; containing biblical inscriptions. There are also like inscriptions in ornamental scrolls upon the

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blessed Redeemer upon the cross, and the remainder is taken up with scrolls; containing biblical inscriptions. There are also like inscriptions in ornamental scrolls upon the walls of the church, in various parts. The roof is highly ornamented; the pulpit and font are of stone, elaborately carved. The pavement is tesselated. Messrs. Scott and Moffat were the architects, and Mr. Johnstone the builder.—The long-agitated question as to the locality for a general railway terminus at Perth has lately been settled and finally decided by the award of the Lords of the Privy Counicil on Trade. The situation chosen is a part of the western portion of the South Inch, immediately in front of Marsballs-place, which is to be used for the accommodation of passenger traffic solely, and mother site provided beyond the limits of the western portion of the



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> ular, an ppears who mis netior siet a

South Inch for the engine, carriage, and waggon buildings of the companies, as well as for their merchandise establishments. A new Moravian chapel has lately been crected at moravian chapei has lately been erected at Bath. A local paper says, it is a "specimen of architectural taste, highly creditable to Mr. Wilson, by whom it was designed. Mr. Aust, the builder, has astonished all observers by the rapid advancement of this substantial structure. It was commenced about the end of March, and is now complete for the use of the congre gation."——The first stone of a new quay, at Wisbeach, was laid yesterday week, by Dr. Whitsed, the mayor. It is said that the authorities, in the construction of this work, are determined to combine ornament with utility.-A new church has lately been erected at Leeds, said to be of very costly and splendid architecture, bearing many of the features of architecture, bearing many of the features of the churches prior to the Reformation. Re-port states that it is designed as a model of the churches approved by the highest puseyites. — The restoration of the Norman Tower, Bury St. Edmunds, is proceeding. The Cambridge Camden Society has lately voted the superfect the superfect to work the sum of ten pounds towards the work, "which they trust will be received as a token of their good-will, and as a proof that, did their funds allow, they would be happy to appropriate a much larger sum to so praise-bursthe matter in a supervision of the supervision of worthy a restoration."--There is a rumour modious pier to be erected by the side of Globe-lane, on the bank of the l'bames, in a direct line with Beresford-street, which leads to the Royal Arsenal, to accomplish which leave a number of old dilapidated houses, nearly fallen into decay, between Beresford-street and the water side, will have to be razed to the ground, which can easily be done, as the leases are nearly expired.—A lithographed plan of a projected dock at Sunderland has been issued. It appears that the dock will be een issued. It appears that the dock will be situated a little to the south of the harbour, having an outlet into Hendon Bay; it will having an outlet into Hendon Bay; it will embrace an area of twenty-six acres, 3,160 feet in length, and 350 in width. A sea wall will be constructed, commencing a little be-yond the commissioners' works, and, pro-ceeding to the south-east of the Dove Rock, will be partly built upon the rock, and pro-tacted he intries thrown out into the sea. Ba tected by jetties thrown out into the sea. Between the jetties an additional natural barries will be formed by the accumulation of banks of sand. In the dock 360 vessels will be able at all times to lie aftoat. The project is brought forward ander the auspices of Mr. Hudson, and excites great interest in the north ticability, seems to warrant attention. The acheme is to bring water by gravitation from Loch Katrine, by an squeduct, to one or more distributing reservoirs adjacent to the city. The plan of taking the water from so large a The plan of taking the water from so large a natural fountain reservoir as Loch Katrine does away with the necessity for artificial fountain dams, at once very expensive and in-volving considerable risk. The water of Loch Katrine is very soft, and of perfect purity, even in seasons of drought, being col-lected from a district of steep bare hills, of the primitive formations. The level of the lake is so high above the level of the Clyde, at Glasgow, that the water may be conducted . 14 at Glasgow, that the water may be conducted from it to the highest ground in the neighbourhood of the city.——At Killerton House, near Excter, the scat of Sir Thomas D. Acland, Bart., a new range of hot-houses is in course of erection by Mr. Clarke, the hot-house Builder of Exeter, who has introduced all the as in ventilating and heating. The Western Luminary, in giving a description of the house and grounds, draws attention to a novelty and grounds, draws attention to a novely which may prove worthy the notice of those engaged in similar constructions. Where engaged in similar constructions. Where vines are planted outside the house, instead of cutting the sill or bottom rail of the front suches, to admit the vines, a false sill is intro-duced on the top of the main sill, and fastened to the uprights by means of a bolt at each side. This answers the purpose admirably, and without weakening any part of the building. Notice has been inserted in the London Gazette to the effect, that application is in-

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tended to be made to parliament in the en-suing session for an act to authorise the erection of an Exchange, News Room and other public buildings, together with approaches thereto, in the parishes of the Holy Trinity and St. Mary, or one of them, in the town of Kingston-upon-Hull, and to incorporate a company, for the purpose of carrying such ob-jects into effect.—At a general meeting of the subscribers to the Hull Cemetery Company held last week, after hearing the report of the provisional committee read, it was resolved that immediate steps be taken for securing the purchase of the very suitable site near the Old Waterworks, offered by Henry Broadly, Esq., M.P. It was stated that in case the cemetery M.P. It was stated that in case the cemetery was formed on Mr. Broadley's ground, applica-tion would be made for the Government grant for making a promenade on the spring bank, as had already been proposed.—After a long and careful inquiry into the state and capabil-tion of Hull an event beta made her the Tidel ties of Hull as a port, lately made by the Tidal Harbour Commissioners, Captain Washing-ton, R.N., and Aaron Chapman, Esq., M.P. Those gentlemen declared the capabilities of the port to be infinitely superior to Liverpool, and to be absolutely unparalleled in the country. proper attention to its fa They declared that cilities for trade during the last forty years would have rendered its trade at this moment double what it is, and that nothing but the most reckless apathy of its inhabitants can prevent its rise, within a limited number of years, to a degree of business of which few of its residents have more than the faintest idea. To their certain knowledge there was no port possessing equal natural advantages in the kingdom—none superior in the world.—— On Thursday, the 30th ultimo, the first stone of a new church was laid by Lady Adeliza Manners, at Woolsthorpe, Lincolnshire, the birth place of Newton. The estimated cost birth place of Newton. The estimated cost is 2,500*l.*, of which 2,000*l*. has been raised. It is understood that the Ecclesiastical Commissioners intend pulling down the old deanery at Lincoln, and building a new one for the residence of the new dean.—Among the projects in the north, we observe one for a the projects in the north, we observe one for a tunnel to connect the opposite shores of the Clyde, beneath its bed—the spot chosen being a little above Govan, at or near the lands of Heatherby Hall.—The new church at Wood-ford lately erected under the superintendence of Messrs. Wyatt and Brandon, was conse-crated last week by Bishop of Salisbury. The old church with the exception of the tower, which is comparatively of recent date was enwhich is comparatively of recent date, was enwhich is comparatively of recent este, was en-tirely removed.—The town of Galway has been fixed on, as the capital of the western province, for the site of one of the new Irish colleges.—A colossal status is about to be erected to the memory of Sir James Shaw, late Chamberlain of the city of London. Mr. Fillans is the sculptor selected. It will be placed conspicuously in Kilmarnock, the birthplace of Sir James.—Llanelly church, which has lately undergone a thorough repair and been considerably enlarged, was re-opened last week by the Bishop of St. Davids.

BUST OF ROBERT LORD CLIVE, K.B.-We understand that a splendid bust of the great Lord Clive has arrived at Powis Castle. It has been executed in Carrara marble, of the has been executed in Carrara marble, of the purest quality, by desire of his grandson, the present Earl of Powis, K.G. It may be men-tioned, that although several portraits of his lordship were painted, this is the first and only bust in existence being modelled from a full-length portrait at Walcot, and does infinite credit to the correct taste and skill of the sculptor, John Evan Thomas, F.S.A., of Lon-don whose chisel has imparted to this fine indon, whose chisel has imparted to this fine intellectual head, a life-like appearance, beam-ing with that benevolence and generous feelwhich characterised his lordship's life; ing while the features are strikingly formed to command, and marked with determination to carry out its resolves. His lordship represented the town of Shrewsbury in parliament for nearly fourteen years; he was elected mayor in 1762, and filled the bonourable office of recorder from 1771 to his decease, November 22nd, 1774.—Shropshire Journal.

ACCIDENT AT ST JOHN'S CHURCH, WOOLvich.—An account has reached us, of the fall of part of this edifice. As we are ignorant of the real cause, and have not yet inspected the building personally, we postpone comment.

RAILWAY JOTTINGS.

THE station at the Eastern Counties is to be enlarged by taking down the houses between the station and Spitalfields church, clearing away the whole south side of Union-street. —An attempt is being made to establish an institution at the West-end of London, for the collection and promulgation of information respecting railways, mines, &c., and to ec-operate with the several public places of meet-ing in the city by means of the electric telegraph. It is proposed to purchase the Ade-laide Gallery for the *locale*, and to alter it very considerably for the purposes required. The South Eastern has concluded contracts for the Ashford and Hastings. Within eight months the line between Ashford and Rye is to be completed.——The London and Birming-ham has decided upon immediately laying down a second line of rails between Peterborough and Northsmpton, the traffic upon the present single line far exceeded expe ėtation.——The contract for the Altrincham line, seven miles in length, was taken by Mr. Brogden, and the South Junction by Mr. David Bellhouse, of Manquester. The latter line, which will connect the Manchester and Birmingham with the Liverpool and Manchester will commence at London-road, and terminate at Ordsall-lane, Salford; the whole length, one mile and three-quarters, being car-ried on brick and stone arches, and thirteen large iron bridges, three of which will be re-spectively 105 feet, and 71 feet in spen. Mr. Nash, the prosecutor of the two railway robbers, Maynard and Garratt, terminates his preseworthy labours, by effering the following advice to travellers : --- "1. Let the passengers watch and see their leg-gage put into the luggage van or train, and not be content with seeing it on the platform. 2. As far as practicable, take small lug-gage and packages into the carriages with themselves. 3. Not to mention that their packages are valuable. 4. To have their names and addresses, and particularly the place going to, pasted on the outside (and not mercely tied on) their luggage. S. To advertise and on) their luggage. 5. To advertise and make known to the shief superintendents and police authorities (to have put in the Police Gazette) their losses, and contents and marks of property lost. Bearing in mind that it is on the platforms must of the abstractions take place, mistakes and exchapges are affected, and more will happen, until a quick and secure arrangement be made."____The purchases of arrangement be made."—The purchases of land for the Berks and Hants, which is to unite the Great Western and Bouth-Western, are nearly completed. The directors of the Great Western, also, have letthe works between Hungerford and Basingstoke to contractors. The workmen are engaged shaft-sinking. Mr. Hudson, as the representative of the Newcastle and Darlington Company, has offered to take the Durham and Sunderland Railway, with all its liabilities, amounting to 300,000%. paying the shareholders 314.10s. per share; and his offer has been accepted.—Mr. Robert Stephenson has left England for Italy and Spain, to superintend operations on various railways in those countries. He is not expected to return until the close of the year. ---- With to return until the close of the year. With the view to prevent or lessen the evils of acei-dents resulting from collision, it has been sug-gested that every passenger train should be accompanied in the rear by a carriage con-structed entirely of powerful eprings and some such material as India-rabber, of elasticity enough to act and recoil effectually under a violent collision, performing in those extraordinary circumstances the purpose that the buffers serve in ordinary.

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ST. ALBAN'S ABORITROTURAL SOCIETY .---The object of this society is to sid in promoting a more general acquaintance with those memorials of past ages which tend to illustrate the history and principles of architecture in England. With this view, its attention will be principally directed to the Abbey Church of St. Alban's and the several churches within the country; not, however, excluding other examples of the earlier or middle ages. The society is at present but in its infancy, yet it already numbers amongst its patrons and mem-bers, the Marquis of Nothampton, president of the Royal Society, the Bishop of Oxford, the Archdeacon Burney, the rector of St. Alban's, and a considerable list both of clergy and laity.

THE BUILDER.

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| • | 0-0004 | 0.0 015 | 0.0020 | 0.0184 | 0.0338 | 0.0371 | 9.0284 | 0.0737 | 0.0020 | 0.1303 | 0 ·1484 | 0.1200 | 0.2138 | 0.2209 | 0.2000 | 0. |
| ; | 0-5800 1-5200 | 0*4290 | 0·4809 1·7159 | 0·5359 1·8184 | e-3938 1-9238 | 9.6546 2.0321 | 0·7184 2·1434 | •7869 9*2577 | 0°8550 3°3750 | 0 ·9277 2·4952 | 1.0034 1.6184 | 1'0821 8'7446 | 1.1638 2.8738 | 1.2484 3.0020 | 1·3359 3·1409 | 1 · 3 · |
| 3 | 5.4200 | 3.2040 | 3·7109 | 3.8009 | 4.0138 | 4.1696 | 4.3284 | 4.4902 | 4.6350 | 4.8337 | 4.0034 | 5-1671 | 5-3438 | 5.5834 | 5.7059 | 5 |
| 4 | 6.0800 | 6-2715 | 6.4659 | 6.6634 | 6.8638 | 7.0671 | 7.2734 | 7.4827 | 7.6950 | 7.9103 | 8-1284 | 8-8406 | 8.5738 | 8.8008 | 9.0309 | 9 |
| В | 9.2000 | 9 ·7390 | 9 .980 9 | 10.3529 | 10.4738 | 10.7246 | 10.9784 | 11-2352 | 11-4950 | 11.7577 | 12.0234 | 18*2901 | 12.2038 | 19-8384 | 18-1159 | 18 |
| 6 | 13.6800 | 13.9665 | 14-9569 | 14.5484 | 14.8438 | 15-1421 | 15-4334 | 15.7477 | 16 [.] 0550 | 16-3652 | 16· 6784 | 1 6-994 6 | 17-3138 | 17-6359 | 17.9609 | 18 |
| 7 | 18.6300 | 18.9540 | 19.2909 | 19.6309 | 19.9738 | 20.3196 | 20.6684 | 21.0202 | 21.3750 | 21.7327 | 22.0934 28.2684 | 23-4571 28-6796 | 88*8938 80:0020 | 5 3'19 34 | 28*5069 | 23 |
| 8 9 | 94-3900 50-7800 | 84·7015 31·2099 | 85°0859 81°64 09 | 85·4734 82·0759 | 25-8638 32-5138 | 32.0246 | 26.6534 33.3984 | 27·0527 33·8452 | 27·4550 84·2950 | 27·8602 34·7477 | 35-2084 | 35·6621 | 29.0938 36.1238 | 29*8169 36*5984 | 29-9309 87-6559 | 87 |
| | 39-0000 | 38'4765 | 88-9589 | 89.4384 | 30.0238 | 40.4131 | 40.0034 | 41.3977 | 41.8920 | 42.3958 | 48-8984 | 43.4046 | 43.9138 | 44.4259 | 44-9409 | 45 |
| 1 | 45-9888 | 40-5040 | 47.0809 | 47.5609 | 48.0938 | 48·6 296 | 49.1684 | 49.7102 | 50.2250 | 60 [.] 8027 | 51-3534 | 51.9071 | 52.4038 | 53.0234 | 53-5859 | 84 |
| 9 | 54· 7 200 | \$5.2915 | 65-8659 | 58·4434 | 57.0238 | 87.6071 | 58-1934 | 58.7827 | 59.3750 | 59.9703 | 60 •5684 | 61-1696 | 61.7738 | 62.3809 | 62-9909 | 63 |
| 3 | 64-2200 | 64-8390 | 65-4609 | 66-0959 | 66·7138 | 67-3446 | 67.9784 | 68.6152 | 69-2550 | 69 ·8977 | 70-5434 | 71-1921 | 71-8438 | 72.4984 | 73.1559 | 78 |
| 5 | 74'4800 | 75-1403 | 75-8159 | 76-4884 | 77.1638 | 77.8421 | 78 *5934 | 79.2077 | 79-8950 | 80.5852 | 81-2784 | 81.0746 | \$2.6738 04:9638 | 83*3759 95*9134 | 84.0800 95.7650 | 84 |
| 5 6 | 85·5000 97·2800 | 86-2140 98-0415 | 86-9309 98-8059 | 87·6509 99·5734 | 88 [.] 3738 109 [.] 3438 | 89.0996 101.1171 | 99*8284 101*8994 | 90.5602 102.6727 | 91-2950 103-4550 | 92.0327 104.2402 | 92·7784 105·0294 | 93·5171 105·8196 | 94-2628 100-0138 | 107:410D - | 108-8109 | 109 |
| 7 | 109.8200 | 110.6290 | 111-4409 | 112.2559 | 113.0738 | 113-8946 | 114.7184 | 115-5452 | 116·3750 | 117-2077 | 118.0434 | 118-8981 | 11977458 | 19975684 | 12114149 | 192 |
| _ | 100.1000 | 100.004 | | | 126-5638 | 107 | 109.0004 | | | | | 159-7048 | 138-5908 | 194-4959 | 186-3809 | 290 |
| 8 | 123·1200 137·1900 | 123-97 6 5 138-0849 | 124-8359 138-9909 | 125-6984 139-9009 | 140'8138 | 127·4321 141·7296 | 128·3034 142·6484 | 120-1777 143-5702 | 130.0550 144.4950 | 130·9352 145·4227 | 181-8184 146-8534 | 147.9871 | 148' 298 5 | 149-1634 | 181-1059 | 114 |
| | 169-0000 | 162.9515 | 143 9049 | 154-9684 | 155-8238 | 156.7871 | 157.7584 | 168-7997 | 169.6950 | 160.6702 | 161-6484 | 162-6296 | 109-0198 | 164-6009 | 165-5909 | 100 |
| 1 | 167-5000 | 168-5790 | 169-5809 | 170-5659 | 171-5938 | 172.6046 | 178-6184 | 174-6352 | 175.6550 | 175.6777 | 177.7034 | 178.7321 | 179.7038 | 190*7984 | 181-8559 | 182 |
| | 183- 990 0 | 184-9665 | 186-0159 | 187.0664 | 169-1238 | 189.1831 | 199-2434 | 191-3077 | 199-3750 | 193-4462 | 1 94^{.\$}184 | 195-5946 | 196-6738 | 197 7859 | 198-8409 | 199 |
| | 801.0200 | 20211740 | 303-2109 | 204-3109 | 905-4138 | 20 6·8196 | 207-0284 | 208-7402 | 209.8550 | 210.9727 | 212·0934 | \$13 ·2171 | 314·3438 | 915-4794 | 216 .6020 | 217 |
| • | 218-6800 | \$20.0215 | 221-1659 | 222 ·3134 | 223-4638 | 224-6171 | 225·7734 | 226-9327 | 228 .0950 | 229.2602 | 230-4284 | \$31.9996 | 939 ·7 7 38 | 233-9 509 | 235.1309 | 896 |
| B | 237.5000 | 238.0890 | 239 [.] 8809 | 241.0759 | \$4 2- 2 738 | 243.4746 | 244.0784 | 245.8852 | 247.0 950 | 248-3077 | 249.8234 | 250.7421 | 251-9638 | 253-1884 | 254·4159 | 255 |
| 5 | 150-8800 | 258-1105 | 259.3559 | 26 0·5984 | 261*8438 | 203-0921 | 264·3434 284·7684 | 265.5977 | 266-8550 | 268-1152 288-6827 | 209-3784 | 970-6446 291-3071 | 271-0138 202-6238 | 273·1859 293·9424 | 274-4609 295-2659 | 275 296 |
| 7 | 277·0200 297·9200 | 278-3040 299-2515 | 279-5909 300-5859 | 280·8809 301·9234 | 282.1738 303.2638 | 283·4696 304·6071 | 305-9534 | 266.0702 307.3027 | 987·3750 308·6550 | 310.0103 | 299 .9934 311 .3084 | 812-7206 | 814'0988 | 315-4609 | 316-8309 | 318 |
| 0 | 319.5800 | 320.0500 | 329'3409 | 323.7259 | 325.1138 | 326.2046 | 327-8984 | 329.2952 | 330·6950 | 382.0977 | 833-5034 | 334-9191 | 386-8996 | 837-7884 | 350-1530 | 349 |
| • | 842.0000 | 949 4968 | 344-8559 | 346-2884 | 347.7238 | 349-1691 | 350.6034 | 852.0477 | 358'4950 | 354 9452 | 356-3984 | 357.8546 | 859-3138 | 360-7769 | 362'9409 | 863 |
| 1 | 365-1809 | \$66-6540 · | 368-1309 | 369-6109 | 371.0938 | 378-5796 | 374.0684 | 375-5602 | 377.9559 | 378.5527 | 380.0234 | \$81.5571 | 383-0638 | 384.5734 | 390.0859 | 387 |
| • | 389-1800 | 390-6415 | 398-1659 | 393-8 934 | 395-2238 | 396-7571 | 398-2934 | 399.8827 | 401.8750 | 402-9202 | 404-4684 | 406-0196 | 407.5738 | 409-1309 434-4484 | 410.6909 | 418 |
| 3 | 413-8200 | 415-3890 | 416-9609 | 418-5359 444-1384 | 420·1138 445·7638 | 431.6946 | 423*2784 449*0254 | 494-9652 | 426-4550 | 428'0477 453'9852 | 429-6434 455-5794 | 431-2421 487- 29 46 | 432-8438 458-8738 | 450-5250 | 462'1609 | 463 |
| 5 | 405 5600 | 440-8955 4 87-1640 | 442*5159 468-8309 | 478-5009 | 473-1738 | 447·3921 473·8496 | 475-5284 | 450·6577 477·2102 | 452-2950 478-8950 | 480-5897 | 482-2784 | 488-9671 | 485-6638 | 487.3634 | 489.0659 | 490 |
| | 493-1800 | 494-1915 | 495-9059 | 497-6284 | 499·8438 | 501.0671 | 502.7934 | 504-5227 | 500·2550 | 507.9902 | 509.7284 | 511.4696 | 518-2138 | 514.9609 | 516.7109 | 519 |
| 7 | 590.9200 | 521.9790 | 593.7409 | 525.5059 | 527-2738 | 529.0446 | 530-8184 | 532.5952 | 534.3750 | 536-1577 | 537-9434 | 539.7321 | 541-5238 | 543·3184 | 545-1159 | 546 |
| 8 | 548.7200 | 550·5 265 | 552·3359 | 554-1484 | 555 -9638 | 857.7821 | 559.6034 | 561-4277 | 563·2550 | 565-0859 | 566-9184 | 568·7546 | 570-5938 | 572.4359 | 574.3809 | \$76 |
| 9 | 577.9800 | 579 8340 | 581.690 9 | 583-5509 | 585.4138 | 587-2796 | 589-1484 | 591.0202 | 592-8950 | 594-7797 | 596-6534 | 698-5371 | 609'4238 | 692·3134 682·9509 | 604-8959 634-8909 | 606 636 |
| 0 | 608-0000 638-7800 | 609'9015 649'7990 | 611°8059 642°6809 | 613·7184 644·6859 | 615-6238 646-5938 | 617·5371 648·5546 | 619 [.] 45 34 650 [.] 5184 | 621-3727 652-4852 | 623·2950 654·4550 | 625 :2202 656:4277 | 627·1484 658·4034 | 629.0796 660.3821 | 031-0188 069-3038 | 664-3484 | 666-3359 | 666 |
| 2 | 670.3200 | | 674.3159 | 676·3184 | 678·3238 | 680·3321 | 682·3434 | 684-3577 | 686 [.] 3750 | 668-3952 | 690.4184 | 692.4446 | 694-4738 | 696-5089 | 698-8409 | 780 |
| | 702.0300 | 672-3165 704-6640 | 706·7109 | 708.7609 | 710·8136 | 718-8696 | 714 9284 | 716 ·9963 | 719.0550 | 721-1227 | 783-1934 | 725-2671 | 797.3488 | 720 4234 | 731-5050 | 789 |
| • | 735-6800 | 787.7715 | 789 8659 | 741-9634 | 744.0638 | 746-1671 | 748-2734 | 750.3827 | 752.4950 | 754.6108 | 7 66 ·7284 | 758-8496 | 760-9788 | 708-1009 | 765-2309 | 767 |
| 5 | 769-5000 | 771-6390 | 773.7909 | 775-9259 | 778·0738 | 780-2346 | 782-3784 | 784.5359 | 786.6920 | 788-8577 | 791.0234 | 793-1921 | 795-3638 | 797-5384 | 799.7159 | 801 |
| 6 | 804'0900 | 806-2665 | 808.4559 | 810-6484 | 812-8438 | 815-0491 | 817-9434 | 819.4477 | 821.0650 | 823.8652 | 896-0784 | 828-2946 864-1571 | 630-5138 866-4236 | 832·7359 868 ·69 34 | 834 9699 870 9659 | 837 878 |
| 7 | 839-4200 | 841.6540 | 843-8909 | 846-1309 | 948-3738 | 850·6196 | 852-8684 | 855-1202 | 857*3750 | 859 .632 7 | 861·8934 | | | | | |
| 8 | 875·5200 | 877.8015 | 880-0859 017:0400 | 882-3734 018-3750 | 994·6738 | 886-9571 924-0546 | 889·2534 926·3984 | 991-5527 928-7452 | 893-8550 | 896-1602 933-4477 | 998 ·46 84 935·8034 | 900.7796 938.1621 | 903-0938 940-5238 | 905.4109 943*8884 | 907-7309 945-2559 | 947 |
| 9 | 912·3800 950·0000 | 914·7090 952·3765 | 917·0409 954·7559 | 919·3759 957·1384 | 921-7138 959-5238 | 924-0540 961-9121 | 920-3984 964-3034 | 966-6977 | 931-0950 969-0950 | 971·4952 | 973-8984 | 976-3046 | 978-7138 | 081-1959 | 988-5409 | 990 |
| 1 | 988-3800 | 990·8040 | 993·2309 | 995-6609 | 999 9138 998-0938 | 1000-5296 | 1002-9684 | 1005-4101 | 1007.8550 | 1010.3027 | 1012.7534 | 1015-2071 | 1017.6638 | 1990-1934 | 1029-5859 | 1025 |
| 8 | 1027-5200 | 1029.9915 | 1032.4659 | 1034-9434 | 1037-4288 | 1039-9071 | 1042'3934 | 1044-8827 | 1047.3750 | 1049-8703 | 1052-3684 | 1054-8696 | 1057-3738 | 1059-8809 | 1062-3909 | 1064 |
| 8 | 1067-4200 | 1069-9390 | 1072-4609 | 1074 9859 | 1077-5138 | 1080.0446 | 1082-5784 | 1085-1159 | 1087-6550 | 1090.1977 | 1092.7434 | 1095-2921 | 1097-8438 | 1100.3984 | 1103-9459 | 1105 |
| • | 1109.0890 | 1110-6465 | 1113-9159 | 1115.7884 | 1118-8638 | 1120-9491 | 1193-5934 | 1196-1077 | 1128-6950 | 1181-2852 | 1183-8784 | 1186-4746 | 1139.0738 | 1141-6759 | 1144-2989 | 114 |
| 8 | 1149-5000 | 3152.1149 | 1154.7309 | 1157-8509 | 1159-9738 | 1162-5996 | 1165-2284 | 1167.8603 | 11 70-49 50 | 1178-1397 | 1175.7784 | 1178-4171 | 1181.0538 | 11897154 | 1190-3659 | 118 |
| 0 | 1191-6000 | 1194-3415 | 1197.0059 | 1199-6734 | 1902-8438 | 1205-0171 | 1207.6934 | 1210-3727 | 1213-0550 | 1915-7409 | 1218-4284 | 1921-1196 | 1223-8138 | 1226-5109 1270-0684 | 1229-2100 1272-8150 | 1991 1975 |
| 7 | 1234-6900 | 1237-3290 | 1240.0409 | 1942-7589 | 1945-4738 | 1948-1946 | 1250-9184 | 1253-6452 | 1856-3750 | 1859-1077 1303-2352 | 1261-8434 1306-0184 | 1264-5891 1308-8046 | 1967-3938 1311-5088 | 1814-3859 | 1317-1909 | 13/0 |
| 8 | 1978-3200 | 1281.0765 1325.5840 | 1283-8359 1328-3909 | 1286-5984 1331-2009 | 1289-3 6 38 1334-0138 | 1292-1321 1336-8296 | 1294.9034 | 1997-0777 | 1300.4520 | 1000 4002 | 1350-0184 | 1353-7871 | 1356-6238 | 1859-4694 | 1862-3559 | 186 |

TABLE FOR CALCULATING THE STENGTH OF CAST-IRON BEAMS.

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1

THE STENGTH OF CAST-IRON BEAMS. WHEN the table for facilitating the compu-tation of cast-iron beams, which appears at page 499 of the present volume, was drawn up for insertion in the BULDER, it was thought sufficient to limit the argument or depth of section, to about four feet, on the suppo-sition that *that* would be found to embrace the usual range of practice. But in the supple-ment to that number in which the table is given, there is a description of a cast-iron given, there is a description of a cast-iron pression, he h bridge across the river Wharne, on the York and Midland Railway, where it is stated that the depth of the girders varies from four feet found useful. 17

eight inches to three feet three inches. On seeing this, the author became impressed with the belief that by extending the table to a depth of five feet, and adapting it to sixteenths of an inch instead of tenths, its value as an instrument of calculation would be greatly eninstrument of calculation would be greatly en-hanced, not only on account of its embracing a more extensive range, but because the com-mon foot-rules are more generally divided octogesimally, than either decimally or duode-cimally; and consequently, under this im-pression, he has with great labour computed the table which he now lays before the readers of the BUILDER, in the hopes that it will be found useful.

The principles and data on which the numbers depend are the same as those adopted for the table at page 499; and their accuracy has been ensured by the method of computation employed; they have been deduced from one another by the continued summation of the first and second order of differences, and a check was had at every eighth and sixteenth number by means of the previous table, which was computed and checked in a similar way; and in order that the checks should be rendered efficient, the decimals were maintained at their full extent throughout the operation, although they are tabulated only to four places.

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The table is used in precisely the same midther as we have exemplified at pages 499 and 513, and need not therefore be again ex-plained, but the application to other forms of sections, now much approved of, will be the subject of another communication.

etsad≁ The Con WESTMINSTER COURT OF SEWERS.

A VERY numerous meeting of the commis-signers took place on Friday, the 7th instant. This cash at the bankers was reported to be 16:6241. Os. 5d.

On an application for warrants of distress against certain inhabitanta of the weaters di-vision, the chairman said, "not to day." Mr. Leslie, called upon the chairman to say why be would not sign the warrants of distress or to let would not sign the warpants of distress or to let the Court be informed of the reason? and then proceeded to say that the inhabitants of the western division had been made to pay apwards of 16,000. since February last, while the whole amount of the contractors' bills from Nov. 1844 to Michaelmas 1845, for the western division, amounted only to 1,288. 7s. 11d. that 1360 of the inhabitants of the western division had been summand to the Court to Kautobild with the warpant of disting so had been affew cause why warrants of distress should not be issued against their goods, and 245 warrants of distress 'Hat 'ischull' then signed by the

forms were granted to various applicants. The clerk then read a letter he had received

mithe Under Secretary of State, of which f the following is a copy.

Whitehall, 1st November, 1845. Bin, ---- V an directed by Secretary Sir James Grahum to call your attention to my Letter of the 15th Angust last, and to request that you will move the Commissioners of Sewers for Westminster and the commissioners of Severs for Westmisster and part of Middlesex to favour Sir James Graham, at their earliest convenience, with their observations on the allegations contained in the Pamphlet of Mr. John Lestle.—I am, Sir, &c. ad. (Signed) H. MANNERS SUTTON.

The chairman said the Court had appointed committee in September to draw up observations of "the pamphlet, in compliance with the request of Sir James Graham. That in consequences of the long period over which the pamphlet ranged, the committee, had required many returns from their own officers, and returns also from the Holborn and Finsbury complesioners, and it, took some time to prepare these returns; and one from the Hol-born and Finsbury, commission had only reprepare these returns; and one from the root born and Finabury, commission had only re-cently been received. At the last meeting of the committee, it had adjourned, that a draft repart might be prepared offerdraft report was prepared, and the committee would meet on Wednesday next (the 12th inst.) to settle it, and, bring their inborious investigations to a closer. He would therefore suggest that their answer to the letten of the Secretary of State

anawer to the letter of the Secretary of State be, that the committee had closed their investi-gation, and with preparing their report. Captain Bague, and atterwards, Mr. Wil-liam Ponaktwor; complained that Mr. Hertslet, the Plerk, had printed and circulated the letter from Mr. Manvers Satton without having tonsulted the chairman. The chairman also intimated his disapprobation of the course pursued; all former chairmen had been consulfed as to the printing of any paper, and also as to the business paper of the day, and it looked invitibus "that he, their present chairman, was to be the exception to the lewand the practice. Mrs Leslie defended the course adopted. The Mrs Lesile defended the course adopted. The cleik had received an important communication from the Secretary of State, requiring him to "move the commissioners," and he thought that the best way to move the commissioners, was to" let them individually, know that the Secretary, of State wished them to move. What did the commissioners know about the proceedings, of, the committee?. That som-mittee had voted itself a sorretecommittee; their minutes were riored to the even of every comminutes were cloud to the eye of every commissioner, a this was a power the compittee itself had assumed, without asking the Court. itself had assumed, without taking the Court. He thought it a dangarous proceeding i he begged in the observation he way inde on that verte committee, to be understood as feeling no anxiety. about what the committee might report price way so mirronfield by facts, that he considered, almost anvulnerable. The chairman was anxious that the officers should

have no will of their own, but this was not the have ho will of their own, but this was not the law. The general statutes authorised the commissioners to 'elect a chairman at every meeting of the Court, and during the non-sitting of the commissioners, the clerk was the only legally known authority to communi-cate with. The practice in this Court had been otherwise: here the chairman had been supreme. Many years ago a bricklayer of the name of Gray, had obtained a nomination as a commissioner; he eventually became the chairman of the Court; he contrived, to get two nephews of his of the name of Saunders nominated as commissioners; one of these nominated as commissioners; one of these nephews, George Saunders, an architect, subse-quently became chairman of this Court, and for 28 years did almost us he liked. The officers had been the more servants of the various chairmen; he felt satisfied that the commissioners generally would approve of the course Mr. Hertslet had adopted in apprising every commissioner of the letter from the every commissioner of the letter from the Secretary of State. Mr. Gunter also defended the course pursued. Mr. W. Donaldson handed in the follow-

ing notice of motion for the next Court: "That the clerk do not issue any printed circular to the commissioners without the express order of the Court, or the sanction of the cheirman,"

Mr. Farlar stated that what had been said about the extraordinary powers exercised by the chairman of the Court was perfectly true When he, Mr. Farlar, was first made a com-missioner there was no business paper at all, sent to the commissioners; the chairman brought forward any subject just as he liked, or saw by the parties present that he could carry. The former chairman, Mr. Saunders, used to say when attacked by him, if you had known the Court, Mr. Farlar, when Mr. White was chairman, when his relatives where doing the work, then indeed you might have said it was corrupt. He thought Mr. Hertslet had taken the wise course to print and circulate the letter from the Secretary of State.

The Court then proceeded, "To consider the steps necessary to be taken in consequence of the resignation of Mr. George Hawkins, assistant surveyor. Mr. Leslie to move, that the vacancy in the office of assistant surveyor he filled up by the appointment of Mr. John Phillips, now second clerk of the works,"

Mr. Leslie called upon the Court to support the motion, and he thought they would do so without a dissentient voice, when they considered the course theseveral recent Courtshad adopted. The forms of sewers which Mr. Phillips had pade, and which had been so strongly urged upon the Court by the eminent testimonials in their favour, were now the forms adopted by the Court: so large a number as nearly 4,500 feet of sewers of these forms had been applied for and granted this day: who, then, so likely to see them carried out properly as the author of them? Mr. Leslie thought it right to put Mr. Phillips' abilities to the test as to his powers of surveying, levelling, and laying down s section : he had asked Mr. Dawley to allow Mr. Phillips the use of the necessary instruments and labourer for the purpose, which Mr. Dowley readily complied with, and on Monday the 3rd inst. the task set Mr. Phillips was performed. The survey selected was from the outlet of the sewer at the bottom of Northumberland-street, up that street along the Strand, Cockspur-street, Pall-mall, Cleveland-row, and disgo-nally across the Green-park to the Man-hole, opposite White Horse-street, where nearly all the northern drainage of the metropolis de-scended. The distance between the two points was about 5,400 feet, the fall was about 31 inches per 100 feet. But the bottom of the outlet at Northumberland-street might he lowered to low water-mark, whereby an increased fall of 8 feet might be gained. The result of the task 8 feet might be gained. The result of the task selected for Mr. Phillips was the drawing he then held in his hand, and which he would pase round the Court, that every commissioner might judge the sort of man he wished, for the public interest, to see placed in a situation of io-creased usefulness, and to be enabled to aid in carrying out those great improvements which the votes of recent Courts had made their OWD.

Captain Bague, R. N., had the greatest po sible pleasure in seconding Mr. Leslie's motion. He thought Mr. Phillips had schubited so much talent, that the Court would act imost wisely in securing his services.

Mr. Gunter very warmly supported the mo-tion. He had not the pleasure, of knowing Mr. Phillips, but, from what he had seen of his abilities as a clerk of, the, works, he felt

confident the appointment would, be one most beneficial to the public. He understood Mr. Phillips was almost a self-educated man with considerable talents, which he assidupted well-tivated. It would be impossible, after seeing the admirable manner in which the task Mr. Leslie had set Mr. Phillips, had been ; accomplished, to deny his shility. There was out circumstance connected with Mr. Phillips' history which gave him (Mr. Gunter) great plea-sure, and it was, that Mr. Phillips, in those sure, and it was, that Mr. Phillips, in those hours which many gave to pleasure, idle re-creation, or the public-house, had devoted himself to the instruction of others; he had a large class, which he was teaching weekly practical geometry. Such a man deserved encouragement, and he would cheerfully vote for his appointment.

Mr. Le Breton rose to move an amendment, " That the office of assistant surveyor, now vacant by the resignation of Mr. George L kins, be not filled up until the whole question q and the expediency of making a change therein," be considered at a special meeting, to be held." to consider the same."

Mr. Allason vary briefly seconded the amend of ment, which was supported by Mr. Häwkes" and Mr. Harrison, who avowed; that if the chairman in favour of the améndment. The names of the commissioners voting were, for the amendment—Messre, Allanon, Boodle, jun., Beachcroft, Cantwell, Crace, W., Doneldare, W. B. France, Harrison, Hawkes, Le, Bre-H ton, and Willoughby; against the barged are ment—Hon. F. Byng, Capt. Bagues, Meseri. Branscombe, Cumberlege, Farlars, Fuller, Gunter, Leslie, Moss, and Weed. A subject for The Court then ordered a Special Court on I Friday. Nov. 14th, st. one of Meseri.

Friday, Nov. 14th; at one solors precisely, "To consider as to the efficiency of the two veyors' department, and is to the expediency of making a change there is (20012) at 200 gard wob. 7 2 6 ° 🚽

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TENDERS for sewer in Green Street, Bethen) Green : length, 980 feet ; 4 feet by 2 feet 6 in ; average depth of digging, 71 feet 6 inches,

TOWER HAMLET'S COMMISSION.

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Correspondence.

(1, 2, 2, 3) = f(1, 2, 3)THE EGG SHAPED SEWER.

-I feel much gratified with my fellows, SIB,rate-payers, at the result of the decision of the soft commissioners of sewers for this division; the sixteen against five will, I hope, settle the point in dispute, as to the mud-bailding sever with in dispute, as to the mud-belding sever with perpendicular sides, and the egg-shaped sever. One half the sum collected for rates within the last twenty years would, if it had been expended upon the new plan, have made the drainage perfect. I am sure the public will feel indebted to THE BUILDER for the assistance

it has afforded in the good cause. I am not looking at this as a local question only; the subject of proper drainage is now mooted throughout the nation, and wo may hope to see the egg-shaped sewer introduced universally. As the egg-shape now in use in () the Finsbury division will, I have no doubt with in time come into general use, it would be wellif THE BUILDER could ascertain, who was the inventor of this shape, as I cousider it into the portant as an historical fact. Probably Mr. -Role, if applied to, would state whether it may this invention, or whether he received the the from any other person.—I am, Sir, &c. Westminster. E. E. E.

CONVEYANCE OF WATER.

Sin,-Your correspondent who inquires on this head, may obtain at small cost, terro-me-tallie pipes for " conveyance of water," at Mr. s, Whitefriars. Peake

Peake's, Whitefriars. Peake's, Whitefriars. Perhase pipes do not injure pure water; they are exceedingly durable; socket pipes have been used to convey water long distances over ondulating ground, terminating in one in-stance in a perpendicular rise of 40 or 50 feet to the tops of buildings. For such purposes each pipe is proved by hydraulic pressure. The plain or dead joints will do for your cor-respondent's purpose provided the soil is respondent's purpose provided the soil 18 clayey. + +

NOTICES OF CONTRACTS.

We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For building a new church at Tetbury, Gloucestershire.

For repairing or new paying the footways and carriage ways of certain streets and places in the parish of St. John the Evangelist, Westminster. For the supply of 40 fathoms of yellow Deal

ends to the Guardians of the Kensington Workhouse.

For the execution of the work forming the second division of the Dundalk and Enniskillen Rail-

Cond division of the Dundalk and Enniskillen Rail-way, being a distance of 10 miles.
 For the supply of 1,027, of 15-inch cast-iron socket pipes, measuring 3,080 yards, to the Com-mercial Gas-light Company, Stepney.
 For the execution of the works forming the Burnley contract of the East Lancashire Railway.
 (Extension of time.)

were, for . ROULLIAGNOD Boodle, jun.

Plans for the enlargement of the Suffolk General Hospital, and tenders for the execution of the work,

Hospital, and tenders for the execution of the work, are required by the Hospital Committee. Plans, specifications, and estimates are required by the committee for the erection of the South Staffordshire General Hospital, Wolverhampton. The sum of 1004, will be given for the one selected. The Provisional Committee of the National Glass

Company of Ireland require plans and specifications, &c., for the erection of all the necessary Buildings, comprising an extensive manufactory for making crown (window) glass; also plans for an extensive manufactory of plate glass. 251. will be given for each plan selected, or 501 for both if to the same individual.

APPROACHING SALES OF WOOD, &c.

At the Railway Tavern, Wallingford-road sta-tion: 2,000 clean Beech trees, of good growth; also a few lots of Ash and Cherry-tree timber, all now standing in Unhill-wood, four miles from Wallingford.

At Haselgrove, Queen Camel, Somerset : Up-wards of 1,000 maiden Oak, Elm, and Ash timber

At Garraway's Coffee-house, Cornhill: 628 logs and curls of St. Domingo Mahogany, being the entire cargo of the *Diadem*, just landed.

At Great Barton, near Bury, St. Edmunds: be-tween 300 and 400 excellent spruce and larch Firs. At Wainford's farm, Little Burdfield, Essex: 150 capital Elm timber trees; 50 ditto Ash ditto, and 10

ditto Oak ditto, now lying near the road side. On the premises, Mortimer-street, Cavendish-square A large and well-seasoned stock of Ma-hogany Wainseot, Rosewood, Pencil-Cedar, Lime tree and Fir timber.

with TO CORRESPONDENTS. .10V

"J.F."—Our correspondent's proposed central terminus would not be sufficiently extensive. The communication is left for him at the publisher's,

"Young Beginner."-We do not know a good " book on " book on drawing and colouring architectural plans and elevations." Gwilt's Encyclopædia contains a course of mathematics.

tains a course of mathematics. "Y. X. A."—Articled pupils, under 21 years of age, are eligible as students of the Institute of Architects. They must submit specimens of their drawing, and be recommended by a Fellow. If the specimens are satisfactory, a subject is given them, which they are required to execute at the Institute; and if that also is satisfactory, they are admitted, on payment of one guinea per annum. "Bediehed Slate" Chimney, pieces"—A corre-

"Polished Slate Chimney pieces."—A carre-spondent wishes to know where these can be seen.

EEEF

" Surveyor" and " J. G." arrived too late for

"Complaint against a District Surveyor."-We learn on inquiry. that the surveyor did not of him-self lodge an information against the houses in question, but made the survey under higher autho-rity; this seems materially to alter the question.

"Chelsea Improvements."—A correspondent directs our attention to what is being done in Chelsea under their new Act. We are fully aware of the works going on, and shall lake an opportu-nity to allude to them.

"T. L." (Improvement of Operatives) next week.

*** Correspondents are requested to address all communications to the EDITOR.

ADVERTISEMENTS.

CAUTION, -FRAUD. -BERDOE'S WATERPROOF OVER COATS and SHOOTING JACKETS. - It having come to the knowledge of W. B. that ertain parties are offering for sale, as the abore, garments which, although having attached to them W. B.'s name, and fac-simile of his label, have not been manufactured by him; also various other attempts, similarly and fraudulently to misled; intimation thereof is (to prevent disappointment and vexation) thus publicly given. The above really water-proof garments have been in extensive use seven sents, and are now too well known to need description; and by those who have tried them they are regarded as sine qua nons. A large stock of first-rate garments for the Winter, in Llamas and other new materials, manufactured expressly for W. B. ow ready. They are made and sold in London only, at 69, Cornhill (north side), and by W. B.'s Agents in various towns throughout the Kingdom. Waterproof Cloaks, Capes, &c. for Ladies.

PRIZES IMPORTANT TO INVENTORS AND PATENTEES. W STALL 1910

A GOLD MEDAL, value 1001. and a SILVER MEDAL, value 604., will be given by Mr. JOSCELIN COOKE. The Gold medal for the best Patent, and the Silver medal for the best Design taken out or Registered at the OFFICE for PATENTS and DE-SIGNS. 20, Half-Moon-street, between the lat of November, 1844, and the 1st of June, 1846. The Prizes will be awarded by competent judges on the 10th June, 1846. The orditions to be observed, together with instructions, charges, and every information for obtaining Patents in England or Foreign Countries, or Registering Designs, will be forwarded the Office for Patents and Registration of Designs, 20, Half-Moon-street, Piccadilly, London.

T. SMITH AND SON'S IMPROVED PATENT WATER-CLOSET,

IMPROVED PATENT WATER-CLOSET, IMPROVED PATENT WATER-CLOSET, HAS, after three years' experience, been pronounced by all who have introduced it, to be the motice, and fully supplying all requisites indispensible to the, complete success of an apparatus of such acknowledged utility. Upwards of 2,000 of the improved water-closets have due to a supplying all requisites indispensible to the complete success of an apparatus of such acknowledged utility. Upwards of 2,000 of the country since its first intro-duction, in every case with the most satisfactory results, as the numerous testimonials from influential particles will abundantly testify. The desiderata of a perfect water-closet - a simplicity, of GREAT ECONOMY, since the machine, from the sim-plot of the common construction. The patent Trap can be furnifietet the value of closets, but to obtain the full advantage of the invention, the Improved patent should be used in its complete form. T. SMITH and SON are still engaged in appointing accessary for making and fixing are provided, as well as the various testimonials with which they have been furnished. List of Agenta already appointed.

necessary for making and fixing are provided, as well as the various testimonials with which they have been furnished. List of Agents already appointed. Bridges, T. 18, Old Quebec-street, London. Stocker and Curtis, 121, St. John-street, do. Burges, --, More-street, Birmingham. Lythall and Adney, Temple-street, do. Newbold, B. G. Stokes, J. C. Barge, John, S8, London-road, Manchester. Howard and Atkison, Deansgate, do. Ward and Leech, 36, Brook-street, Davis-street, do. Harrison and Son, 41, Chapel-street, Salford. Fietcher, Chas. More-lane, Bolton. Travers, John, Church-bank, do. Holt, James, Hanover-street, Liverpool. Knight and Nimmo, Renhaw-street, do. Porter, Thos. and Co. Mercey-street, do. Bailiff Stainton, Birkenhead. Crump, Thos. Derby. Godd, Thos. Leamington. Johnson, Timothy, Coventry. Hickman, C. R. Oxford. Kirk, S. Sleaford, Lincolnshire. Adams, George, Market-place, Margate. Marshall, Chas. Leinester. Broother, Milliam, Wolverhampton. Wood, Renjamin, Brighton, Sussex. Gore, William, Stratford, Essex. Morley, John, Bakewell, Derbyshire: Daniel, Robert, Chesterfield, do. Stose, John, Churford, do. Hous, John, Stratford, Essex. Morley, William, Stratford, Essex. Morley, William, Stratford, Gasser. Broomhend, John, Bakewell, Derbyshire: Daniel, Robert, Chesterfield, do. Stose, John, Churford, do. Stow, Milham, Hornerestel, Lincolnshire. Brown, William, Stratford, Essex. Morley, William, Stratford, Essex. Morley, William, Stratford, Go. Hunt, Henry, Banbury, do. Strown, William, Hornerestel, Lincolnshire. Belamy, N. R. Louth, do. Strown, William, Hornerestel, Lincolnshire. Belamy, N. R. Louth, do. Strown, William, Hornerestel, Lincolnshire. Belamy, N. R. Louth, do. Methon, Edward, Market Ravin, do. Bernes, Henry, Stanford, do. Methon, Edward, Market Ravin, do. Burnes, Henry, Stanford, do. Methon, Edward, Market Ravin, do. Burnes, Henry, Stanford, do. Methon, Edward, Market Ravin, do. Burnes, Henry, Stanford, do. Methon, Edward, Market Ravin, do. Burnes, Henry, Stanford, do. Methon, Edward, Market Ravin List of Agents already appointed. Buswell, H. Luthworth, Leicestershire, 18

ly in securing his services

ROFESSOR KELLER'S POSES PLASTIQUES. ROYAL ADELAIDE GALLERY --- This exhibit at the Adelaide Gallery his Grand Tholeau Vivang from the Ancient Materia, which have received so largely the incomiums of the press. Every morning at half-past three, and in the evening at nine o'clock. Great efforts have been made to add to the effects of this exhibition. A variety of new subjects have been added to those already presented to the public The Concerts as usual. Also Pilbrow's Atmo-spheric Railway model, with explanatory lecture?

the public The Concerts as usual. Also Pilbrow's Atmo-spheric Bailway model, with explanatory lecture. The SASHES, SHOP FRONTS, &c. JOHNSON and PASK thank the public of the series of the series liberal support they have rej-ceived since they commenced manufacturing for the trade-glazed complete, at 114d, per foot, shop-fronts with the best British plate-glass, all kinds of joiners' work cheaper than any other bouse in the trade. TAMWEDSTATE OF THE STATES AND STATES AND STATES ORNAMENTAL WINELWORK, FLOWER POT ONNAMENTAL WINELWORK, FLOWER POT STATES TANDARD STATES, and others: M. H. BUSBT, NEW YENETIAN HOUSE, and statether, source, and cheast M. H. BUSBT, NEW YENETIAN HOUSE, and the most approved principles, namely, the Spanish, Oriental, Florentine, Louvre, and Yenetia Sun Shades, for the exterior; and Venetian Dwarf, Metallic Gauge, for the exterior; and Venetian Dwarf, Metallic Gauge, for the exterior; and Venetian Dwarf, Metallic Gauge, for the interior; Binds, for Shop Fronts, Plans and Ormanental, on the most improved plans. Of Blinds Stands of Shop Flower, Jans and Offers, and Holland Blinds, on Springs, Patent and Common Rollers Stands al ways Ready, Rustic, Portale, and other and Metred, Renovaed, and Befared. A variety of Flower-pot Stands al ways Ready, Rustic, Portale, Sand other stands ornamental, on the most for the ready of Blinds Stands al ways Ready. Rustic, Portale, Band other Stands Stands al ways Ready and Befared. A variety of Flower-pot Stands al ways Ready and Befared. A variety of Flower-pot Stands al ways Ready and Befared. A variety of Flower-pot Stands al ways Ready and Befared and other Stands Stands al ways Ready and Befared and Stoles. Wire work for every purpose useful and ornamental. Concerts and stoles and stoles and stooles and stoles and

ornamental. The short of the second s VENETIAN BLINDS FOR EXPORTATIONeib 30

All the above articles are prepared by HENRY STE. PHENS, the Inventor, St, Stanford, street, Blacktriars road, London, and sold by Stationers and Booksellers. 390 VII

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Subo-

Coulor, and sold by Stationers and Booksellers, 1990 (1992)
 COURT OF SEWERS FOR WESTMINSTER, AND the square.
 TO BUILDERS and Others interested in Without the buildings of in groand for building upon, within the district under the jurisdiction of this Court, drained by where 'n's courses falling into the river. Thanks, lettween the city of 19 to the making of any new sewer in any street, lane, or public way, or to carry ordenia of building and the partsh of Fulham.
 The commissioners thereby give indice, that by an Act of the 47th Geo. III. (chap. 7, local) is is required that pre-should be given to them, or to their citra of the 47th Geo. III. (chap. 7, local) is is required that and the partsh of the interest of the district under the given to them, or to their citra of the district and and the partsh of the interest of the distribution, a notice in writing that such new sever or severs shall be corrected by the said and that such new sever or severs shall be constructed and made is commissioners, and not otherwise.
 And, in order to prevent the serious evils and incornation of shall be given to the lower floor of auch ground, into any sever, in any part of the and and is in a schall be constructed and made is an account of the commissioners and it which the same miner and form as shall be directed by the said and commissioners and the lower floor or parents of building shall be given as to the lower floor state a depth. The Commissioners and the lower floor or parents of such buildings. Information of such ground into a severs. The second with a proper current, they will not allow in y severs. O'd disting a more the lower floor or parents of such buildings. Information of such grounds information of a severs. The provisioners and a service of such buildings. Information of the lower floor the premises. The secretain whether such premises. The secretain whether such premises. The secretais whether such premises. The secretais whether such premises.

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DULONCEAU'S BITUMEN PAVE-MENT for paving Foot walks, Terraces, Garden walks, Warbonses. For the exclusion of Damp and Vermin's in Warehouses. For the exclusion of Damp and Vermin's in Basements it is particularly adapted, and for Roofing Dwell-ing Homme, Porticos, Balconies, and Sheds. Price se. 6d. per square yard. BITUMEN for covering the Arches of Bridges, Culverts, dec. Sec. on Railways and atther places (stdie instantises be laying it down), may be had at the rate of 480. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road. DOLONCEAU'S BITUMEN PAVE-

TO ARCHITECTS. IN CONSEQUENCE OF MANY COMPlaints having Neves made to the Company, by Architects, of a sperious material having been used in the second act of Works where the Darsait Aspmanrs had been specification, there are the second act of the full many of the specification, here authenticed CERTIFICATES to be granted to Builders where the

Lave authorised CENTIFICATES to be granted to builders where the SEYSSEL ASPHALTE has been used. For the purpose of securing the use of the Genuine Article, Architects and others are assommended to insert in their specifications, the "Seymed Alphalte," Cia-ridge's Patcut," and not mercily "Apphalte," for "Bitu-mean," as in many cases where these thrms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary. Stangate, near Westminster Seymed Apphalte Company. Bridge, Jan., 1845. Books of Instructions for Use may be had at the Offec of "The Builder," and of all Booksellers in Town and Country, price is.

"The Bullder," and of an accessity of the above advertisement, it *e* In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly metrificited, that "Claridge's Asphalte" was to

expressive mentioners, and the used of the second s

GAS LAMPS, FITTINGS, &c.

NÈW ASSORTMENT of HY. A NEW ASSORTMENT of HY-DRAULIO GAS PENDANTS, new pattern Opal Gas Brackets, &c. -C. DEBAUFER and SON have on view a new assortment of hydraulic Gas Sliding Pendants, opal and brass handsome Gas Brackets, Gas Pillars, newest pat-terns, and Chandeliers, at their Manufactory and Show-room, 10 and 11, Creed-lane, 8t. Paul's; adapted for public buildings, shops, and private houses. - N.B. Architects, Buildings, deops, and private houses. - N.B. Architects, Buildings, Barting to fit up at shops, houses, &c., are ro-meters of the second second second second second second second - Estimates given from 6 lights to 1,000 at wholesale prices.

MOREWOOD AND BOGERS' PATENT GAL-VANIZED TINNED IBON.

W. BEALE begs to acquaint the pub-corrugated, fix pipes, guiters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manu-factures all kinds of baths, as hip, shower, Roman, open, slippef, sponging, foot, children's, and self-heating baths; also tofist-cans and pails, slop-pails, coal-scattles, cash and deed-baxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London. The PATENT GALVANIZED TINNED IRON is ap-plicable to the following uses: -The Lining of Ships' Shore. Roomp, Ships' Water Buckets, Water Jucks and Receivers, and for almost every purpose to which sine, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T.W. BEALE, 40, Bridge House-place, Newington Causeway. W. BEALE begs to acquaint the pub-



MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL. — This article the Patentees finding that the public, in some instances, over-looking the word Tin, confounded thearticle with Galvanised Iron, and that the glaracter of their metal has thereby sus-tained injury, are deaffous of giving it a name so distinctive as to prevent such mitakes, and Cousequent disappointment to purchasers in future. They therefore respectfully request to prevent to inquiryfor MOREWOOD and HOGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two sheats, it may be well to inform them, that Galvanised. Iron has a plain inc-like appearance, while M. and K's Patent Galvanised Tinned Iron has a smooth crystalline surface. MOREWOOD and ROGER'S PATENT GALVA-NIZED TINNED IRON, Patronised by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for wery waity of Roofing, and other purposes, where a strong light, cheep, and durable material is ze-quired. It has been found by experience that this article is beyond

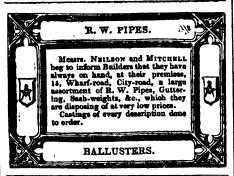
where a strong light, cheap, and durable material is re-quired. It has been found by experience that this article is beyond all comparison superior to sinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to sinc, vis. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course gesult. This material is not likely to be destroyed by fire, as is the case with sinc ind lead, which melt and run down, thus freely admitting free hair to the fire, and causing it to burn more fercely. It is, therefore, obviously well adapted for all the purpose above-named, and most importantly so, when there is the gesubbility of fire. It is also peculiarly suitable for chinney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to chromon. It is by far this ond iron, whon the is strength, and which a strength, and upon the lightest rations.

a it may rearrange metal from rust does not only ap-This mode of preserving metal from rust does not only ap-ply to abset iron, but also to masufactured iron in any form, a bolz, sute, hinges, nails, dcc, dcc. For full Particulase apply 10 S, HOLLAND, 34, Grace-

THE BUILDER.

RAIN WATER PIPES, Heads, Shoes, Weights, Railing Bara, Sink and Stable Trape and Gratings, Air Bricks, Coal Pistes, Soni (Gas 'and Water Pipes from 14 in. to 13 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Suck's of the shore Gastings at JONES'S Iron Bridge Wharf, and No. 4, Bankside, South-wark. wark. 135 AN 835

HENDRY and GLOVER, IRON ENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that or have removed their Foundry (from Smart's-buildings) CHARLES-STREET and 166, DRURY-LANE, where any have adopted every improvement to enable them to mpete successfully in quality, price, and punctuality. They we also an extensive and well-arranged stock of patterns revery description of Castings. to Cm they]



REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT BEVOLVING IRON SHUTTERS.

PATENT REVOLVING IRON SHUTTERS. THE validity of this Patent being com-pletaly established, the Patentees have much pleasure in staing that the very extensive demand, and the suploy-ment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail them-selves) of making a considerable reduction in the price of this well-knowmand tried invention, thereby rendering them is the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most exten-vice application has been adopted, and no effective RE-VOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. These shutters can be ap-plied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and COBPE, in some of the largest establishments : they are made with best or corrugated laths, if required. BEVOLVING WOOD SHUTTERS.

REVOLVING WOOD SHUTTERS.

REVOLVING WOOD SHUTTERS, with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shatters can be safe or durable. BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULD-INGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER FURPOSES.

VARIOUS OTHER FURPOSES. Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, beat Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Ea-timates given and contracts taken in Town or Country.--All kinds of metal works crecuted to any design. Metal Draw-ing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD.STREET, LONDON. WORKS, at DEPT-FORD, KENT. Brass Es--All

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS. PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architests, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above councrated Arti-cles, and inspection invited, at the Manufactory of the Patentess, R. HOWARD and Co., 115, Old Street, London; and at PATRICK CLARK and Co.'s Engineers and Machiniste, Tunnel Jron Works, S38, Wasping. Engranges and Prospectuses may be had at either address, or will be forwarded on application.

The great importance of stength and stiffnoss in the Laths of Revolving Iron Shutters, when required for security, is so obvious, that it is only necessary to point out the fact that, the Patent Convex Laths are is times stronger than the ordinary flat Laths (as shearn by the suggarings and pro-pectus), to canure their general adoption. Herolving Iron Shutters made of the common flat laths, at a very considerable

Shutters made of the common natural, as a strong preduction of price. CAUTION. — The Patentees beg to caution all persons against Making or Using Best Laths for REVOLVING IRON SAPETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render the meeting liable to legal proceedings for infringing fais parents Licenses Granted

TO BUILDERS AND CARPENTERS.

TO BUILDERS AND CARPENTERS. A Considerable saving will be effected in the purchase of IBONMONGERY, by applying a F. B. WILLIAMSON'S Wieldeale Warthcare, No. 4 Chiswell-street, Finabury, square, peer Whithread's Brynether Sd. 4d. 6d. 8d. 1440. Best Parcel Floor Brads 146. 6d. 20. Best Town Glue 448. per ort. Jo. Scotch 548. per former Best Town Glue 448. per ort. Jo. Scotch 548. per former 1 2 3 4 5 6 6 7 6 0 106. 128. per ort. Best Stores, 8d. 72 6 0 106. 128. per per former 4s. 3d. 5s. 6s. 6d. 72 6 0 106. 128. per per former 4s. 3d. 5s. 6s. 6d. 72 6 0 106. 128. per per former Billiptic Stores, 9d. per inch. Restorer 6d. 26. 40.

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TO ABCHITECTS, BUILDERS, BRICE PUMPS of Superior CONSTRUCTION

LUMITS OF SUPERIOF CONSTRUCTION bored perfectly tries by improved membrany, in un plain and ornamental patterns for Conservatories, for Market Places, Roads, Gardens, and for Llaud Man BRICKMAKER8' PUMPS, and ENGINES in Wrought and Const HYDRAULIC LIPT PUMPS, and ENGINES in W of any depth. SINGLE and DOUBLE PUMPS of any depth. SINGLE and DOUBLE PUMPS is-inch bore, kept for Hirs. BENJ. FOWLER, 63, Derect-street, Fragment



THIS CHEAP and USER UL A RTTOLIS. obviating the unsightly appearance and insecurity of the common rim heak, can be obtained of any respective ironmonger in town or country, or from the sole particles turer, Mr. EDWARD WRIGHT, Welverhampton, turer, Mr. EDWARD WRIGHT, Welverhampton, TO ABORITECTS AND BUILDER

TO ARCHITECTS AND BUILDERAME TO OOR SPRINGS AND HINGESTA GERISH'S PATENT DOOR STRUNGS, "He CLOSING every description of DOOR, consist of the and DOUBLE-ACTION BUTT HINGES in Brass and From for Doors to open one or both ways, and Richt Hinger for the convenience of Doors opening on uneven Flows. The wise Swing Centres, which consist of a combination of power uncoulded by any made at present. Manufictured by F. W. Gariah, East-road, City-road; and sold by all re-spectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.

TO ARCHITECTS AND BUILDEBS. OLLINGE'S PATENT HINGES. Solo Manufactory, 64, BEIDGE-BOAD, LAMB STH., where a great variety are always on view. 'for Church. Park. Coach-house, and all other Doors and Gstes, of large se small dimparisons, a gate of a ton in weight moras with these hinges as easily as a wicket; they are also admirably alleged for drawing-rooms, being highly ornumental, and falling doors fitted with them may be removed and restored in an instant. Rising and spring Hinges, also dealboaretim Butts on the most improved principle, and way appeared Fastenings for exterior Gates, at moderate prices. To be seen at Churles Collage and Co's Patent Ardence, Regar-in and Spherical-hinge Manufactory, 64, Bridge-west, Landeb

TO ARCHITECTS AND BUILDER



TO ARCHITECTS AND BUILDERSE The PATENT ALBERT WEATHER-BAR for sharper with and effect supervision any fit thing of the kind yet offered any from 18s. to 24s. Envented and manufactured by T. Wilk ENV. Boy and Co., Frommers, 72 Regent-quadrens. T. W.: also recutes all inde of Irons-worker. Staircases, Warming by Hot-water, Fitting up Base Ranges of all kinds 3; also Bell-hanging extensively same Estimates given.



SATURDAY, NOVEMBER 22, 1845.



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ARLIAMENTARY stand-.ing orders require that plans of railways, with books of reference, must be deposited with the various clerks of the peace, on or before Sa-

turday next. Without this step, a project can have no status this session ; moreover, to maintain this status, and get an opportunity to try to prove the preamble of the Bill, the plan and Book of Reference must be correct, and in accordance with certain regulations. Ponder this, ye peeudo-surveyors at seven guineas per day ! reflect on it, ye unwise hirers of such,ye men of much haste and little speed. The "flock of rising barristers, recent products of the railway system, -hatched and bred in the ovens, 'yclept committee-rooms, already look forward to the easy triumph which your expected errors, omissions, and impracticabilities, will yield them; knowing, well as they dq, that the slightest grounds for declaring standing orders not complied with," will be eagerly seized by the committee, in their anxjety to lessen the number of schemes before the House.

i ... Scores of the parties employed in surveying, levelling, and mapping, are utterly incompetent, and yet are paid immense salaries for their services. We know youngsters, hardly able to tell the right end of a theodolite from the wrong, who are receiving two, three, and four gaineas a day and their expenses. The supposed necessity for going to Parliament immedistely, and the insufficient number of surveyors, as compared with the number of projects, have induced an expenditure so lavish and reckless, as to prove that the parties making it, are wholly unfit to direct the schemes of which they are the heads, and dispense money balonging to others. A non-prefessional acunintance of ours, who has a tolerable knowledge of surveying and levelling (in theory), was called on by a solicitor who had heard of his attainments in these respects, to know on what terms he would undertake to map a certain portion of a line. "I am not disposed to do it at all," said our friend. "We will give you three guineas a day," urged the solicitor. "That would not induce me," was the reply. "Well, four then,-nay, five, if four won't do; a map we must have within four weeks from this time." Our friend still shook his head; but ultimately said, simply with the view of getting rid of the applicant, that he would make the attempt, if they would pay him twelve guineas a day for two months certain. The proposal was immediately accepted ; and, before he left town, he received intimation that they should not object to pay for the seventh day of the week; and he is now positively at work on these terms.

None of our readers will consider us opposed in any degree to railways : every line properly carried out will improve trade, call labour into employment, and advance both the intellectual and commercial power of the nation. To the textent of our ability we have encouraged and will encourage, the investment of capital in their construction, satisfied further, that it will and net only to the good of the community, Bit the pecunicary advantage of the individuals THE BUILDER.

so employing it. We do, however, object to, and reprobate severely, the lavish and useless expenditure of the subscribers' money, which prevents the possibility of any return being made for a long period of time, and has the effect of checking real improvements, by driving away prudent capitalists (the most important class), who are seeking investments, and who, if they took shares, would do so to hold.

The money spent on the old lines was enormous, very much more than was necessary. But the proposed lines, if from the foot we may judge the statue, are to surpass them far in imprudence and reckless extravagance. Engineers are to be paid any sum, no matter how preposterous the amount may be, that will induce them to undertake the matter; landowners any sum that will secure their consent; and when we add to this the enormous expense to which, after all, in nine cases out of ten, they will be put, most unwisely, by the opposition of existing companies and others, to say nothing of the cost of construction, directors' fees, &c., the possibility of the line paying, even should the application be successful, is seen to be postponed for many years.

Moreover, with all this cost, the actual work (supposing preliminary errors to be got over), will not be well done. When an engineer rides once over the ground, and then settles the line in his library, either with or without a few maps, and some suggestions from local men, he may by possibility, hit on the best and most economical course; the chances, however, are wholly against it. Thousands of pounds will be spent, through the engineer being ignorant of the nature of the land over or through which the road is to pass, and thousands more, because he had not time to ascend a neighbouring eminence, which would have shewn him how, by a trifling detour, costly works might have been avoided.

"We are perfectly aware of all this," provisional committees may say,--- " but what is to be done? The time is coming on, and to Parliament we must go at once." To Parliament you must go, gentlemen, doubtless ; but why at once? Take advice; and unless your line has been thoroughly digested and canvassed; carefully surveyed and planned; and you are perfectly satisfied that you can meet all the requirements of the Legislature, delay your spplication till the following session. True, the temporary value of your scrip will fall, but your permanent interests, and those of the subscribers generally, always supposing that your project be a sound one, will unquestionably be advanced. Your scheme might lose its position as an instrument of gambling, but would gain the confideration of those who are seeking to invest their money in reasonable projects, directed by honourable and enlightened men.

MUSEUM OF NATIONAL ANTIQUITIES.

THE report, to which we referred some time ago, that Lord Prudhoe, through the Archæo-logical Institute, had offered his collection of national antiquities to the British Museum, on condition that they would set apart a proper place for the reception of other collections cearing on the same subject, is confirmed ; and, better still, the trustees have accepted the terms, and appear, at last, disposed to take up this most important matter with earnestnes In a leading article on the subject in April last,* wherein we argued the advantages that would follow such a collection, we alluded to an application made to the trustees of the Museum two years before, praying them to provide accommodation in their new building

* See page 151, ante.

for British architectural antiquities. The trustees returned for answer that they were not prepared to recommend her Majesty's Government to do so.

Since then, it appears, their eyes have been opened to its importance by the Archeological Institute, to whom all who are interested in the subject must therefore feel grateful. At At the last meeting of the Institute of Architects (a report of which will be found on the next page), the following communication addressed by Mr. Edward Hawkins to Mr. Poynter, the honorary secretary, was read :-

"British Museum, Nov. 17, 1845.

My DEAR SIR,—As the fermation of an extensive collection of national antiquities in contemplated at the British Museum, and as a room for their reception will shortly be opened in that establishment, I am most anxious as the keeper of the department of antiquities, to take every step for the furtherance of this object. The committee of the Archaeological Institute, kindly co-operating with the Mussum in the desire to form such a collection, have already taken active measures towards the awakening public interest in the matter. Much will, I am sure, be accomplished by their exertions, but they feel as I do, the necessity of seeking the aid of those who, by the experience and opportunities of their profession, are best able to carry out some general scheme for the record and preservation of antiquities found in this country. A great part of such abjects are discovered in works conducted under the control and inspection of architects, and it is to the professional knowledge of the architest that we are generally indebted for an authentic account of such discoveries, and by his influence, that antiquities thus found can be best protected. I therefore venture to address myself on this subject through you, their secre-tary, to the Fellows of the Royal Institute of British Architects, hoping that by their authority and example, an active interest in the preservation of antiquities may be created in the whole body of their profession, and may thus be gradually communicated to their clerks, and to the foremen and others more immediately set over workmen employed in labours of excavation and demolition.

The claims of archæology once publicly re-cognized, antiquities when discovered would no longer be ignorantly destroyed or dispersed, no longer beignorantly destroyed or depersed, but would be scrupulously collected together into one place; the circumstances of their dis-covery would be registered with far greater accuracy, and the result in a few years would be a most interesting collection of monuments of national art, and the development of the history of successive means as far as it may be history of successive races, as far as it wan be gathered from the evidences of arche ology, and as it is exhibited in the museums of other countries

I need hardly here remind you, that if to the archmologist hardly any comparison seems too extensive or too minate, if he seek to bring together every fragment of the works of former races, and studies not only the mobler specimens of their art, but every variety of specimens of their art, but every variety to type in the fashion of their costume, and the implements of their daily life, he decesse with the deep conviction, that in all these relics there is meaning and value, not meraly because they may singly corroborate or by chance supply history, but because when put together and viewed in connection, they exhibit with peculiar reality, the character of an age or race as it has unconsciously revealed itself in its art and handicraft.

I trust that the truly national character of the object set forth in this letter, may serve as my spology for having ventured to make this appeal to the Fellows of the Institute of Architects; if in these remarks is found no definite request or proposition as to the mode of recording or guarding discoveries of antiquities, it is because I would rather invite the sugges-tions of others, best qualified by professional experience, to decide what measures are pracicable for such a purpose. " I remain, my dear Bir, youve truly, Edward HAWKINS."

We cordially echo Mr. Hawkins' wish, that we cordially echo Mr. Hawkins' wish, that by the authority and example of the Institute, an active interest in the preservation of anti-quities may be excited in the whole body of the profession, and may be communicated to workmen and others, employed in excavations. We shall return to the subject forthwith.

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TE FOYAL INSTITUTE OF BRITISH ARCHITECTS

The most agregable and instructive avenings apart at the Institute, are those when, two or three short suggestive papers being read, the three short suggestive papers using read, the members are led into conversation and dividus-sion." This was the case on Monday, avaning last." Mr. Rendall was in the chairs inset the meeting was numerous. Amongst the dana-tions was a theck for 20% from Ganegal Paskey, for the purposes of the Institutes, a Weitsmet the etiment will immediately, apply, it to the improvement of the library, to which, by the dividued. A good architectural library; easily increasible, is much required, much formed by the institute, will be found a sheet anchor we which to depend, hereafters should the wind at any time be less anounced that the connect hel voted the library anaounced that the Giventity Beuth, letely the chief director of the Giventity works in Prusia, on his retire-ment from office. Mr. Poppier, hos. sec., read a catalogue drawn up by inneelf and Mr. members are led into conversation, and diffus-

possession, of which he had caused to be made a small number of fac simile copies for friends and unlike libraties." Some specimens of Dr. Arastra whee were institut on and described : and led to a conversation on anoky chimneys, where sowed what very different opinions are entermined an apparently simple points. The hunovery secretary read a letter from Mr. Hawking on the proposed collection of national antiputes at the British Museum), given on the proseding page; and called on Mr. Newton, one of the officers' of the Museum, who was in the soon, to give further explanation. Mr. Nowton bedt most in the interiors to establish a Museum of Mational Antiquities, but had not felt themselver if a position to do so till now. Museum of Training Antiquities, but had not felt themselves in a position to do so till now. It was most desirable that a point of preserva-tion should be induced, and that relics, when found, should be transmitted to a public re-pository, suther that be placed in private hambered is is allowed into the

handszteyls is isotronit into it. Mis Discours glad of the opportunity which the softrody isots, its der the public right on a pastication point, in events in with anti-quisies in the site of this sort were little careablers in the with and that they looked after mothing, but suffered rail way shares. In realisystopwives this was not the case. There were make withis with way which and to be keen consthere suffered? Which and the is were wers many iters who has were most anxious to keep together such said of the mains as were found. These views were greatly interfered with by those gentlankes who kingly, were run-ning, after all the antibuities which were brought to light; sand were avoired "to buy them ... Such is course gaugestrify led to their discourse (Were the set for the to their dispanions Wilen they water excavating for the Exchanger futnessing that many relics would probably be discovered, and most anxiaus that they should talk be kept together, the

THE BUILDER.

tractor was bound, under heavy penalties, place every thing that was discovered, in the hands of the committee, and arrangements the hands of the comparison are arrangements were made, to remove any dampting particle to soft on the part of the morids, he was applied to by Mr. Roach Smith; for beive to watch the excavation, and this her readily gave; but told brin at the same time, the beauto by the perutited on, any account (it) parchase. In the first instance, nothing was discovered of earlier date than the twelfth or thirteenth centuries, date than the twelfth or thirteenth centuries, but at the western condy in a part where the ground was bady pikes were found. These being drawn, a bed of concrute was discovered, and under it a hole filled with soft peaty earth. In this was an extraordinary collection of Ro-man remains, ---remnants of Roman London; these sundals approach betwins and numershoes, sandals, amphorm, bodkins, and numerous coins; such a collection as was never seen before. It required the greatest efforts to prevent it from being dissipated, and Mr. Roach Smith had given much trouble by his efforts to elude the regulations, and purchase for his own collection. What he had to complain of, howelude the regulations, and purchase for his own collection. What he had to complain of, how-ever, was, that Mr. S. had afterwards accused them in the *Aschwologia*, and elsewhere, of the interruption they caused to his investigations. The obarge had been made publicly, and he therefore foll as delivery in mentioning the name. The collection, he was happy to say, was under his care in the London Institution; and the only question was, whether it should be placed in the City Library of the British Museum; in entry sy or the distor, it would speedily, he made public. Mr. G. Godwia, reverting to Mr. Hawkins' gratifying communication, reminded the meet-ing of an application made to the Museum

ing of an application made to the Museum some time ago, to the effect that they should establish a Museum of Architecture, which was establish a Museum of Architecture, which was refused, and further pointed to the manner in which Mr. Wyse's motion in the House of Commons, to the same effect, had been re-ceived.² He hailed with great satisfaction the present determination of the trustees, and feel-ing that they would probably, be glad to have their hands strengthened, by an expression of opinion from a body like the Institute, sugsted that the council should take into conideration how they could best convey this,suggestion which appeared to be concurred in the whole meeting. Mr. Donaldson alluded to what the French bу

had done for the preservation of antiquities. He was of opinion it was not desirable to bring all remains that were discovered, to Londes, but that separate provincial museums should be established. He alluded to the good which had been done by Mr. Britton's works (as Mr. Tite had remarked previously), and presed him for his continued efforts to induce the preservation of monuments.

Mr. Britton said it gave him sincere gratifi-cation to hear what the trustees of the British Museum were about to do. He had advogated Museum were about to do. He had advagated the establishment of such a museum as fir-back as 1800; when he advised. Sir, Richard Colt Hoare to deposit his wonderful collection in the rooms of the Society of Antiquaries. He brought the matter before the society at that time, but they showed no desire to inter-fere, and the matter dropped. When Waltham Cross, and other national antiquities, were about to be destroyed, he renewed the question, but both the British Museum and the Society of Antiquaries were careles. Now that the of Antiqueries were careless. Now that the former was about to stir in it, the provinces would doubtless follow the example. At Bath a great deal had been discovered, but more had been destroyed. Architectural remains were of the utmost importance to British History; the rectification of which, depended more on anti-quarian relics than written records. Hoare's quarian relics than written records. Hours makeum was now kept in a small spartmatt, with little attention; and there was a probabi-lity, that before many years clapsed it wight be distributed. In conclusion, he said it was gratifying to him to find, that he should probabily yet see a museum of national antiquities, before he passed off the scene,

PENBITH CASTLE.-A number of workmen are at present engaged in excavating and leveling the castle garth, near the ruins of Penrith Castle, which is the intended site of a railway station at that place, haven all which the state he more the proves.

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DECORATIVE APT SOCIETY

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during the long reiga of the timorianth. be Numerous, augraving, were callibled at the works of Le Brun, Watten, the heat tres, Berain, Mariette, Johnston, the heat and others, to which costant reference made in illustration of the obtained are followed. There were takes graduate the deporations at Vesselles, note guilding the Bibliotheque at Parls, with the trian that erroneous conceptions of the style 1 prevalent in the minds of any employed prevalent in the minds of Many surjety prevalent in the minds of Many surjety decorations, and that the domain surplex magnificent works of the petidekinsme or imperfectly, understood, while the is usurped by the explorement infilt scroll work, which, appear is ally the end of this, reign, and so a maniferent those of Lonis 15th and the heating common estimation, permission is a genium productions of dentifiered the best period wars described of Florida and the interior described of Florida is uberdingto. to the productions in suberdingto. to the product of the period wars described of Florida in the partice, wars information of the and the interior described of the period works of floridations in suberdingto. to the product of the period works of the sector period wars described of the sector is the more and the sector of the sector is the sector of the sector of the sector bean Le Pautres, wars informed the sector is the sector of the sector of the sector is the sector of the sector of the sector is the sector of the sector of the sector is the sector of the sector of the sector is the sector of the sector of the sector is the sector of the sector of the sector is the sector of the sector of the sector is the sector of the sector of the sector is the sector of the sector of the sector is the sector of the sector of the sector is the sector of the sector of the sector of the sector is the sector of the sector of the sector of the sector of the sector is the sector of the sec

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suction actual facts.

der setting bab the recital, and what had sible presenties is to window wild dangerous conditions in the sale of the set of the sale of most shall be a sole of the sale of the sale of so said William Crawford Stow be reversed 10.04

on a ograin. day, toulivet the shores to be should nat he heard, being no lawyer. The sorgeant tery properly stated the had no authority, to, actingon a question of sivil rights unless a specific scharge was given for an act he saw datas. I then (feeling strong in the position), directed the shores to be struck, when my supployer (most illegally) was instantly collared by the police, and we were all paraded to the station-house, where the charge was entered as an offence under the " Motropolitan Buildings Aet"and thence proceeded to the Lam-bath police-effice, where the solicitor, finding he had no locus standi under the Act quoted in the information, fell back upon the police Acts, attempting to shew the shoring was an appendage, the property of the overseer. In despite, of an attempt to prevent my being heard, the hon. Mr. Norton very courtbously and attentively listened to my reasoning; that we complained of a trespuse by the shores we complained of a treppus by the shores being placed on our property (honse no ground for asserting they were as the highway) and if an appendage, must be takes as part of that we were in undisturbed possession of, vir. the houses. Mr. Norton, taking the same view of the case, stated he could afford no vericf, remarking that, with the exception of one other, it was the most unintelligible Act he had ever mat with. I will now set out the grounds of complaint in Mr. Stow's report, and the facts

THE BUILDER.

THE BUILDER.

Facts as they exist.

in juxta position.

Being in low ground, without any means of drain age, the prudent course had been adopted of merely levelling the ground, and using hard blocks of Kent-rag, the lower course 1 foot 7 inches, by 6 inches Age, the lower course 1 note / money, of o more deep, and another course 14 inches by 6 inches deep, on which the walls were constructed. In the pre-sence of the referee, Mr. Stow admitted these were the dimensions all round the buildings.

In the presence of the referee, Mr. Stow was challenged to point out, and failed to do so, that the walls were built of bets and knobs; and it was offered, for the sake of argument, to assume they were entirely so,—he had no authority over corr-struction. The pocket pieces, if the jarabe and withs are sound, the openings being only 18 inches, re-quired no chimney-bars, nor had the district-sur-vence are authority. eyer any authority.

The houses being of a very usual construction, the back rooms lower than the front, the joists had plates under the ends of each, with head and cill to wells framed. 4-inchr partition ; the referee found wpassessed "senser parateon; the refere 10000 each and of joints was aplied to plate, the front roof being u span soil, with rafters' feet notched and spiked to plate, with a ceiling joist spiked at each end to rafters; the referse asking for an admission of the correctness of the sketch alluded to, shewing the rafters' fast projections are included to shewing the rafters' feet projecting some inches before the face of the wall, and having no connection with the plate, instructions were given to knock down the ceiling; the referee very carefully investigating it, found it to be as above described, and not the least similar to sketch.

The attention of the referee was drawn to the fact, that in this locality (as it most disgracefully is in all others in this neighbourhood), there was no means of drainage except into filthy open ditches, without any fall towards them.

The referee having appointed a meeting, took an infinity of pains to plumb all the walls, which were evidenced as perfectly perpendicular (except the de-pression before alladed to), also to test the bonding of the party and external walls, and failed in his efforts the instant the main of a burnel of an evidence of the second to insert the point of a trowel at any point of junc-tion. And the answer to every allegation was disthetly proved as above set out.

refth. near the rains of Parciti scordingly. And with regard to the gents an scoordingly. And with regard to the some and expenses attending the proceeding, we, the said official referees, defer the making, any direction or ppointment in respect thereof.—18th Sept. 1845." I am, Sir, &c. Peckham. GBEENWAY ROBINS.

POREIGN ARCHITECTURALI AND ACOBAN LATERAL INTELLIGENCE & OTH

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TERMINE INSTITUTE OF BRITISH

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POREPGN ARCHITECTURALI AND COBMA "LATERAL INTELLIGENCE." "The Dome of Cologne Building-Associations" Committee Address to H. M. Queen Vectorial "Heatin" for November.) — The following is all without from the document :==: The special is attend from the document :==: The special is attend from the auspices of influenced Kingy and adder the auspices of influenced influence and adder the auspices of an another and the day. We feel years an empty that your Haltsty, the sovereign af an empty where all grand enterprises are contradived band proper, has been pleased to place yourself anongst the royal pro-tactors of our work, and we beg to express to your Majesty our respectful acknowledgement. for this act of generative." Proceedings of the "Academic des Sciences." (B.S.) of Paris.- (21st Oct. Trd Nov.) Arago spoke on the project of establishing another arcesten well for the factor for the lost. hones and other project of atablishing another arcesten well for the factor of the poly. Alusion was made to the project of atablishing another arcesten well of the factor of the poly. Arago spoke on the project of atablishing another arcesten well of the factor of the poly. Arago spoke on the project of atablishing another arcesten well of the arrive of the poly. Arago spoke on the project of atablishing another arcesten made to the poly of the factor. Alusion was made to the project of the poly. Mr. Laseront, at Bourdeaux, has amonget the ernet ones, whose object, however, is to examine bodies which do not exist at all and this is chemistry. I shall prove this to be the case; may, even, that chemistry, attanutis, to teach the nature and qualities of hodines. Bourgois laid before the Academy his ergester, mentata propel boats by (Archimedian) ergester, mentata propel boats by (Archimedian) ergester, moved by manual force, and stated the formula m socording to which they are to be constructed, move left before the Academy, one, or how socording to which they are to be constructed, by move hid before the Academy, one, or how socording to which they are to be constructed, by move hid before the Academy, one, or his new electro-telegraphic apparatus, which they Wheatstone has this incouvenience, thet Aben

is known, that the hitherto-used system in Mean Wheatstone lias this incouvenience, the commanient different sighs which, coupons also commanient cation disappent, after they incommanient mistake. The plan of Mr. Morro, is in a system in moveable piece of from with a pension and the placed above a align of mapping is in a system in a fatter, brought into mation by the appendent and inform celerify between the appendent and of a jack. By a proceeding the appendent of which does not fail within our more discover signs are deposited on the paper, which as the for-bined, represent all possible and her are bined, represent all possible and her are tric currents were then read, you the mean of her are tric ourrents were then read, your proclamation of bine the important discovery lataly proclamation in the third within our with promove intermed bine the the produce of the mean of the mean bine the the mean of the maps. Which are not tric ourrents were then read, your proclamation of the the the server of the mean of the mean tric ourrents were then read, your proclamation of the the theoretical and practical analysis. More on the third voluces of the mean of the server of ecomplete theoretical and practical analysis. More further the order of the mean of the server of complete theoretical and practical analysis. When the methode for determining the second the of the methode for determining the second the second of the methode for determining the second the second of the methode for determining the second the second of the theoretical and practical analysis. We want the field the second grade generation is the field the second second the second the second the second the field the second the second second the second the field the second the second second the second the second the field the second second the secon the mothods for determining the besould analysis and the globe, and the solvents and pressed any statistic Mr. Biot has, especially, much simplified the method for determining the levels for extensive to geodesic operations, by resigned analysis and the pances.—Mr. Goudet, the Beruvite Atavallely to mentions a plant, called *Atvantotics* spintering of under, the same argumateness as a subsequence of and of equal putritive glarmater stidely by the to our labouring classes and and to the motion *Encautic painting the being another plants*. Buttoms (plants of a subsection of the spin-we mentioned, in a forth additional subsection *Encautic painting in the being another bill of the inter-*bour labouring classes and a subsection *Encautic painting in the being another* of the mentioned, in a store another of the inter-bour beaming classes and a subsection *Encautic painting in the being another* of the mentioned, in a store another of the inter-bour takes and the shall of the inter-mention of the subsection of the mentioned in the state of the beaming of the mentioned in the state of the state of the move the more in particle is the shall a store of the now, the more in particle is the shall a store of the state of the parts of the base of the shall a store of the mention of the state of the shall a store of the the parts and the shall a store of the state of the mention of the state of the state of the state of the state of the store is a state of the state of the state of the store of the state of the state of the state of the state and the particle is the state of the state of the state of the mention of the state of the state of the state of the state and the state of the sta

Our authorities abould be reminded, that artesian wells ald farnish all the warm water required for our new bathing I washing establishments, free of expense, get Digitized by

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covered and described by F. T. Fernbach, R. Gonservator, Munich" (gr. 8vó. 10s). He states that he has devoted σ life to this improvement of monumental decorative art, whose merits are, certainly, no more theoretical, having been carried into execution in the above gorgeous spaces, by not less a personage than Professor Schnörr. [The present works carried on in the new Houses of Parliament, make every thing connected with mural painting of importance.]

The Great Industrial Exhibitions on the Con-tinent. — The only work of public utility which the National Convention over established in France, was the Museum of Arts and Manufactures-the germ and prototype of all Minilar subsequent endeavours. Since that, time grand exhibitions have taken place in Paris, Berlin, Vienna, and Dresden, where every-thing connected with the material industry of the country, has been displayed for the in-struction and boast of the nation. The many works published on that score abroad, we have laid before our readers in other parts of our periodical, and a detailed *expose* of what is proposed to be done here, has been given previously by another hand. But as Eng-land has been late in following in the wake of foreign enterprise---we should think, that her Industrial Exhibitions could still assume a noval and original character, by combining our Colonial Industry with that of the mother perturbed in the second To speak merely of objects falling within our province, we would remind our readers of the many structural models, which could be brought from India and China, in which countries buildings exist, which in their boldness or extent, are beyond the views of European artists and artisans. Tools and implements of endless variety, may be expected from countries, where strange mechanical skill, certainly, must be possessed, when we come to know, that the Chinese can unite (solder ?) cast-iron-a per formance beyond the reach of all our practi-cal chemistry. Many things of the kind would be bought and sent to England by merchants and others, if it were known, that they were to be exhibited. It is not only the admission fees, which might pay for the conveyance and other ourrent expenses of such objects - but in Berlin an austion was held, subsequent to the exhibition, of articles selected or pointed at by the public. And why should it not be so here as well? A nation can never be ashamed of, or shrink from buying, or selling, or doing any-

thing, in fact-for the public good. Past as a Combustible for Locomotives on Railways.—The Paris Journal des Travaux Publics contains the following:—" On the railway from Milan to Monza an experiment of great importance has been made of late, which may much facilitate the means of communication in countries deficient in coal. ж substituting peat for mineral coal, it has been found that the economy in using the former 8 was from thirty to forty per cent. As it is V C known that the expense for the burning material is about one-fourth of the whole expense of the working of a railroad, one-twelfth of the entire expense would be saved. It is Sardinia especially who can avail herself of the great advantage which the using of peat may afford, as she is deficient in both coal and timber, but xery rich in peat." The above may be a use-9 ful hint to railway undertakers in Ireland, Canada, Nova Scotia, &c.

Supendous Railway Activity in Italy.—The social condition of that country is undergoing a greater change than has happened since the time of the Crusades. The two lines from Milan to Monza, and from Venice to Padua (in operation for several years past) are kept up with good success, and on the former the increase of passengers in 1844 over those of 1843 was 68,769. The line from Livorno to Pisa, opened on the 14th of March, 1844, has conveyed, during the nine months of that year, 327,992 passengers.—The line from Naples to Castellamare and Nocera has conveyed during the months of September, October, and November, 1844, 327,992 passengers.—In February last the King of Sardinia ordered the construction

the King of Sardinia ordered the construction of a railway from Turin to Genoa, passing through Novi, Alessendria, and the valley of

the Tanaro, with several side branches, one towards the Lago Maggiore, passing the Post Valenca.—In Toscany, government has authorized the planning of three new lines; one from Pistoja to the 'frontiers of Lucca, passing through the valley of Nievole; the others from Livorno to the Romish 'frontiers, passing through the Tuscan downs' (maremm); the third from Pietoja to the frontiers of the Bolognese.—In the principality of Lucca a national company has been at work for some time, and has pushed its operations so far as the 'Tuscan frontiers. The Ferdinand line in Austrian Italy is in a forward state on its whole extent, and arches, bridges, viaducts, tunnels, and termini-buildings are either finished or on the point of being so.—Journal des Travaux Publics.

James Millingen .- This renowned archælogist was born at London in 1775, and made his first studies at the Westminster school, of whose then management, however, he enter-tained no high opinion. A small collection of curiosities belonging to his father first directed his attention towards similar pursuits—and the acquaintance with men like Townley and Gracherode, decided him for the study of an-tionizing. When his father went in 1790 to tiquities. When his father went in 1790, to reside at Paris, young Millingen formed the acquaintance of Barthelemy, Mongez, and such men. The subsequent horrors of the French revolution deprived his father of great part of a considerable fortune. Such circumstances, as well as a feeble state of health, obliged him to visit Italy in 1803, where he again returned in 1806, after the death of his parents. In 1812, he published his first work on ancient numismatics, which was followed in the sub-sequent year by his great work on ancient vases, with sixty plates, exquisitely selected, and drawn under the author's superintendence He was the first, who employed a sound and comprehensive criticism in the explaining of the designs of these remains of antiquity. In 1817, Mr. Millingen published his work on the Coghil vase collection, of which, however, merely the text belongs to him. But his chief works are the two volumes, entitled "Unedited Monuments," by which he intended to convey to his countrymen a means of comprehending the choicest of ancient relics of art. With the second volume, however, this work ceased in the choicest of ancient relies of art. 1826. Millingen felt the neglect of art on the part of his fellow-citizens, and expatiated thereon in a very judicious pamphlet "On the State of Learning and the Fine Arts in Great Britain." London, 1831. His industry and labours were unrelaxed, and his last work "Coins of Ancient Italy," was published as late as 1841. He contemplated other works, when death surprised him in the middle of this year, afar from his native land; still, in a land replete with objects of his constant predilection ancient monuments of every kind.

The Secretary of State for Public Works in France-has just sent the following order to the prefets (lord licutenants), in reference to the laying out of public roads on their passing through towns, boroughs, or villages. The following are some of the chief points of this The regulation :-- "It is not always required to adhere to a strict parallelism in the laying out of public roads and thoroughfares.-- It is necessary to obviate, as much as possible, the advancing of buildings on the public roads, which would needlessly encroach upon the actual width—and if a narrowing be indispensable, to combine the alignement so, that the free circulation can never suffer by the partial carrying out of any plans.-To make widenon that side where the damage would ings be least to adjoining property; to preserve all fronts which differ little from the proposed laying out; to choose fixed and well-defined marks, and to avoid breaking the front of any building .-- Never to propose curvilinear alignments, but to substitute parts of rectilinear polygons, whose form is more favourable for construction. - Le National. (This regulation shews the attention paid to such matters by our neighbours - while, at the same time, it contains some useful hints for the laying out of railroads, especially on their passing towns, &c.)

Centralizing of Paris Railways. --- Count Bambuteau, préfet of the Seine department, (Paris), has appointed a commission for examining the project of a subterraneous communication of all the different railroads centering in the French metropolis. Several plans have been sent in, which, however, differ very little from each other. (As the distance is short, this plan seems to us prefarable to the grast bustle and *anquict*, which open-light railways would entail on already over-noised civies).] Artesian Wells in the Descript Africa.

Artesian Wells in the Beersts of Africa. The French surveyor, Mr. Fournel, is on the point of starting for Africa with a large stock of boring apparatos, by the working of which he contemplates forming artificial cases in the desert. The idea is great. BIr. Fournel further proposes to erect a lighthouse at each oasis, so that the travelling through the desert could be accomplished at night, and repose taken during the day. Mr. F. is no mere theoretician, having conceived his plan during a former residence in the Sahara of Algiers. J. L—v.

STIR IN THE WESTMINSTER COURT OF SEWERS.

The great degree of interest with which the proceedings of the Westminster Court of Sewers at this moment, are regarded by a large body of our readers, induces us to report them at some length.

On Friday, the 14th instant, a special court was held "to consider as to the efficiency of the surveyor's department, and as to the expadiency of making a change therein." Mr. Le Breton rose and said, that when the

had moved the amendment at the last court, which was carried by so narrow a majority, he hardly anticipated holding the position he was now occupying ; he had hoped some more experienced commissioner would have taken up the subject, and brought forward a plan, but as that was not the case, he should at once explain his humble views to the court. It was not his intention to call the surveyors before the court, and many of the states in be should make would at once be accepted by the com-missioners present. First, as to Mr. Dawley: it would give him (Mr. Le B.) great regrat to see him dismissed at once, because although he was not so efficient an officer as was re-quired, still he possessed valuable information about the sewers. From the way in which he answered the court about the failure of the sewer in the Gloucester-road, Paddington, it satisfied him that he was not an efficient officer. and proved that there was a want of power the surveyors' department. The honourable commissioner then proceeded to call the atten-tion of the court to the staff of the Holbern and Finsbury Commission, the particulars of which he had received from Mr. Wigg, vice-chairman of that commission. From this statement it appeared that there was only one surveyor, Mr. Roe, whose talary was 4501, and there was a retiring salary of 1004, a year to Mr. Page, a former surveyor. The result of the comparison in the two divisions of the expense of surveyors, was 690L a year against 1,050L in the Westminster, a difference in the two departments of which he thought the public had no right to complain. Mr. Le Broton proceeded to state, that in moving the amendment to Mr. Leslie's motion for the appointment of Mr. Phillips, he had no hostility to Mr. P.; on the contrary, it would give him great pleasure to vote for him, for he saw no reason to doubt the abilities of that gentleman ; but the fact was, he thought it irregular, and that it looked like amuggling in an officer. The resolutions he was about to submit would bring the whole matter before them, and he hoped that the court would cordially concur with him. He thought it of no use to go back in inquiring into certain alleged abuse s that might have occurred in the year 1829; he was satisfied no practical good could result from such an inquiry, and much valuable time would be wasted. He would now read his resolu-tions :--- "That the present surveyors' department is inefficient, and entails an unnece expense on the rate-payers; that from Lady-day next the services of Mr. Doull be dis-pensed with, and the office abolished; that from Lady-day the services of Mr. Papworth, the drawing clerk, be abolished; that a surveyor be appointed as joint surveyor with Mr. Dowley, at 250%, per annum; that in the event of any vacancy hereafter, by the death or re-signation of Mr. Dowley, then there to be only one surveyor; that as to the account, they be examined by the joint surveyors, and handed over to the clerk." The chief point in hissebens was, depriving

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Mr. Poull of the office he held, but the court would recollect that they had determined, that sill works above 50% were to be done by special construct, consequently the services of Mr. Doell would not be required. The period which he woold propose for the change was at Ladydity mest.

The court then proceeded with the resoluitions; the first moved by Mr. Le Breton, and tesconded by Mr. Wood, was, "that the present surveyors' department is inefficient, and entails an unnecessary expense upon the rate-• payers.'

Mr. Donaldson said he did not understand the connection of the two questions in the proposition. Mr. Le Breton thought it was very intelligible. The department was not ef-ficient, and more expensive than necessary. He complained of the very unsatisfactory manner in which the answers from the surveyors to the court were given, and he thought it obvious to every commissioner, that both Mr. Dowley and Mr. Douth, when inefficient Mr. Dowley and Mr. Doully writing inficient officers. Besides the failurs in the arge sever in the Gloucester-road, "there with other failures, the sewer in the Harrow 2000 for "failures, the sewer in the Harrow road for example, and he thought it perfectly disgrace-ful to set the quantity of cart loads of soil, "brought up from a group close to the office in Church stress, St. Junit, seed : After a considerable discussion, Mr. Le "Breton and Mrs Wood, agreed to strike out "the words " and entails an unnecessary ez-"pense upon the rate-payers."

The chairman said he entertained very strongly the opinion, that the surveyors deupartment was very inefficient, but not on the "Dowley, he saw the progress of age, and how "frequently he was subject to fits of indisposi-"tion brought on and aggravated by exposure biand accidents on the works. Until an able, "renergetic, active officer was placed at the head of the works, who should be a properly educated engineer, they would be in an unsatiscourt ought no longer to allow their works to be in the hunde of a decayed functionary, but "it to be at once placed in the hands of a vigorous "man. At the present time, the court had no 2 reports of works required, and without dis-paraging the clerk, his opinion was, that the chief officer ought to be the surveyor, and when that office was properly filled, the court would no longer be involved in so much error and expense. He thought the court was much indebted to Mr. Le Breton for stepping forward and stopping the court. It was always de-sirable, in his opinion, to promote a skilful officer, but never to make the inferior officer to be entitled, as of course, to that promotion. He thought that se the court had not the power to grant Mr. Dowley a superannuation allowance, they might still retain him as consulting surveyor. The motion as amended was then carried

-91 "nom con. Mr. Leslie moved that the names be taken down of the commissioners who had Wiveted. The chairman ruled, that as there Swere no dissentients, the bye-law did not operate. Mr. Leslie stated, that he had taken mi down the names of the few commissioners of

"Mr. Le Breton (seconded by Mr. Knight) bathen moved his second resolution. "That dispensed with, and his office abolished." This 96 was ultimately turned into a notice of motion 16. for another court.

wind Mr. Le Breton then moved, "That a ^{11.6} Mr. Le Breton then moved, "That a ^{12.6} invreyor be appointed at an early day, to be ^{22.6} fixed by the court, to be associated with the ^{21.6} fixed by the court, to be associated with the ^{21.6} beriege seconded the motion. ^{21.6} Mr. T. L. Donaldson wished to know how the ^{21.6} for the proceed to construct a new staff

Juneourt was to proceed to construct a new staff ٠¥ł Capt. Bague said it was impossible after what ²¹¹the chairman had said of Mr. Dowley for the ¹²¹¹court to continue him; relative to his inefficidirency, a variety of observations had been made. ¹⁰ The court must therefore strike at the head of ¹⁶ the department. If Mr. Dowley heard what ing has been said of him at this court, he could ⁹⁷ not stand his ground ; why not give him a pen-^{9d} sion, and allow him to retire into the bosom of ein MS family ? He did not see how it was possible bus for the court to continue Mr. Dowley in his office. 217 Mr. R. Gunter wished to know whether the

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court had or had not the power to grant pen-

Mr. Donaldson thought that Mr. Dowley might be retained by the court as a consulting surveyor, at 2004 a year. The court would surveyor, at 2004 s year. The court would not require the whole of his services. That would be a legsl mode of rendering him some assistance. Considerations of justice to the individual must have their weight, but justice due to the public must also be taken into account; he thought the court should appoint a chief engineer, and that Mr. Dowley should be the consulting officer. They ought not to forget that his best days had been devoted to the service of the commissioners.

Mr. Donaldson then moved an amendment, seconded by Mr. Allason, to the effect " that a new chief surveyor should be appointed, but that Mr. Dowley should be retained as

the the surveyor should be retained as consulting surveyor, at a salary of 2004, per annum." Carried by 13 to 1. Mr. Le Breien then moved, and Mr. Desaldson seconded, "I that there be an other than the source descent in the surveyor is a salary of 2004 and the moved, and Mr. Desaldson seconded, "I that there be an other than the source descent in the surveyor is a salary of 2004 and the survey of the source descent way for the survey of the source descent way for was to go go. He had refused to the survey of the survey of the source descent way for the survey of the survey of the source descent to know what was to be done. The survey of the survey of the survey of the survey of the claring that the survey of the source descent on the survey of the source of the survey of the survey of the survey of the survey of the efficient, and had virguelly dismissed Mr. Dowley as head survey at 4002 per annum, and made him only a consulting survey to be had for 2005, a year. The court had also passed another order, that there should to be had for 100% a year. The court had also passed another order, that there should be no other than a chief and a consulting surveyor; they had thus summarily dismissed Mr. Doull, the assistant surveyor. He wished to know what these two surveyors, Messre. Dowley and Doull, had been doing to meet with such a punishment; what new light had so suddenly broken in upon the court? Had they said too much or too little to the secret committee, whose laborious investigations into the allegations against the commissioners contained in his pamphlet, were to have closed last Wednesday, the whole documents having been previously furnished from the surveyors' department by Messrs. Dowley and Doull, and having, as reported, been in the presession of the secret committee for some time past. What would the Secretary of State think of the proceedings? (having been informed in reply to his communication, that all the documents were received, and the report was being pre-pared) if he should hear that both the surveyors were now dismissed?

The chairman said he hoped it would go forth to the public that he said, that the object of the special court was to take the whole scope and bearing of the subject into its consideration, but that the result of the resolutions they might come to, should be brought before the court a second time for its sanction. Mr. Leslie said that that might be the opinion of the chairman, but it was not law. Who ever the chairman, but it was not law. Who ever heard of a court of record passing its orders in such a manuser. The orders passed this day were absolute. They were not mare notices of metion, and the only way the court could now get rid of them was by a notice of motion to rescind them. Mr. Donaldson then rose to move " that the resolutions now come to be sot acted upon until sanctioned at the next or-dinary meeting of the court," and in so doing complained of Mr. Leslie, who had refused to take any responsibility or vote in the matter. It reminded him of a fairy tale, which used to amuse him very much in his youth, of a fairy sprite, who patted two parties on the back and excited them on until he got them all into confusion, and then sat laughing at them. Mr. Robert Gunter seconded Mr. Domald-

son's amendment; he thought they were only this day considering the subject, and that the proceedings did not authorize them to go to proceedings and not authorize them to go to the whole extent of diamissing the officers, but that the next court should emetion them. Capterin Bague easis, although the ex-chair-man of the court wod also the ex-chairman of a Board of Guardians were against his views and a dozen other commissioners might be so too, he considered if the Court adopted the present motion it would stultify all its proceed-ings, and sender them ridiculous. The Hon. F. Byng said if that were to be the course of the solemp orders of the court all their proceedings

would become ephemeral and farcical, another would become ephemeral and farcical, another body of commissioners might come in without hearing one word of the previous arguments, and overturn the decisions. Mr. Donaldson said he stood there as a public man, for the public good. He did not think that the officers should be affected by what occurred in the committee that day. What was it they said at starting? why, that it was to be a merely deliberative meeting, still it was not to be with-out results. The motion was carried by 10 to 5. Mr. Donaldson then moved and Mr. Le Mr. Donaldson then moved, and Mr. I Breton seconded. "that the court at its ordinary meeting do revise such bye-laws and standing orders as may so require, in order to carry into affect the said resolutions." Carried neme. gon. Mr. Le Breton then gave notice that at the next meeting of the court he should move 4 that from and after Lady-day next the sarping of the present assistant-surveyor, Mr. Bould, be dispensed with, and the office abol-ished. eyor, Mr.

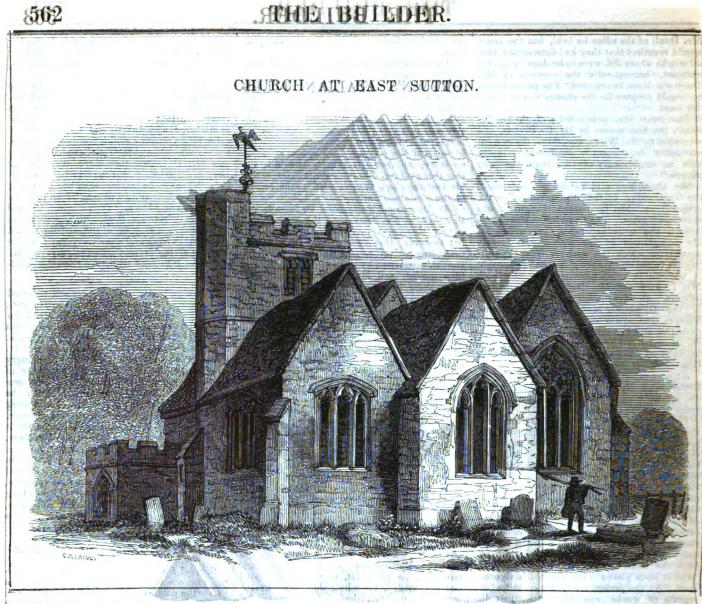
A passage in Mr. Farlar's speech, reported in our notice of proceedings on the 7th inst, has given considerable offence to Mr. John White, and that gentlemen calls upon us, with an unwise threat, to make some public *criminde*. That Mr. White should be angry with Mr. Farlar is perfectly natural; but to be surry with Mr. Farlar is perfectly natural; but to be surry with us for simply reporting if a feature of our diff, what the fatter said to be surry with us for simply reporting if a feature of our diff, what the fatter said to be surry with us for simply reporting if a feature of our diff, what the fatter said to be some property of a second of the second of a diff, what was said in "bit absende, and to imbuing him to reply, should be think it to du so, which by the way, we should not. Personally, we have all due respect for Mr. White this reputation, we have pleasure in saying it, is far above reach); the tradition of a charge brought against some of his relative, A passage in Mr. Parlar's speech, reported a charge brought against some of his relatives, something that applied to somebody, some long a cha time ago,-belongs to Mr. Farlar, not to us, who were the mere chroniclers of what was said.

THE IMPROVEMENT OF OPERATIVES.

SIR,-I am one of that class, whose intellegtual improvement you have frequently brought before the public in your valuable journal. The importance of this is ably advocated by your respondent, Mr. Lewis, in' the last number co of THE BUILDER, who suggests what seems the most direct method of instruction to affain that most desirable object, and if the funds necessary for carrying out his plan could be raised, the system would be of infinite advistage to the young artisan and mechanics "But unfortunately, the interest evinced by you 'and your correspondents on the subject, is, I fear, confined to a very small section of those, who have the power and the means, to amist in the advancement in the intellectual and social scale, of the class from whose labours they derive wealth and influence, with sill their consumi-tant enjoyments. If employers, on the ground of their own interest (and they do not sill luck selfishness), would consider the advantages which would accrue to them flom is more ge-neral intelligence amongst workmen with y might be induced to lend a helping hand in the more from the to be to the good work—but it is the bones and shows of the operative to which they appeal, without dreaming of his brain; they value more his possession of superior brute forter than his mental and intellectual attainments. We have

It is to be regretted that there is so Wittle mutual good feeling existing between masters and their workmen, but true is, that the spirit of that type of what an employer ought to be (Monsieur Hardy) is very rarely exhibited amongst us. Consequently we have little hope of assistance from that quarter. What is to be done, must be done at the cost of the working classes themselves, and 'your' paper is doing much towards improving the knowledge of the operative in the styles of ancient and modern architecture, and creating a taste for improve-ment in the several trades we follow, and the arts generally. I am, Sir, &c., Nov. 11th, 1845. Ł.

121 217 IMPBOVEMENTS ON JOWER HILL, The commissioners of Waads, and Forests intend introducing a bill next sussion to empayer them to widen and improve Gnorge Street, Tower Hill and to make a carringe theroughtage from Great Tower Hill, and Trinity Square, to Little Tower Hill.



EAST SUTTON CHURCH, KENT.

THE subject of the plate is one of those beautiful old country churches so plentifully scattered over the surface of Great Britain, and which affords an exhaustless fund of study and

employment, to the architect and antiquary. It was said not long since by one of our most eminent reviewers, that every nook of our island had been completely ransacked and described by our tourists and topographers; that it would be difficult to name any structure of the olden time, sketches of which had not been transmitted into the portfolio or the library. This was said in 1821. What an library. This was said in 1821. What an immense mass of valuable architectural and topographical matter has since been published. Every succeeding age appears to examine and study more closely the works of the olden time. In the old Popish ages every village church was a small temple, splendidly enriched with gilded carvings paintings, and sculptures, addined with velvet hangings and embroidery, and containing stores of plate and reliquaries. Each was so tilled with these treasures of art, that it has been too difficult a task for even the eagerness of fanaticism wholly to destroy by all sorts of seekers after the remains; one goes merely to take rubbings off the brasses ; another to sketch or measure the windows, or to inspect the plan ; another visits it to take notes of inscriptions on tombs or other archæological matters, and every one finds something to his particular taste ; very little indeed some-times remains, but still there is always something to interest in an old English church.

"In point of fact, the building cannot be too carefully inspected,....one never knows how much it will yield; the temptation is strong to strip the whitewash and yellow othre from the fort, or off the walls, in search of distemper paintings, almost sure to be found underneath or to strip off the plaster itself, in search of old Norman arches, Easter separches, piscinæ, sedilio, or aumbries, frequently visible behind it.""Nearly the whole of the sketches made by our grandpapas, those advarate south-east

so carefully depicted on the tombstones, and the weathercock so prominently made out on the stumped tower, while the tracery of the windows was indicated by a nondescript convolution of lines, that it was difficult to tell whether the arches were intended to be pointed, circular, or elliptic,-all such representations are now considered very crude and unsatisfac-tory, even by a superficial reader.

To the architect, the village church may be of the beautiful style of building practised by his forefathers,—it belongs to his country, speaks home to his feelings, and so beautiful is it, that the more it is studied, the more it is admired-but why should he consent in his own buildings to be a servile copyist, or to puzzle his brains with symbolism? Is it necessary when sketching beautiful examples of piscinæ, sedilia, and such like remnants of the building, deeply to study their ancient usages, and engender a superstitious veneration for them? Certainly not; beautiful as the Gothic style may be, it has not a whit more to do with the pure principles of Christianity, than the ancient styles of Greece or Rome; in fact. scarcely so much, for after all, the Roman basilica is the true original of the Christian church.

East Sutton is a small hamlet attached to the village of Sutton Vallance, near Maid-stone, in Kent; it consists of only a few scattered farm-houses, the church dedicated to St. Peter and Paul, of which a view is now given; and the old manor house, a venerable building of the reigns of Henry VIII. and Elizabeth, the property and residence of Sir Edmund Filmer, Bart., M.P. for West Kent. At a small distance from the manor-house, in the adjoining parish, is a mansion called Little Charlton, one of the most valuable and picturesque structures of the reign of Elizabeth; it was erected by Sir Bobert Filmer, who was for twenty years prothonotary of the Common Pleas in Queen Elizabeth's reign. At a place called Great Charlton, close by, are the remains of an old building, apparently the hall of an hostelry, but they are so small, serving only for the habitation of a cottager, that it is impossible to hazard much conjecture con-

cerning them. The church at East Satton is a remarkably well-planned edifice, the interior is at once elegant and picturesque. It consists is at once elegant and picturesque. It consists of a nave and aisles, a chancel with north and south chapels, which opening into the chancel by two arches on each side, form as it were aisles to it; there is a porch and tower, the lower portion of the latter is opened into the nave by a noble arch, reaching the full height of the interior; every portion of the building is of different date and style, the nave, the Is of different date and style, the nave, the most ancient part, being of the time of Henry III.; it is quite perfect, even the tie-beams of the roof, which are of very good design, remain. The part of the building most deserving notice is the north chapel; this contains two extraordinarily for mindown contains two extraordinarily fine windows representations of which will appear in the following number. The date of this portion is probably between 1359 and 1409; the small

window appears even later, is stary warials of The building contains numerous memorials of The building contains numerous memorials of the Filmer family; among them is a fine brass (lately published by Mr. Waller), in which are represented in the superb costume of the reign of James I., Sir Edward Filmer and his lady with their nine sons and nine daughters. Admirers of old church architecture will fine several other remains at East Suiton, besides those noticed in this paper, which is merely one by an architect, that would well repay a visit to the spot; railway communication offers easy access, and in the immediate neighbour-hood of Sutton Vallance, are Holling bourne manor-house, Boughton Malherbe, Leeds Castle, Godfrey-house, and many others of equal interest.

GAS.---Application will be made during the approaching session of Parliament, to incorpo-rate a company whose object is to supply gas to the whole of the metropolis and other parts of Middle of the metropolis and other parts to the whole of the metropolis and other pare of Middlesex, together with parts of Kent Surrey, Essex, Hereford, Bedford, Bucks, Northampton, Leicester, and Derby, The company have adopted the name of "National Gas Association," and they contemplate pur chasing the entire rights and interests of all the existing metropolitan gas companies and

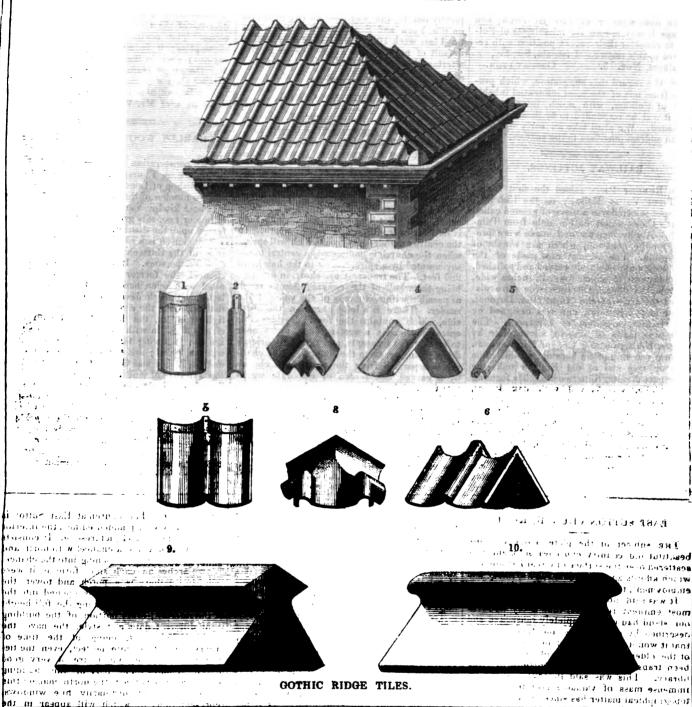
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STHE BUILDER.

BROWN'S ITALIAN TILRS



and will appear in the - 1

THE STARDWING ATALIAN TILES.

A FRW years since, Mr. Brown paid much attention to the manufacture of Italian tiles, under the direction of Mr. Barry, the architect. Considerable loss and difficulty attended the Considerable loss and underly attended the inaking of them, from the tiles being made flat, as was the practice of all tile makers; in fact, the expense almost prebluded their use; he had consequently for some years abandoned making them. At last it occurred to him, that if the lower tile were curved, like a common pantific, they might be easily dried in blocks in a similar manner. After considerable attention in carrying out the details, the result has been eminently successful, as will appear from the jlles now submitted. Their appearance on a building is far superior to the flat ones.

The first superior to the flat ones. The Italian tiling, the vertical roll passes at right angles from the eaves over the ridge and hips: this forms the peculiar and interesting feature in the new tiles: much attention has been which to obtain it. Exclusive of their then hald to obtain it. Exclusive of their forming an appropriate covering for build-inget in the Italian style, they have the ment, in conten, and in winter a warmer covering than that of slates or metal. These hills word! first used by Mr. 'G. Wathen, when the building at Jumper Hall, near Dorking.' Th June, 1845, the Society of Arm

and Sciences awarded Mr. Brown a medal for his invention of the curved Italian tiles.

The smaller cuts, 1 to 8, shew the parts of which the tiling is composed, and may be rea-dily understood; figures 9 and 10 are not con-mected with the foregoing, but represent two varieties of ridge tiles for Gothic buildings, also invented and made by Mr. Brown. His ornamental plain tiles for Gothic buildings are well known, and deserve recommendation.

INTERMENT IN CROWDED QUARTERS.

Wr were horrified last week, on passing the Roman Catholic numbers at Bermondsey, to perceive that the small plot of ground in front of it, and next the street, is being rapidly filled with dead bodies! How much longer is this suicidal practice to last? Will no amount of experience teach, -- no accumulation of facts convince? Health of Towns Commissions are a farce, and their reports waste paper, or some steps would be taken to prevent the son-tinuance of a practice, admitted on all hands to be dangerous and culpable. It is to be hoped that some "business-like and resolute man' in Parliament, will take up the matter in carbest next session, and induce the House to give effect to the principle they have already initied. (11)5

THE IMPROVEMENT OF FULLIAM

SRA

Sin, -- In The Trace of the lot of the part of the second state of the benefit arising to the parish is according to the benefit arising to the parish is according to the parish is a p boaring parishes issues so, good an example, and that Fallamy at a near relation of the parish of Chelses, and much needing improveent, should loss no time in bestirring herself

in the matter. Dequest sate parts a first strategy of the state of the to be develously must net be bis in the pres-tion or the means of judividuates with the pre-trusted (an in Choken 1994 Budividuates) trusted (mean in Litenens in a phimer, of geous men, nominated and eleased Ay, the inhabi-tante, into a body of commission of the figurent special purpose, under as Art of Perlistion in the nexposing deformities of periform in the proving wantistion, and in pointing, out, the

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best localities for public buildings your coformes are poculiarly suitable, and your remarks in such matters are received and read with attention, as emanating from one whose peculiar study it is. May I therefore express a sope that you will call attention to this subject in the next number of THE BUILDER, and perhaps it may induce the inhabitaats of Fulham to consider their recent position with rethere to this matter.—I remain, Sir, &c.,

Fulham, Nov. 15. OBSERVATOR.

• We regard this suggestion, which proceeds from one of the most influential inhabitants of Fulham, with much interest, and trust it will be responded to by those who are interested. We shall take an early opportunity to address ourselves to the subject.

RAILWAY JOTTINGS.

SIR ROBERT PEEL raised the first sod of the Trent Valley Railway on the 13th inst. The spot selected was a piece of ground called Caunt's Close, about half a mile from Tam-A wheelbarrow and spade were pre pared for the occasion, which are worthy of description. The former was made of the www.shinker.com - and being any cariously carved and polished. - The body was 15 inches long, 18 inches wide, - and beinches deep. On each side were dis - pileyed the arms of the Right Hon. Baronet. Littand booped handles, and was designed by Stand looped handles, and was designed by Mr. Holmes, architest of Liverpool. The space was made of electro silver plate by Diessre, Bikington and Co., of Birmingham. Its form was that of an heraldic shield. The the form was that of an heraldic shield. The shaft or tree was of old English oak, the upper part dividing into two branches forming the handle, was carved with oak leaves, acorns, &c., and highly polished......On the 6th inst. Lord Massareene raised the first sod the of the Belfast and Ballymena line, at White-house, near Belfast......The British Museum, house, near Belfast.——The British Museum, through its principal librarian, Sir Henry Ellis, has solicited the various projected railways to send a copy of their prospectus, en-igraved plans, &c., in order that a collection may be formed and deposited in the library. Railway to Greenacres Moor. The line is to the railed off forthwith, and the borings for the a first tusuel have been commenced in the Lee on the Lowestoft and Reedham line, for which an Act was passed in the last service. The works on the Brighton and Hastings are -The rapidly hastening towards completion ; an early advanced, and the rails are laid down to within half a mile of Chichester.—The new iron bridge, erected from a design of Mr. Bidder, thelow Carrow, near Yarmouth, was swung a the low warrow; near raintouto, was strong marries the river with the greatest ease for the strattime on the 7th inst. The weight is marry 130 tuns: It is expected that the trains will pass over it in a fortnight. It is in con-minication from the town of Leeds to the instthern part of the county of York, and finally to Hartlepcol, Stockton, and Middlesborough, has now fairly commenced. The works were begun on Monday, the 20th of October. The number of railway locomotives ordered of the different engineers in Prussia is 237, of the different engineers in Prussia is 237, of which number 78 have been ordered from Memors. Rosig, Brothers, and Co., whose work-shops are near Liegnits. From 900 to 1,000 men are continually employed on these ma-chines. In Prussia, the price of a steam-engine, with its tender, is now about 13,000 thales. An trial of the Rev. Mr. Maber-ler's relivery brother block place has not be ley's railway break took place last week in Linesin's Im Fields, and caused considerable utfaction. It was stached to a common tilbury, and consisted merely of a lever working in a joint on the exletree just inside the wheel; at the end of this lever is a hook about 2 inches in breadth, which fits closely on to the tire of . the wheel; and the lever is of such length that, nh falling, it grips the circumference about 6 inches above a level with the centre of the

nave, instantaneously checking the speed, or of arresting the velocity when descending hills. This lever has a chain attached, which allows it to descend only to a certain distance on the wheel, and when not used, is turned over towards the back of the vehicle, where it is completely out of the way.—An engine-driver on the York and Scarborough railway was fined last week 10% for neglect of duty, and in default of payment was committed to Northalterton House of Correction for two months.

NEW CHURCH AT LEEDS.

LAST week, we alluded briefly to the new church at Leeds, consecrated on the 4th inst., which has excited much comment, and has long been an object of interest to many persons. We avail ourselves of an account of it in the Leeds Intelligencer for the following particulars. It is called St. Saviour's : the foundation was laid on the 14th of September, 1842. The style is decorated; plan cruciform. The chancel is 42 feet long by 16 wide. The nave is 60 feet in length, by 20 feet in width. In The the centre are four piers, from which will spring when the church is completed, a central tower surmounted by a spire, rising to the height of 280 feet. The transepts are short, in order to bring the whole of the congregation as much as possible within compass of the voice of the reader. There is a lofty porch on the north side, which contains the font. Besides this entrance, there is a western door, and a door to each of the transepts, and the small priest's door, giving access to the chancel. The chanoel is separated from the rest of the church by a carved oak screen of elaborate workmanship. There is an ascent of one step from the body of the church into the chancel, and the altar is reached by three more steps. On the elevated part, are inserted, in the wall on the south side, the sedilia and piscina, of carved stone of most chaste and elegant workmanship. stone of most chaste and elegant workmanship. The details of the former are principally chosen from the Percy shrine, in Beverley Min-ster. The piers of the nave, dividing it into five bays or compartments, are plain, but ex-ceedingly light. Above them is a clerestory, with five triple windows. The roof is of plaister coved—and consists of five compart-ments. The whole of the internal carving is not finished. The stone blocks are left, which will allow the church to receive the subsequent will allow the church to receive the subsequent enrichment. The same may be said of the exterior, which presents at present rather a naked appearance, from the absence of pinna-cles, and the long corbel tables left in plain blocks. On the gables of the chancel and transepts, are three beautiful floriated crosses ; and the western end is surmounted by a bell gable, with elaborate details, which has been finished as a specimen of what the whole of this kind of work throughout the church will be when the design is completed. The object of the founder, it is understood, was, as far as the means allowed, to do well what was limited able to be done, leaving the work purposely unfinished, to be completed either by himself, if God should give him the means, or perhaps by another generation. The doors are of massive oak. The pulpit is of the same material, and the prayers and lessons are read from a lectern, bearing upon it the emblems of the Four Evangelists. The seats are of deal, stained and varnished, and are all in the form of moveable open benches. They are secured in their places by large pieces of cork let into the feet of the bench, which by friction prevents any pushing of the bench from its position without the application of considerable force. It is intended that all the windows shall be filled with stained glass of the richest discrip-tion. At present the whole is not executed. The east window is a representation of our Lord's Ascension. In the centre is a figure of our Lord, surrounded with a halo of glory and raising his hand in the act of blessing the Apostles, who are represented in the lower part of the window, gazing with earnest attention on the figure of their Master, about to vanish from their sight. On each side of our Lord, in the side lights, are seen the figures of atten-dant angels in attitudes of adoration. Of a different conception, is the western window. The subject of this is the Cracifixion. At the foot of the cross, clasping it in her hands, is the figure of Magdalene. On either side are seen the three Marys, St. Joseph of Arimathes,

and the Centurion; and on either side of our Lord are the figures of Angels, hiding the face at the sight. The south transept wisdow is at present incomplete: it contains in the contine the figure of our Lord, as the King of Mustyw, bearing his Cross, and surrounded by the figures of those saints who have borne testimology to the doctrine of the Cross by scaling it with their blood. The north transept window is also incomplete; it is intended to represent the various scenes in the history of the Passien. Mr. Derick, of Oxford, is the architect. The painted glass was executed by Mr. O'Connor, late of Bristol, now of London; and the screet is the work of Mr. Vincent, of London.

CHARLEY WOOD CHURCH, HERTS.

THE consecration of this new district church took place on Thursday, the 13th inst., by the Lord Bishop of London, and was witnessed by a large number of the local clergy and gentry, by whose kindness and the special munificence of one or two, this great benefit has been conferred upon the district.

The church is a small structure, built is the style of the thirteenth century, to accommodate 300 persons. It consists of a nave and chancel, the former of which is completely filled with open benches; the effect of the latter, although devoid of ornament, is artistical. Over the communion table is a threelight window, the head formed with three circles filled in with painted glass; on or of olls are the following texts :- In the beginning was the Word; and the Word was with God; and the Word was God. The lower position has a border of vine leaves round each light. The tower is at the west end of the nave, through which is an entrance to the church; over this is a small gallery. There is south old of the nave; on the opposite side is the vestry room. The pulpit, reading desk, and commanion rail are of good workmanship, in Torrigan cedar, the wood having been presented to the building by a gentleman residing in India. The font is of good design, in keeping with the building.

the building. The church is constructed of faced flint, with stone dressings. The windows, with the exception of those looking east and west, are of two lights, lancet headed. The tower is finished with a pyramidal roof, covered with slate, as are the other roofs of the building.

OPPOSITION TO RAILWAY SURVEYING

WE learn from a gentleman who has lately been surveying in Lincolnshire, that so determined is Lord Harborough to prevent surveying on his estates, and if possible even in his neighbourhood, that two of his tenants, acting either in accordance with instructions, or from a knowledge that their misdeeds would be favourably viewed, last Saturday completely destroyed the theodolite and level of an assistant surveyor, who at the time was neither making use of his instruments nor trespassing. The Duke of Buckingham also forbids and stops by main force all surveys on his estates near Haddesden. Mr. Ashton Smith, of fex-huning celebrity, at South 'Tedworth, opposes in like manner the surveyors of the Manchester and Southampton line. He threatened to summon the Andover yeomanry to protect his covers.

Towards the close of last week a serious disturbance took place at Bicester, which lead to the shedding of blood and the reading of the Riot Act. A party of surveyors, engaged on the Bletchley and Oxford line, were, with their assistants, forbidden by a farmer named Dodwell from surveying across his land; notwithstanding the opposition the surveyors continued their labours. Dodwell and his men endeavoured to prevent them by force, hence the disturbance. This affair will most prebably lead to indictments on both sides.

A report is gaining currency that ministers purpose introducing a short Bill early in the next session, to legalize the entry of linds at certain times and on certain conditions, for the purposes of railway surveying. This power is already possessed by the ordmines department engaged on the trigonometrical survey.

A QUESTION IN ASSESSING DILAPL-DATIONS.

-If during a lease of seven years, SIR shrough neglect on the part of the tenant, perreissive dilapidations have been suffered to secrue, and at the expiration of the said lease the repairs consequent thereon remain unperformed, is it competent in me, as surveyor for the landlord, to make a charge for occupancy during the time necessary to complete those

repairs? If such a charge is not customary, but at the same time you consider it just, will you inform me and your readers generally, by what rule of right or wrong such a custom as the present obtains.

The liberal use that you allow to be made of your valuable publication for the purpose of correcting abuses of whatever kind, and the important decisions that occasionally appear, have induced me to submit this for your conand the publication of a precedent on the subject, will have the effect of setting this questioned point at rest.—I am, Sir, &c., Nov. 12th. SURVEYOR.

. It is not customary to make a charge for occupancy under such circumstances, and we are disposed to think such a claim, if made, would not be recoverable. The lessor is usually empowered by the covenants of the lease to enter and survey the premises, and a course to be pursued in the event of finding

repairs not done, is pointed out. The law would inquire if the lessor had availed himself of the remedy he had himself stipulated in the lease, and would consider that by permitting the repairs to remain un-done, he had tacitly assented to receive the oost of them in lieu. Still there are cases in which the refusal or

neglect of the tenant to repair during his tenancy, might press severely and unjustly on the lessor. We should like to have the opinion of some

of our legal friends on the point,

RULES FOR CHURCHWARDENS. A.D. 1810.

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We find in the Ecclesiologist for the present month the following satirical admonitions: 1. Never let the roof of your church be too high, for it looks old fashioned; nor covered with lead, for red tiles are decidely cheaper,

and the price of the lead will cover the churchrates for half-a-dozen years; nor open in the interior, for a neat whitewashed ceiling looks more clean and snug, and hides from view the decay of the timbers, which might otherwise be rather alarming.

2. Never allow too many windows to remain, for the congregation might catch cold. Straw mixed with mud is an excellent material for stuffing the tracery; but bricks and mortar are better for the lower part. It is advisable to knock out the mullions, lest some foolish churchwarden should wish to open them again. The east window should be bourded up, to dis-The east whole should be obsided up, to dis-play the altar screen to advantage. For the latter, the Corinthian style is of course the best; but Louic will do. The interior of Llandaff Cathedral affords the best model of appropriate wood-work in general.

3. Fonts and stone coffins should be placed in the churchyard to hold rain-water. They also form convenient troughs for cattle. Their renders them extremely inconvenient

within the church. 4. If your church has any screen, it may be sawn up to mend the old seats of the poor people in the aisles, if any remain, or to make scrapers for their feet. But it is to be hoped that all the principal inhabitants are accommodated with convenient and spacious pues, in the best part of the church.

5. The communion-table should be of deal, not too costly. Carving or other ornament is decidedly objectionable. A piece of old green baize should be thrown over it on Sundays.

Three legs and a prop are sufficient to support it. 6. The village school should be held in the

shancel, which should be well supplied with a straw and deal forms. The teacher's chair may stand within the communion rails.

Disused chantries and chapels should be used for storing coals, or for dust, ropes, spades, 14 old lumber, &c., &c. They may also be boarded off for vestries.

8. The chancel and belfry-arches should be filled up with deal boards covered with canvas. This will give abundant scope for perspective paintings of classical buildings, or other appropriate devices. The commandments should be large but decidely plain. 9. Venetian windows should be substituted

for the old Gothic, where it is possible. And remains of superstitious paintings or glass may be sold to the glazier, or (if considerable)

to private collectors. 10. The pulpit must be lofty, and should stand near the west end, so that the people in the galleries may hear and see the preacher conveniently. The pues may turn any or every way, or no way at all; but the more nearly to

the pulpit the better. 11. Chimneys may be built across windows and doorways, or small portable furnaces may be erected in different parts of the interior. The flues should be as long as possible, because they emit more warmth, and as black, because they attract less attention, owing to their uni-formity with the rows of hats on the pegs round the galleries.

12. All improvements done to the church should be duly recorded on large wooden tablets, the names of the incumbent, churchwardens, clerk, sexton, and the principal contributors, being picked out in capital gold letters.

13. Monuments are best seen when stuck against the pillars of the nave. But any por-tion of the walls will do, if sufficiently elevated. A broad border of lamp-black will be found to set off the white marble in a very picturesque and efficient manner. The design should be invariably classical. An urn and inverted torches are indispensable; indeed, no monument is correct without them.

14. All brasses, freeco-paintings, carvings, crosses, and other rubbish, should be cleared away from the interior of the church. Recumbent effiges should have the heads, hands, and feet broken off, and sold for cattle medicine. The little boys may carve their names upon them, an amusement which will keep them very ouiet during long sermons. All sepsivery quiet during long sermons. All sepul-chral recesses in the wall should be boarded up.

THE SPREAD OF KNOWLEDGE.

Douglas JEBROLD, in his speech at the Manchester Athenæum Soirée, a few weeks ago, beautifully illustrated the change which has taken place in public opinion, as regards the diffusion of information,—reprobating those who had condemned knowledge, for the like reason that the owl flees the sun. "The lady-knowledge," said he, "too long pent up in her tower, guarded not only by giants, but, more provoking still, by dwarfs-and we have only to look back a few years, a very few years, to own there have been dwarfs as mischievous as any in fairy tale,—the lady-knowledge, I say, is no longer a prisoner. We have killed the giants, we have slain the dwarfs. And how have we killed them? Why, as Luther re-buked the devils by throwing inkstands at them. Her music is no longer made the idle luxury of the few, but acknowledged in the daily want of the many. It is a proud thing for you, people of Manchester, that you have a temple to her-a temple, wherein erected the humblest of your fellow-townsmen may come and listen to her, and find his nature at once softened and elevated by the magic of her voice. To say that it offered to such the sweetest solace after the day of toilto say that it imparted to him a keener con-sciousness of the dignity of his nature-to say, that whilst teaching them their own rightfuľ position in the world, it makes them respect the rightful position of others, is only to translate into the merest common-place the oft-repeated eloquence of gifted man. These things are now truisms. But human nature is apt to be ungrateful to truisms; for, let us not forget how fortunate it is for us that we live in an age when they are truisms. For truths, like oaks, are of slow growth; and it is with the early truth as with the acornshew it to mercstignorance, and it cannot conceive how that little germ should hold within it a latent power that, daly developed, shall breast the billow, and defy the thunder. And so has truth grown, but with this sad differ-ence, that it has too often been watered with the blood of those who have dared to plant it. Happy, then, is it for us, and for the blessing

ought we to render up most humble and hearty thanks, that we may to night be gathered together under its branches; for your institution is a great truth-a truth, it may be, planted is a great truth -- a truth, it may be, plantes amidst the fears of the timid, the sneers of the foolish, the misgivings of really well-mean-ing folks, who still thought that truth for the masses was the barley-sugar of children. They might have a little-just a little when very good-but to allow them to have their fill of it, was to risk a terrible derangement of the body social. With the success of your institution made as clear as the sup, it is amusing, it is more, it is instructive, to remember the prophecies of certain men, who predicted that the very light that would play about in-struction such as yours, would only herald, what to them appeared, the total destruction of what they considered the best foundations of society." And then in conclusion :--"The society." And then in conclusion :-- "The tide that carries us on in knowledge, which is power, gives to us that best, that noblest ele-ment of power-gentleness; which, in the full-ness of its teaching, will bear all men to that happy end, of which institutions like yours are

the most hopefal beginning." The Times has lately given a striking epitome of the great changes which have occurred during the last few years. "From lucifer matches, which twenty years are wern sold at 3s. 6d. a box, as philosophical toys, and have now driven the tinder-box even from the backwoods of North America, to the elastric tele-graph, which has all but literally annihilated time and space—in all our doings, in every circumstance affecting us, we can trace the finger of change ;---and as regards our mate-rial condition, it is impossible to deny that, on the whole, the progress is one of improvement. A dozen years since, it was proved, upon oath, by mathematical calculations, to a committee of the House of Lords, that it was an absolute impossibility that a steamer. could ever cross the Alantic ; the impossibility is now a matter of weekly occurrence. Ten years ago we paid eighteen-pence for the postage of a leter in an envelope carried 80 miles; it is now carried 400 miles for one penny. Fitteen years ago railway locomotives accomplished 20 miles an hour; they can now do 75. We can go to China and back in less time than 20 years since, it occupied to get to Calcutta. Who is now daring enough to assert, that we are more than on the verge of our changes ? Thirty years since, we spent scores of millions of pounds sterling in a single year, to bring the war to a successful termination; we are now proposing to spend about a couple of years' war expanditure in completing our system of railways. Fifteen years ago railways were treated as mere private speculations; but the government has already commenced the foundation for laying hands on them for national benefit."

On this same subject we find the following remarks in an introductory lecture lately delivered at the Mechanics. Institution of Ashford, in Kent, by the Rev. John Dafton, vicar of Warehorne :--- "In our times as perimental science is accessible to the many, nnd no longer the monopoly of the few 7 the hieroglyphics which perplexed their studies are blotted out, and it is the unfettered language of the honest and faithful treasurers of knowledge, that they will be happy to see those around them happy. Generally available, the literature of science is to be acquired in those important and useful schools of instruction, Mechanics' Institutes, where none need be ashamed to reap a laurel or cull s: wreath, and which, methinks, if wisely governed, and with libraries carefully selected, all who.ona, are called upon to support. I ask you of what use is science, unless it be imparted to those to whom it may prove useful, and who are likely to use it? Will it injure the higher classes of society, that the artisan is tangit to employ his implements to the best advantage, and see his way clearly? Can they experience loss if the operative manafacturer be taught principles, and is instructed in discoverie bv which he may aphold his country's rank, shear away the paim of merit from the markets of Europe, and compete with continental metions? We may remain at rest, but the world will move around us. And, can it, latime usk, weaken the bonds of society, that the spells of ignorance and seperstition should be bruken? Will the miner cut our threats because hu is instructed in his operations and taught the nature of the fire and chokedamps; and thow

these that where wher signifiet his life may be subdued? I think not." Will any one attempt to geny that if a carpenter, on a bricklayer, understands the principle of practical mathe-nation and mechanics, he will not exceute his master's orders better than the perfectly igno-rant and uninformed? will not the bleacher and dyer be better qualified to go through their work, with a little knowledge of che-mistry; And will not the sailor be improved in his prefession, why possess dome improved in his prefession, why possess dome improved in one: profession, who poisesses some infor-mation in geography and astronomy? Nay, will not the man only his ing a pot to boil, be soff to learn from science a leason which will enable him to cook his seanty pittance better, says his fuel, and both vary his dish and im-prove it? a state of a leason which will contain a state of a leason of the second second Contains and the second second second second second

Carrying out this view Sit William Moles. Work made the Tothoning remarks at the dimer recently gives to him in Southwark :-"Every, ose that has studied the history of mankind must be convinced that, during the manking must be convinced that, during the last contary, especially during the latter half of it, the arts and the sciences have advanced more rapidly than in any other period of which bidory makes mention. In every department of human knowledge careful investigations have been emiried on , and accurate observations have been recorded by pitient and laborious men, who have watched, rested, and explored men, who have watched, tested, and explored the operations of instance, by the means the old sciences have been extended, and the foun-dations of numerous, new, ones have been finity laid and the numerous, new, ones have been science, have attained to wonderful perfection. The have of instance to wonderful perfections and chemistry, have been discovered. The sciences of vegetable and animal philosophy have been created, From these sciences in-conceivable arts have sprung, tending to in-crease the comfert and the well-being of the human race. To the progress of these arts and they will become better acquainted with cach others ifellings, opinions, and interests. Local prejudices, the narrow minded offspring of ignorance and seclusion, will be swept away. mail will be more equally diffused; and mail will become more equal, not by being reduced to the same low level, but by being raised to the same degree in the scale of inteffect.²³

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WHAT TO DO XND HOW TO DO IT .- Bradwhat to be and how to ho it. -- brad-shawis Rainouy dizette says! -- "We have more than 'bucke' stated thist ho 'good' could pos-sibly be effected initi the Board of Trade was altogether 'reflected of its railway duties, and the wanding of ders ambulled." The field thus made clear for active exercise, it would become the live of Government to select some five or asvenor dar emilient characters, and, clothing them with plenary powers, reter all railway matters to their consideration." The sugges-tion is well worthy of newsideration. tion is well worthy of consideration.

THELEVELDER!

"CHURCH-BUTEDING, IN WILTSHIRE."

W B have receivily allulad to the number of new churches built in Wiltshire. The last report of the "Salisbury Diocesan Church Building Association" shows, that since the commencement of the association, the sum of nearly 11,0001. had been disposed of by it in grants, which had led to an expenditure on the part of the public, during the last nine years, of 100,0001. Among the events of the past year, the consecration of Wilton church was dwelt upon with a feeling of much satisfaction. dwelt upon with a feeling of much satisfaction. That splendid structure was stated to far surpass all that had been done in modern times, and to stand in advantageous competition with the glorious works of former days. During the past year, ten new churches had been opened in the diocese. Since the first estab-lishment of the association, twenty-one new churches had been built, nineteen rebuilt and enlarged, and additional room had been afforded in forty-four others.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

On Wednesday evening last this association held their first meeting for the season in the theatre of the Western Institution, Leicester Square. Lord Albert Conyngham was in the chair and addressed the meeting : about 200 persons were present, including a large number of well known active antiquaries.

A very interesting paper by Mr. Lower, was read on the recent discovery of Gundreda's remains at Lewis, and a letter from Mr. Corner questioning the fact that Gundreda was a daughter of William the Conqueror as asserted. Some discussion ensued, of which, and other matters brought forward, we may speak on another occasion.

LIST OF NEW PATENTS RELATING TO ARCHITECTURE, ENGINEERING, &c., ARCHITECTURE, ENGINE GRANTED FOR ENGLAND.

critished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoin's inn Fields, London.

[SIX MONTHS FOR ENBOLMENT.]

Alexander Bain, of Hanover-street, Edinburgh, engineer, for improvements in electric clocks and telegraphs, part of which improve-ments are applicable for other purposes. September 25.

Alfred V. Newton, of the Office for Patents, 66, Chancery-lane, mechanical daughtsman, for certain improvements in machinery for manufacturing screws. September 26. John Reed Hill, of 28, Stamford-street.

Lambeth, civil engineer, for certain improvements in atmospheric propulsion, applicable to water as well as land carriage. October 2. water as well as land carrisge. October 2. Alfred Hall, of Ooxsackie, America, brick-

maker, for certain improvements in machinery or apparatus for making, moulding, or manufacturing bricks, tiles, and other articles, from earthy or plastic materials. October 2.

George Daniel Bishopp, of Edgbaston, in the county of Warwick, civil engineer, for improvements in certain engines or machines used for obtaining mechanical power, and for

John Simpson, of Langton Rectory, York, clerk, for certain improvements in obtaining

and applying motive power. October 2. Graziano Conte, of Regent street, Middlesex, merchant, for improvements in machinery for cutting, carving, and sculpturing marble, stone,

wood, and other like substances. October 3, Moses Poole, of the Patent Bill Office, Lon-don, gent., for improvements in rails for rail-October 3 wa ya

(Fabriel Hyppolyte Morsan, residing at No.
 18, Boulevard Bonne Nouvelle, Paris, gent., for an improved steam carriage. October 6.
 Thomas Russell Crampton, of Southwark.

square, Surrey, engineer, for improvemente in locomotive engines and milways. October 8.

Thomas Howard, of the King and Queen Iron Works, Rotherhithe, Surrey, iron manu-facturer, for improvements in rolling iron bars for suspension bridges and other purposes. October 6.

Joseph Quick, of Sommer street, Southwark, engineer, for improvements in steam engines. October 9.

John Lake, of Apsley, Herts, civil engineer, for certain improvements interopelling. Octo ber 9.

Edmund Morewood, of Thornbridge, Derby Edmund Morewood, of Thornbridge, Deiby merchant, and George Rogers, of Stampane in the same county, geat, for unprove writtin the manufacture of iron into shoets belates for other forms; in coating iron; and in preserve iron for coating and other, putploses. And the

iron for coating and SURF, BUTPOSES. Addiation Thomas Wood Gray, 66 Workwarth terminat Commercial read, plumber, for improvements in ports, and apparatus for opating and elastings ports of ships or other vessels; inits upplicables in opening and elasting, windowis; and other base struments having the like universities. Querger Henry Francis, of Wardentestreet, with com-

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ways. October 31. In finite formal and zero Robert. William Brandling, of Low formations, and in the county of Northumberland, sequer and provements in railways and zailway maring setting for the security and convenience shape publication

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ARCHITTERS ... PUT THE ... THE TO STATE ARCHITTERS ... PUT THE ... THE TO STATE TURES" TO TRUE ... "DESTOR ... THE STATE THE and pregnant suggestion, lately inside in the state paper on accession of the royal deciding of the Lincoln's ian Hall, has been should constant The beered in the did buildings of the constant The "Thus, in St. Stephen's Cathedral at "Vietnon" Antony Pilgran, who objects consuct and the in 1433, not only placed his monotories in The rery conspicatory place but the first and the figure of him is placed bis monotories in The and bearty way of these times, and the first and figure of him is placed under the present and bearty way of these times, and hill the first in section of the rowald bis monotories in the pulpit, where he, with media will the present and bearty way of these times, and hill the first is a represented as it built for the first mand and memory sould into the board of the state in this even more than signing his work, -. J. L.

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THE BUILDER



Sind Webert' Thomason's Memoirs during "IMAN W CONNING. "2 Vors Ovo. '1845. Long, "Must und Co."

Print and to. Bri Tan doy more it was called by Burke, or Valiet, as it should be termed, the manufactory of Burope, Birmingham, is tersing and uni rateshisdehad to the enterprising, persevering, egal saladed suttor of the above work, for its prineshing be character; and it may also be and that direct Bribsin and Burope have been lengely bemeited by the many and various works of art and science, which have been preduced at his fine establishment, and dispersed throughout our own and foreign counties in Fernierly half a century the name of Loomson his been celebrated throughout Europe and America, and his show-rooms have attracted: and gratified nearly every stranger of note and taste who visited Bir-mingham during that period. Hence we find them to be autigate of common and panegyric the min done angle the original and panegyric in many works published in Germany, Italy, France, and the United States. The writer of this brief agire whole States. The writer distinct times, the one remote from the other, and tan more finget the impressions made on his mind, both at the first and second visit, by the the interesting processes of manufacture ex hibitadiatid showby! the rich presents which had, hope bettered in the proprietor by mo-narsha nation, and private individuals. De-lineations and descriptions of some of these objestancembitioto the bisple settle of the volument bination and anbitim, of the young mercial town of Bitminghami" has and to great com

The following manage from the preface will internet the instance of the work, and some internet its authors ---- In the ling of announce of the sumption of the sector was engine of for upstantis of dorsy years, and which was confined to the highest class of the me-tallic arts here staining of with the hope, that he, oppissifies ded in many inventions calen-lated to refer the pinion he conceives whether borne out by bia hinning been hundared with the order of knighthand amon his own sovereign, than thirty distinguished stokens of approbathan thirty distinguished stokens of approba-tion from foreign potentates, of descriptive orders of knighthood, gold medals of merit, disting a specimens of art, for which grati-fy tog the more the begs to avail himself of a first first to express his everlasting grati-tudes. The suffor filled, for a period of twenty wavegies and site the suffor filled, for a period of twenty wavegies and site the suffor filled, for a period of twenty yengi the eather mea, for a period of twenty yengi the eight foreign governments, the hon-ourible uppthitment 'd, vice consul for the town of Birnhigham, which regularly intra-duced Him² to foreigners of the highest distinction-to princes, nobles, ambassadors, pro-fessure at thereby laying a foundation for a

resenter and the many other royal and noble personages with fac-aniles of their signatures. personages, with fac-aimiles of their signatures. The two volumes embrace a narrative of the inventions and productions of the author; particularly his well known series of bistorical, particularly his well known series of historical, scientifici, and "our provide the series of historical and the events described extend from the year 1795, when he was "apprenticed to Boulton and Co., of Solid, touthe present year." His father appears to have retired from husiness before he came of age, and amassed a considerable for-tune by the manufacture of buckles, then not only a fashionable; but universally-wern article. states that his parent made, " one thousand" sand, pairs of buckles per them, when in full work "... Ile invented one patters, when in full work "... Ile invented one patters, called " the silver perny" by which be cleared above 1,000. Since, that, time, Birthingham has made fapid advance, nob only in extent and population, but in the quality and variety of its vast manu-factorized and the practical mient of its infra-binging, with the competition and riverry which attants, their exertion, have jointly completed to produce theory floats and to ver-der the toya just float de of the world. To for a single and the practice in a source and to ver-alread for a single and the source of the world. I de the formation of the world of the source in a source of all and the source of the source of the source of all and the source of the source of the source of all and the source of the source of the source of all and the source of the source of the source of the all and the source of the source of the source of the all the source of the source of the source of the source all and the source of the source of the source of the all the source of the source of the source of the source of the all the source of the sou

J.L or Budt of portion of its fame. His active and ardent spirit led him to make many experiments, to invent and speculate on many povelties, and by arresting the attention of the most wealthy and influential personages of Europe, to induce them to visit his museum, and to purchase many of its costly and novel manufactured goods. The demand for the productions of Birmingham thus produced, gave them a high character and distinction in public marts; and these volumes will afford a lasting explana-tion of the fact, and of the author's share in protion of the fact, and of the author's share in producing it. Amongst the medals designed and struck by Sir Edward, were one of the Town IIall, and another of King Edward's School: by the latter it appears, that Mr. Barry intended to crown the centre with a lofty, per-forated spire, in imitation of the splendid Town Halls of Belgium and Germany.

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Griscellance Cost of RAILWAY VIADUCTANT Erona Anya account of a viaduct over the Union Chuah, and the Edinburgh and Glasgow line, which and the peared in a recent number of the Railway of *Chronicle*, we obtain the following particulars, if This viaduct was erected under difficult countant troublesome nature to railways was had apparting ticularly so in this case, on account of these small rise the engineer had to work unesticated a base span. The viaduct consists, of frames arches, and is in length 305 feet. The average of height is somewhere about 41. feet, of the se span. The thickness of the arch some at the us spring is 5 feet, diminishing to 31 feet, at the in-rown. The next large arch some at the us arches near a sping to 24 feet binches, being at the crown 2 feet 6 inches, heing a first some at the us are resone third of the spring of the some at the us spring is 5 feet, diminishing to 31 feet, at the in-row of the arch stones at spring being a first some at the us arches are a sping to 24 feet binches, being intervening arches are 20 in the the the some at the us of the arch stones at spring of the some at the us at the crown 2 feet 6 inches, the some of the arch stones at spring of the viaduct was made of ashiar, ercent the to backing of the wing walls, and cost of the arch stood well: a splinter of two at the first of the arch stood well: a splinter of two at the first of the arch stood well: a splinter of two at the first of the arch stood well: a splinter of two at the first of the arch stood well: a splinter of two at the first of the arch stood well: a splinter of two at the first of the arch stood well: a splinter of two at the first of the arch stone the arch action at meeted the splinter of any stones in the spring, are meeted substituted and the first of the arch the structure. Oxrond Architecture are splinter of two at the first of any the structure.

fects, which have not attected, the graphity of so the structure. OxFORD ARCHITECTURAL Society structure adment meeting was held at the society structure admin-Wednesday, when a paper was read by further admin-Freeman, B.A., secretary, on "The Developeration Freeman, B.A., secretary, on "The Developeration their moral and symbolical teachings". In on the latter part Mr. Freeman contended that as there were only two real divisions of Gothe, architecture the early, including the geome.

there were only two real divisions of Gothic in architecture — the worly, including the geome-ing flowing — deconstant, and the continuous, includ-ing flowing — deconstant, and the perfectidicular. Mr. F. concluded by a high sulogium on the latter style, which he contended way theole and Mr. Parkins protected arginations of the perfection and Mr. Parkins protected arginations of a majority of the second abvocated by Mr. Freeman being of the second those of a majority of the mean of the second second ciety. ciety.

ciety. And an P. Ashten and a storing of the second start of the s

THE ROYAL SOOLETY .--- The first meeting of the Royal Society, held on Thursday night last, was one of stirring interest, comprising the black-balling of *three* candidates in suc-cession; a remarkable paper by Mr. Farraday on the connection between light and galvanism, and an announcement by Lord Northampton that in future discussions on papers read would be encouraged.

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NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office te emit the manue of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, hewever, they are entered in a book, and may be seen on application at the effect of "The Builder," 2, York-street, Covent-garden.]

For the supply of 200 Coal Waggons to the Sheffield and Manchester Railway Company.

For the excevation of about 120,000 cubic yards of land at Edge Hill, for the Grand Junction Railway Company.

For the erection of a first-rate House at Islington.

For paving with wood the Carriage ways of a newly-formed street in Southwark.

For the supply of ten tons weight of cast-iron lamp-posts to the trustees for lighting the parish of Hackney.

• For supplying the Richmond Railway Company with about 35,000 cak keys.

For repairing and keeping in repair the Harnham, Blandford, and Dorchester Turnpike-roads.

COMPETITION.

-Designs for a Gothic Church, to be erected at Liendlo, arg neguired. 50/. will be awarded for the one selected, and 20/. for the next best.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

At the Half-Moon Inn, Taunton, 283 prime maiden Eles trees, 35 maiden Oaks, 38 maiden Ash, 84. pollard Elms, and 21 pollard Ash trees, nov

At Hartshill, near Atherstone, Warwickshire: 845 Elms; 41 Ash, and 26 Oak trees, of large dimenns, now standing.

(a) The Mortimer-street, Cavendish-square: 60,000 fort of dry panel boards, several hundred squares of prepared floor boards, Spanish and Honduras maho-gany, 6,000 pine planks and deals, 600 white and spruce deals, &c.

TO CORRESPONDENTS.

"A Subscriber."-Hutton's is the only course of "A Subscriber."-Hutton's is the only course of mathematics that has obtained a standing in this country, and some of the later editions, such as those of Remsay and Rutherford, contain as much of the modern analysis as is necessary for every purpose. We would prefer Woolwich to Sand-hurst on account of the eminence of its professors, and the excellence of its regulations. Sandhurst, immetheless is a very vementable etablishment.

and the excellence of its regulations. Sanahurs, wevertheless, is a very respectable establishment. "A Young Arobitect" asks to be told the best muterials for building and roofing a church. The locality must be considered. Kentish rag-stone is The

locality must be considered. Kentish rag-stone is much used for walls, and is a good material. Good encaustic tiles may be obtained at the Worcester porcelain warshouse (New Bond-street), or Cope-land and Garrett's, Lincoln's-inn-fields. "T. P." (Mapchester).—We consider 120=12 feet deals, a standard hundred. "C. N."—If the house be not completed by the lst of January, it will rest with the official referees to say, on application, what alterations must be made in id.

made in if. "J. F. J."-"J. F. J."—We are unable to point out a good book on "Lines"; such a work is a desideratum. We will print a letter next week from one who has given much attention to the subject.

" Polished Slate Chimneys.--Our correspondent is informed he may see such at Bow Bridge Slate

Works, Stratford. "R. G?'-Knowing the material, we will take

"R. G?"-Knowing the material, we will take an opportunity to mention it. "A Young Beginner."-The best way to learn drawing b, to get a good master. "G. C?"-Apply to Weale, 59, Holborn. "J. L?"-At Bell's, Fleet Street. "L. Q." - We might mislead by giving an opinion without fuller information. We advise if L. Q." Yo let a surveyor see the premises and give his oninima.

his opinion. k. Received; "A. Z.;" "W. T. T.;" "E. B.;" "Mr. Finney;" "A Mason;" "W. S. W.;" "A Surveyor;" "Church Admirer;" "First steps to Anatomy," by James L. Drummond, M.D. (John Van Voorst, Paternoster Row); "The Archeeological Album, a museum of Na-tional Antiquities," edited by T. Wright, M.A., illustrated by F. W. Fairholt, F.S.A. (Chapman and Hall.)

THE BUILDER.

ADVER-TREPERSON

ROYAL POLYTECHNIC INSTITU-ROYAL POLYTECHNIC INSTITU-TION.—A Lecture on the prevalent disease in Po-tatoes, and the means of extracting the starch as an article of food, will be delivered by Dr. Ryan, daily, at half-past Triter, and on the Evenings of Mondays, Wednesdays, and Fridays, at Nine. Professor Bachhoffner's varied Lectures, with Experiments, in one of which be elearly explains the principle of the Atmospheric Railway, a Model of which is at work daily. Mr. Downe, the celebrated Flutist, accom-panied by Dr. Wallis on the Pianoforte, will perform a Duet Concertance, and afterwards a favourite Fantasia, at Four o'clock, on Tuesdays, Thursdays, and Saturdays, Cole-man's new American Locomotive Engine, for ascending and descending Inclined Planes. A mean and very beautiful series of Dissolving Views. New Optical Instruments, &c. Experiments with the Diver and Diving Bell, &c. &c.— Admission, One Shilling. Schools, Half-price.

NOTICE. - INVENTORS desirous NOTICE. — INVENTORS desirous of obtaining LOANS ON or of SELLING their IN-VENTIONS, or Patents, should apply to Mr. M. JOS. CELIN COOKE, at the OFFICE for PATENTS, Warwick chambers, Warwick-court. Gray's-inn, London, where English and Foreign Patents are obtained, and Designs re-gistered. An INDEX is kept for inspection of all Patents granted for the last century; also copies of every Patent of importance. Instructions to Inventors and a list of charges graties on application.

IMPORTANT TO SURVEYORS, BUILDERS, &c. GALVANIZED TINNED IRON and Cierkenwell

Clerkenweil. J. DORE begs respectfully to inform Builders and Sur-reyors, that on account of the Increasing Demand for Galva-nised Thome Iron, he has made such arrangements as will enable him to manufacture every article usually made in Zine, at the same Prices; also begs to recommend this metal corrugated for Roofing as the most Economicsi, as it can be laid without Boards upon Slight Rafters. Every Article in Zine as usual, at the lowest possible prices.

MOREWOOD AND ROGERS' PATENT GAL-VANIZED TINNED IRON.

VANIZED TINNED IRON. T. W. BEALE begs to acquaint the pub-corrugated, fix pipes, gutters, &c. Also chinney-tops and rentilating cowls of every description; also water and oil cistersa, of this incorrodible and fireproof metal. He manu-factures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, fot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London. The PATENT GALVANIZED TINNED IRON is ap-plicable to the following uses: -The Lining of Ships' Store Rooms, Shipa' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



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Please apply to CHARLES CELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testi-monials of the highest respectability of extensive works already done can be had.



Full lists of prices may be had on application at the coun g-house; if by letter, pre-paid, inclosing postage-stamp, A large stock of well-seasoned Doors always on hand. ing-

WINDOW BLINDS ORNAMENTAL WIRE WORK, FLOWER-POT STANDS, &c.

To Architecta, Builders, Contractors, Upholders, and others. M. H. BUSBY, NEW VENETIAN HOUSE, 7 and 8, Anderson's Buildings, City Read, London,

7 and 8, Anderson's Buildings, City Road, London, Manufactures of every Description of Window Blinds on the most approved principles, namely, the Spanish, Oriental, Florentine, Louvre, and Venetian Sun Shades, for the exterior; and Venetian Dwarf, Metallic Gauze, Perforated Zinc Blinds, Transparent, Landscape, and Holiand Blinds on Springs, Patent and Common Rollers for the Interior; Blinds for Shop Froate, Plain and Ornamental, on the most Improred plans. Old Blinds Altered, Renovated, and Refixed. A variety of Flower-pot Stands always Ready. Rustic, Portable, and other Garden Seats and Stools; Wire-work for every purpose useful and ornamental.

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D GLASS, for Horticultural purposes, Sky. Righes, Ac-may be had at JAMES BROMLEY's 315, Oxford-energi, London, at the reduced prices, also Microscopial Glass, French Shados, Plate and Crown Window Glass. J. 20, vill be happy to furnish Lists of Prices, or any other particulars that may be required.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Oran-mental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having fust both two of the largest Kins in London, is enabled to execute grammine Orders with unprecedented dispatch, 1, King-street, Far-man-square.-Terms, Cash only.

TO THE PLATE-GLASS TRADE.

TO THE PLATE-GLASS TRADE. THE BIRMINGHAM PLATE and CROWN-GLASS COMPANY begins the atten-tion of the Trade, that their LONDON WAREHOUSE. 141, Plect-street, is now open for the sale of their Crystal Plate-Glass, which for Brillianey and Colour will be found to atacd unrivalled by any other manufactory. All orders, addressed to B. MOSS, London warehouse, or to the works, Such-wick, near Birmingham, will be promptly attended to.

wick, near Birmingham, will be promptly attended to. BUILDERS, PAINTERS, GLAZIERS, and others supplied with every article used in the trade upon the best wholesale terms. Address to R. COGAN, WINDOW GLASS, LEAD, and OOMOUR WAREHOUSE, 3 Princes-astret, J.ciconter-square, London, for complete lists, princes-astret, J.ciconter-square, London, COLORED and ORNAMENTAL GLASS of every description at the very lowest prices. BRITISH and FOREIGN SHEET for Horticultural and all other purposes, as low as my house in the kingdom. LAMP SHADES AND GAS GLASSES. Gas Contractors, Filters, Glass Merchanic, and others supplied with any description. Lists of nearly 100 patterns, ALOREM AKERS, ALABASTER FIGURE MAKERS, ARCHITECTS, MODELLERS, and others, angalied with FIENCHI ORNAMENT SHADES, for covering Models of Public Buildings, Geological Cwit FIENCHI ORNAMENT SHADES, for covering Models of Public Buildings, Geological Cwit Nurserymes, Find Ghose and Confectionser Gimes, dec., of wery size and description.

SASH, SHOP. FRONT, AND HOTHOUSE MANUPAC-TURER.-ESTABLISHED UPWARDS OF 76 YEAS. 87, Bishopsgate-street Without. THOS. MILLINGTON begs to inform his Priends, that he still continues to minufacture the above in the same manner, and using only the best matures that have given so much satisfaction for many years past-the best manuar, and the very lowest price charged. Lists may be had upon application Drawings prepared.

FOREIGN WINDOW GLASS. THOS. MILLINGTON begs to inform his friends, that he continues to reserve weekly large consignments of FOREIGN GLASS, which he indetermined to offer upon the very lowest terms. Address, 57, Bishops-gate-street Without.

DLUMBER'S BRASS WORK, WATER-CLOSET PUMPS, &c.—These sticles require the greatest attention and care in the manufacture, and will be found superior and cheaper than as any eiter unsurfacture. Best Pan Water Closets, 343. ; 34] Liff Pumps and Thesia. 40. 10s. 0d.; 3-inch Pumps, 56. 10s. 0d.; 5-inch Bill Bau and Stop Cocks, 30s. per dosen, and every asticle in this here a equally low. Every article warranted.—Address, THOS. MILLINGTON, 67, Bishopsgute-street.

THEFT WOTON, S., Binopagate-street. VARNISH. THOS. MILL/INGTON begrs to inform the Trade, Builders, Painters, and others, that this article can be had a this Manufactory, of the beat quality and at the very lower and the strength of the strength of the beat of guns, and sparing no expense in the manufacture, is has devoted much time and attention to it, using only us beat of guns, and sparing no expense in the manufacture. Fine Pale Oak or Wainscoat Variush, per imperial galor. 10s.; Fine Caringe Varialit, 12s.; Copal, 18s.; Bedy Copal. 12s.; Gold Sire, 10s; White Hard, 18s.; Brown Bard, 18s.; French Polish, 18s. per gallon. Paint, Dryers, Charn, is taken into consideration, this will be found the chemper house in London. Address, 87, Bishopagale-street Without

WALLIS'S PATENT' LIQUID WOOD KNOTTING. - This newly-discovered Liquid Composition which Messes. Geo. and Thos. Wallin have the satisfaction of introducing to the trade, possesses the m-portant qualification of effectually stopping Knots is Wood, however bad, and provening them cating through and da-figuring the paint above. Many substances have been used and much time space: in endeavouring to find a cure for a bad Knot, but interfare without success. Messrs. Wallis therefore for a bad Knot, but interfare ure in offering to the public an article so long and anxiomy called for. WALLIS'S PATENT LIQUID WOOD

called for. In the application, skill is not required y a boy can see it as well and effectually as the best workness: it is your of to the work with a brush like common paint, can be used a all climates and situations, and does not require base. Sold wholesale and retail, by Messas. G. and T. Wallsa, Varnish, Japan, and Colour Manufacturers, No. 56, isog Acre. Price 20s. per gallon.

After. Frice 2021, per gauss. WARNISH.—It has long been a desideratam amongst the consumers of Varnish to obtain a good and genuine article; brilliancy, facility of drying, hardbers, and durability are the qualifications necessary, but these ar-seldom if over found united. The experience of a life-true devoted acclusively to the manufacture of this strucks, use great and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled **Bern-**george and Thomas Wallis to produce Varnishes bed an and apirity univalled in every respect, and they every the stru-recommend them to the trade, as deserving of necice bad in price and quality. dity.

pros and quality. Bailders, Coachmakers, Psinters, and others must figured on being supplied with a genuine and undusterined areas. Fine Oil Varnish, from 108, per gallon; best White by a Varnish, Sie, dittes Best Spint French Polish, Sie, ditte; White Lead, Oil, Turpe, and Colours of every deaver, stum as the very lowest prices.-WALLIS'S Varnish, Jacob as Colour Manufactory, 64, Long-area, and dow Koun Ruw street. Established 1750. .3 ...;



SATURDAY, NOVEMBER 29, 1845.



KNOWLEDGE of the materials employed in building, and the natural laws which regulate their constitution, are essential, we may say indispensable, to

form a good architect. We earnestly recommend our younger readers at once to make the acquirement of this knowledge, or rather the fitting of themselves for easily acquiring it, one of their recreations. It need be nothing more; it will not increase their daily duties, but lighten them ; and will be found hereafter a constant source of gratification and enjoyment, independent of its value to them in a professional point of view.

"Those who possess the genuine spirit of scientific investigation," says Dr. Young, "and who have tasted the pure satisfaction arising from an advancement in intellectual acquirements, are contented to proceed in their rearches without inquiring at every step what they gain by their newly-discovered lights, and to what practical purposes they are applicable; they receive a miliciant gratification from the en lorgement of their views of the constitution of the universe, and experience in the immediate pursuit of knowledge, that pleasure which others wish to obtain more circuitously by its means. And it is one of the principal advantages of a liberal education, that it creates a susceptibility of an enjoyment so elegant and so rational."

Nor will the practical purposes to which their "newly-discovered lights" are applicable, be long unseen. Mechanics, statics, hydraulics, hydrostatics, the properties of heat, chemistry, geology, -will all be found to bear greatly and immediately on the object of their special attention; and a knowledge of these aciences must be acquired by the rising architects, if they wish to practise their profession satisfactorily, and not see the body to which they belong, merge into one on either side of it now closely and unceremoniously shouldering it. This latter is not an idle fear, but of serious import, demanding the thought of every architect. We shall proceed to its consideration on another occasion; our object on the present is, to advise our student-readers to take such a course as may tend to avert it.

Every one has read the long list of attainments considered necessary for an architect, by Vitruvius, but very few seem to think that the same are as needfal now as they were then : indeed, we are strongly led to believe, that general knowledge is less sought for or attended to, by architectural students at this time, than it was ten years ago: their whole attention has been led by the fashion of the times to one particular point, to the neglect of many others. Once it would have been impossible for a man to acquire even a general knowledge of the sciences alluded to,-natural philosophy, in short, without the devotion of years; but now it is a matter of no difficulty, and for a long time has not been so. As a first step, let our young reader take Dr. Arnott's delightful Elements of Physics," and we will undertake to say, even if his attention has never been diffeted to the subject before, that by the time he has mustered its contents he will regard cipient disposition in the city to conserve its

all nature with increased heterest; every object in his walks will present a different appearance from what it before took, and he will have a glimmering of truths in connection with the practice of building to which, until then, he had been blind.

The lecture-rooms of any of the popular literary institutions will give him, at little cost of time or money, an insight to all the sciences, and shew him how he may successfully increase his knowledge of them. What we have thus briefly recommended to the architectural student is applicable to the builder and the operative, - to whom such knowledge is of equal importance. The first, however, being supposed to have more time and means, would pursue his studies further, and so maintain legitimate authority over those he would be called on to direct. If he pause on the threshold, and allow others with fewer opportunities to pass into the temple, he may expect, and will deserve, to find himself (as he assuredly will) a follower instead of a leader. Those who do not keep in advance of the crowd must expect to have their heels trodden on; and if they bad an advantage given them at starting, and failed to use it, will meet with no pity when they lose the race.

We commend these words, with all respect, to the consideration of some in the profession who have long ceased to be students.

DO THE CITIZENS REGARD THEIR ANTIQUITIES.

At a meeting of the Royal Institute of British Architects on Monday last, a report of which appears in THE BUILDER of to-day, Mr. Tite complained of my having interfered, in the year 1841, with the "City-Authorities," or with the "Joint Committee of Gresham Affairs," and obstructed them in collecting antiquities discovered on the site of the Royal Exchange. I have before me, a verbatim and authenticated report of Mr. Tite's speech, which differs considerably from that published in your paper. Mr. Tite stated that I offered sums of money for coins, &c., that a great deal that ought to have belonged to a public collection had gone to enrich my private cabinet, and further, Mr. Tite refers to my papers in the Archæologia as conveying accusations against the "City Authorities" for interfering with me and my researches, when, in point of fact, he says, it was I who interfered with them and their researches! It is rather remarkable that Mr. Tite should have allowed so many years to elapse before he adventured to rebut my assertions and to advance counter charges. especially as, during the long course of my attempts to record discoveries of antiquities made in and about the city. I have never shrunk from openly denouncing, less the apathy of the ation towards their ancient monuments, corpore than the obstacles they throw in the way of those who sacrifice their time, in endeavouring to preserve or record those doomed to destruction. Mr. Tite does not venture upon the history of the discoveries made during the last fifteen or twenty years, but he refers to what he states took place in making excavations for the New Royal Exchange. To that brief period of operations upon a comparatively small spot of ground, I will, for the present, confine

my remarks in reply to his accusations. With the hope of being permitted to make free use of my eyes and pencil during the progess of the works, without liability to encounter such offensive hinderances as from time to time, when attempting to make sketches or elevations, I had long been subjected to, I called upon Mr. Tite at his office, and asked him to favour me with a written passport, for free ingress and egress to and from the works at such times as I could make it convenient to attend. This request he courteously granted, and at the same time said he trusted I should not interfere with the workmen to obtain possession of any objects that might be brought to light, as the Joint Gresham committee wished to preserve every thing for themselves. I replied, that I was delighted to hear there was an in-

ancient monuments; that I should be quite antisfied in finding that such ancient remains as might be found would really be preserved, and moreover, that collecting antiquities for the mere sake of collecting, was a feeling unknown to me. I rigidly adhered to my promise, but, to my surprise, I soon ascertained that Mr. Tite's passport was totally useless to me, and that even in his presence, it did not protect me from abuse, and threatened personal violence from people under his authority, or that of the Joint Gresham Committee. The full parti-culars of the outrageous conduct I was sub-incted to alward upon the full partijected to almost upon my first visit to the xchange, after receiving this order from Mr. Tite, are detailed in a letter addressed to the Joint Committee of Gresham affairs, and delivered into the hands of their clerk, Mr. James Barnes, on the 16th of February, 1841. To this letter I refer Mr. Tite, as it would be too long to insert on the present occasion in your columns, and I will content myself with briefly telling the result of the order.

The first time I visited the Exchange after receiving it, was on my return to London, after a sojourn of some days in the country. Upon no previous occasion did I ever encount such gross and unprovoked abuse as upon the present, when under the protection of Mr. Tite's order. The foreman not only used the It is sorder. The forenam hot only uses the most violent language, but he also threatened to expel me by force if I delayed to leave the works. He laughed at Mr. Tite's order, and asserted that he also had his orders, and was prepared to execute them ! Willing to ascer-tain if Mr. Tite's order would be enforced, I again presented myself, and in the presence of Mr. Tite, had to suffer a repetition of the pre-vious outrage, Mr. Tite upon my appealing to vious outrage, Mr. The upon my appealing to him, coolly saying he could do no more!! This order then was perfectly useless to me; it was scouted by the menials, and Mr. Tite seemed to possess no control over them, or was himself under the influence of some superior power, for not a shadow of a pretext could with any reason be urged sgainst me for infringement of rules and regulations; on the contrary, I had already been instrumental in reclaiming and securing some articles for the collection now deposited (I understand) in the London Institution. The power of architects in the city is not always so limited. Mr. Cockerell having granted me permission to visit the excavations made on the site of St. Bartholomew's Church, the same superintend-ent, who, on the other side of the street, within the jurisdiction of Mr. Tite, was per nitted (if not instructed), to annoy me, attempted to obstruct my entrance to the premises. Mr. Cockerell, however, with manly consistency and decision, threatened to discharge any in dividual who, contrary to his orders, should dare to molest me, and, I need scarcely add, his commands were never disputed. The assistance afforded me by this gentleman was given, moreover, with such good nature and kindness, as to make me feel he was as much obliged in granting the privilege, as I in receiving it. As I was not inclined to suffer bodily mar-

tyrdom on the site of the New Royal Exchange, tyraom on the site of the New Koyal Exchange, I desisted from visiting it, until I perceived that hundreds of persons were daily indiscri-minately admitted without orders, when I oc-casionally mixed in the crowd for a few minutes, or, after awhile, was tolerated by Mr. Russell, the clerk of the works (whose polite-ness I willingly acknowledge), and thus managed to make the few observations printed in the Archaeologie, but which acents and imin the Archæologia; but which, scanty and imperfect as they are, comprise every thing that has yet been published relative to the discoveries made on this spot. During the entire period of the operations, I rigidly forbors even from speaking to the workmen, except in a few instances, when I made myself instru-mental in inducing them to take objects of antiquity to Mr. Russell, to whom I also forwarded some coins which had passed into other hands from the excavators, and subsequently were offered to me. But I regret to say, that the regulations referred to by Mr. Tite, were the cause of many interesting matters being carried off by the workmen, and dispersed b yond the hope of ever being made available to science; and I much doubt if the chief mass of antiquities collected, ever reached the London Institution. I have understood that peo-ple who had access to the room in which they were at first deposited, could not refrain, in the

ardour Witheir newly-acquired taste, from car-rying of occasionally a few specimens, al-though the abstracted fragments might render a bantiful, yaso, loss, completeir mente init renter in proponatiyn L. perfectly well, remanbar, vrae the canes of my recommending, that a batter manual ha filled with morthless adds and ends:

and cause of my recommending dates batter and the filed with serthless adds and ands; and placed in a convenient situation for the caricality sectors to purlain from to their boards protective sectors to purlain from to their boards protective sectors to purlain from to their boards protective sectors to purlain from to the boards protective sectors to purlain from the black of the protective and sitently listen to scandel and false boards and sitently listen to scandel and false boards and sitently listen to scandel and false boards and the list thy listen to scandel and false boards and the list regard for the source of the purpose is a shourd not board of the source of the base the analytic regard for the source of the purpose is a shourd not board of the source of the base the source of the source of the source of the base the source of the source of the source of the base the source of the source of the purpose is an a shourd not board of the source of the purpose should be in former times or during the list is an abound not board of the source of the purpose, and the source of the source of the purpose, and the source of the source of the purpose, as far as "City Authorities," were source of. On the copirary, is can be regronal evidence, confirmed, by dates, and indisputable facts, that for a long series of years_they, have directly constrained by dates and indisputable facts, that for a long series of years_they have directly for a long series of years they have directly countenanced a wholesale and indiscriminate eysten of deitraction. Anad they ever pos-sessed a feeling for the works of ancient art. which illustrate the history of old London, chey mante not in the year 1845 be talking and disputing, abyes fiking ap 'one 'row for their geographic of they would have apusessed it man-sion as high down with them, an entire batkling sidnosh a mulwini as might have been formed, and as had the world of the minuments now fire years ly destroyed, "demanded." No; let ft be familing with banes it owned; that the "Ony Aa-thering with banes it owned; that the "Ony Aa-thering with banes it owned; that the "Ony Aacubilities "have done "acthing for, 'but inith against their suffquilies, and then charity may listen to "s plea of ignorance on their behalf, and a growing of better behalf, or the Patiere." 111104 17.1

"Whatever Mr. Tite may eay about the wishes and theterlines of the corporation and the terms of the corporation and the commencer individuals (comectors, he terms **HENGINE HOM Which they Were rescued.** Could the corporation have been inspired with a wish to breasers wid to collect, judgment would still have been winning; and the gatherings would have been winning; and the gatherings would have been a third best, a heterogeneous mass, the chaos of a turiosity shop, wanting that available of a turiosity shop, wanting that available of a turiosity shop, wanting that available of a turiosity shop, which are hompoints to to a useful collection.

individual to a useful collection. "The discovery and conservation of our discours and conservation of our discourse bodies, if actuated by an eulightened and liberal spirit, could do much ; but then interference to dis-course and check individual enterprise and research, conducted without selfish motives, will only produce mischief and disappointment. Commercial companies are slow to move in individual without selfish motives, will only produce mischief and disappointment. Commercial companies are slow to move in individual which do not directly effect their worldly interest; mether their education nor their taste induces them to sacrifice time and worldly interest; 'neither' their education nor their taste 'induces them' to sacrifice time and money for 'what in their' eyes is unprofitable and useless. 'Toleration for pursuits they can-not appretiate; 's perhaps under present cir-cutoritacies, as intich as can be reasonably ex-pected.' Liet them not oppose, through vulgar projudice' and 'ignorance, the few who are willing to 'devote' their' time and means to antiquarian divertigation. The pursuit is not an envicting use, that they should be envied and molested by meta whose sole end and am is lucte and wordly power; out the contrary, it is lucre and wordly power; of the contrary, it is toy often simplower; by the contrary it is toy often simpl too consequent result; us enhanction of pecu-niary resources should with more consistency

BUILDER. THE

be rejorted is father has invied if the flose who roomany seem to rear the plouding anti-quary may be getting rich by some method quary may be getting rich by some method bidden from their sycal and from source appar-ready within their nearb, but not divulged to

ready within, then a nearby but and diverged, to: their comprehension must parced in unged, to: "Private museums must parceds; public ones, and both, if properly collected, arranged, and directed, are of the highest value, and cannot, be too mumerous. But the mere getting to-gether, with indiscriminate, scal and capidity, loads of antigation, disconsted, from those often minute, but disconstant, circumstances which serve to (authenticate their parentage which sarve to lauthenticate their parentage and aid their channelogical arrangement, is an almost profiters labour, which to the scien-tific inquirer, generally vields, only embarrass-ment and confusion. How often do we find collections rendered comparatively useless, by a want of information of facts connected with the discovery of their contexts! And these facts are to be obtained only from the discoverers themselves, and will be the more or less complete in the ratio of their amount or less complete in the ratio of their amount of intelligence and skill. Under a truly grand system for the conservation of our national monuments, such as ere long we may hope an enlightened Government will institute, private enlightened Government will institute, private collections may in many ways be rendered more available than public ones, and local museums will be encouraged throughout the kingdom. From these, models and drawings may at a trifling expense be forwarded to the metropolitan collections, among which, it is trusted, may soon be reckoned the museum of the Speciety of Antimarica of London, the surthe Speiety of Antiqueries of London, the nucleus for which already exists, and even the being all that is required to induce her Ma-jesty's Government to consent to its appropri-

ation for this purpose. As for the "City Authorities," let them sup-gort individual research, and it will surely be turned to their advantage and honour. If the day has arrived for them to appreciate the value of monuments, which illustrate the history of the city they affect to venerate, let them shew their sincerity by engaging without more delay, scholars and literary men to decipher and arrange for them their municipal re-cords, as yet comparatively unexamined. Let these valuable documents be indexed, and let abstracts be published, to direct the researches of those whose inclinations may lead them to seek information upon the customs, usages, to seek information upon the customs, usages, manners, and social and political condition of the inhabitants in past ages. Money can easily be found for improving the physical condition of the citizens; let a portion of it be expended upon this neglected branch of their education, and the corporation may be assured, that as the outlay upon the one, even-ually increases the civic funds co will a down tually increases the civic funds, so will a corresponding liberality in providing for these intellectual necessities, be rawarded by an elevation of the moral standard and character of the rising and future generations.

I am, Sir, yours respectfully, CHARLES ROACH, SMITH, 5, Liverpool street, City, Nor. 22.

PROGRESS OF TOBQUAY, DEVON.

A CORRESPONDENT writes us that the demand for workmen here is beyond every thing ever known in this part of the country; "I mean," says he, "workmen of every descrip-tion connected with building. Between 300 and 400 houses are decided upon to be built immediately, and the cry of want of hands is general; the men are very independent, and .I several, the first are very interfacent, and i assure you it is quite a favour to get any job of joinery, stone masoning, bricklaying, or iron-work done, even at an advanced price. This place lately has nearly doubled in popu-

lation, and visitors have been numerous; in fact, I believe there is scarcely a house to be had for love or money. Several families have been obliged to leave the place because they could not obtain houses to suit them. It is no doubt the loveliest spot in England for beauti-ful and varies scenery, and may justly be called the gem of our island.

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REVISION OF THE METROPOLITAN BUILDINGS ACT:

s it is now well and we Sin; As it is now well underweiter, the file new Baildings & domilinand tage to realistic a fel the next scaling of far hereby at the overpred neif Baiding de Coujil med tego si realisiera jet the near scala of Farlianets, al the congress who have a densed a intralate at the tax system is a boliere of the official referes the tax system opinion aponits disinter particulate the tax system self in vited sinctures into head you have great other response contracted, with the array of the other response contracted with the array of the state and all persons congress in the destand from one who has a constant inter contracted in the part opinions, will persons not be decreated of the pro-gress and stime spectra in the destand of the part opinions, will person and spectral and an array of part and are public discussion of interments. and from one who has a special of the parties and an public discussion of interments. and from the fast is a public far given to the parties and an public discussion of interments. and demeries that a stimulation of interments. and demeries that a stimulation of interments. and distain all person al importations in the fact of the de-distain all person here the partition and independ to execute the authority and the stimulation of the tax antiportation of intermenting and the fact of the one who has a stimulation and any appear hareh. If by grides and of the stimulation of the area of the stimulation of the stimulation and in all person al importations independent to execute the authority with a stimulation of the charged that authority with a stimulation of the charged that authority with a stimulation of the appear where the tax and an appression and the appear where the tax and an appendent at a state and an appendent at the state and an appendent

conress unit assessing anto president inter-tiality. Ne one who has found it accounty for appear before that stribunds who substript be been satisfied both in this rappet, and in the patience and satisfies price who chills history appear before their stribuned, with the the think been estation both in this respect, and in the patience and attention with which is influentees and attention with which which it is the patience and attention with which is the shiften mease have then illistened to mot and the shiften testimony could be address of the approximation the production is an approximation of the shiften ency of the ibeards it has alway the shiften in the which was appresed, which it was understand that me of the efficient referees and a resigned and the difficulty which and found and a shift is successor, also is shiften by the shiften the shiften is successor, also is shiften by the shiften being the failure is shown also, the short is the advance of a successor also is shown of the shift being the from any neglector, the short (for this being the from any neglector, the part of the area apprint to superimend shifts). Whet there is the course we have a shift to show a shift is the course of the discontent and diseast for the area provided to superimend shifts). Whet there is the advance of the discontent and diseast for the area provided to superimend shifts). The shifts is the course is which the high reputitions of the area provided to find a spectrations of the area provided to the official reference is shifts are able in anticipated expectations of the area provided as all explain is proved in a the shifts area of the version which, the shift representer appretent the version which the area shifts are able to be the ideastion which the source appretence of the the shift of the area to be able to the shift of the area and the shifts are right in building, at other source appretence of the the shift of the area to be able to the interval and shift of the area to be the version which the area area appretence of the version which the area area appretence of the version which the area area appretence of the shifts of the area area appretence of the the version which the area area appretence of the area able which the area area appret

need not ask it this, sourcessing tion these cases realized, or whether any advice or opinion has been obtained from that office (speeps, by the troublesome process of what may be housed a law-suit? I am quite sware of the difficulties attending a court of advice, and the upreason-ableness to have expected it from the present Act, but I refer to it as one of the onne of the panase of the discentest which has been fit. By all partice engaged in building operations, We certainly did expect that "Referges," paid by a large, public, salary; should have the power of giving some sort of information as to what was or was not ilegal under the Act, without the expensive process of first excepting mortes, and then running the risk of an information. Under the old Building Act, the district supveyors, who were almost as uncontroll the present referees always were sendy to advine and inform, the parties as to the le-gality or illegality of any doubtfal part of a building, before it was commenced. Non. however, the district surveyors are cautions, however, the district surveyors are cautions in giving opinions, and in most osses seter to the disision of the Court, which L beform stated. can only be obtained by a suit as it werent law. La public, commissions, the poor law commission for instance, the spontacioners have accusionally issued instructions to the different; local beards informing, them of the

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REVISION OF THE MUTHOPOLITAY ETTE PARTE ACT.

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logal withority and bearing of their Actil We have sooked in voin for my thing of the sort here's if we examines the awards made by the Court we find but fow in which the principles off the Automotive the method on sooms off the Automotive terms the second soon appears, indied, sudjously worked to meet that partidefar case slowe, and catefully guarded against outer case along and carefully such as a gamards seen finined father with a new to prevent the hurden vie and inconvenience, which would arise of these cases from a strict observance of a doubtful encoment than to enumeratoprinciples, though the referees have never I believe shewn any unwillinguese to exercise their discre where an impractioable ouse has occurred. This however, duly tends to shew the futility of legislative enactments on misute building points, and the difficulties with which a profesal man under the present Act; which enters into so manay minating has to contend in ar-ranging bis plane and designs, and learning beforehand what's and what is not legal. It would not " think be difficult so to regulate the office as to evaluate this difficulty, but it would previously be accessary to clear the Act of imany of its entitinents.

-TOwe bfothe great difficulties in obtaining leg al wester and a second maich suisfaction that the building interest abserved in the Ad; the slauses by which all mutters relating thereto, should be determined by gentlemen not in the law, but educated in the strethitectural profession - I strongly believe that one of the main caused of the comparafively Hitle opposition made to the bill, arose from the feeling that this clause, which was a sovelty, and hid not been introduced into any of the other provious schemes, would effect-sally remove all difficulties in carrying out the Active to the set of the set of the set of the second sec relieved from all legal discussions and verbal hair splittings; by the business-like decisions of practical men, uncontrolled but by their own judgment of the facts. By the power given to the registrar, of refusing to all his seal to official documents, the whole control of the segulations of ubuildings in othe metro-polis, is virtually in his bands. . He is almost the sede "judge toff ull questions brought to the board accordingly. The second of the board according to the base of the the case may appear to the practical and well-wersed to great of the official referees, the registrar under the Act, is in duty bound w master all the techniculities of the case, and to require the increasing information relative thereto; to satisfy himself that the pro-visions of the Act are abided by before the referees can deciden & The Previtable result is Merefore, that a disputed point, upon however triding a matter, now presents all the "" vidence, letters, rejoinders, plans, &c., ac-ethnulate rapidly, and discrepancies on points of practice, which it was anticipated world mit been settled more quietly than under the old system, now require sheets of correspond-Darry had better at once take into donsiderawond the increased accommodation which the records of this Court will demand; that the Unportant decisions with the shop-fronts, "flues

Unportant decisions boil is http://finite, illines, chitmieys, &co; may be handed down to future flugtisities antignaries. In our court particle in the point, however, which I wish to notice in this,- architects, surveyors; and builders, are not tawyers, and though Vitterius orders they should acquire a quantum suff. of legal lore, to know when their buildings are according to Ww, I think he would have fretted and fumed mesonie of the legal building vexations of the present Act. A barrister, therefore, sitting ditthe head of a Court, becomes a formidable personage to a plaintiff or defendant, who has only bis 'own professional knowledge to act apone He could discuss the practical bearings of the case with the referees, but dreads the Wal points which may enexpectedly be raised. The consequence is, that cases have been bindected by bolleitors and even barristers, and hours consumed in arguing all the tegal quirks and subtleties looked upon as points of law, when the real gist of the case, if left to the referees, would have been seen and decided at

onde. That is would be letter had the Court more of a professional than a legal character.

Another grievance connested with this legal character of the Courf is the system which has been adopted of payment/ by fees. I am not about to characterize the charges as exorbi-tant or unjust) but chruinly as unprofessionat (architecturally speaking) and vexations. The interview phan; as separate charge for each letter, interview; plan; see, mevirably suggests the idea of making business, "I um aware that these fees puy the office expenses of clerks and establishment, but many of the charges are so unusual (for instance, the charge for reading lutters sent to the office, or for making an inquiry of a plerk), that it is much to be regretted that some other system had not been adopted. That it may not be thought I am exaggerating, and as it is to be hoped that these bills will be shortly only matter of history, perhaps you would like to preserve one as a relic in your journal. Your readers may smile at it, but the wry faces with which a circle of professional friends received it, would have been a study for Hogarth.

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| July 18 | 8. Mr. L. | . reques | ting th | e'opinio | n | | 1. |
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The above needs no comment.

Another consideration which affects the con-Another consideration which anects the con-stitution of the Court is the power which the registrar has, of allowing the duties of the office to be performed by only one of the re-ferees, under the 82nd section. The unex-pected wish of one of the referees to retire, and the delay which has compared in appointing bin the delay which has occurred in appointing his successor, have of course made it absolutely necessary hitherto, in many cases, that one re-feree only should act; and it is possible that on many occasions this must be the case; still; throughout all the portions of the Act, the official referees are spoken of conjointly. In all cases of disputes or appeals, both referees should hear thestatements, or if an option is to be given upon the subject, that option should be given to the parties litigant, and not to the registrar. It would be better, however, that there should be no option, as it might appear invidious to object. There are also many obvious reasons why these cases which are cases of appeal, should be discussed before both referees. the least, perhaps, is on account of the extra-ordinary judicial and executive powers which the board possesses under the Act at present, but which it is to be hoped will not be allowed to remain. The awards have all the power of an Order of Court of the Queen's Bench, there is, in fact, no appeal allowed to that Court, or any other Court, upon the subject, however aggrieved the party may conceive himself by the result of the award. By the production alorie of this award before a magistrate of the district, the justice is required to issue his warrant to levy the amount upon the goods and chattels; or if the party awarded against be a poor man, and his goods and chattels are not sufficient, he is ordered to imprison him till the amount is paid, or the Insolvent Debtor Court discharge him. All this too may be done even in the absence or non-attendance of the party accused. One is at a loss to understand how such arbitrary and really unconstitutional powers, could have been given by a legislature of the present day to a board, without at the same time providing some security and restriction.

'It has been stated, indeed, that there is no clause in the Act protecting the official refere from an action at law, for an injury which any person may think he incurs by the effect of an award. It would require more legal of an award. It would require more legal knowledge than T possess to reply to this, but it is 'evident the enacting 'blause give the re-ferces the preat power which I have alloded to both over persons and things." I doubt if there is any other Court furthe kingdom whose decrees are therefore so ancontrolled as this. If the Court is to us at Court of liw, let us at least have all the protections of appeal, &c., which the old customs of the kingdom throw around the suitors,

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("Isfout Intave trespussed toe much dir gout colomis, but the subject of the new 1884 daily increasing in interest to the public at large. in Edischain all interest of raining an calties of ones life. 41 ani; Sir; Bot; 1.2. A 36, Northumberland-Mreet; Newirout, 1993

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THE TERBA: COTTA CHURCH SAT. PLATT, NEAR, MANCHESTER, 91 & becom

NEAR, MANCHESTER. of a boscon some of the analysis of the second building material, has already appeared in the journal. T. Having, lately had on opportunity of examining, and hurch, nothing programs on which that material is employed, are appeared apparent. The church, nothing programs de apparent. The church of the second second was the architect of a shurch at Leven bridges near Bolton-le-Maars, previously noticed age built of terra-sour. The plus goopies of nerit ad alles, chancel, a carriety, south of the chancel and a tower at the south of the the aver, The style is deproved. The authi-to express an unfavourable opinion of its axed cution.—Each separate piece of the terranootin is cast to the required form, and is much should the same size as a corresponding block of stoke. Every piece is hollow, being sait appeared, siten wards tilled or backed up with constraint. They are all nothing more than, path, and from the trial we made, seem to have less cohesive power than brick. Nevertheless, the same of support support great weights. They are said, spear, ref markably slender, are entirely compared of these pots. The plan is the cluster of four shafts. There are the neual defects insidential the burning; parts of the multions are out of the burning; parts of the multions are out of the perpendicular, and the lines of the yield of the support great weights is the state of four shafts. There are the neual defects insidential to the burning; parts of the multions are out of the perpendicular, and the lines of the state of the priors of the states in a very upsatisfactory mathematication of the states of the set of the perpendicular of the states of the perpendicular of the perpendicular of the parts of the perpendicular of the perpend the perpendicular, and the lines of the subject of

and the mortar joints are large, and optimar ing. In any building, however, excellent, anne, of its qualities may be, it is, not sufficient, that it have good outline, well-conceived details, and, as in this case, richness of colour., Alalem every closer inspection, brings, forth, fresh objects to admire, unless the skilful hand is aparent, the result is, disappointment, rath, than delight, and regret that the mind birg. artist should have, conceived in wave, een an child is able to detect the filterence, briously of wavy and a straight line, where itous is a straight line, where the straight line is where it is a straight line is a straight line is and wavy and a straight line is where itous is a straight line is a straight line is where itous is a straight line is a straight line is where itous is a straight line is a straight line is where itous is a straight line is a straight line is where itous is a straight line is a child is able to detect the difference, building in wavy and a straight line; where there are building to the intention to have the latter, is possible to make it, and for this mashinged or corroled a The stone arris, may big delively broken, it., by the weather, builting even and property whether is still continued it is a this church the failure. it was intended in a universe to provide the second ornamep'

* Vide ante, pp. 393 and 314, initized by Digitized by

attempt. The more elaborate structure may please the traveller, from his post-chaise, but will not satisfy those, whose praise the architect is most desirous of receiving, that of his brother artists, of men of education and refinement of teste.

THE IMPROVEMENT OF FULHAM AND PUTNEY.

SIR,-The simple act of casting a stone into a pool, and watching the circling eddies and agitation its fall has caused in the otherand agreenon to this as caused in the other-wise stagnant water, is an universal and fa-vourite amusement of children, and is also contemplated by the philosopher with consi-derable attention; but the moral affect pro-duced by a well-directed blow at the supinebodies, is watched with much greater interest by hystanders, and its influence ranges far beyond the locality where the blow is first giv en.

I am induced to make these remarks from observing in THE BUILDER of Nov. 22nd, a letter from "Observator," on the improvement of Fulham, which, it appears, had been written on his observing in The Times newspaper, an account of improvements that have in commenced in the parish of Chelses, and

been commenced in the parish of Chelses, and are affecting parts far beyond that locality. I perfectly agree with "Observator," that "Fulkam nuch needs improvement:" from my residing at Putney I am obliged to pass daily through Fulkam on my way to town, and am forced to notice the crooked, "narrow, and am forced to notice the crooked, "narrow, and dangerous lanes (they cannot be called roads) leading from Putney bridge to the other side of the town of Fulham. The authorities at Fulkam have only one excuse to offer for their supineness, viz., "Habit is every thing," and they have been so long ac-customed to twist and turn the tortuous windings of the present approach to the river, that they cannot now see any absurdity in it; but how the proprietors of Putney bridge can be so short-sighted and blind to their interests, as not to perceive the importance and advantages to them of a straight and easy access to their bridge, I cannot conceive. Nothing would rove the town of Fulham so much as a imp straight, wide, and easy access to the river; the town would become healthier and cleaner, property more valuable, and more on a par with the improving localities of Chelsea and pr with the improving localities of Chelsea and Brompton. I hope, therefore, its inhabitants and the proprietors of Putney bridge, will take a hint from what has been done at Chelsea, immediately bestir themselves, and pull toge-ther to obtain a local Act for improvement, which ill more than the dot the improvement be, which will eventually tend to their mutual be nefit. A fam, Sir, Stor, H. Putney, Nov. 24th, 1845.

STIR IN THE WESTMINSTER COURT OF

SEWERS.

On Friday, the 21st inst., a very numerous assemblage of the commissioners took place. In the absence of Mr. Edward Willoughby the chair was occupied by Captaiu Bague. The belance at the bankers was declared to be 17.0624. 7s. 9d. After much routine business had been transacted, and an application from Mr. Peanethorne, calling upon the Court to carry out an implied understanding as to the St. Giles's improvements, granted, the impor-tant business of the day commenced,--to consider and sanction the resolutions passed at the Court on the 14th instant. (See page 561 ante.)

Mr. Doull, the assistant-surveyor, the geneman most seriously affected by the pro-dings of the Court on the 14th inst., had . had reased a letter to the Court, which was that it the clerk, 31 commissioners voting It set uld be read, and 6 against it.

appointed a that, about ten years ago, he was ceased to rech surveyor, Mr. Dowley having re-entered the that office; that Mr. Dowley and that afterwailce as assistant-surveyor, reversed by the Courtheir appointments were harassed by motions for hat after this, he was solved to tender his red dismissal, and re-this," said the writer, "I was at afrequently of the this is a statement of the solution." urged not to think for a moment st strenuously and I received, particularly from the late ehsirman, Mr. T. L. Donaldson, a most high-sounding declarations of friendship and

professional brotherhood and seteem : and was most positively assured by Mr. Allason in re-iterated terms, that the committee were bound to support me, to make a most favourable report of my services, and most honourable mention of me, and that I ought by no means to think of resigning.

The letter terminated with the following: "After having given up a beneficial and in-creasing practice and connection, not possible now to be regained, in which I had acquired, I presume I may say deservedly so, an unsullied reputation, both professional and private; and having spent the last and best ten years of the prime of my life in your service, in which, I can truly say, I have constantly used the most vigorous and unremitting exertions, in the faithful discharge of all the duties entrusted to me, it is now proposed to turn me adrift on the world, with an implied stigma on my character, and thereby perhaps cause me to be a ruined man, although not one single charge of misconduct or impropriety in any shape can be established, or has ever been attempted to be made against me."

Mr. T. L. Donaldson wished Mr. Doull might be called into court : when he arrived,

Mr. Donaldson stated, that he had taken the liberty of suggesting that Mr. Doull should be present to hear what observations he had to make upon his letter, which contained serious accusations against him; and as the character of a public man was public property, he trusted the Court would pardon him for making a few observations on that letter. He took particular objection to the words "high-sounding declarations of friendship and professional brother-hood and esteem." He had every reason to hood and esteem." He had every reason to respect the personal character of Mr. Doull: he was a man of the highest integrity, and of the most amiable manners; he and Mr. Doull and ocen for several years connected as officers of the Court, but in private matters never; and he thought it was injudicious in Mr. Doull to use the words "high-sounding declarations of friendship and estcem." More than the opinion that he entertained, as chairman of the Court, for the officers of the Court he never had been for several years connected as officers Court, for the officers of the Court, he never professed. The officers had been in the habit of coming to his house to ask his opinion, and he considered that these meetings were private and confidential communications; not that he cared personally that they were to come before the world. At the period alluded to, Mr. Doull did come to him, and said the motion was of such a nature as to induce him to resign the appointment rather than be exposed to any further molestations. He (Mr. Donaldson) said that he naturally felt for him as an officer of the Court, for the position in which he was placed, and expressed an interest for him as a professional brother. Mr. Doull then replied that he had made up his mind, and would send in his resignation; to which he (Mr. Donald-son) urged, that that would be a recognition of the charge against him; for he did not know what might be the result of the inquiry, or what modification might be made in the appoint-ment. Mr. Doull did not resign; the arguments he (Mr. Donaldson) had used to him had prevailed. But when he (Mr. Donaldson) knew the result of the investigation, he then told Mr. Doull that he thought he ought to resign. So that Mr. Doull was incorrect in saying that he had, in every case, been most strongly urged by him not to resign.

Mr. Allason, sceing that he also was impli-cated by Mr. Doull in his letter, said, that when Mr. Doull came to his house after the first meeting of the committee, it was impossible for him, Mr. A., to have used the words attributed to him. He was quite sure that it was the disposition of every member of the committee to do ample justice to him as a man, but although he was not present at the meeting, he fully concurred in their report; that as an assistant-surveyor, he, Mr. Doull, was incompetent, and that the committee was not to be found fault with for having so determined. He, Mr. Allason, was certain, that no individual could be found more fitting for the duties Mr. Doull had since that period been called upon to perform, but the resolutions of the Court, passed at the instance of Mr. Leslic, were evidently the cause of Mr. Doull's dismissal, and could not be imputed to him or any other member of that committee. Mr. Leslie thought that in the attempt at

exculpating himself and the committee from the charges Mr. Doull had brought against

that body, Mr. Allason had no right to inculpate him, who was taking no part in the extraordinary proceedings going on. The reso-lutions he had carried in that Court were for the benefit and security of the public, but not at the expense of Mr. Doull or any other

officer. Mr. Doull being asked if he had any remarks to make, said he had very few words to offer to make, said he had very few words to offer So far from there being any breach of con-fidence in the statements he had made, he felt justified in the course he had pursued. He saw little or nothing contradicted of those statements, and so far from the conversations statements, and so far from the conversations being of a private or confidential nature, he felt that they had taken place under circum-stances which left him at full liberty to make stances which left him at him howing to make any use he pleased of them. He wished to al-lude to a conversation with the present chair-man, Mr. Edward Willoughby, but the Court thought as Mr. Willoughby was not present, Mr. Doull could not do so. Mr. Doull them said he could only repeat his statements, and he challenged contradiction of a single word; he considered that not one fact in his letter had been contradicted, nor could he. It had been a matter of regret that he had been compelled to name the two gentlemen who had spoken, and many, no doubt, would consider it an act of temerity on his part; but the time had arrived when it will not do to mince matters.

On Mr. Le Breton, proceeding to move that the orders of Court be sanstioned, Mr. Hertslet being called upon, stated, that he never knew an order of Court to be sanctioned, and in reply to Mr. Donaldson, he said he could find no precedent. Mr. Leslie objected to an order of a Court of Resord requiring a sanction, except in those cases where necessary for the public security as concerning outlays of the public security as concerning outlays of the public money; but in those eases, there was a previous order of Court, compelling that safe-guard to the public; but in this instance the order of Court for sanctioning came. subse-quently to the orders having been recorded. Mr. T. L. Donaldson thought that Mr. Leslie was out of Court, he had not interferred in the discussion. The fact was a street of

in the discussion. The fact was, a string of resolutions were concatenated together i n a resolutions were concatenated together in a hurried manner, and there was no idea that the votes of the previous Court were to be con-sidered as a definite conclusion. He had no idea when he came to the previous Court, that he should have been called upon to take the part he did, and therefore he thought that appending those resolutions to the business paper of the present was a proper and wholesome regulation.

Mr. Fuller said that these proceedings were the first public acknowledgment that Mr. Leslie's statements in his pamphlet were accurate. The resolution of the last Court, now to be sanctioned, stated that the surveyors department was inefficient. Mr. Leslie, had declared over and over again in this Court that it was inefficient; inefficient in the dig-ging, by means of which a much larger quantity of digging was paid for to the con-tractors than they had executed, and that warrants of distress had been signed in this Court to sell the beds from inder the poor rate-payers to pay for this inefficiency. What would the Secretary of State say, when having sent for the answers to the allegations brought against this commission, he heard that they had dismissed their surveyors for inefficiency immediately after the promised answer was drawn up. Then, again, at the very moment drawn up. Then, again, at the very moment when the Court was to appear in a trial at law, to determine whether the contractor or his sureties, or the rate-payers of the division, were to pay for the failure of the sewer in the Gloucester-road, Paddington, that moment was selected to break up and discharge the surveyors, and a resolution come to (in order to get rid of Mr. Phillips), that there should be no assistant-surveyors at all.

Mr. Hawkes stated, that as he was absent from the preceding Court, the resolutions had come upon him with surprise. He should be glad to be informed what were the grounds upon which the Court determined the inethciency of their surveyors. He would grant, that if Mr. Dowley could not deny the truth of Mr. Phillips's entry in the Book of Informations, as to the abaminably filthy condition of the sewers, there were good grounds for de-claring the surveyors' department was ineffiHE-BULLDER.



cient; but Mr. Leslie's pamphlet had nothing to do with the matter. As to the public think-"ing they had been robbed in the manner of "faking the account of the digging, why the "professional members of the Coart thought it "was the very best bargain that could be made "for the public." Mr. Phillips's entry in the Book of Informations of the 3rd of October, declaring vast numbers of the sewers to be working better than elongated cesspools, was vien read, and Mr. Hawkes called upon the Court to require Mr. Dowley to say whether the statement was true or not.

Capt. Bagne agreed with Mr. Hawkes as to Mr. Dowley being called into Court to clear op the matter.

Mr. Donaldson objected. He thought it had nothing to do with the business before the Court. They were deficient of one sur-veyor by the resignation of Mr. Hawkins; Court. Mr. Dowley was absent for many months in the year on account of illness; reports for several months had been delayed, and on these simple grounds he contended the surveyors' department was inefficient. Mr. Bouverie said, he thought the Court

Was pursuing a very unaccountable course. "AFA Le Breton, the mover, gave them no "statements as to acts of inefficiency in any charge that could be met. The late chairman, Mr. Donaldson, did not throw any light upon "The subject, he merely informed them that "My. Dowley had frequent attacks of gout, and was behind in his reports, and on these grounds "the Court was called upon to sanction an order

²¹ Which had the effect of breaking up the whole ¹⁹ Of the surveyors department. Ne considered ⁰⁰ the Court was placing itself in a very awkward

¹² position before the public. ¹² Mr. Le Breton, as the mover of the resolu-tion, wished to say a few words in explanation of not giving the reasons why they had arrived at the conclusion now cavilled at. At the former Court the late chairman, Mr. Donaldson, and his successor, Mr. Willoughby, had both declared the surveyors' department was finefficient, and it was carried nem. con. Now when the subject was to-day brought forward for confirmation, a mero matter of form, they heaitated, although they knew perfectly well the surveyors were inefficient. Since he had had sourveyors were inefficient. Since he had had the honour to be appointed a commissioner of sewers, he had discharged his duty. He thought it was useless to go back to inquire what had been done by their predecessors in that Court, in the year 1829; no good could arise from that inquiry, and he assured the Court that as long as he (Mr. Le Breton) be-longed to their body, he would support that body (hear, hear,) and when he intended to make an attack upon them, he would go out from among them.

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Mr. Leslie wished to ask Mr. Le Breton, as he had introduced the subject of his recent appointment by the Lord Chancellor as a commissioner of sewers, whether there was any truth in the report that he (Mr. Le Breton) had, as clerk to the Board of Guardians of St. Martin's parish, been sent by the parochial authorities with a list of twelve names, to the Lord Chancellor, for insertion in the commission; that ultimately not one of the twelve was inserted, but that his, Mr. Le Breton's, name was inserted by the commission.

Mr. Le Breton said it was not true.

Mr. Hawkes said it was not far from the truth.

The question as to the inefficiency of the surveyors' department was then sanctioned by thirteen votes : no one of the great number of commissioners present voted against the motion.

Mr. Le Breton and Mr. Donaldson moved. "That the Court do now sanction and conform the order of Court of the 14th inst.; that a new chief surveyor be appointed, but that Mr. Dowley should be retained as consulting surveyor, at a salary of 200%. per annum."

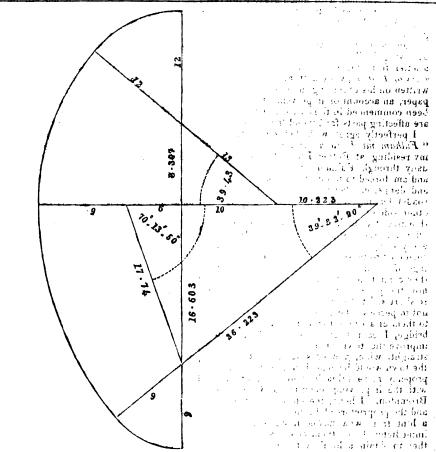
Mr. Harrison supported the motion. He assured the Court that the matter had nothing to do with Mr. Leslie's pamphlet, but arose entirely from the resignation of Mr. Hawkins. Carried by 14 to 1. Mr. Le Breton then moved "That from and

21. . jt after Lady-day, the services of the present assistant-surveyor, Mr. Doull, be dispensed with, and the office abolished." Mr. Le Breton de-clared it did not urise from any thing personal τa. - 12 to Mr. Doull, but it was a consequence of the recent alterations in the arrangements made by the Court. Mr. L. E. Wood seconded the motion, which was carried by 7 votes to 5. great many commissioners present did not vote.

Mr. Le Breton then moved and Mr. Allason seconded, "That the Court do now sanction and confirm the order of Court of the 14th inst., viz., that there be no other than the consulting surveyor, in addition to the chief surveyor, hereafter to be appointed." Carried

by 11 votes. Mr. Le Breton gave the following notices of motion for the next Court, Friday, the 28th November, "That Mr. Dowley's present salary be continued till Lady-day;" "That the salary of the chief surveyor, to be appointed in pur-suance of the order of Court of the 14th day of November, and confirmed this day, be 600% per annum; and that measures be taken to invite candidates to apply for the office."

SIR, Will you allow me to offer you a correc-tion of the figure given on page 503, as to the ont-line of the section of a culvert or sewer. The object is to construct a figure of two semi-pyhls upon the same conjugate dismeter, the length of the whole figure 46 inches, and its greatest breadth 30 inches, the radius of the curve at one extremity of the transverse diameter being 12 inches, of that at the other extremity 9 inches. For the upper half of the figure a second radius is taken, 13 inches, which gives a figure very closely resembling a semi-ellipse, the semi-transverse dismatter of which I find by calculation to be 20-307 inches. Subtracting this result from the whole length of the figure, 46 inches, there remain 25.693 inches, for the semi-transverse dismeter of the lower half of the figure : in which figure we have thus given



the two diameters and one radius. The other radius is therefore determinable, and 1 find it to be by calculation 35.223 inches, instead of 38 inches, as given in your correspondent's diagram. Five dimensions are all that are necessary to construct the figure, instead of six, as there given. I subjoin the construction with the dimensions attached. I confess I am not aware of the rule by which an oval may be constructed so as to approximate most nearly to an ellipse upon the same axis, and I should be grateful for information on that point: I am, Sir, &c. Q.

Islington, October 30.

- In the latter part of "E. E. E.'s" letter in THE BUILDER of the 15th inst., he says, "Probably Mr. Roe, if applied to, would state whether it was his invention (the eggshaped drain), or whether he received the idea

from any other person." For the information of "E. E. E." I beg to say, that a drain is now in existence through the principal street of Bridgwater (draining one of the greatest nuisances, as it once existed, into the river Perrot) of the egg shape; if it was built by Mr. Hutchins, a mason (who is now living), upwards of twenty years since; is one of the most perfect construction, and does its office with but a trifling fall, to the immense advantage and comfort of the above town - I am Sir. &c. J. G. town.-1 am, Sir, &c., J. G. Cannington, near Bridgwater, Nov. 20th.

THE GUAGE COMMISSION .- Mr. Hudson was examined last Saturday before this Commission. He is decidedly in favour of the narrow guage, on the pleas of safety, speed, economy, and convenience for traffic. GREAVES'S BLUE LEAS LIME 1974 P. O. . Sol. 1

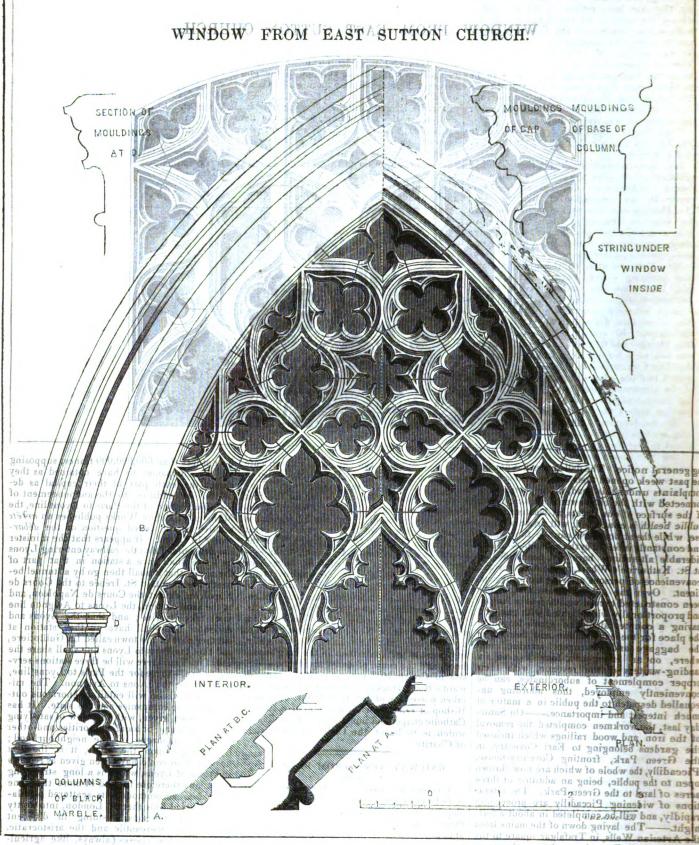
IN connection with the subject of concrete recently mooted in our pages, and the use of strong hydraulic ground lime, a correspondent has reminded us of the above material, and

has reminded us of the tove material, and having used much of it, we gladly take the opportunity to mention it, all to appld allocation It is generally admitted that blue it is lime makes the best hydraulic mortar that can be obtained, and decidedly the best converted. It is always stipulated for in the Holhorn sewert, and has been lately used as a concrete bed for a meanwhat Karing the best of the desired for the reservoir at Kensing ton for the Grand Junction Water Works, with success. We have several times used the blue lias cement also, and have found it a good material; it is self-coleared.

STANDARD HUNDRED OF DEALS. A tim-ber merchant writes, in answer to a corre-spondent last week, as follows: Y in name 120 12 feet deals as a standard hundred. The standard hundred as usually accepted, means the Petersburg standard dz., 120-12 feet 14 inch, by 11 inches. There is no standard trade hundred, except 120 of any lengths wanted; but you definition would well answer what in comron parlance would be called a trade hundred. I presume your correspondent has bought deals by standard tundred, and has received at the rate of 120 12 feet 14 inch by 11, expecting to receive at the rate of 120 12 New COAL EXCHANCE. Application will be made next session for an Act to rebuild on

NEW COAL EXCHANGE Application will be made next session for an Act to rebuild on an enlarged scale, the present Coal Exchange in Thames-street, and to improve the avenues leading thereto. -

THEIBUILDER.



EAST SUTTON CHURCH.

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In continuation of our notice last week,* the windows at large are now given, with sections of the moddings.

The side jambs of the great window in the inside have coursents, the shafts of which are of the Kentish Bathersden marble; they are finished as shewn on the plan at A, the space between them being filled up with rubble walling: all the details are shewn on the print to a scale (three times larger ban that of the elevation of Deboard of the state of the

The windows were, in ancient times, filled with painted glass; from the small portion which remains, the glass was of the same date as the window, and of a very superior character: it did not escape destruction during the troubles in the reigns of Charles 1st and 2nd; at that time the manor belonged to the celebrated Sir Robert Filmer, author of the well known work "Patriarcha; or, a Defence of the Natural

* See page 562 ante.

Power of Kings against the unnatural Liberty of the People."—Sir Robert, as may be supposed, was a special mark for the visits of the roundheads and republicans; his house was several times plundered, and the church adjoining suffered severely from the same visits. Among the papers of Sir Robert (which are all carefully preserved at East Sutton), is one which gives the date of the destruction of the stained glass in the church. Through the kindness of Sir Edmund Filmer, the following account is extracted from a manuscript, supposed to be in the handwriting of Anne, daughter of Martin Hecton, Bishop of Ely, and wife of Sir Robert Filmer :—" July the 27th, 1643. Cornet May came to search East Sutton belfry for arms; there be tore the surplice with his own hands, took away a bible, a service book, and a book of homilies out of the church, and broke the glass window; then went into Sir Robert Filmer's house, where he would not suffer the servants to be in the rooms where he searched, so that the soldiers took divers things,

what they pleased; and had the line of every what they pleased; bad had the line of every servant in the house exceptione. It is a function the windows are at present in every bad repair; they are very much broken, and the tracery is nearly filled with white water percolates

Since the spring some program is been used in the works ROGROJ VI SITOR

The association for the promotion of impi proved paving, cleansing, and drainage in towns, have obtained permission from the City Authorities to demonstrate, at their own expense, for a period of two months, to what state of perfection the streets may be kept clean by manual labour; the same authorities have granted a similar permission to the company for cleansing the streets by machinerys Operations are to commence on the detoof December. The maisance to which we have so frequently drawn attention, vizion to possible ous effluxia allowed to escape through othe gully-holes in our streets is at length attract-Digitized by

THE BUILDER.

WINDOW FROM LEAST SUTTON CHURCH

ing general notice. The daily press has during the past week opened their columns to several complaints under this head, more particularly connected with the city sewer. The cleansing of the surface of our streets, at least so far as public health is concerned, will prove of small use, while the atmosphere can be thoroughly and constantly infected by the subsoil.—Con-siderable alterations have just been effected at St. Katherine's Wharf, principally for the convenience of persons arriving from the con-tinent. Over the old warehouse a room has been constructed exceeding 100 feet in length, and proportionally wide, lighted with gas, and having a counter along the entire length of the place for the examination and delivery of the baggage and passengers arriving, and where, on an emergency, four or even six landing-waiters of the revenue, with their proper complement of subordinates, can be conveniently employed, thus affording un-equalled despatch to the public in a matter of much interest and importance.—On Satur-day last the workmen completed the removal much interest and importance .--On Saturday last, the workmen completed the removal of the iron and wood railings which inclosed the gardens belonging to Earl Coventry, in the Green Park, fronting Coventry-house, Piccadilly, the whole of which are now thrown open to the public, being an addition of three acres of land to the Green Park. The alterations of widening Piccadilly are proceeding rapidly, and will be completed in about a fort-night.—The laying down of the mains from the Artesian Wells, in Trafalgar-square to the Bird cage-walk Barracks, and from thence to Buckingham Palace, is deferred until after March. It is a curious circumstance, that since the first use of the wells the water has risen to an additional height of 21 feet, supposed to be owing to the expansion of the pores in the strata through which the water percolates. Since the spring some progress has been made in the works connected with the Victoria Park. The whole of the wooden park paling and iron railing have been placed up, an entrance lodge on the banks of the Regent's canal in Bishop Bonner's fields has been erected, and the bridge which is to lead from the principal approaches into the park is nearly completed. On the extensive site of Bishop Bonner's fields three leading main roads of wide dimensions are laid out, connecting with the Hack-ney, "Bethnal-green," and Cambridge, roads, and on the rempty spots are to be receted a series of wills on muniform plan, subject he approbation of the Commissioners of with a strate show the strate of the show with a stract-

laid on throughout the numerons and intricate passages of the Custom House, and also in some of the offices on the ground floor. They were all lighted a few days since for the first time in consequence of the dense fog and dark-ness which prevailed, and the improvement over the old system of lighting gave very great satisfaction both to the officials and to the parties having business to transact therein. Great surprise and dissatisfaction have been felt at the omission of further improvements at the foot of Holborn Hill in the notices of the City Authorities for an intended applica-tion to Parliament for widening certain streets. The block of projecting houses leading from the west corner of New Farringdon Street to the entrance of Field Lane, is unsightly, injurious to the tradesmen in the neighbourinjurious to the tradesmen in the neighbour hood, and the cause of daily accidents.—A site of Copyhold Lane, adjoining King Ed-ward's Road, Hackney, has been purchased and taken possession of by Dr. Griffiths, the titular Bishop of Olena, for the erection of a Roman Catholic chapel and numery, the discipline of which is to be of the Order of the Sisters of Charity.

RAILWAY NEWS FROM FRANCE.

THE last few weeks have been very prolific The last few weeks have been very proline in railway events. Scarcely have four weeks elapsed since the adjudication of the Paris to Strasbourg and Tours to Nantes lines was announced, and already has another minis-terial notification been published, that the Paris to Lyons and Creil to St. Quentin rail-ways will be conceded on the 20th of the next month. The 5th of December is the last ways will be conceded on the 20th of the next month. The 5th of December is the last day allowed to companies for giving notice of their intentions to offer for the lease, to de-posit lists of their subscribers, copies of their by-laws, &c. At a subsequent period, the com-panies will have to deposit by way of caution money 16,000,000 francs (640,0007.) for the Paris to Lyons line, and 3,000,000 francs (120,0007.) for the Creil to St. Quentin. The announcement of the adjudication of

The announcement of the adjudication of these two important lines has caused general satisfaction in this city. It puts an end to the idle assertions, that the minister intended not to execute the existing law, but to demand its repeal, in order, to concede the railways to companies of his own choice; and it lessens the alarm which is universally felt at the abstraction from, mercantile purposes, of the im-mense amount of capital, in the hands of the companies, an amount which is calculated to

at the soldiers took divers things

another part of the town called La Guillotiere, and that the Paris to Lyons line shall share the use of it. Thus there will be three stations serv-ing as five, three for the Paris to Lyons line, and two for the Lyons to Avignon. The mi-nisterial decision will enter an enormous out-lay upon the companies and the state. It has clearly been given, with the view of satisfying the pretensions of local authorities and other eminent personages of the neighbourhood; but perhaps upon the whole, it is the best decision that could have been given as regards the town of Lyons, which is a long straggling place, and therefore in need of more than one station to accommodate its scattered popula-tion, divided like that of London, into pretty nearly two portions, residing in different quarters, the mercantile and the aristocratic. The mercantile classes (always, like agricul-The mercantile classes (always, like agriculturalists, a discontented set), are not altogether satisfied. The railway serves, it is true, three different parts of the town, but it does so in making a large circley which of course, will make the carriage of goods dearer. What make the carriage of goods dealer. Whato the trading, money-making speople wanted, was to have the station in the very middle of them, leaving the faraway of West Enders as the cockney would say, and the faraway "Miled Enders," if so I may express myself of Lyons to shift for themselves? On elisted of the spri-Wild and the faraway "Miled

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With respect to the line from Greil to St. Quentin, which is to be conceded to a company on the same day as the Paris to Lyons, the Minister of Public Works has also given a decision as to the direction to be taken which has been expected for a long time with great impatience. He has decided that the line shall go by the town of Channy, and not by that of Ham or Lasfere, both of which being fortified places, were strongly recommended in a mili-tary point of view, arising from the defence of

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Paris and the neighbouring country in case of invasion.

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The number of companies formed for these two lines, of Paris to Lyons and Creil to St. Quentin, is so long, as to be really surprising. I subjoin here the list of those companies, as a sort of curiosity in its way. For the Paris to Lyons line: Ch. Laffitte

and Co., L'Union, Callon, jeune ; Ganneron, Lapinsonniére, Sad-Est, Decan, Messageries Royales, Ardoin-Verdeau, Chastellus, De Roulage, Maîtres de Poste, Receveurs-Généraux, Française, Des Ingénieurs, Indépendante, Des

Electeurs, Des Riverains, Du Commerce. For the Creil to St. Quentin: Cordier, Carette and Minguet, Colbert, Compagnie du Nord, Admiral Arnous, Jucherau de St. Denis, Maîtres de Poste, Compagnie de Jonction, Compagnie de l'Oise. If all these companies remain independent, the maximum of the leases of the two railways, which is fixed at forty-five years for the Paris to Lyons, and seventy-five for Creil to St. Quentin, will be very consider-ably reduced by their competition. But it is certain, that before the day of adjudication, "fusions," as they are designated, will be effected, and the nineteen companies for Lyons will be amalgamated into one, or perhaps two or three companies; whilst the companies for "Crell to St. Quentin will become one, or at the ivery outside two.

Such has been the case with the Tours to Nantes, and Paris to Strasbourg companies. Those lines have to be conceded the 25th No-"wamber ; Saturday sen'night the companies destrous to obtain the lease of them, had to make themselves known to the Ministry of Public Works. Before that day, Tours to Nantes had ninecompanies, and Paris to Strasbourg eleven. Late on Friday, these companies became re-duced to two for each line. A "fusion" annihilated the separate existence of the Nantes companies of Mackenzie, Carette-Minguet, O'Neill, Drouillard, De Raigecourt, Lefévre, Delamarre, and the Basse Loire, leaving only the Post Horse Masters' Company independent.

A similar "fusion" of the Strasbourg compa-A similar "rusion of the Strasbourg compar-nes took in the separate companies of Hin-gerlot, Ganneron, Gantil et Fol, Rothschild and the Messageries, Bechet, Odiot, Arnons de Hetl, Doudeauville, and Laforce, leaving only the company of General d'Anthouard. "These fusions have not been managed as they should have been. By leaving out a company for each line, the great amalgamated companies are threatened with opposition, which perhaps may become sufficiently formidable to carry away the prize. The most opposite statements are made as to the terms on which "fusions" have been effected. The truth is, that no one except two or three of the principal directors themselves know any thing very posi*tively* about it. However, I have good authority for saying that the Strasbourg "fusion" gave more than half the shares to the companies Gentil Fol, Gameron, and Hinguerlot, and that the other companies share the other half in various proportions. On the Nantes "fusion" the companies of O'Neill, Drouillard, Raigecourt and Lefevre, have one-half of the shares, the Mackenzie and Carette companies have nearly two-thirds of the remaining half, and the other companies the other third.

Paris, Nov. 1845

INSTITUTION OF BUILDERS' FOREMEN. One of the great objects of this association is to obtain an asylum for decayed members, their widows and orphans (a most praiseworthy desire), and we sincerely hope that the master builders may be led to aid them in realizing it. Alone, they are not likely to effect the object in view for a long time to come, but with a little assistance and advice it might soon be accomplished. More good is done by leading men to provide for themselves, thereby inducing habits of prudence and forethought, than by doing all for them at the last moment.

BATHS AND WASH-HOUSES FOR THE LA-BOURING CLASSES. We observe there is to be a public dinner at the London Tavern, on Tuesday, Dec. 16th, to celebrate the laying of the foundation-stone of the first model establishment: the Lord Mayor will be in the chair. The proceeds will of course be applied to increase the funds for the building, and we hope in so good a cause the attendance will be numerous.

THEBUILDER

ROUND TOWERS OF IRELAND.

An investigation into the origin of these mysterious remains of a far-distant age has been going on for some years past among Irish antiquaries, and many are the theories which have been promulgated with the view of elucidating their date and meaning. Our own columne have on more than one occasion contained the speculations of intelligent corre-spondents, whose personal research, both into buildings and into documents, and whose appeals to facts and actual admeasurements, bore testimony to their zeal and industry.

Mr. Petrie, an Irish antiquary of good standing and repute, and who has devoted much of his time for years past to subjects kindred to the one in question, has lately published an ela-borate and learned memoir on the origin and use of these structures. Our limits prevent us from even giving a summary, of the data on which he founds his deductions, so numerous are they, and so interwoven with each other: we therefore content ourselves with giving simply the results of his investigations, and those too in his own words.

"The towers have been all subjected to a careful examination, and their peculiarities accurately noticed; while our ancient records, and every other probable source of information, have been searched for such facts or notices as might contribute to throw light upon their history. I have even gone further: I have examined, for the purpose of comparison with the towers, not only all the vestiges of early Christian architecture remaining in Ireland, but also those of monuments of known or probable pagan origin. The results, I trust, will be found satisfactory, and will suffice to establish, beyond all reasonable doubt, the following conclusions:---

That the towers are of Christian and ecclesiastical origin, and were erected at va-rious periods between the fifth and thirteenth centuries. 2. That they were designed to answer, at least, a twofold use, namely, to serve as belfries, and as keeps, or places of strength, in which the sacred utensils, books, relics, and other valuables were deposited, and into which the ecclesiastics, to whom they belonged, could retire for security in cases of sudden predatory attack. 3. That they were probably also used, when occasion required, as beacons and watch-towers.

These conclusions, which have been already advocated *separately* by many distinguished antiquaries—among whom are Molyneux, Led-wich, Pinkerton Sir Walter Scott, Montmorenci, Brewer, and Otway-will be proved by the following evidences :-

For the first conclusion, namely, that the towers are of Christian origin: - 1. The towers are never found unconnected with ancient ecclesiastical foundations. 2. Their architectural styles exhibit no features or peculiarities not equally found in the original churches with which they are locally con-nected, when such remain. 3. On several of them Christian emblems are observable, and others display in the details a style of architecture universally acknowledged to be of Christian origin. 4. They possess, invariably, architec-tural features not found in any buildings in Ireland ascertained to be of pagan times.

For the second conclusion, namely, that they were intended to serve the double purpose of belfries and keeps, or castles, for the uses already specified :--1. Their architectural construction, as will appear, eminently favours this conclusion. 2. A variety of passages, extracted from our annals and other authentic documents, will prove that they were constantly applied to both these purposes.

For the third conclusion, namely, that they may have also been occasionally used as beacons and watch-towers :-- 1. There are some historical evidences which render such an hypothesis extremely probable. 2. The ne-cessity which must have existed in early Christian times for such beacons and watchtowers, and the perfect fitness of the round towers to answer such purposes, will strongly support this conclusion.

These conclusions-or, at least, such of them as presume the towers to have had a Christian origin, and to have served the purpose of a belfry—will be further corroborated by the uniform and concurrent tradition of the country, and, above all, by authentic evidences, which shall be adduced relative to the erection of several of the towers, with the names and eras of their founders."-pp: 4-6. We would refer those who desire further in-

formation on this very interesting subject, and a knowledge of the data, which ied Mr. Petrie to the above conclusions, to the work itself. Incidentally, it contains much valuable information on the antiquity, and general charac-teristics, of Irish ecclesiastical remains (profusely illustrated); and to this we shall hereafter refer.

AWARDS OF OFFICIAL REFEREES.

TANNERS AND LBATHER-DRESSERS' DEVING SHEDS.

Mr. J. G. HEPBURN addressed the referees in October last, on the part of persons carrying on business as tanners and curriers in Bermondsey, who, in erecting buildings for the purposes of their trade, had received notice that such buildings being of timber, &c., were not comformable to the Act. He submitted "that Buildings used by them for workshops or drying places, are included in Schodule B part 1 of 7 & 8 Vict. c. 84, under the words 'all other buildings exempted by any Act of Parlia-ment from the operation of the Act passed in the 14th year of his late Majesty King George the Third, and by this Act repealed, and that and that therefore they are by Section 5 exempted from the provisions of Schedule D, the grounds for this opinion are that by the 14 Geo. III. c. 73, such workshops or drying places were con-stituted into a class called the 7th class, and were by the same Act (Sections 20 and 21) virtually exempted from the operation of the Act, by being expressly allowed to be built of any dimensions and of any materials, whereas all the other six classes of buildings referred to in the Act, were expressly restricted and limited as to their dimensions and as to the materials of which the buildings were to be composed. It is true that buildings of the 7th class were prohibited from being covered with pitch or tar, but it is submitted that not withstanding this, they are fairly and properly considered as forming an exemption from the operation of the Act, the design and object of which was to provide for the dimension of buildings, and the materials of which they should be built.

The construction contended for, being assumed as correct, the workshops and drying places of tanners, carriers, and leather-dree will come under the provisions of Section 10 of 7 & 8 Vict., c. 84, and will be subject to survey by the official reference, independently of the restrictions imposed by Sohedule D as to walls, and the question will then be whether the intended building can be erected " with due regard to the security of the public."

It was stated, that if the referees decided that these workshops were included within Schedule D, the consequence to these trades would be so great as to compel them, for the necessary purposes of their manufacture, to locate themselves beyond the limits of the Metropolitan Building Act, although the prin-cipal manufacture of the kingdom in these branches is now carried on in Southwark and Bermondsey, and for which these places are eligible both as respects their situation and the inhabitants residing there, consisting chiefly of workmen and others employed in these manufactures.

Mr. Hesketh, the district surveyor, con-

tended in reply, "1stly. That such buildings were not st empted from the operation of the Act of 14th Geo. III. c. 78, bat only from certain of the

provisions thereof, and 2ndly. That if they were exempted from the operation of the said Act, they were so exempted by an Act which is repealed as far as relates to that part which is alleged to have so exempted them, and therefore they must be regarded in that light in which they would have been regarded if such alleged exemption had never existed."

The referees determined, Nov. 7th, 4 that workshops and drying sheds used by tanners, curriers, and leather-dressers, are not included in Schedule B, part 1, of the said Act, as being buildings exempted by any Act of Parliament from the operation of the Act, passed in the fourteenth year of his late Majesty, King George III., and by the said Matropolynan Buildings Act repealed and that the suid

workshops and drying sheds are not exempt from the ordinary rules and provisions of the said Metropolitan Buildings Act as to party-wells and external walls, or in any other re-space.

- Costs to be paid by the applicants.

-3+18: PROJECTIONS.

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PROJECTIONS. Mr. Tufnell, M.P., of 37, Curzon-street, May Fair, desired to make a certain addition to the portico of the said dwelling-house, that is to say, to fix a zinc and glass (all inclosed) green-house or verandah, for which he had the assent of the adjoining tenants on each side; the said green-house being in the centre of the house, and at a distance from the next bouses. houses.

houses. Mr. Foxhall, district surveyor, objected to allow the projection to be made without the special permission of the referees. The award was, "that inasmuch as the proposed addition is to be built of proper and sufficient fire-proof materials, and inasmuch as it will be removed so far from the adjoining buildings on every side thereof, as not to obstruct the light and air, or be otherwise injurious to the owners or eccupiers of such buildings, and inasmuch as such addition is not to project into the street eccupiers of such buildings, and inasmuch as such addition is not to project into the street spise to overhang or otherwise to encroach upon the public way, and is not to extend disterally beyond the portico, over which it is proposed to be built, if such addition be made so that the water therefrom shall not drip upon the public way, then the same will not be con-Heary to the said Act." (Scosts to be paid by Mr. Tufnell. so With the greatest respect for the excellent district surveyor, we cannot understand on what

district surveyor, we cannot understand on what ground be thought it necessary to send this mase to the referees.

bo 1.1 OPERATION OF LOCAL ACTS.

A stone engle having been lately set up by Messrs. Baily, of Royal Exchange-buildings, Gommill, which overhangs the public way a little "beyond the extension of the coping at the top of the house," was objected to by the Gommissioners of Pavements. It was formerly (aver the door of the premises on the same site, and the district surveyor, at the rebuilding, anada no objection to its creation. Messrs. Baily, in applying to the referees on the sub-ject, first set forth "that by the 5th section of the said Actif is ensated, 'That notwithstandthe said Act it is anacted, 'That notwithstand-ing any thing contained to the contrary in any Act of Parliament now in force, every such building shall be built, rebuilt, enlarged, or altered in reference to the walls, &c., and to the projections, and to any other parts or ap-pendages of every such building, in the man-ner and of the materials, and in every other respect in conformity with the several particu-lare, rules, and directions which are specified and set forth in the several schedules to this Act anaexed.'" And then shewed under what clauses of Schedule E such a projection might be made.

clauses of Schedule E such a projection might be made. The referees awarded—"That although by virtue of the provisions of the Metropolitan Buildings Act, cited in the said requisition, general line of fronts in any street or alley, subject to the restrictions therein set forth, yet such provisions are to be deemed to be per-missive to such extent only, as any other law may not prohibit the subject matter thereof; and that the provision in Section 5 of the said Metropolitan Buildings Act, which requires that the provisions of that Act be observed, netwithstanding any thing contained to the contrary in any other Act of Parliament then in force, is to be deemed to apply to such pro-visions of the Metropolitan Buildings Act as are obligatory, and not to such as are permis-sive only." sive only.

Costs to be paid by the applicants.

ASPHALTE FOR ROOF COVERING.

Min. Maning proposed to form the roof covering of certain houses in the Fulham-road with fir joists "7 by 2," and inch deal boarding, covered externally with a coat or layer of b% Claridge's asphalte."

proper for the covering of any roof, flat, or gutter being of wood, and such material may not therefore be used in the manner described in the said requisition hereunto annexed."

DIVISION OF BUILDINGS.

Messrs. Winterbotton and Sands, being about to erect additional almshouses to the almshouses belonging to the Batcher's Charit-able Institution, at Walham Green, Fulham, were called on by the district surveyor to build proper party-walls to a height of 18 inches at the least, above the roof to which they should adiai

the least, above the roof to which they should adjoin. This they considered, would destroy the harmony and general effect of the building, the part already built being without such party-walls. They accordingly referred the ques-tion to the official referees, urging, "that the said building or buildings are not to be deemed to be separate buildings within the meaning of the said Act, but that they are to be deemed to be one building in the occupation of the trustees of the said institution, and that the inmates of the said almshouses are to be deemed to be lodgers under the said trustees. The award was, "that the separate tene-ments forming the almshouses in question, are to be deemed to be houses in separate occupa-tions within the meaning of the said Act, each tenement having a separate entrance and stair-

tenement having a separate entrance and stair-case, and as such, must be separated from one another by proper and sufficient party-walls, according to the provisions of the said Act for the rate to which such houses shall belong.

Costs to be paid by the applicants.

THE MANUFACTURE OF GAS.

SIR,—I perceive by notices in the daily papers, that it is proposed to establish extensive works for the manufacture of coal gas. Is it not surprising, Sir, that in this age of improve-ment, the present imperfect mode of obtaining an illuminating gas should be still continued. Is it by the interest of coal proprietors, or do coal gas companies consider that the sale of coke is as profitable as the gas? The mere extraction of gas from coal is simple enough, but a complicated machinery of condensers, purifiers, &c. is required to ren-der it fit for consumption; and that this is in-effectually done, no practical man can for a

der it ht for consumption; and that this is in-effectually done, no practical man can for a moment dispute. Coal gas, as now manufac-tured, contains a quantity of sulphuretted hy-drogen gas, and, should the whole of this be not extracted, produces, when burnt, the most injurious effects on the human constitution. not extracted, produces, when burnt, the most injurious effects on the human constitution. The advantages, nevertheless, of gas are too apparent ever to permit us to doubt but what its use will continue general, both for illumina-ting and culinary purposes; and the time is not far distant when every room will have its burner, every kitchen its gas cooking appara-tus. How necessary, then, would it be to have a *pure gas*. That this gas can be had is suffi-ciently proved by the experiments of scientific men upon oil and tar; but from imperfections in the apparatus employed in procuring it, it has never been extensively brought into ope-ration. Dr. Jones's "Address to Sir Robert Peel, requesting a legislative interference for the protection (both sanatory and pecuniary) of gas consumers," contains an *exposi* of many of the operations of *coal* gas companies, and should be read by every consumer. With many apologies for trespassing upon your time, I am, Sir, &c. OBSERVER. Paddington, Nov. 18, 1845.

THE ADELAIDE GALLERY. — Professor Keller and his corps of models are attracting large audiences, if we may use the word with reference to an exhibition where nothing is to be *heard*. "Pilbrow's Atmospheric Railway" is provingely explained and with the microis previously explained, and with the micro-scope, laughing gas, lectures, and music, makes an agreeable, and not uninstructive, evening's amusement.

anusement. Stif Claridge's asphalte." Stif Claridge's asphalte." Stif as, metal, glass, artificial stone, or cement;" Swift ch terms Mr. Moseley, the district surveyor, means idered did not include asphalte. The Law ard was, "that 'Claridge's asphalte' is not to be deemed an artificial stone or cement,"

ON CERTAIN PROCESSES FOR STAINING GLASS.

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THE Bulletin de la Société d'Encouragement contains an article on this subject by Pro-fessor Schubarth. We make the following extracts from a version of it that sppeare in the current number of Newton's London Journal

current number of Newton's London Journal of Aris, &c. Mode of obtaining a Red Colour by means of Oxide of obtaining a Red Colour by means of Oxide of Copper, — The ancients were acquainted with the means of staining glass by the em-ployment of oxide of copper; it is mentioned by Neri and Kunckel, in their works. The art was, however, so completely lost at the close of the last century, that it was generally be-lieved that glass was always stained red by means of Cassins, purple. It was not until 1828 that M. Engelhardt, of Zinsweiler, suc-ceeded in staining glass red by means of a mixture of equal parts of oxide of copper and protoxide of tin: this process was tried with success in the glass manufactory at Hoffurmg-sthal, Silesia.

The protoxide of tin is now done away with, and the compound employed is nearly the same as that mentioned by Neri, but more simple. It is composed of a mixture of copper scales It is composed of a mixture of copper scales (which are almost entirely composed of axide), and oxide of tin (*zimaeche*) obtained, by, the oxidation of that metal in a state, of fusion in contact with the sir, to which a small quality of iron filings is sometimes added, when a sear-let tint is required to be produced. Should the colour by accident disappear, it may be brought out by again bringing the copper into the state of oxide; this is done by introducing into the vessel a small quantity of tin or iron scale. It will of course be understood that the glass to be operated upon must not contain saltpatre, nor any other oxidizing substance. Glass stained by means of oxide of copper

nor any other oxidizing substance. Glass stained by means of oxide of copper is of a very deep colour, and ean only be worked in thin sheets, and by covering it with a thick colourless glass (plate glass). Obtaining a Red Colour by means of Gold... The employment of gold for staining glass red does not appear to have been known to the ancients, and the period when it was first used, and by whom, cannot be ascertained. In the seventeenth century Kunckel employed Cassias purple for staining glass a ruby colour; this purple for staining glass a ruby colour; this was discovered by A. Caesius a short time pre-vious; but the recipe employed by Kunckel was not generally known until it was published in 1836, by M. Metzger, proprietor of the glass-works at Zechlin, on the occasion of M. Fuss' recercipe researches.

works at Zechlin, on the occasion of M. Fuss' researches. It must not be imagined from this, as, some persons have lately stated, that it is necessary to use gold in the state of Cassius purple. Neri, at the end of the 16th and commence-ment of the 17th century, stated, that is order to stain glass a ruby colour, it was only neces-sary to employ caloined, chloride of gold. At a later period, Libar wrote to the same effect, and Merret certified that he had proyed the efficacy of the process. In 1834, Golfier Bes-seyre stated, in the "Journal of Pharmacy," that Douault Wieland coloured his pasts with perchloride of gold only. Lastly, in 1836, Fuss writes, that in Bohemia all the ruby-coloured glass was prepared with chloride of gold only, and that glass might be stained, red as well with metallic gold as with oxide of gold or Cassius purple. It is therefore a fact known for some time, that glass may be stained red, without either Cassius purple or oxide of tin, with metallic gold or preparations of gold. In the glass-works of Bohemia and Silesia perchloride of gold only is used, without the addition of oxide of tin, in order to produce their fine roes or carmine-coloured glass.

of in, in order to produce their fine ross or carmine-coloured glass. If powdered gold be triturated with twenty times its weight of enamel fritt, a light red or pink mass will be produced, without any me-tallic lustre.

It is evident that at the temperature of glass-It is evident that at the temperature of glass-houses, which is more than sufficiently high to effect the fusion of the glass, the gold contained in the Cassius purple will be brought back into the metallic state, whatever may be supposed to be the nature of this compound, upon which chemists have not yet agreed. If Cassius pur-ple, chloride of gold, or gold leaf, be heated with borax or glass containing lead, to a tem-perature of 32° of Wedgwood's pyrometer, the gold will be precipitated in small globules at the bottom of the crucible, and if the heat be increased, the borax or glass will successively increased, the borax or glass will successively Digitized by

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BUILDER. THE

FIRE-PROOF SAFES .- 125. ALDERSGATE, STREET, THE CHEAPEST HOUSE IN BABON

Not of the a second sec fift, after remaining in a state of fusion for six or seven hours, a perfectly colourless glass is obtained, which when worked into very thin plates, takes, upon cooling, a fine red colour. Knowistates that gold melted with glass stains. it green, which is deeper in proportion to the quantity of silica it contains, and that if the temperature be raised it changes to pale red

When glass stained by means of gold is heated too often, or exposed to too bigb a tem persure, it takes a light brown colous, laves, in transportency, and will not again take a red colour; on heing looked through, it will be seen that some parts are onioured a fine blue ant bloist given, and grains of gold of various ant bloist given, and grains of gold of various and bloist green, and grains of gold of various and bloist green with the paked eye (this state blassi she green that are and a state blansisher greatest analogy to the phenomenon presented by a solution of gold slightly breated with oralic soid). Pieces of colourless glass containing, gold, cooled very suddenly, cannot by any, known means be made to take a ref codour, and remain perfectly colourless.

"In conclusion we may state :-Ist. That in order to stain glass a red colour by means of gold, it is not necessary to use Cassius purple, or to add to the chloride of gold either oxide of the oxide of antimony.

"2ndly That by the addition of chloride of etherstoi a very fissible glass of dead, or soda glass containing a very small portion of mi-nom (red oxide of lead), glass may be pro-duced which will take a red colour whilst being removed before a state of lead a state of the source of

3rdly, That, if Cassius purple be employed, it will be decomposed during the fusion of the glass, and metallicipold will be precipitated

of 4thly. That on grinding metallic gold to fine powder upon porphery with hard substances, a red coloured mixtore will be produced.

a red coloured mixtore will be produced. • Selful Phar the colouring of the glass ap-pears in all probability to arise from gold in a

serveral other intetallin bodies present ana-

Ditaining a Blue Colour by Oxide of Copper. fine emerald green and light blue, turquoise

a fine emerato grown and the milky glass has blue, and sky blue of a white milky glass has of For some years past a white milky glass has been, manufactured. in Bobemia and Silesia, been, manufactured. in Bobemia and Silesia, The been, manufactured in Bohemia and Silesia, known under the name of alabaster glass. The composition of this glass does not differ from that of ordinary crystal. (Bohemian crystal is a glass made without lead, with potash for its base.) After the glass has been melted, it is poured off and stirred up. A second charge is then melted, to which is added, when the fusion is complete, the glass previously stirred and cooled, which cools the mass; and as soon as it is melted, it is to be worked at the lowest possible temperature. The glass will be of a milky white, while if the temperature were much raised, it would become colourless and transparent; transparent?

If oxide or suppare of copper be added to a colourless glass, and the temperature is suffici-ently high, a transparent glass of a bluish green that will be obtained of I the operation has been carried on as above stated to obtain a milky glass, it will be of a turquoise-blue colour. Lastly, if this turquoise-blue coloured glass be re-melted, at a high temperature, a transparent agua-marine blue will be produced aqua-marine blue will be produced.

THE MOBULE DER.

re destrous of receive plans, spectroations, and 't be given for the one-selected.

the Church of St. Mary Sama manual of Magaalone, Tourna Dand the Restonation thereof: together with several notices on Ecclenastical matters, Printed in gid of the fund fur the restoration, 8vo, 1845. Vize-telly and Co telly and Con the states? Invest : 19 9 2 add

THE church illustrated by this beautiful volume, is well known to all architectural students and professors, as one of the most magnificent specimens, in a part of the country ficent epscimens, in a part of the country celebrated for the splendnur of its ecclestastical edifices. The lofty tower, which forms its chief characteristic, is perhaps unsurpassed by any similar example of the architecture of the fifteenth century. In common with many other exquisite ecclesiastical edifiers of for-mer days, the church of St. Mary, Taunton, was suffered to fall into decay, by the neglect and apathy of its guardians, until, in the year 1840, the Rev. James Cottle succeeded to the vicerace of the mariab. This centleman. vicarage of the parish. This gentleman, actuated by a warm appreciation of the archi-tectural merits of the church, and feeling the necessity of prompt, and decisive measures to preserve it from further dispidation, proposed in 1842 to expend hidself a-sum of 3,000/., if the parishiosers would acopy as much more as might be in accessive completely to restore the sacred wither. This liberal offer was the sacred diffee. This liberal offer was accepted, and (as our readers are probably aware) the work of restoration was commenced, and is now nearly completed, in a manner which reflects the highest credit on all the parties concerned. The total cost, it is found, will exceed 7,0007; and the vicar has undertaken to add 1,000% to the amount he originally offered to expend. Mr. B. Ferrey was em-ployed as the architect on the part of the vicar, and the works executed by the parish, being perfectly distinct from the former, were placed under the appendence of Mr. R. Carver. under the superintendence of Mr. R. Carver,

The present volume has been undertaken by the reverend gentlemen, to whose generous enthusiasm the lovers of ancient architecture are so much indebted, as a record of the success which, in spite of even more than the aveal difficulties attending such exertions, has crowned his zeal and perseverance. Besides a minute history of the work of restoration, and a full description of the church, Dr. Cottle's portion of the volume contains much useful information on the antiquities of English churches generally, and their neg-lected state from the time of the Reformation. It comprises also some remarks on those questions of church discipline which have recently been so much agented; and to these we may direct the attention of all who are interested in the subject. His stric-tures on the objectionable "pew system," ap compared with that of open seats, are most convineing. A list, with biographical actions, of the archdeacons and vicars, and notices of the principal monuments in the church, com-plete the body of the work. But its appendices are hardly less interesting. The first of these, entitled "Historical Notices of the church, by George Cave," is a clear and discriminating essay on the dates and characteristics of the different portions of the edifice; the second, by Mr. Ferrey, the architect, is called "Remarks on the Gothic Towers of Somersethine," and is full of valuable information on the subject. In addition to these there is an historical essay on ecently been so mach saginated; and to addition to these there is an historical essay the ecclesinetical architecture of England, by Thomas Porch Porch, Esq., A.M., -a useful summary on the particulation of the second second summary on that particular topic, but without any particular novely of treatment;-and, finally, isome remarks, by the Rev; Alpony Christmas, M.A., on "The Furniture and Ornaments of Churches."

The volume is printed by Messrs. Vizetelly, in a tasteful and elegant manner, and is flus-trated by a ground-plan and eight wood-cuts and lithographs, shewing the state of the church, before and since its restoration. Though ready to award since re approval of the I hough ready to award succere approval of the spirit and energy which have actuated the worthy vicar in this ' Jabour of Jork," we can not forbear remarking, that he has carried the system of paidling, gilding, and drug including in the church rather to excess, and thereby rendered what is, and ought to be, subor-dinate in architectural character and effect, too predominant predominant.

I must leave it to those who know what I have done, to make remarks on what I have

29, Wimpole sausonoursunden Borrison

PUBLIC NECESSARIES. SIR, — Will you performed into through the medium of your valuable and widely-circulated journal, (to make) one or out penasks and a Journal, to make one of the semants and a subject which it any not sware of having blond touched upon by shy others with the lower plant of a hint throw out by gaun Collector theory dent in 'No. 4890 of Bran Bernsel, where optiunh suggestions (do the improved dit of habitations for the 'working'sclasses') is pear tvery good. The' great idrawissics of the carrying tous the plane would be the expense ; however, I chinds will care and overtain modifications, so it chinds inght be done in erecting inters betwe shodes for the 'labouring upopplation... Now sin this stirring period of inquiry as to the articles betweend of giving greater comfort to the articles have regards their abodes; four public was be homes-and, buths als incloses; four public was be homes-and buths als incloses; four public was be homes-the period of definition of the articles' how the particulation of the abodes; four public was be homes-and buths als inclusion of the articles' with particof our netropolis; still there is not things the period for a food and dow, dyied 1.16.1. The suggestions (on the improvement of habit guions

the projectors of the electrelium suffictures with not forget: good need and odw, dyied . R. 1. nl The thought has often structions that others ought the being blief increasing for main plac-every large toys of the second structure of the London, where infimetes down black of allows ers from all quarters lief the global signer in; and in their perambulations, sights being of when they are infimetes for any sights being of Sol, when they are pertaminations, signored and of the they are pertamined in the solution of the second se his weitere funites (taig of 500 and taken a some bouts; or some such establishing for the man-ticle expense 2.0 Now; to solvi at the soft establishing I would suggest that these is an and first number of public possessies in each district

tible expense > Now, to obvidte the segressense I would suggest that there? bet archeficient number of public necessaries in each district erected by the parish at their oren expense, which would be but trifting. I teel missured to one can deny (who has the probabilities which not only strangers, bit the probabilities which of houses inbubited by the lower probabilities of an privy (and, indeed, segnet note which, and see little better them pipetprenimed; and she ittle better them pipetprenimed; and she ittle better the whole prenimed; and she ittle better them pipetprenimed; and she ittle better the whole prenimed; and she ittle better the pipetrice of the better of the miserable indices to every well recipited mind, the picture is truly displicible the here are thick that all the high fit be better of the fittle ind confined districts, is large poppied to fittle in morality, misery, and discus, for the fittle in have seen the plan as to provide to fittle. I have seen the plan as to provide to fittle, i. have seen the plan as to provide the fittle, i. have seen the plan as to provide the provide the interval.

well .- I am, Sir, & on the di Auguer of Bring connected therewith. For Building a sewer in Bull yand. Consumption

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Sin, In reply to your correspondent Sing the second which it have written in THE BUALDEST man

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settions, nen obstantie in in manuff of deep i "Lord Brougham referred me to McLinning y papers; I had findeed seen them many years before, but as it is not possible to make work-mg instruments on the principles, he in years gates, McLaurip's method not being practically useful, is not what Sir Isaac, Newton, con-sidered desirable.

sidered desirable. It is not the state of th ago, considered they we take the publication of, ago, considered they were too poor to under-

I must leave it to those who know what I have done, to make remarks on what I have anda dhi had too

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"For the sating the works on the Authin test and Aylor again of the Glagenty Paisky, Kilmanock, and hys Saliway, sins longth about 04 miles. It

Ayr former of the dialgewy failey, kinerhood, seek hys Ekilway, sint baget short 24 miles. It will brividehinter we consider an anti-more tighting experiments the paints of Tottenham, Middlearn, supplying, the infer twist, former with Beilich ison just, shelf first twist, former with Reilich ison just, shelf first twist, former with Reilich ison just, shelf first first, division of the Audie and lead spint. It works of the fifth division of the Audie and lead spint. Start and the site of the division, being a distance of 7 miles 1,523 yards, For supplying 20,000 loads of British oak timber, 7,400 loads of British oak thickstuff and plank, and 400,000 British oak the katuff and plank, and 400,000 British oak the tree alls, to her Majesty's deteral dockyard. "For the supply of such from valling as may be required to barrowid the barrii ground adjoining St. Savion's Church, Southwark ; and the works connected therewith.

connected therewith.

For Building a sewer in Bell-yard, Carcy-street, to the extent of 500 feet; and also for a sewer in Southgats-road and Ball's-pond-road, Islington, to the extent of 500 feet. For the execution of the works on the Portsmouth

eriension of the Brighton and Chichester Railway. Bor executing the works of the second division of the Dundalk and Enniskillen Railway, being a dis-

tance of ten miles.

a For making and butning from 700,000 to Bid000 000 champ bricks.

For the erection of a dwelling-house at Maidenhead, Berka, 18 and 1 ao awaan oo e of bast etc

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BY AUCTION.

Upon the Ellingham Hall Estate, near Wissett a

opue the Eulogham Hall Estate, near Wissett a g. number of elms, poplar, and willow trees, larch, beech, and Scotch firs, alder poles, sco. At Wibtoft and Little Claybrook : a large quan-fity of elm and ash timber, now standing on the estate of Lord Leigh.

"At the Longs Arms Inn, South Wraxhall : twenty "At y pfine walnut trees of large dimensions." At Fen Ditton : a fall of about 600 excellent

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are desirous of receiving plans, specifications, and estimates connected therewith? The sum of 100/. will be given for the one selected. in ferral i

MBETINGS OF BODIES

Darring The entring week: MONDAY, Dec. 1.—British Architects, 16, Gros-venor-street, 8 P.M.: Chemical (Society of Arts), Adelphi, 8 P.M.; Royal, Somerset House, 4 P.M.;

TUBEDAY, 2.— Syro-Egyptian, 71, Mortimer-street, Cavendish-square, 8 p.M.

84 P.M. THURSDAY, 4 -- Antiquaries, Somerset House, 8 P.M.

TO CORRESPONDENTS.

"T.T." (Halstend), is thanked for his good intention. It is not our practice to speet anonymous praise of a building we have not seen.

prase of a outsamp we have not seen. "W. T. T."—The removal of the monuments in Westminster Abbey to the Trifordum basalized y been suggested. See "Chas about Westminster Abbey," p. 140, ante. The classes as "W: T: T." Abbey," p. 140, ante. The closers; as " W: T: T." says, might also be made available. "A Subscriber.!" We Indus of mo price-book

and size of seven, before discribed the amount of the internet of the angle of the seven of the now the best way of filling it up for the purpose. "W. H. W."-Will our correspondent refer

us to the projections alluded to. "W. D."-We are obliged to our correspo

dent for his good opinion. As regards the offered information, we shall be glad to avail ourselves of iť. "Assessment of Dilapidations."--We defer the

insertion of letters on this subject, hoping to vecelve

"E. B." Double Entry, by B. I. Poster, published by Souter and Law, Fleet-street, will the

"Price Books."-----Werefrain from recommending a price book until the editions for the new year appear. "Enquirer."-

-Students are not admitted into the School of Design for the architestand slam alone; but must pass through a regular course, A letter to the director would obtain all necessary information. "W. T.s"

esteemed communication reached us too late for the present number. It will appear next week.

"A Looker-On," and "A Mason," shall also appear.

ABWER TIGERCENTS.

4. . t.

BOFESSOR KELLER'S POSES PLASTIQUES. ROPERSON KELLER'S POSES PLASTIQUES. **ROVAL** ADELAIDE GALLERY.—This day, and during the week, Professor Keller will extituit at the Advistates, which have reserved so largely the encominums of the press. Every morning at half-past three, and in the evening at nine o'clock. Great efforts have been masks to add to the offects of this exhibition. A variety of the public The Concerts as usual. Also Fubrow's Atmo-spheric Railway model, with explanatory lecture.



SECRET AND S

THIS CHEAP and USEFUL ARTICLE, bitsting the unsighty appearance and insertsive of the common rim lock, can be obtained of any respectable from one rim to the country, or from the sole manufac-turer, Mr. EDWARD WRIGHT, Wolverlamptor.

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STRAINTER .

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THE CHEAPEST HOUSE in LONDON TOTH LEADBEATER, many year Manufacturer for Messes, Chebya of visit Boalde Sharwards of Visit State charter, Reilfreit Companite, and the Public scherelle, New of constitution of the state of the State State of the State in Missistic Companies, and the Public scherelle, New of the Missistic Companies, and the Public scherelle, New of the Missistic Companies and the Public scherelle, New of the Missistic Companies, and the State State PROOF SAFES, charter bases, and shows the State robust of closes 2000 the State State robust of closes 2000 the State State robust of closes 2000 the State State construction of the State State robust of closes 2000 the State State robust of the State State State robust of closes 2000 the State State State robust of the State State State State robust of the State State State State robust of the State State State State State State robust of the State State State State State State robust of the State State State State State State State robust of the State State State State State State State State robust of the State Stat

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Agent for Liverpool and Manchester, Mr. E. PART, S. Canning-place, Liverpool.

O ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERBRS, MER-CHANTS, SHIPPERS, AND THE PUBLIC IN CHANTS, GENERAL.

CHANTS, SHIPPERS, AND THE PURIC IN GENERAL. JOHNS and CO.'S PATENT STUCCO CEMENT.-The following are the positive advanceges possessed by this Investion sever every General higherts in-troduced --It will affootnally resist Damp, It will never vegetate nor turn green, nor stherwise discolars. It will never crack, blieter, nor peel eff. If will form a complete Stone casing to any Building covered with is. It as alwedy resembles Stone that it is impassible to detect it. It never requires either to be painted are evolumed. It will keep frash and good in the cask in any Climate for any analyse of pears. It is the only Coment that sum is depended upon for export. It is the only Coment that sum is depended upon for export. It is the only Coment that sum is depended upon for export. It is the only Coment that sum is depended upon for export. It is the only Coment that sum is depended upon for export. It is the only Coment that sum is depended upon for export. It may be used on the Inner Walls of sew House, which may be pepered over or painted directly. Roofs half ar pointed when other Cement. Is matures by age, and be-comes perfect when other Cement is many mademanged by the severest florms. Any Plasterer may apply it, the Instru-tions for use being very clear and distincts. The first cost of this material does not exceed that of the sheapest Cement now in use ; but with all the above-named extraordinary and valuable advantage, mathing can applexis, further and the Cement and Its mode of application, they be obtained on applications to MANN and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Plasting over ex-terior Walls of Houses that have been covered with Remans or other Cements, and which have been covered with Remans or the Cement and Its mode of application, to WANN and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Plasting and affinity for Stucco, binds itself with it, stopping the addit. White Lead Plaint, which will frequently couse of in flab JOHNS and CO.'S PATENT STUCCO

MASONS' PROVIDENT INSTITU-TION.-A PUBLIC MEETING of the Trade will be held at the London Mechanics' Institution. Southrampton Buildings, Chancery Lane, on TUESDAY, December 2nd, 1845, at Seven o'clock in the Evening. THOMAS WAELEY, Esq., M.P., in the Chair.

Esq., M.P., in the Chair. The Provisional Committee have much pleasure, after a protracted and arduous task, in bringing the matter to its present shape, to be enabled to convene a Meeting of the Trade, for the purpose of establishing an Institution for Trade, for the purpose of establishing an Institution for Trade, their widows and Orphana, and for the erretion and permanent maintenance of an Asylum, to be supported by Donations and Answell Subscriptions. Several infraesized gentement ennected with the Trade will attend. Entenances to the Thestre, Northamberland Cont, Scoth-hampton Buildings, and Tennis Court, Middle Row, Hofboar JOSEPH T, WHITEHEAD, 1, Johnson St., Westminister



SATURDAY, DECEMBER 6, 1845.



E wish to direct attention to one or two important points in the structural arrangement of STABLES. We have often had occasion to speak of the alowness with which

the practical man adopts the deductions from scientific investigations : the tendency to continue taking an old path, although a new one, to shorten the distance considerably, may be close at hand. What has done, will do again : and so we go on year after year in error, without troubling ourselves to reflect on the pomibility of improvement, or even looking right or left to see what others are doing. Worse; bowever, than this :- even when the evile of a course are known, and instructions to obviate them are given, timidity, apathy, or obstinacy induces the majority to continue in it. The want of scientific arrangement in residefices and workshops has killed thousands of human beings, and has produced an appalling est of discemfort, distress, demoralization and misery. This wholesale elaughter is still guing on, and the great mass of the people think little about it, and care less; it is so common far people to be ill, and to die when young that they look upon these occurrences as matters of course, and, rather than take any rouble, persuade themselves that nothing can be done to avert them.

This being the ence, it is not greatly to be wondered at, that they condemn their horses to the same casualties, by constructing stables for them pregnant with diseases. To arrange them etherwise, in the first instance, would cost little or nothing, and save us, say, five-andtwenty per cent. in horseflesh. But what of that. To effect it we must do something new, and we don't like new-fangled notions; besides, it might fail after all; and, moreover, new things give trouble. No; we will go on in the old way, and if our horses fail ill we are no worse off than our neighbours; and if they die, why it is what happens to every thing.

There are some, however, who may think it worth while to try if this said dying cannot be postponed for a time, and may be willing to give themselves a little trouble, to retain for some additional years, the services of a faithful servant. To such we would point out the impertance, latiy, of properly ventilating the subles, and, 3ndly, of insmediately getting rid of all traces of the droppings from the horse, with which end in view, a floor imperviews by magisture is absolutely necessary.

B.oudon suys, in his " Encyclopsedia of Cottage and Farm Architecture,"-" The stable in which the horse is lodged should have its doors and windows to the south-east, as the meilshowt aspect, and in general have all its openings on one side, and in the roof, to prevent cross drafts of air. It ought to be on a dry soil, or, if on a wet one, it should be raised it by a hollow floor, or by materials of a kind which will contain interstices of air between the natural surface and the artificial floor. All stables should be large, cool, and capable of being well weatilated. The proper tempersture for a horse is 50 deg. in winter, me from 60 deg. to 65 deg. in summer. The berst. made of ventilating a stable in winter is

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by trunks or tubes of boards, about a foot square, forming openings under the eaves, or carried up through the ceiling, where there is one, so as to pass through the roof, their tops being covered in such a manner as to exclude the rain, without impeding the ascent of the heated air. The inside openings of all these tubes should have small sliding shutters to regulate the ventilation. In summer, this is best effected by having the windows filled in with hinged luffer boards, or by having glass windows, with outer laffer blinds. In the latter case, the quantity of air admitted, both in summer and winter, may be very accurately regulated by the degree to which the glass windows are opened."

The arrangement for ventilation here pointed out is insufficient; it is simply an improvement on none at all, and even this is not provided in half the stables used. Air should be obtained in controllable quatities, by openings independent of the doors and windows; and, in large establishments, the removal of the vitiated air should be aided by mechanical means, by the creation of currents irrespective of mere levity and the state of the atmosphere, such as by heat or the Archimedian screw.

In a range of stables for forty horses, recently erected by Mr. Dickinson, in Carzonstreet, May Fair, great pains have been taken in this and other respects. An air-flue communicating with the external atmosphere, opens into each stall in two places, full in face of the horse (just above the bottom of the rack), the openings being masked by two pieces of perforated zinc, each about two feet long, and one foot wide. The air, in its passage to these openings, is made to pass over some pipes filled with water, which can be heated, so that in very cold weather, the fresh air admitted to the stables is first raised to a proper temperature. Immediately under the ceiling, are openings into a flue which communicates with a chimney where a fire is constantly burning, by which means the vitiated air is rapidly drawn off. The ordinary means of ventilation, windows and openings over the doors, are likewise provided to meet extreme cases. For closing each of the latter, a sash is used, divided into small squares, whereof every alternate one is left open; a second sash behind this, and about four-fifths of its length, has the corresponding squares glazed, and the others open ; and thus, by shifting the latter backwards or forwards, admittance is given to the air either in large or small quantities. Mr. Dickinson assured us that one stall in some old stabling, which we saw (it had a skylight immediately over the hind quarters of the animal), produced more sick horses in the course of the twelvemonth than the new range for forty-one borses. It is right to say, that the system of ventilation to which we have referred was arranged by the proprietor, and carried out for him by Mr. Sylvester. As regards stable floors, nothing can be much worse than those commonly laid down, consisting of boulders, or bricks, in a bed of sand. The liquid manure penetrates the interstices, and is rapidly decomposed, giving off large quantities of ammoniacal gas, and vitisting the atmosphere to a great extent.

The object to be attained is, a floor impermeable by liquids, and so arranged that all which is thrown upon it may immediately run off. The writer of a useful article on the subject, in a recent number of the Ayrshire Agriculturalist, says : — " Let the centre of the cancewayed stall be removed two feet in breadth and five feet in length, measuring from the croup end of the stall. Flags of sandstone pavement, of one foot in breadthy three inches

thick, and of convenient length, having the inner or central edges beveiled to such an ! angle as that, when the two are brought together, there will be a space or central gutter formed like a V, one inch and a half in breadth at the surface, and two inches deep at the apex of the inverted cone, (the bottom of) which space must be filled with cement or pitch,---a slight downward and backward inclination must be given to the paving stones, so that whatever liquid may be dropped upon them, shall be rapidly conducted towards the hind quarters, and from thence conveyed, on the surface, to the point in the exterior found most. convenient for a tank or reservoir, where it may be stored till required as manure.'

Gutters, of the sort here described, could, however, hardly be depended on. Small castiron gutters, covered with a close grating fitted loosely into the top of it, are easily obtainable. In each stall there should be, in addition to the gutter behind, a branch up the middle to the extent of half its depth. In each loose box there should be three or four of these gatters in parallel lines, or they may be extended from the centre of the compartment in four directions, like a right-angled cross. Granite pitching, or paving bricks, in asphalte, have been used for stable floors, and seem to answer the purpose well. To avoid irregularities, when expense is not cared for, a concrete foundation should ! be prepared for the paving : to keep back the rats, a layer of broken glass in the centre of the concrete will be found efficacious.

In making arrangements for carrying off expeditiously the whole of the urine, it is desirable to recollect, that if collected in a tank, it is exceedingly valuable as a manure. We saw recently, a fourth cutting of grass from the same field, obtained through the use of it.

Racks are less used than they were, and wisely so. The manger should be divided into. two parts, and one of them be made deeper than the other, to contain hay or green meat. In Mr. Cubitt's stables at Thames Bank, each horse is supplied with a lump of rock-salt, placed in a compartment of the manger. In this same establishment, with the view of preventing to the utmost the vitiation of the air, plaster of Paris, saturated with sulphuric acid is sprinkled periodically over the floor to absorb deleterious gases.

We terminate our present remarks with an assurance, that by attention to the ventilation of their stables, and the construction of the floors, all persons who keep horses may effect a considerable saving. A well-drained, impermeable floor, is, as we have already said, of the utmost importance.

COMPETITION CARTOONS FOR THE ART-UNION OF LONDON.

In order that the committee may determine, what accommodation will be required for the exhibition of the cartoons to be submitted in competition for the premium of 500% offered by the society, artists were each requested to send to the office on or before Monday last, a scaled letter containing his name and address, and having on the outside the title of his intended painting, and a motto or device, by which the estion must also be distinguished.

In compliance with this request, twenty-six letters have been forwarded to the office, and the committee are now seeking a fitting gallery to receive the designs. It may be well to mention, that artists who have not sent intimation of their intention to forward a cartoon are not thereby disqualified; this was simply a request, not a stipulation.

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THE ABCHITECT OF THE LATE ROYAL

Siz,—In your number of the 17th of this month, in a communication "On the Identification of Architects," your correspondent suggests that "it has never been clearly decided if the late Royal Exchange and Temple Bar waght to be attributed to Wren. or pet?" I never knew the latter doubted, but about the former building, there is generally a misapprehension, which I shall be happy of the use of your valuable pages to clear up. There is fortunately no difficulty in doing this, because the Records of the City and the Mercers, Company upon the subject of rebuilding the Exchange after the great fire in 1666, are perfect and complete. All the more interesting portions have been extracted with great care and skill, and were printed for the use of the corporation in the year 1838. From a copy of these extracts now before me, I obtain the following facts.—

surveyors. On the 9th of November, the committee speak of some "distast," amongst the surveyors, as retarding the work of preparing a design and estimate for restoring the ruined Exchange of Sir Thomas Gresham; a Mr. Hooke, also one of the city surveyors, gives a report and estimate on the 10th of November, on the same surgect.

"The committee, concluding it very necessary at this meeting, to make choyce of a surveyor for directing and overseeing the building of the Royall Exchange, and assisting them in the carrying on that designe to the best advantage, as to substantiallnesse, ornament, and frugality; and forasmuch as Mr. Milla, the city surveyor, bath declared that hee cannot perform that worke alone, and the committee being very sensible of the greate burthen of businesse, lying npon him for the city att this time; and considering that Mr. Jerman is the most able knowns artist (besides him) that the city now bath: therefore the committee unanimously made choice of Mr. Jerman to assist the committee in the agreeing for, ordering, and directing of that worke; and, haveing deelared the same unto him, hee after much reluctancy and unwillingness (objecting, it might bue thought an intrenchment upon Mr. Mills his right), at length accepted, being assured first by the Lord Mayor and the committee, that it was no intrenchment, that this wholls committee, at all times, would acquit him from any scandall in that behalfe; then the committee about the said uniding."

huilding." (After this appointment Mr. Mills's name does not occur again, and the works evidently proceeded with great rapidity, for they were finished within three years and a half from the period of Jerman's appointment. From another entry it appears the same of the architect was Edward, and that a brother, Roger Jerman, was carpenter at the new works. The name is spelt variously, and it occurs as German, Jerman, and Jerman.

At a committee, on the 20th Sept., it was resolved, "That as his Majesty bath much concerned himself with the building of the Royal Exchange, and apprehending it to be the duty of the committee to present him with a view of the drafts thereof, before they proceed to the maine worke," "they desire the lord mayor and four members of the comm., and Mr. Jerman, to wait upon his Majesty with the same."

On the 27th this committee report that "The drafts have been presented to and viewed by his Majesty and Sir John Denham, surveyor-general of his workes, and his Majesty declared his approbation and good liking thereof."

On the 9th Dec. occurs the following entry. "The committee considering that Mr. Jerman, who was chosen surveyor for rebuilding the Exchange in April last, hath not yet re-

A. I. C. D. Mary

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ceived any gratification for drawing drafts and directing the building; they therefore ordered that 504, shall be payed him upon account until further consideration of his merits." These extracts I think you will agree with me, prove that Edward German was the sole architect. In these records Sir Christopher Wren is spoken of, under date of the 7th Jan., 1670, as "Dr. Wren, surveyor general of his Majesty's workes."

The clock and chimes were made by Edward Stanton, under direction of the celebrated Mr. Hooke, at the cost of 1204.

"The bells, which were to be ten in number, 'sound and durable,' were cast by Wm. Wightman, founder, at the rate of vj4. vs. for every hundred weight the said bells shall weigh."

I beg to apologize for having occupied so much of your valuable space, and am, Sir, &c., 25th Nov. 1845. W. T.

DO THE CITIZENS REGARD THEIR ANTIQUITIES?

St. Helen's Place, December 1, 1845. Mr. TITE presents his compliments to the editor of THE BUILDER, and with reference to an article by Mr. C. R. Smith, entitled "Do the Citizens regard their Antiquities?"—which appeared in THE BUILDER of Saturday—would be obliged by the insertion of the inclosed correspondence. Mr. Tite would only desire to add one remark; viz., that in the statement he made at the "Institute," he intended no reference whatever, to the very respectable gentlemen, whose names are most unnecessarily introduced into Mr. Smith's communication:—

(Copy.)

5, Liverpool-street, City, Nov. 19, 1845. S1R,—I have before me a report of a speech made by you at a meeting of the British Architects on Monday, in which occur the following passages:—

lowing passages:— 1. "In this, however, they were thwarted by private collectors, who went about amongst the men offering sums of money for coins and other articles. They had been attacked in the public press by one of these, and he would not parry the question, but mention the name of Mr. Roach Smith, as he had been mentioned by him."

2. "Every care was taken for the preservation of this collection complete; in which they, however, were foiled, from the activity of these collectors. Amongst the most active was Mr. Roach Smith, who secured many, and particularly a bell which rang, after which there was a regular chase, but Mr. Smith had the best, and got possession."

I believe the above extracts from your speech, are verbatim as they were uttered. Reference has also been made by you to remarks made by me some years since; but mention of page, volume, and work, does not appear to have been added. Whatever observations I have felt myself called upon to make, with respect to the treatment of their antiquities by the "City authorities," I have made openly, and where they could have been refuted, if incorred. After a lapse of some years, you have chosen to give utterance (if the report be true) to most gross misrepresentations of my conduct, in a place where you must have known I was not present to refute your assertions.

I lose no time in protesting against the injustice of the course you have been pleased to take, as well as against the misrepresentations and concealment of facts, which, by the report, it appears you have made; and I assure you, I shall omit no opportunity of contradicting your statement, and of laying before the public facts which I can substantiate by full and undeniable evidence. I am, Sir, your obedient servant,

evidence. I am, Sir, your obedient servant, (Signed) CHABLES ROACH SMITH. William Tite, Esq.

(Copy.)

17, St. Helen's Place, Nov. 24, 1845.

S1R,—The extracts in your note of the 19th are, in the main, correct; not, indeed, as having been uttered by me in any set speech at the Institute of British Architects, but as a part of statements made in a slight discussion which followed the reading of the letter of Mr. Hawkins, informing the Institute of the intention of the trustees of the British Museum to open a department for the reception of British antiquities. In that letter the following sentence occurs :- "The claims of archeology, once publicly recognized, antiquities, when discovered, would no longer be ignessantly the stroyed or dispersed, but would be nexupalously collected together into, one place : the circumstance of their discovery, would be intergistered with far greater accuracy, and the result in a few years, would be a most interacting collection of monuments of intoined arty and the development of the history of seconsiss races, so far as it can be gathered from the evidences of archeology, and as it is exhibited in the maneums of foreign countries." The wards the end, the fellows of the lasting after addressed through this public announcement, and a hope is expressed " that, by their, author rity and example, an active interest in the preservation of antiquities; may be created in the whole body of the profession, and may gradually be communicated to their clerks, and to the foremen, and others more immediately set over workmen employed in labours of escawation and demolition."

In congratulating the menting, in commenwith other members, on the gratifying announcement of this letter, I took excession to say, that the object having now been made a national one, I did not doubt of its mecaning that the attempts make by the arrange anthorities of the city of Losdon, to collect a Museum in connection with the City-Library, had been very much threated by the *arrayous* of private collectour, that the inducactive was Mr. C. Rocet Smith, who, not wantented with securing by every means in this power, the possession of curiosities of this acture, had, most ungratefully, attacked these-who were anxious to forward his public zematched, but not willing to encourage his public zematched, jects. That this gentleman had, then the committee, and myself, information is the doubt architect, in an article published in the dorchaslogia, and, subsequently, in: citizer sports, and that, as this was the first public set.

That it was always expected from the sife of the Old Exchange-in this way heart of ancient London -- and from the deep and ex-tensive excavations required for the new build ing, that many interesting relines would be discovered ; and, as wrehitest of the building, discovered; and, as urchisent: of the doubling, and a Fellow of the Antiquarian Society, of some standing, I was most anticus that no pains nor expense should be uparent: to follow out those researches; to identify there incom-stances under which any curidsities might be found, to keep them together, wither in the to keep them together, either City-Library, or to deposit them in the New Gresham College; as the nucleus of a college tion, and in connection with a mew dibrary, which I hoped would one day rival these destroyed in the Fire of London 7 To this end I made the following recommundations to the committee :---That the hoarding round the site should be made perfect and sound, to mable the excavators to work uninteruptedly, and to secure a certain control over them : That the contractor should be bound to deliver ap to the committee any article which might be found, and to take every possible care of such und-ters: That the clerks of the works should be desired to watch with the greatest stientle and that the foreman of the contractors show have the same charge : That a large room in one of the houses in Freeman's court, eccapied by the clerks of the works, should be appropriated to the reception, arrangem and custody of all antiquities so discovered : and, further, to prevent the workmon being bribed to dishonesty, that they should be in-formed, by a printed notice delivered to them, and extensively circulated, that an account would be kept of what each man might find, would be kept or what each man might find, and that they would be liberally compensated; but that, on the contrary, every attempt to secrete any article, and to sell it, was illegad, and would be punished. That the Gresham committee adopted these suggestions most will lingly, and, with the chairman, were personally anxious, and took much interest in the result.

That some short period after the adoption of these regulations—having entirely for their object the suggestions and recommendations of Mr. Hawkins' letter—I was waited upon by you, requesting an order to enable you to visit

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the works at all times. That I gave you this eriler most willingly, but that I explained to you distinctly is sourcession, every one of the equilations adopted, and the reasons which influenced my mind is their adoption : that your then professed your entire approbation of s makes, and of the motives of the somethies and their architect, and your anxiety

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he Phut for some time, and antil the excavation approached the west end of the Old Ex-Simple, indthing of importance was found; Just that on taking up the eastern end of the old merchants, area, the pit, described in the *Archaelogia*, and in my report to the com-mittee, printed by the city, was found, contain-ing the most abundant collection of Roman remains yet discovered in the City of London. That your anxiety to obtain possession of some of these curiosities overcame your obvious That notwithstanding every exertion power, you did obtain powersion of some, duty. usy. I has notwinstancing every exertion on tour part, you did obtain postession of some, and one of great interest, a bell which was conficiently perfect to ring; and that there was a billiously perfect to ring; and that there was a new an active pursue mans, not arer you, but after this belt, which, however, found its way into your hands. I did not tell the meeting, has I might have done, that the clerks of the quirks and the contractor's foreman, were constandy complianting to me of your interference with the technical, until it came to an actual guarrelt. That on receiving a letter from you, a had a mosting on the ground of all parts when you were excessively violent, and chreatened to shoot the creak of the works; but that you asspred me that you had not en-deninged the men to abstract the curiosities, ifinitiyes had even refused to buy them, and thad sont their back when offered. That after mad-sent then back when offered. That after theatring all parties; I told you in their presence, -that they involve to continue to give you, as a they declared they had done, every facility for -paquing your archaelegical researches; but that do: there were three withesess to your intefference with the workmen, I expected, on your part, an abandonment of all such intererendi. o

Instated further to the institute, that all the our focilies thus collected, referring generally furtheir character, were, as you well knew, miringed with great care by the clerks of the works, and that they were then in my posses-mins in erspare room at the London Institution, under the charge of Mr. Brayley, jun., with had been simplayed by the committee at some expense; to examine, classify, and report spea: th 10. · · That there was a differen epinion in the committee, as to their being served in the City Library or the Gresham prete Gulle Gullege; but that it would be my duty to bring Mas Hawkins' letter before the Gresham Comilten i 🖓 🖓

From this statement, which exhibits the setual circumstances of the case, I now turn to some of your interspresentations. At page 270, of your article in the Archaelogi seather was one, as I am informed, stamped with the leftern S. P. Q. R.; this I did not was and i believe it was lost soon after it was id ble possension of the Joint Greeham Com-mittee, a fast that has also befallen other an-bigaities collected for that body." And at gauge 279, this :---"I regret that the regula-tions under which I was permitted to make my on the site of the Exchange, did not tolerate such free and minute examinations as the impertance of the subject required."

a If yos will refer to your own manuscript of this communication, you will see how much more offensive and unjust this latter sentence driginally stood. I was not present at the source when your paper was read, but my at-sention was called to it by a friend, who sention was called to it by a friend, who pointed out to me also the report of it in *The Manutemen's Magazine*; and a reference to proge 79, vol. xvii. new series, of that work, will give the character of your charge as it entipically was made. The words are these :-We were sorry to hear the writer state, that his exertions to rescue these objects, so illustrative of the ancient arts and manners, were **Represented to the statistic arts and manners, were represented to to a by persons who alleged they were in-persented to do so by the United Greensm and Sity improvement Committees, to the great obstruction of his researches."**

The sentence in the Archeologia itself, was

changed on my strong representation, in the proper quarter, and by the authority of a much-lamented and amhable friend of the Indentiamented and analytic friend of the society, then one of the directors. After what I have stated of your perfect knowledge of all my arrangements, and their object, you will permit me to refer with some astonishment, to page 198 of the same volume of the Gentleman's Magazine, where, in a report of the proceed-ings of the Antiquarian Society of the 13th of January, 1842, I find that you, Mr. C. Roach Smith, produced to the society a very carious "Medalet, struck in lead, found on the site of Smith, the old Royal Exchange: - apparently," as you are made to state, " deposited there on the you are made to state, " deposited there on the occasion of the memorable visit of Queen Elizabeth, at the inauguration of the original building," having "the inseription ANGLIZ. REGINA 'VBIQUE 'HONORATA. Surely, I need not tell you, that the only proper place for such a very remarkable curiosity, could not be any private collection.

I shall not pursue this subject further, nor follow you in your favourite and repeated attacks on "City Anthorities." In your latter to me, you threaten some very violent course is an you threaten some very violent course is an appeal to the public; perhaps, when you do so, you will print this statement; if not, it will be my duty to de so for you. I am, Sir, your obedient servant, (Signed) W. TITE.

C. R. Smith, Beq., F.S.A., etc.

ANNIVERSARY MEETING OF THE ROYAL SOCIETY.

THE Royal Society met, according to ancient custom, on St. Andrew's day (Monday last), to receive the auditor's report, and elect officers for the ensuing year. The meeting was numerously attended.

The president, Lord Northampton, was in the chair. The balance in hands of the trea-surer was declared to be 2,076. 11s. 10d. The total number of members is 831, of whom 61 are honorary or foreign. After the presi-dent had delivered his address, an admirable composition (ordered to be printed, on the motion of Sir Robert H. Inglis), and the so-ciety were about to ballot for officers, Mr. Gassiott, Fellow, whose name appeared in the letters signed "A Contributing Fellow of the Royal Society," which were published in The Times, rose to direct attention to them, in order that the author of them might not be elected into the new council. Mr. Gassiott, chosen terms asserted, that as a merchant, which he was (and nevertheless he came into the society with the recommendation of a Farraday and a Herschell), the manner in which public attention had been drawn to his name, might have injured him fatally, in proof of which he appealed to some of the leading merchants of London, who sat near him. Mr. Gassiott read a letter from the solicitor to The Times proprietors, stating that Sir James South was the writer of the letters referred to, and another from Sir James South, in reply to an inquiry if he acknowledged them, saying the question was such that one gentleman had no right to ask another, and that he should not answerit. He, Mr. Gassiott, condemned strongly the conduct of the writer, in which he seemed to be supported by the meeting, and did not hesitate to call the letters slanderous. The President said he would venture to state, that no one gen-The President tleman present required any defence from Mr. Gussiott. With regard to the inquiry made of Sir James South, he hardly knew whether or not it was a fair one. A man either had a or not it was a fair one. A man either had a right to send anonymous letters, or he had not. If he had, he had a right to remain anony-mous. If he had not, it was asking him to criminate himself. He (the President) would consider that Sir James South felt himself to be wrong, and did not feel bound to acknow-ledge it. He differed even from Sir James South's general proposition, that Fellows should not write F.R.S. after their names, to advance their own interests. It was a great honour, and every man who was a Fellow had a right to say so.

self unable to fulfil the duties; and Colonel Sabine, to be foreign secretary, the office held by the late Professor Daniells.

The Society afterwards dined together at

the Orown and Anchor, when a large number of totats were ably and pleasantly proposed by the noble Marijus, and were responded to by Sir John Lubbock, Colonel Sabine, Captain Smythe, Mr. Amyott, Dr. Roget, Mr. Godwin, Mr. Greenhough, Mr. Samuel Warren, who hinstourously defended the "non-contributing" follows, Dr. Parris, Mr. Sheepshanks, and ath ani. 1

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ASSESSMENT OF DILAPIDATIONS.

BIR,-Sin,-In the gaery proposed by "a Sur-veyor," in your last number but one, whether in the assessment of dilapidations as against a tenant under covenant to repair, be cap "make a charge for occupancy during the time necessary to complete those repairs," your correspondent appears to have fallen into the correspondent appears to have failed use the common error, of confounding repairs with dilapidations, whereas these two things are altogether dissimilar as well in their wronga as in their remedies,

A tenant under covenant to repair, is entitled to a certain notice (usually of three months), detailing the repairs required. Should he neglect within the specified time to complete such repairs, your remedy is by ejectment for a breach of covenant.

Dilapidations are actual damages done to a

Dilapidations are actual damages done to a property by waste or otherwise, beyond fair wear and tear. The remedy for dilapidations is by an action for damages by waste, misuse, &c. Rent can be taken of a tenant only under his own covenant to pay such rent. Dilapi-dations are damages which no covenant can reach, otherwise their remedy would lie in ejectment, and can be claimed only on expira-tion of all covenants. Hence it is evident that no rent can be claimed under a covenant which no rent can be claimed under a covenant which does not exist; and rent can only be claimed under covenant. There is no case upon the books in which a loss of rent during repairs has been allowed in enhancement of damages by dilapidation. For my own part, I should not think it likely that such a claim was ever made, seeing that it is at once met by the reply-" If you were discontented with the state of the property during the existence of the lease, why did you not give notice of repairs? in which case no loss of rent could have accrued, and if such notice had been disregarded, you might have brought your action in ejectment, and by recovering possession of your property, pre-vented all the waste of which you now comphin."

Nor woold it be a sufficient answer on the part of the landlord that he was not cogni-sant of the want of repair during the term. Because he has reserved to himself a right of entry to view and survey, and therefore it will be supposed that he has 'exercised such right, and has how as therefore work with during the lat and has been 'satisfied with the date' of his

and has been satisfied. This is the set of the property. Again, it must not be forgetten, that a tenant whose term has expired, has to legal posses-sion of the premises, and consequently is un-able to perform repairs required of him as dilapidations. How, therefore, could a loss of rent be charged to him, when he at least can exercise no occupation, and when, for all he may know to the contary, shother party may be

may know to the contary, and when, for til he may know to the contary, another party may be actually in possession, and paying rent. Property has its duties as well as its defights, its drawbacks as well as its advantages. Loss of rent during repairs of dimpidations, must be considered as a charge which it imposes. Lucky indeed is that landlord who has no greater grievance to complain of.

I am, Sir, &o. GRO. TATTERSALL. 42, Pall Mall, 26th Nov. 1845

CAMBRIDGE ANTIQUARIAN SOCIETY .---- We learn that the council of the Cambridge Antiquarian Society have called a meeting to propase various argangements for the promotion of its efficiency as a society for the study of history, architesture, and sutiquities, and that as favourable to such object who are not persoi members of the society are requested to attend. In looking at the list of the council as given In looking at the list of the council as given on the cover. of its has, publication, we see that Professor Willis is the president, Mr. Bahington treasurer, Mr. C. (Men Goodwin, secretary; and that smoogst the council are the names of the Masters of Clare hall and St. John's college, Professor Gorkie, the Vice-Provost of King's college, Rev. J. J. Smith, Sir H. Dryden, Rev. Jas. Goodwin, &c. &c.

WESTMINSTER COURT OF SEWERS.

ON Friday, the 28th of November, a Court ON Friday, the 28th of November, a Court was held. The cash at the bankers was 17,0931. 7s. ld. An application from the Holborn and Finsbury Commission to join in the expense of a new sewer down Shire-lane, Temple-bar, was declined, on the ground that large improvements were in contemplation in the locality, and that it was unaccessory to use the city outlet, when there was one in the Wastington commission guite continuous Westminster commission quite contiguous.

Mr. Dowley brought up his report as to "the materials, &c., required for the new es-tablishment of labourers and bricklayers, by whom all works under 501. and the cleansing of sewers and gullies, are to be performed.³ Mr. Leslie moved that the report be printed, and taken into consideration at the next Court. Mr. Marriot having seconded the same, Mr. Donaldson objected to printing the report; he was satisfied there must be different yards to deposit the materials; there must be yard foremen to book the materials as they came in and went out. Although he felt convinced great confusion would arise from the change, still he thought that it should have a fair trial. The report should originate with the honour-The report should originate with the honour-able mover, to prevent him from hereafter saying the plan had failed from the want of foresight. He ought to have the money, whe-ther it were 1,000. or 2,000%, but the Court must be assured that he approved of the plan, Mr. Baylis, Mr. Hawkes, and Mr. F. Crace concurred in throwing cold water on the plan, and fixing the responsibility of carrying it out, on the proposer. They objected to print the report. Mr. Le Breton thought this course unfair, and Mr. Cumberlege expressed his determination to take his share of the re-sponsibility attaching to the general scheme he had helped to carry. Mr. Allason thought the subject one of the most important that had ever been before the Court. The plan might succeed, or it might

Court. The plan might succeed, or it might fail. He thought the honourable mover and seconder ought to be held fast as to responsibi-lity. The Court, no doubt, would be inclined to give them all the aid in its power. He would confess that he was unfavourable to it, but at the same time he would render every assist-ance to carry it out. The Court must look to Mr. Leslie that the way in which he proposed to carry out his plan was a reasonable, proper, and judicious one. Mr. Dowley's mind was not Mr. Leslie's mind, and, therefore, the honourable commissioner, and not the surveyor, ought to be held responsible.

to be held responsible. Mr. Leslie felt grateful to the gentlemen who had proferred kind assistance in carrying out his plan; but with all their kind expres-sions, they had not had the ingenuity to con-ceal their deadly hatred to it. It was the final blow to the forty years' monopoly of the contractors in that Court, and it was to be expected that much vexation on that account, would exhibit itself. The real state of matters would shew that he (Mr. Leslie) did not come down to the Court with crude and ill-digested would shew that he (Mr. Leslie) did not come down to the Court with cryde and ill-digeated plans, but plans that could be carried out. The friendly freeling towards the plan could not be better evinced than, by looking at what the Court had been doing since the plan had been twice approved by the Court. Why they had dismissed the two surveyors, and declared that there should be no assistant surveyors at all there should be no assistant-surveyors at all and this immediately after the Court had twice wisely resolved to do itself, without contractors, all works under 50%, and the entire

cleansing of the sewers. Mr. John Gunter thought the Court was bound to assist Mr. Leslie, and not to allow any parties to frustrate that which the Court had promised to do, by ordering and sanctioning his proposition. The Chairman said, the simple question wa

as to printing an imperfect document. The whole figures being in pencil, it was clear to him that it had been hastily prepared by their officer. It was then resolved to refer the report back to Mr. Dowley, and that he should submit it to the mover and seconder of the plan. A long discussion then ensued as to the power of the Court to build sewers where none had before existed; Mr. Le Breton contend-ing that the Court had the power, and Mr. Marriot declaring that the most minute triff-ing surface drain, when it passed the property of favoured commissioners, was a sufficient of excuse to put the district to the expense of

building a new sewer; and he instanced a recent expenditure in Brompton-road as a proof of what he said. There was no clear principle. laid down, and consequently no security to

property. Mr Donaldson loudly complained of Mr. Marriot'a statement, "We are all involved Marriot'a statement. "We are all involved (said the bonqurable commissioner) in his attack, and I, for one, defy him to prove his assertions." Mr. Marriot said he was sorry if he had gone too far, for he intended to cast no individual reflections, but it was for the honour of the Court and its credit with the public, that there should be some regular plan laid down, and then the public would know what could be done and what could not, at the public arpense. The chairman, without dis-puting his friend Mr. Le Breton's law, stated, that it would be unjust to call upon the that it would be upjust to call upon the public to pay for the advantage which was solely to private property. The matter then dropped.

** We cannot understand honourable com-"a" We cannot undersuad appourance com-missioners, who would throw noon the mover of a resolution passed by the Court, the re-sponsibility for its success or otherwise. A motion when carried, becomes the resolution of the body, and with that bedy, not with any individual rest the remonsibility.

of the body, and with that bedy, not with any individual, resta the responsibility. On Wednesday last, the committee appointed to prepare a reply to Mr. Lealie's pamphlet, in compliance with Sir James Graham's letter, brought up their report to a special Court. It was adopted, and is by this time in the Secre-tary of State's office. Of this, hereafter.

THE MORAL AND INDUSTRIAL TRAIN, ING SCHOOLS AT SWINTON.

THESE schools, which are new nearly com-pleted, are sufficiently important from their abject, and their extensive scale to require some They have been erected at Swinton, notice. near Manchester, for the education of the pau per children of the parish, are fitted up with every convenience requisite for teaching various trades and occupations, and are no doubt well salculated to be the means of conferring important and solid benefits upon the poor of Man-chester. Extensive as the building is, its size is not at first apparent. The general plan forms a quadrangle, covering, independent of the gar-dea, four scree of ground, the principal front being 460 feet in length. The arrangements comprise, school and class-rooms for boys, girls, and infauta, work-rooms, sick and fever wards, a dining-room, which serves also for a chapel, a dining-room, which serves also har a chapes, domestic offices, a surgary, lavatories, and mas-ters' rooms. The design was by Messrs. Tattersall and Dickson, the superintendence and completion of the building being mainly due to the latter. It is in the Elizabethan style, the materials being red brick with stone dges-sings. Approached from the Manchester road, the main front has a more imposing effect than we recollect to have seen elsewhere, a modern example of, in the same style of arconstra and its baluetraded steps, are com-posed with much skill and effect in the result. In the centre rise the two turrets. There is much stone work about the entrance, and the details partake largely of the Italian style; indeed, whatever merits there may be in the building, there is nothing which could not have been quite as well treated in a purer style of architecture than that employed. In the interior, there is little in the way of decoration to call for notice; the board-room is, however, a good apartment, with some tolerable furniture. The great merit of the building consists in the manner in which every part is adapted to the object of matruction in the various trades. The object of instruction in the various traues. lavatories are fitted up with numerous basine, in rows, cut out of blocks of stone, and with hathe for complete immersion. The total large baths for complete immersion. The total cost is understood to be about 40,000. The arrangements for ventilation cost 50004. (!) and were under the superintendence of Dr. Reid. Though this amount may include the heating, it appears enormous. Considering that Dr. Reid's plans do not appear to have yet met with any great success, we are surprised that they should have been adopted. Ventilation is undoubtedly a matter of paramount impor-tance, and by no individuals is held to be more so than by architects. If every architect of a public building had had some thousands allotted to him, solely for ventilation, and experiments in reference to it, the successful

ventilation of large buildings would not be, an it still is, a desideratum. However important ventilation may be, and we are prepared to ar-gue the great importance of it, it is not to be sought to the detriment of other, objects, the convenient arrangement of a building should not be sacrificed, much less the stability, and the beautiful is quite compatible with it. In the building here noticed, the turrate perform the office of ventilating should; the air is warmed by hot-water pines of large bore, and warmed by hot-water pipes of large bore, and is passed through the huilding by morraque fues, built out into the rooms in the most unsightly positions; some of them, we may venture to say, are not less than three feet square. In to say, are not less than three lest square. In the principal school-rooms, the air is admitted by numerous holes drilled in the floor, and passed out by valved apertures in the ceiling, which can be regulated. The dormitory is over the school-room; but as the two apert-ments could never he is use at the same mo-ment, the vestilation of the upper room is provided for, whilet its sequencies would not

breathe vitiated air. In a communication, lately received from a In a communication, latery received income valued friend, one of the board of guardiana, he says—" The apparatus has been tried as far as it is completed, and found is work well;" further he says, that he is "anxious to do justice to a man who has been attacked by withing senators, disappointed patentees, parasites of Mr. Barry, and a score of others, who, from senators, disappointed patentess, parsaites of Mr. Barry, and a soure of others, who, from various motives, have been induced to injure the reputation of one who. I honestly believe, to be practical in his views, and honest in bis intentions." In reference to this we may say, that no fair trial can take place till the huld-ing has been used for the intended purposes, is the full extent, which it cannot have been onhitherto; that Dr. Reid's place have been ob-jected to by men of every description, and party, who have had lamentable experiences of their instrumentable experiences of party, who have had lamentable experience, of their inefficiency. We are not aware of any instance of their success. They are enormously expensive, and injurious to the building and is objects, and should no longer be persisted in Every architect is able to receive, valuable in-formation from men of acience, emissed, is their own walk, and is anxious to seek it, but it is on him that the arrangement of every it is on him that the arrangement of avery part should depend, and no superstud, arene can be arrived at by any other course. If ventilation, as now managed, be actually de-structive of the health, which it is expected, to benefit, it would be positively better to leave it quite unattended to; at least, we yeothere to say that a skilful architect, if unfattered, would produce a botter possitively ond at the come time say that a skilful architect, if unfettered, would produce a better result, and at the same time consistent with any other end, which, is late attempts at ventilation, is deemed an after consideration. The ventilation must be adapted to the building, not the building to the venti-lation. We shall always be anxious to meet with any valuable suggestions from Dr. Beid, ar from any other individual, and should an instance of success in any plan be shown to us, shall gladly record an opinion, in, its favour. But, as present, the exidence as to Dr. Reid system is strikingly usfavourable. * 5

STONE STAIRCASES, UNDER THE BUILDINGS ACT,

Sin,----I lately commenced erecting a dwell-too late, to the Act, this certainly uppears to be the intention thereof. If so, I shall be compelled to put up a wooden staircase the same as my passage, &c., and may never have an opportunity of bringing in my stone staircase, as it is of peculiar construction. Perhaps you may be able to suggest some way in which I may be able to suggest some way in which is can use my stone ateps with the landings I have fixed. To me it appears unaccountable, that all the staircase, passage, &c., may be of wood, but not a part. Parhaps you can throw some light on the subject, and oblige Your constant reader,

A MASON.

. The wording of the Act in this respect is precise, and seems to leave no discration power. The regulation is certainly scopped ous. We should be inclined to send, the question to the referees.

Digitized by GOOgle

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

¹⁰ At an ordinary meeting held on Monday Jast, Mr. Papworth, V.P., in the chair, Mr. ⁹ W: C. Reed was elected an associate. A can-⁹didate as Fellow, was black-balled, on what account did not appear.

but A paper was read on the Kentish Rag Stone aby Mr. J. Whichcord, jun., associate. The district in which it is quarried is about thirty miles in length through the central part of Kent, and is about four to ten miles in breadth. This district comprises the towns of Seven-baks, Maidstone, and Lenham, &c. The quality of this stone is very variable, being in some districts hard and flinty, and in others almost as easy to work as Portland stone. It is in the quarries at Boughton, in the neigh-It bourhood of Maidstone, that the best qualities of stone are procured, and as the men em-ployed in them often find among the rubbish stones of a spherical shape, some as much as 12 inches diameter, and similar to those em-ployed for the artillery of the fourteenth and fifteenth centuries, it is not improbable that at * that period these quarries supplied stones for that and other purposes in the metropolis. It was to this quarry that Mr. Whichcord con-fined his observations, and a diagram accom-

⁴ panied his observations, and a diagram accom-⁴ panied his paper, which shewed the various ⁷ layers of stone and hassock, — the technical ⁴ name given to a species of sand which invari-¹⁴ ably intervenes between the different strata of " stone. These lavers are about twenty in number :

Firstly, the land rag, which is a hard stone, dark in colour, and is to be procured in lengths of five or six feet. This first layer is about "fifteen feet from the surface of the ground, the ^a fintervening space being occupied by the vege table mould; then a deep bed of loam of diffittervening space being occupied by the rege-'table mould; then a deep bed of loam of dif-ferent qualities; and lastly, three beds of 'hassock, separated from each other and the 'loam by three shallow layers of ferruginous sand.' The second layer of stone is termed header—laying, on account of its being prin-cipally used for small headers. Next in order is the great regr which is free of working ß is the green rag, which is free of working, and easy to be got in lengths of about six feet. The hassock, which divides this and the next layer of rag, is indurated enough to form good working stone. We then have a layer used principally for paving, and called yellow rag, succeeded by the pelsea, from which the largest stones can be procured, hard and strong in quality. Then the coleman and and strong in quality. Then the coleman and little coleman, separated by the hassock, and both of which give stones too hard and flinty to be used for other purposes than headers, &c. We now come to the thickest layer, called great rag, which from having many cross fissures cannot be got in blocks of any length, and is therefore used for headers or else for lime. The bed of hassock which lies directly under the great rag is of very superior quality, and re-sembles the Reigate stone. It is used by the maexceedingly well. We then have the Newing-ton cleaves, which is hard and difficult of working, but yields stones of large size. The next layer is an exceedingly shallow one, and is so flinty, as precludes its use for other purposes than for macadamizing roads. Then the Whiteland-bridge, from which stones of 12 , writeland-bridge, from which stores of 12 feet long can be quarried with certainty and ease: it is of a blue colour. The next in suc-cession is the Mainbridge, resembling the pre-ceding layer, but from which stores of so farge a scantling as from the Whiteland-bridge cannot be procured. Then comes the garl, tised generally for headstones : it is separated "By a bed of hassock, thicker than the others, "from the Horsebridge layer, which gives good "stones, of nearly 15 feet in length. We then find three beds called the header-layings, with their alternate beds of hassock ; these are very Inferior in quality, and of little depth. The next two layers are called the upper-bottom and under-bottom; they yield stones of fair quality and large dimensions. The hassock which separates them is rubbishy, and that ¹ which follows the under-bottom layer is ex-weedingly soft. We now come to the last layer, which is called white rag, resembling chalk in appearance, and useless as a stone, as it crumbles in the atmosphere. It reposes on a "Def bf hassocky clay, beneath which the "Duariymen have not penetrated: it is very "doubtfol whether any limestone is to be found

"fower that this.

The author then alluded to the various modes of dressing the different kinds of rag stone, and mentioned that the small hassocky spots which occur continually, in it render it anfavourable for tooling, as they give it the appearance, when smooth, of bad Portland; it is, therefore, usually picked. He also stated that, although the harder qualities of Kentish rag stone are scarcely inferior to granite in resisting pressure, the vents occurring in it render it dangerous to use as a bearer. The following analysis was made by Mr.

Phillips :-

KENTISH RAG STONE.

| Carbonate of lime, with a little mag- nesia Earthy matter Oxide of iron Carbonaceous matter | 92.6 6.5 0.5 0.4 |
|---|---------------------------|
| HASSOCK. | |
| Carbonate of lime Earthy matter Oxide of iron | 26-2 72-0 1-8 |

CHURCH NEWS.

THE inhabitants of Rotherham are about to restore the south porch of their ancient church to its original state. The works are entrusted to Messrs. Weightman and Hadfield, architeets. The new church at Rise, in the un-cese of Bangor, was consecrated on the 12th ultimo. The interior of the roof is painted blue, and studded with gilt stars. There are four stained-glass windows. The east window is a representation of the last days of our Saviour upon earth-the crucifixion, the taking down from the cross, ac. The walls are deco-Tated with scrolls with appropriate texts of Scripture. It was built at the sole expense of Mr. Bethell, from a design by Mr. Chantrell, of Leeds, architect......On Wednesday next, of Leeds, architect......On Wednesday next, the 10th inst., the nave of the Holy Trinity Church, at Hull, will be re-opened by the Rev. Dr. Hook, Vicar of Leeds.....The church of St. Mary De Crypt, Gloucester, was re-opened with great pomp on Thursday week......An organ has recently been erected in St. Paul's Church, Herne Hill, by Bishop. The case in which it is contained, is of carved oak, cut by the machine of Mr. S. Pratt, of Bond-street; the cutings are of quatterfoils. gothic and bethe cuttings are of quatrefoils, gothic and he-raldic devices. It may be said to be in two compariments, being placed on each side of a gothic window, richly painted, at the west end of the church. In the process of taking of the whitewash from the interior of the Hungers ford Chapel, in Wellow Church, thirteen distemper drawings, representing our Saviour and the twelve apostles, have been discovered around the east window. The larger figures, eight in number, are about half the size of life, and the colouring of the whole is said to be well de-fined.----It is intended to make some extensive renovations and improvements in the pa-rish church of Liddington, Wilts, including a re-pewing of the church throughout, with the view of increasing the accommodation, which is much wanted.—The sam of 2,600/. Three-per Cent. Consols, has recently been transferred by Miss Jane Cook, of Cheltenham, to the trustees of the London Society for promoting Christianity among the Jews, for the purpose of enabling the committee to complete the building of the church on Mount Zion, according to the plan proposed by their architect. —George Liddell, Esq., has lately given a plot of ground, as a site for the new parish church of St. Paul, at Hall. The value of the donation is ascertained from the fact of 8501. having recently been refused for this piece of land. A monument has within the last week been erected in Gloucester Cathedral, to the memory of the late Major William Davy. It is of Chilmark stone, and consists of a central canopy, crocketed and crowned with a rich finial, flanked by clustered buttresses, terminating in pinnacles, and supported by corbel angels, bearing shields with initials. The facrests are emblazoned in panels mily arms and under the tablet, and in the spandril of the central arch. The inscription is engraved in the old black letter, with rubricated capitals. It is designed and executed by Mr. Osmond, of Salisbury.—The church lately erected at Woolfardisworthy, Devon, was consecrated on Friday last, by the Bishop of Exeter. It was designed by Mr. Hayward, of Exeter, and built

by Mr. Baker, of Southmolton. The velvet altar-cloth, the chair for the altar, the stone pulpit, and the memorial window, were presented to the church by different persons. of the new church of St. Stephen's Woodville, near Ashby-de-la-Zouche, when the Countess, Lady Gore, and the Hon. Captain Curzon, were present at the interesting ceremony. A new ecclesiastical district has been formed in Gheltenham, and a church, in the early Norman style, to be dedicated to St. Peter, will very shortly he erected. The committee of the Church Extension Society have already fixed upon a site and plan, and have also provided a sum of 50, per annum towards a permanent endowment.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

THE association met on Wednesday evening last; Mr. Pettigrew, F.R.S., in the chair. In opening the business of the evening, the chairman said, that some discoveries of a verv interesting nature had been made during some excavations on the Duke of Beaufort's estate at Badminton, and that his grace had stopped the works until their president and the draftsman of the association could visit the spot. Amongst a variety of antiquities exhibited, were some ancient swords, which led Mr. Planché (when describing them), to inquire if any information concerning the sword of Charles I. at Whitehall, removed from the Croker, the hon. sec., said he had addressed Lord Lincoln on the subject, but had not yet received a reply.

Allusion being made (in the course of an Interesting conversation on the preservation of monuments), to a letter in The Times of the preceding day, stating that the tombs of Henry IV. and his queen (at Canterbury), were about to be repaired in a doubtful manner, at a cost of 1,600*l.*, Mr. Pratt, the proprietor of the carving machine, said that parts of the tomb were now in his hands to be copied exactly.

Mr. C. Roach Smith, read a valuable paper on Roman antiquities found in and near London, which he exhibited, and at the end of it, brought before the meeting the statement of it, brought before the meeting the statement made by Mr. Tite at the Institute of Archi-tects, and his own letter on the subject, given in The BUILDER last week. Mr. Smith also read a correspondence with Mr. Tite, which appears in the present number of our jour-nal, and answered in detail the particular charges brought against him; which charges, he arguid, from the circumstances under which he argued, from the circumstances under which they were made, were intended to discredit the Archeological operation through him, their secretary. Mr. Lott, F.S.A., Mr. Jerdan, the chairman, and others, addressed the meeting on the subject, and a resolution was passed, expressing regret that Mr. Roach Smith should have been subjected to the attacks complained of, and thanking him warmly for the disin-terested zeal which he had ever exerted himself to preserve the antiquities of the city.

REPAIRS OF MAYNOOTH COLLEGR.--The Globe says, the board of Maynooth College recently made an application to Sir Robert Peel, stating that the sum of 30,000%, allocated for repairing the old and erecting new build-ings, would fall farshort of the requisite amount, as appeared by the plans and estimates of Mr. Pugin, the architect, which were forwarded to the right hon baronet, and it was submitted for the consideration of Government, whether, under such circumstances, an increase of the building fund should not be made. The reply of the Treasury was read at a meeting of the board on Friday se'night, peremptorily refusing any increase whatever. Already upwards of 2,0004. have been expended by the Board of Works in the repairs of the old college buildings, and much remains to be done, independently of the new buildings. The board, having no alter-native, determined to call on Mr. Pugin to make a corresponding reduction in his plans and estimates, in order that the sum allocated should cover all expenses. A building com-mittee was appointed to consult with the architect, consisting of Archbishops Crolly, Murray, Slattery, and MtHale; Right Rev. Dr. Kinsella, Lord Ffrench, Sir Patrick Bellew, and Mr. Hussey. Treasury was read at a meeting of the board



FREE I BUI EIDER.



STAIRCASE AT GROMWELL HALL, HIGHGATE.

HIGHGATE, 30 weil known to every Londoner, was formerly spriched with asveral magnificent Elizabethan mansions, which have long since disappeared. Among them was Dorchester House, a view of which, copied from a very rare print, will be bound in Mr. Prickett's small volume of the "History of Highgate." In the collection of drawings by John Thorpe (preserved in Sir John Soane's museum), which are of the date of Elizabeth and James E.; there are plus of houses at Highgate, but no elevations or names are added to them.

to them. Mathematika and the solution of the interesting and the building known as Cromwell Hall; in this neighbourbood, very little information, besides what the building itself affords, can be obtained. In this particular it is not at all singular, as there are

several ancient buildings of important character both in the neighbourhood of London and throughout England, of which the names of their first possessors have been lost; an old shield of arms placed in some conspicuous part of the structure, if it can be deciphered, is generally the only guide which will throw light on the subject. Sometimes, instead of one shield, we find a great number, as many, perhaps, as twenty, belonging to the ancient gentry in the neighbourhood, or it may be the armorial hearings of those families with whom the proprietor was connected by relationship, but not so closely as to entitle him to place them in his own escuteheon in the proud situation of regular quaterings; of gourse, when this is the case, we are in the dack, as to who possessed the house. For an instance of this kind we have the old manor-house of Hollingbourne, in Kest. If a shield of arms, either

in plaster or stone, is placed singly is the centre of a ceiling, or over a fire-place, such may, without fear, be given to the person who erected the building, unless, as was frequently the case in the civil wars, the proprietor of a sequestrated estate removed the eye-sort (to him) of the real owner's shield, and substituted his own. Whether this was done at Cromwell Hall, without having the names of the parties who, one after the other, had frem owners of the building, it is hazardous to av. The house is universally supposed to dare been built for, and inhabited by, General Jiton, who married, in 1646, Bridget Cromwill, eldest daughter of the protector; a shield of arms on the ceiling of the drawing room far, without examination, been pointed, out so be langing to Ireton, and with like corresement, the monogram A. C., in one of the fire place, was said to represent the initial, of the

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THERE BUILDER.

DETAILS OF STAIRCASE, AT LARGE. 1.01.02.15 .5.71 ELEVATION OF PENDANTS 1 <u>د</u> SECTION OF HANDRAIL

Cromwell his wife. Ireton bore on his shield. ermine, two bendlets, gules ; the plaster shield on the drawing-room ceiling at Cromwell Hall has two bars gemal, and in chief a lion, passant gardant. I am indebted to a friend in the Herald's College for the information, that this coat stands in an ordinary of arms, the Eliza-beth to Tregoze, being azure, two bars gemal, and in chief a lion passant gardant, or. He remarked that a similar coat, but with different tinctures, might have been used by some pro-prietor of the old house, of an entirely different name, and that there was no match whatever to it to be found in the pedigree of Cromwell

The name of Tregoze is not mentioned in any topographical history of Highgate, and the connection of General Ireton's name with the building appears to rest upon no other founda-

and the countrey towards the south, verie farre

farre." This Cornwallis, Lyson supposes, was son of Sir Thomas Cornwallis, a man of consider-able eminence in the reigns of King Edward the Sixth and Queen Mary; he led a retired life during the reign of Queen Elizabeth, and died at a very advanced age in 1604. It is probable that the monogram A. C., previously noticed might below to a descendant of this noticed, might belong to a descendant of this Sir Thomas Cornwallis, one who bore some part in the first erection of the building; as to the personage for whom it was intended, I must leave the inquiry in the hands of those who have more inclination and more time than I have to pursue it; there can be little doubt from the style of the building, that of Charles the Second, and from the decorations of the interior being of a military character, the bouse must have been intended for an officer of dis-tinction. If he had been a royalist, his shield

of Cromwell Hall is the staircase; and this alone gives undeniable proof that the house was erected for some great military commander.

The print shows a view of the staircase on the ground-floor; it is carried from the basement to the attics in the same style. Of the design of the staircase it is hardly necessary to remark, it is deserving of great praise; nearly all the bays, of which there are thirteen are different: so are all the small thirteen, are different; so are all the small figures on the top of the standards; these are carved by no mean hand, their expression and attitudes are admirable. Some are represented as playing on drums and fifes, the mili-tary band of the infantry of the day, as the trumpet, cornet, and kettle drums formed those of the cavalry; others are saluting, mounting guard; some of them are supposed to be por-traits, and that they should be so does not traits, and that they should be so does not appear at all unlikely, so well are some of them excented. One has been stolen, or, to use a polite word, appropriated, by some thieving self-imagined antiquary. The real antiquary, supposing the figures were in safe keeping, would rather see them in their original posi-tion. The lost figure is said to have represented Oliver himself, — it was the last on the top of the staircaset his statue, however, would hardly tion. The lost figure is said to have represented Oliver himself,—it was the last on the top of the staircase; his statue, however, would hardly have been put where it could only have been seen by the domestics. These figures are each 1 foot 7 inches high,—some of them have been sedly mutilated; the costume is mostly that of the soldiers of Grouwell's army, but in one or

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two, the costume approaches nearly that of the reign of James the First. The character of the ornamented bays will

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The character of the ornamented bays will be best seen by the two, given in detail, on the preceding page; the whole are of similar character, containing within the scroll-work, shields, arms, such as helmets, breast-plates, swords, pikes, and flags; musical instruments, wreaths of laurel, &c.; in some are represented instruments of war of earlier date: many of the small figures in the standards have circular shields on their left arms. In the whole of the bays the artistic filling up of the space, and the leaving of proper voids, is capitally attained.

The building contains a great deal more of detail interesting to the architect. The front itself is a good specimen of the heavy moulded brickwork of the day; several of the rooms contain richly-ornamented plaster ceilings,one in particular is extremely handsome, and the quaintly carved door-frames leading into all the rooms from the staircase, must not be forgotten. Several of the plaster friezes in the rooms are of much earlier style than the build ing itself; they were the plasterer's stock pat-terns of the day: some of them I have met with in old buildings in Yorkshire and Somer-The rooms are of a noble size, and setshire. findeed the whole building is planned on a grand scale; it is admirably adapted for its present purpose, the education of youth on the French avatem: the establishment is called French system: the establishment is called College Français de Londres, the master is the Rev. G. V. De Linde Monteusis. This gentleman kindly permitted me to inspect the building, for the purpose of making the sketches C. J. R. engraved in the present paper.

COLOURED DECORATIONS.

At a meeting of the Desorative Art Society, on November 26th, a paper "On Chromatic Decorations," was read by Mr. E. Cooper. He commenced with a chronological review of various modes of applying or using colour in Egypt, and on the continent of Europe, from remote times to the end of the 17th century. In referring to the stupendous and richly-decorated remains of temples and porticos in Egypt, the commented on the dull and opaque colours, contrasted with mat and burnished gold (laid on in leaves) which are found therein, and also "upon mummy cases; he described the coloured intaglios on the walls, and the painted ceilings of deep azure, studded with stars in the temple of Medeenet Haboo, at Thebes; he exhibited drawings of Egyptian ornament of excellent design, and remarked that no progressive improvement in decorative art is discernible in these works.

The temples of Greece were then noticed, where colour was applied to capitals, frieze, 'entablature, and the back grounds of the tympanum; also on the ogee mouldings, where hoheysuckle, egg, and other enrichments were 'painted or stencilled; and it was observed, 'that, although no remains have been discovered; it was reasonable to infer, from the emihent state of plustic art, that contemporary 'pictorial art had arrived at considerable perfection, and the names of some Greek artists were given, on the authority of Pliny and Quintilian. After some remarks on the vases of Greece, and the mural decorations of the sepulchres of Etruria, he directed especial attention to the magnificent baths or thermae, of Titus, at Rome (erected A.D. 70), and (referring to the illustrations by M. Ponce), he observed that the fresco paintings found there, display in the grouping, drawing, and management of drapery, a refined feeling and knowledge of art; and in his remarks on the colour used, he observed that the decorations were executed, most probable, by Greek artists.

executed, most probably, by Greek artists. The decorations of Pompeii and Herculaneum, being of the same period, were then described; but, as might be supposed, from their being provincial towns, they would be found inferior in execution and splendour to those of the capital. The arrangement on the walls, of masses of black, red, and white, exhibited a principle which was commented on at some length; and it was also remarked, that these examples do not afford an absolute criterion by which to estimate the perfection of the arts of that or the preceding age. Passing over sevaral centuries, he next noticed the early efforts of Christian art, remaining to us in the mostace of the churches and palaces of Itely; and after some remarks on the productions of Cimabue, Giotto, and Leonardo da Vinci, he entered upon a consideration of the decorative works of Michael Angelo and Raphael.

of Michael Angelo and Raphael. In this period of Italian art, the anachronisms and disregard of relative proportion, in the parts composing arabesque or grotesque decorations, were especially noticed, as well as the enrichments, similarity in design and colouring, existing between the works of Raphael and his school, and those in the baths of Titus, before alluded to, and which were discovered at this time: a striking instance was exhibited, in the decorations at Mantua, by Giulio Romano, and Andrea Mantagna. (See Gruner, plate 24, and plate 5 of the Baths.)

The magnificent decorations by the Venetians were next described, in which massive mouldings richly carved and gilt, divided the surface of ceilings and walls; the coffers or panels being filled with paintings by Titian, Tintoretto, &c., produced a gorgeous effect. The decorations of the ceiling of the sacristy attached to the Duomo, or cathedral at Venice were said to be worthy of recommendation, on account of durability and splendour, for open colonnades in this country (such as at the Royal Exchange); the back grounds were of vitrified gold, and exhibit all the beauty of ancient mosaic, combined with the harmonious colouring and beautiful ornament of the sixteenth century. This century witnessed the rise and deline of fine art in Italy, and in the following one, although we meet with some good artificers, they were mere copyists and mannerists, and not great artists.

In discussion, the terms arabesque, grotesque, moresque, &c., were argued; the modes of lighting, and the principles of gravitation of colours on walls of apartments were commented on, and a regret expressed that decorations in the houses of nobility are not sufficiently known or accessible to the inspection of decorators and artists.

CEMETERIES VERSUS CHURCHYARDS.

In the course of the alterations now going forward at Redcliffe church, Bristol, it has been found necessary to the security of the walls, by depth of several feet a portion of the soil which in the course of ages had risen far above its original level; and in doing this, many graves have been opened, and the bony tenants ejected from their dwellings. This course has naturally been met by great opposition on the part of the parishioners, and it has become a debateable question whether the dead should be allowed to rest, and the walls to decay, or whether the interests of the buried should give way to those of the living, and the bones be removed for the better security of the costly and magnificent temple. It is a painful question, but one that we think must be decided in favour of the building and those who have a living interest in its stability. It brings with it, however, some considerations on the presumed freedom from disturbance, in the rest afforded by the churchyard, and may serve to illustrate the fallacy of the notion, enter-tained by many, that the repose of the dead is more permanently secured by burial in a churchyard than in the public cemeteries.

That which has happened in the case of Redcliffe, has happened lately or must happen soon, in regard to half the churches in the country. Since the zealous spirit for restoring and preserving our occlesiastical edifices which distinguishes the present day, has gone abroad, it has been discovered that in order to defend the walls and pavements from the destructive agency of damp, a course similar to that now being pursued at Redcliffe, is in most cases necessary. Constant burial has a teadency gradually to raise the soil of the cherchyard; and the most reprehensible practice of burying close up to the church walls produces at once damp, and an instability arising from the removal of the due support, afforded by the earth, to the foundations of the walls. To remedy this there is no other course than to remove the graves.

In the course too, of improvements which the spirit of the age requires, churches have in some instances been swept away to improve the thoroughfares in towns, and the grave yards have been converted into pitched ways.

The new cometeries, whatever may be the

case in future ages, are not at present liable to such disturbances, and therefore they have an advantage in this respect, to add to the very important considerations that recommend them, in a sanatory point of view, over churchyards in towns.*

The truth is, we cling to the idea of supsrior sanctity in churchyard ground, and of more undisturbed repose existing within' the shadow of the churchyard yews, from the arsociations and habits of feeling that make all venerable abuses dear to us, and which it'requires at first an effort of reason to overcome; but which, once overcome, are looked back to with surprise that in spite of reason, they should ever have exercised such influence. It requires only that we grow accustomed to the new system of burial, that the yews and cypresses and willows of our new cemeteries have time to strike deep root in the soil, in order that we learn to associate these cities of the dead with the notions of undisturbed seclusion and hallowed tranquillity, which, in truth more properly belong to them, than at least to city churchyards. What spot can have more the aspect of a home of the dead, than the beautiful burying ground of Pêre-la-Chaise? It is not gloomy—it is not gay; but has a sort of cheerful solemnity completely harmonizing with the tone of mind in which death should be contemplated by the Christian.—Great Western Advertiser.

THE TROUBLES OF RAILWAY SURVEYORS.

WE lately referred (ante p. 564), to the opposition which gentlemen engaged in the railway surveys meet with from certain land, owners in various parts of the kingdom, and gave enset illustrating the desperate lengths to which this opposition is carried. Size the neveral other cases have occurred, affording additional proof, if such were required, of the necessity for parliamentary interference early in the ensuing aeaston,

On Tuesday lest, a company of railway auveyors were employed to take the levels, Sc., near Islip, Oxon, when they were interrupted by the villagers, who, by main force, put an end to their proceedings. At the Brentford Petty Sessions, on Monday,

At the Brentford Petty Session, on Monday, six railway surveyors were convicted on a charge of trespass on the grounds of Mr. Wilmot, at liseworth, and sentenced to a face of 1/. each, with a warning that the highest penalty would be enforced in other of future delinquency.

Last week an attempt was made by the surveyors to complete their operations over the estate of Mr. Leigh, of Adlington, for the London and Manchester Direct, but that gentleman, with a number of servants, forcibly resisted the attempt, and, after a fight, secured several of them, who, on being taken before the Macclesfield magistrates, were charged with a trespass, and were fined 5a. each, which, with expenses, amounted to 20s.

Another conflict has occurred at Saxby. The scene is related by the Leicester Advertiser.—The surveyors belonging to the Peterborough and Nottingham Junction Railway attempted to survey a portion of Lord Harborough's land at Saxby, near Stapleford Park. The tenant ordered them off, but they would not retire. Several of Lord Harberough's men were present, and one of them (Biddle, a keeper) stood before the surveyor, and prevented his carrying the chain forward. This gentlemen then rushed upon Biddle, and

A nis genitemen then rushed upon Biddle, and "In large towns, and among a compact population, as in London, where the daily expenditure of hervous and muscular energy of the majority of its inbabilants is so constant and so excessive-where with the professional, the literary troore expecially in crowded bugs neighbourhoods) trends on the heel of the morrow, and the toil of the day in searcely permitted to be forgorten in the repoke of night-how imthe heel of the morrow, and the toil of the day in searcely permitted to be forgorten in the repoke of night-how inthe heel of the morrow, and the toil of the day in searcely permitted to be forgorten in the repoke of night-how inthe heel of the morrow, and the toil of the day in searcely permitted to be forgorten in the repoke of night-how inthe heel of the morrow, and the toil of the day in searcely permitted to be forgorten in the repoke of night-how inthe seciety of which they are units, that dering the permitted the society of which they are units, these wasch. The strend by sheep, the stmosphere they are insecually breathing should be in as parsa sondition, or, in other wasch as free from mechanical admixture, as possible ; how important is it, I repeat, that presend to sciety to locate theseselves beyond the rench (at least they think sol of nuclarous return and sould. May they be wared in time? They more and sould. May they be wared in time? They more is weaking, until the shadows, generally dimly outlined in the distance, have skiden as the disinternand, by May & A. WALKER, Digitized by GOOGS and the tork of the start.

attempted to move him by main force, but not succeeding in that, he immediately drew a pistol, and threatened to'shoot him. Nothing dounted, the keeper replied, "Shoot away!" and a slight scuffle at once ensued; but, happily, the pistol was not discharged. Just as this was ended, Lord Clinton, one of the directors of the company, and Mr. Grindley, their London solicitor, came up, and the latter gentleman read a paper purporting to be a permission from Lord Harborough to the railway company to survey. This, however, had no effect upon the tenants and retainers of Lord Harborough. The whole party then moved off. Biddle applied to the nearest magistrate for a warrant against the surveyor, who had threatened to shoot him, which was granted; and the delinquent (a Mr. Charles Frow, of Thorpe, in Lincolnshire) was apprehended in Melton, and shut up in the county prison from Saturday to Monday, when the case was heard before the Rev. G. E. Gillett, of Waltham. Mr. Gillett said he should send the case to the assizes, and should require the defendant to find sureties for his appearance, himself in 100%, and two sureties in 50%. each.

At the petty sessions at Ashendon last week, four charges were preferred against two surveyors and their assistants, at the instance of the Duke of Buckingham. The surveyors and labourers employed in making surveys for the South and Midlands Raffway were charged with committing damages on a farm at Westcott, the property of the duke, and in the occupation of George Homan. One was charged with breaking a fence, and damaging it to the amount of one penny. Another with choppring up a fence, and damaging it to the amount of sizpence. Others with having each comimitted damage to the amount of twopence. They were all fined.

Before daylight, as the keepers on the estates about Osberton were on the watch, they white surprised by the strange vision of divers wandering lights. This was thought to be something in the way of poaching, and, prometry upon the intruders, they found them armed, not with snickle, drag-net, or air-gun, but with brass tubes, long poles and chains, the lights proceeding from divers bull's-eye länterns. Each party prepared for action, the intruders their long poles with a flag at one end and pointed with iron at the other, like so many foot-lancers. The keepers, finding the number of the enemy on the increase, best a retreat, and left the fields unmelested to the fos, who proved to be the surveyors for sume line of railway projected between Linonia and Retford, which Mr. Foljambe had refused permission to be surveyed by day, and of which they were making a stolen survey at might.

Cases of determined opposition, and some of them accompanied by violence, have also occurred at Appleton, about eight miles from York, at Gienfalloch, in Scotland, and at Hammersmith, near London. At Lincoln a rues was resorted to for getting surveys across the property of a refractory landowner. A surveyer held him in parley whilst his assistants performed their work, and then coolly told him his refueal was of no consequence, as the accessary survey was completed. We might fill soveral pages with similar notes.

Br. MARY'S CHURCH, AT BEVERELY.—A Social paper says that the restorations of this fine edifice are progressing satisfactorily, and the work already executed is done in a substantifal manner. A barrel drain of sufficient dimensions has been laid at a considerable depth round the church, which proves very afficient in keeping not only the theor of the nawe and chancel, but the whole building perfectly dry. The flagged area and parapet wall, and the approaches to the five entrances, are finished. The foundations of the fabric have heren carefully examined, and the basements of the buttressee, the walls, and their respective weather mouldings, repaired and restored to a considerable height ; so that the stability of the structure may so far now be considered as secure as when first erected. The interior of the crypt is being proceeded with, and what has fur ages seemed only a miserable-looking callar, choked up with accumulations of soil, and hence and debris uf every kind, already astance a handsome appearance.

FOREIGN ARCHITECTURAL AND COL-LATERAL INTELLIGENCE.

The Netwoork of French Learned and other Instructional Societies. - The Secretary of State for Public Instruction, Mr. Salvandy, has sent a circular to all the above establishments, calling upon them to furnish him with data of their origin, scope, exertions, means and income, charter of enrolment, laws, and regulations, &c., for compiling therefrom an "Annuary of all French Learned and In-structional Societies," to be published regularly every twelvemonth at the expense of Govern-ment (!) This work will astonish the world, ment (!) This work will astonish the world as it will shew the vast number of such establishments scattered over the whole of the country. It has been before the intention of Mr. Sulvandy to combine and connect all the societies with the French Institute, whereby, without a meddling or impeding interference, their exertions might be combined and centralised. In connection with this plan, was another, entertained by the corporation of the City of Paris-viz., to provide all the in-structional societies of the metropolis with one common building, for their collections, meet ings, exhibitions, &c.--[At a moment when societies and collections of national antiquities, Sc. are everywhere springing up or projected in this country—the idea of an annuary of Bri-tish instructional societies might be enter-tained, and a comparison with that of our neighbours lead to beneficial results on either side.]

Government Literory Works in France.— Our readers will perceive, from the list of foreign works, how many are published "by order and expense of Government"—others appear under the patronage of the Secretary of State for Public Works; all which, it is almost needless to observe, does scarcely ever take place in this country. But even works, which are printed quite as a private enterprise, are patronized in several ways in France and Belgium, unknown, hitherto, with us. *Individual* subscriptions by the sovereign, as such, take place, as a matter of course, in every monarchic country; but the next step takes, in France, is a subscription "pour les bibliothéques du Roi," and this amounts to ten or twelve copies. Next comes, then, the subscription "pour les bibliothèques publiques," made by order of the Secretary of State of Public Works, or any other to which the publication may more immediately refer, by which, a thus patronized work gets officially spread over the whole of France, in all the universities, colleges, and other superior schools.

Milan. Atelier of the Sulptor Marchesi. Large Burial-ground "extra muros." — Exalled patronage of arts is not only benefical in itself, but also by the example it sets before others. The King of Sardinia has done so much of late for art, that the Italians call him another "Re di Baviera." H. M. has chiefly bestowed his patronage on the sculptor Marchesi, whose atelier is one of extreme interest even with those who had seen the extensive art-workshops of Schwanthaler and Thorwaldsen. It is filled with his own sketches, studies, and models, besides the drawings, pictures, and models of other artists, all which is enhanced by the splendid and costly material in which he executes his works-buge solid blocks of Carrara marble. The style of Marchesi is chiefly formed after that of Canova, and therefore, greatly coincides with modern Italian taste, while it may less tally with that of the other European nations, who have identified themselves rather with the bold and eccentric way of Thorwaldsen. Marchesi has even gone beyond Canova, in adhering to a feminine and meck style of sculpture. He is executing now three most sculpture. He is executing now three most extensive works—some monuments for the late Emperor of Austria; and then nine colossal statues of Carrara marble; a great religious art-work destined for the new church of St. Carlo Boromeo at Milan. The first group of three figures, represents *Religion* with cross in its left-the next a mother with several children, one kissing the feet of the Saviour, personify-ing Love—the last, a blind man led by two virgins, Hope. The pedestal, also in marble, virgins, Hope. The pedestal, also in marble, will be adorned with profuse flower-garlands, equalling the finest works of the Netherland school. The church will be a *Rotonda* in the Roman style, with high cupols, a deep choir, and half round sisles. Another vast structure, executed by Mr. Aluisetit, is a Campo Santo, at

the expanse of the town-corporation of Milia. As the population of that city nears now 180,000 souls, the necessity for a huge burial ground has been deeply felt, and three millions of frances are reserved for that putpose. Besides the open burial-ground, edcompassed by a high railing, there will be a great number of sepulchral vaults and sepulohral chapels, to meet the wishes and means of the different ranks of society—a large church, a sepulture of honour or pantheon, for deserving citizess, and an open colonnade all around. The style of these buildings will be the ancient Greek or Roman. All this, however, is marred by a separation and repartition of the four corners of the cemetery—destined each for the burial of persons who have committed suicide, Protestants, Jews, and children who died unbaptized.— Allgemeine Zeitung.

Destruction of Antiquities in the Roman States.—The important architectural mondments of the eld volsean eity of Cora-great and reasowned long before the founding of Rome-are no more. Numerous ruins of different epochs, especially the cyclopean walls (contemporaneous with those of Micone), bespoke its greatness even in the Roman tilsés. Those beautiful architectural fragments on the Piazza before Sta. Maria della Piati-tas well as most of the inscriptions; "life-size marble figures, the polygons of the cyclopein walls of the city and castle, have all been dystroyed of late in various ways, for hurning lime, &c. Only the stupendous slabs of rock -15 to 20 feet long-have not been distarbed. The Commission for the Preservation of Antiquities at Rome, does not seem to exert Helf very actively.—Allgomeine Beitung.

WORKS IN THE PROVINCES.

SURVEVORS have lately been busily engaged in measuring the ground for the site of a new college at Galway. It is to be at the rear of the present college or school of Erasmus Smith's foundation, and to extend access to Bohermore. It will occupy a space of about eight access and will be principally built of eight acres, and will be principally hull on the ground of M. J. Blake, Eeq., M. P., a field occupied by Henry Comerford, Esq. Sir Watkin Williams Wynn, Bart, has given 2007, to build national schools at Ruabon. Nasmyth's pile-driving machine has just com-pleted the task of driving the piles for the gigantic coffer-dams in connection with the new dock about to be constructed at Devom-port for the steam navy. The coffer-dam is 1,650 feet in length by 20 feet wide, composed of three rows of piles driven as close together as possible; in the wat number driven by the steam pile-driver not one was split. The very last duty the machine had to perform was to complete the driving of some piles which were driven by the ordinary means as far as such could possibly drive them; these the steam pile-driver sent down to further deputs, varying from three to ten feet, praving thereby the superior driving power of the steam, over the superior driving power of the steam, over the ordinary machine. — A Gas Company has been formed at Sheffield, for the purpose of constructing additional gas warks at Grimsby: ospital 10,000L, in shares of 10A each, sup-ported by Lord Worsley and a wealthy com-mittee. — A company is in the source of formation for the coastruction of wet doelse on an extensive scale at Lynn, in Norfolk. Mr. Rendel is the engineer. With the view of improving the port of Colchester, so as to allow vessals of from 300 to 450 tons. burden to reach the Hythe, the following works are in contemplation : to make a new cut from Rowhedge to Stake Reach, on the west side; the point as the Wivenhoe side of the river to be taken off, and the river to be made more navigable to Wivenhoe; the shallow part of the river below Wivenhoe to be deepened; from the termination of the new cut, at Stake Reach to the Hythe, the river to be widened and deepened; to make new quay walls on both sides of the Hythe, and about 60 feet to be added to the river from the eastern side be added to the river from the eastern side (Mr. Hawkins' premises), so as to form a dock or basin for vessals; to place, locks near Rowhedge, so as to form a floating basis or essal from thence to the Hythe bridge. The cost is roughly estimated at 50,000. The projected Argyll canel is to be provided with leeks, or rather tide-gates, 56 feet wide, 259

THE BUILDER. THE BUILDER.

feet long, and 18 feet deep, in view tides, and the rest of the canal in proportion, thus allow-ing the largest steam-boats to pass through with ease, and avoiding the error which has been hitherto committed in all Scotch canals, that of making them so small, that none but yessels of small size can enter them, or The Kingston Cotton Mill Company, at Hull, have entered into contrasts for the building of one immenso mill, 167 yards long, 28 yards wide, and 4 stories, high, . This building will form one side of a square, and it is intended to add two others of preasely the mana dimensions. The site comprehends, shout twelve statute seres, and is within a mile of the town. Upwards of 2,000 tons of casting svill be requir for this one mill alone.' Messra lames Lillie sppointed a committee to consider of the best means of improving the river communication between that rivy and Great Yarmouth, so as to make it navigable for sea-borne vessels. The committee are empowered to adopt all requisite measures to ensure the passing of an Aet, nin acondance with the shore object, and some excavations have been made under the direction of Dr. Bromet, All that has wet, been made out is a hypocaust and a bath. These remains are distant about a mile and a half from the palace of the Bishop of Oxford, at Cuddeston; his lordship has taken much interest in the excavations, and has requested Dr. Buckland to superintend the continuance of them. 'i

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RAILWAY JOTTINGS.

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THE rush to the Board of Trade on Sunday last to deposit plans, had in it something ludi crous : divers were the disasters that ensued. The great Western Railway was traversed all day long by special trains bearing these precious deposits. One serious collision took place, ising at Brentwood, upon the Bestern Countles Line; the designs, it is sold, combine stilly with good state, ---- Mr. Myhne's and Mr. Oampbell's portions of the North British Railway have just met at Dunbar, and the line for a distance of several miles may be said to be finished. ", The station office is now in course of construction, when it is said to be the intention of the Great.Western to apply for parliamentary powers to carry a new line to Birmingham on the broad gauge, and that the London and Eastern Counties Line at Stratford, on a site of ground known as Berkina's Field, and op-possie, to, the present station. The building will be one of some magnitude, and capable of affording graater facilities for increasing the of shorting grades fact theory increasing the prefix on that line, of railway......A calcula-tion has been going the round of the pro-virial press and originating in the Railway withentack, shewing that of thirty-eight of our leading will ways specified, four pay a dividend an their capital of 10 per cent. One pays a dividend of 9 per cent. Five pay a dividend of 8 per cent. One pays a dividend of 7 per cent. Five pay a dividend of 6 per cent. Seven pay a dividend of 5 per cent., and fifteen pay less than 5 per cent. Sir Wilfifteen pay less than 5 per cent.----Sir Wil-loughby Gordon, the Quarter Master General of the Forces, in his late examination before the Gauge Commissioners, stated that the effect of the rapidity of railways was such that there was as much efficiency with a small army as was formerly the one with /as hrgs one. Ge-neral Burgoyne in his evidence before the same commissioners shid, "with regard to the "dvastages of rakways" in a military point of view, I may be permitted to observe, that acting on the defensive against an invading enemy, we should have the use of them to the list. They would be of no use to the enemy, because they would have neither locomotive engines nor carriages to put on them. In the old warfare it was a great object to get pos-

senion of a rost of common mention, which was equally available for either party. It is quite a different thing in the case of railways. I do not consider it recommends do not consider it necessary, with the modern system of railways, to have troops stationed along the coast. The great reserves would be stationed in the interior." Such results must be made of the expense of erecting an electric telegraph to communicate from the terminus at Shoreditch to Norwich and Yarmouth. At present there is no intention of extending the same benefit along the line to Colchester. The junction between Stratford and the Thames will be opened in a short time, and will connect Blackwall, Cambridge, and Colchester. It verges off near the Stratford station and passes through several meadows to the edge of Bow Creek, which has been dammed in along the banks. The directors of the Eastern Counties have announced, that from the present time they are willing to issue yearly and half yearly tickets for the convenience of residents upon the line. The terms for an annual ticket, the whole distance from London to Colchester, first class carriage, is fixed at 63/., the minimum charge is 10%, which confers a second class yearly ticket from London to Ilford.

Correspondence.

VENTILATION.

SIR,—There is a long letter in your paper of 15th November, on the subject of Ventilation, which tells of a plan of ventilation of a large public building containing about 300 persons, many of whom were afflicted with fever and small-pox, that the system adopted by "an obscure country individual" was so successful, that six years have since elapsed without one case of fever or small-pox occur-ing. Allow me to ask "A Working Brick-layer." what is the nature of the plan? which

at present appears somewhat doubtful. I have adopted with success, a simple plan vis., having at the top of each window out-aide, a double blind, with a rebate about 2 inch distant in the frame filled with fine perforated zinc plate, the fiber gauge inside, and the window-sash regulated by a bolt with holes at distances, so that it can be let down to any degree of opening, allowing the air to pass through numberless small appertures; the inner gauge being kept warm by the heat of the room, causes a degree of warmth to be im-parted to the fresh air, and therefore no inconvenience arises. We know that in a tropical climate, the continued heat would be intoler-able if it were not from a constant breeze blowing, so that in the finest weather the wind absolutely whistles through the blinds on the windward side of the houses, and it is this incoseant change of air that makes it durable and even pleasant, but even then it is not advisable to sit or stand in the draught. I can therefore readily understand how persons must suffer in the Central Criminal Court, who are obliged by their duties to bear the draught of either hot or cold air. It should be more broken and diffused, and I think the plan I an effect. I am, Sir, &c. 55, Parliament-street, T. B. LAWRENCE.

Westminster, 27th Nov., 1845.

CABINETS D'AISANCE.

Stu,--In your paper of November 28th, is a letter on this subject, which is one of the utmost importance to the health and comfort of every one who resides in or visits London, and is imperatively urged on the authorities by the additional claim of decency. Public erections for this purpose would be expensive and offensive.

In most streets or lanes leading out of the great thoroughfares, are premises which by a small expenditure, may be adapted for these purposes; the rent to be paid by the sewer rates; to be distinguished by some inoffensive mark, and under the direction of the police.

-----....

WANSTEAD PARK, once the celebrated seat of the Earl of Mornington, is now converted into a brick-field. When the whole of the brick earth is exhausted, the site will be covered with villas. Aliscellanea.

BAD VENTILATION OF PLACES OF WOR-BAD VENTILATION OF PLACES OF W.98, SHIP.—Churches and chapels, though mora lofty than schools, are usually less in area, in proportion to the numbers frequenting them; and though in most cases they are occupied for fewer hours in the week, they seldom profit by much pains taken to change the air, whils; they are unoccupied. "In regard to churches," says a medical witness, "many illnesses and deaths proceed from faults of ventilation and warming; from the rush of cold air in one place on those who sit near the duors and windows, and the want of fresh air in other windows, and the want of fresh air in other places." And if such be the case with the congregation, in a building often of the most costly character, wherein a trifling expense would permanently secure abundant ventilation what must be the injury sustained by the preacher in the pilpit? Placed on a height at which his voice acts at a disadvantage, as if on purpose that he may breathe an atmosphere composed of the breath of all who sit beneath composed of the breath of all who sit beneath him on the floor, he has to exert his lungs to the utmost pitch, while they have the worst of the air to work with. And the more promis-ing his talents, the more successful his exer; tions in interesting and edifying a militude of hearers, so much the sconer is he likely to be consigned to silence, consumption, and the prese Still more nitible if meetile is the grave. Still more pitiable, if possible, is the lot of Sunday school children, whom moderu architects, and committees and commissioners, are apt to place in the recesses of a lofty root. Above the vent afforded by the windows, and with rarely any ventilation in the ceiling, they have the foul air of the whole building in a sort of halo round their heads. And there, when they can scarcely see the minister, much less hear him with parhear little commission less hear bim, with perhaps little convenience for sitting, and none for kneeling, and with their attention previously exhausted in school, they are required, under penalty of chastise-ment, to keep still, and silent, and awake, and in an atmosphere which of itself is quite enough to produce in a grown person, much more is a child, inattention, restlessness, and drowsi-ness. To say no more of the unbashhiness of a position such as this, I cannot refrain from expressing my apprehension that there must be hundreds of thousands in the land, who have bence conceived a deep and lasting aversion to the house of prayer. — The Unhealthy Condition of Dwellings, Sc., by the Rector of Alderlay.

w EARLY PAINTED DECORATIONS.learn from the Gloucester, Chromicle that some curious remains of the early art of painting; as practised in England, have been lately brought to view, at Southerop, in Gloucestarshirs. The chancel of the parish church, of the Anglo-Norman era, requiring restoration, on removing the accumulated coatings of whitewash from the walls, it was discovered that it had been at one time a perfect gallery of acrip-tural and other subjects, not the smallest por-tion, from the root to the floor, having been left unadorned. Most of these quaint designs were too far advanced in decay to be deciphered; but the Nativity, the Annunciation, and the Decapitation of St. John the Baptist, are still apparent, and shew that the recluse and devout designers possessed all then known of art, as well as all the learning of the time. A remarkable device for the decaration of a sacred edifice remains in one of the deep recesses of the lancet-shaped windows; it is the figure of a youth, in a red tunic, shooting an arrow at a red squirrel in a bright yellow tree, the bow held in the right hand. The costume of this figure seems to make the date some-where about the middle of the fourteenth century-five hundred years since.

THE ELECTRIC TELEGRAPH IN AMERICAN THE ELECTRIC TELEGEAPH IN AMERICA. ---We understand that an attempt to lay a pipe across the East River, at New York, for ease-veying the wires of the Electric Telegraph, has been completely successful; this pipe is of lead, in one continuous piece, helf a mike long, weighing 6,000lbs., and without a joint--per-fectly air-tight---and was securely laid across the river from a steam boat, engaged for the purpose, after considerable labour and diff-culty; in the pipe are four conservations culty; in the pipe are four copper wires, perfectly isolated, to safely, transmit the mag-netico-electric fluid. The whole was executed under the direction of Mr. 8. Colt, engineer, and the pipe was constructed by Messra. Tatham Brothers and Co.-Mining Journal.

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NEW APPLICATION OF IRON DROSS .-French mechanic formed the idea that by subjecting iron drops to the slow cooling process which is known to produce a total change in the nature of glass, a new and useful species of stone might be obtained : and as iron dross, such as the large furnaces yield, is a wholly useless substance, the announced successful result of his preserving attempts cannot but be matter of great interest, more especially at the present time, when the smelting furnaces of England are in a hitherto unknown state of activity. The object which the Frenchman sought to accomplish was, to impart to iron-dross the compactness and hardness of granite, and at the same time to save the cost and habour which the hewing of the real stone requires. To this end he contrived to let the iron refuse, while in a fluid state, run into iron forms, which were previously brought to a red heat by being placed so as to receive the superfluous flame which issues from the mouth of the formace; and in order to insure the slow cooling, these forms are provided with double sides, between which sand is introduced, which is well known to be a bad conductor of heat; is well known to be a bad conductor of heat; the whole is then brought again to a glow heat, and in like manner again cooled off. By this procedure, it is asserted, the discoverer has suc-teeded in forming paving-stones, flags, large building-blocks and even pipes of any given form of a degree of hardness and polish equal; to the best hewn natural granite, and at the most triffing conceivable cost.

RAILWAY TERMINI IN LONDON.--Here-path laughs at the notion of having only one terminus in the heart of London for all the railways? How many streets would it require for exit and entry? What size must the terminus be? And how would it be possible for the inhabitants to pass and repass those streets without numerous and fearful accidents, par-ticularly at such times as Greenwich fair, Easter, Whitsuntide, &c.? At Derby the station is 40 scree area, and only three lines of railway run into it. The London and Bir-mingham, Great Western, and South Western Metropolitan termini together, we apprehend, considerably exceed that. Then there is the Eastern Counties, and Northern and Eastern, the Blackwall, the Greenwich with its milthe Blackwall, the Greenwich with its mil-lions, the Dover, Brighton, and a host of new schemes, coming into London. What space is it possible would be large enough for all these? Where in London is it to be got: and what would it cost if it could be got? Would 100 or 150 acres be sufficient? Comparatively speaking, London would have to be swept BARRY UCTSUS SOANE. — A writer in the

Athenæum, in an article on architectural mutations, says, relative to the alteration of Soane's Board of Trade, at Whitehall : -- " The front is already completely dismantled, and stripped of all its columns and stonework, which is almost enough to bring Sir John from his "domus ceterna' to protest against the auda-cious sacrilege, although Mr. Barry is not treating his work only as he himself did that of his brother knight, Sir Robert Taylor at the or no brother knight, Sir Robert Taylor at the Bank of England. Still Mr. Barry might be content with devouring as much of poor old Soane as he had already got, his Law Courts (on which he prided himself so much), and his Scala Regia, and Royal Gallery at the House of Lords, all of which, after escaping the con-flagration and the fate of perishing, like Se-mele, in a glorious blaze, will soon be destroyed more ignominiously by the rude and ruthless more ignominiously by the rude and ruthless hands of workmen. Truly Mr. Barry seems bent upon exterminating Soanean architecture altogether, at least as much of it as he possibly can; nor, we dare say, would he at all scruple to demolish the 'domus æterna' itself.

New AND ECONOMIC MODE OF GENE-BATINO STEAM.—A French engineer, M. Leonard, now in London, has discovered an exceedingly simple means of curtailing the quantity of coal hitherto required in the generation of steam. His principle, for which he has taken out a patent, is that of putting whale er other fish oil into the boiler, unnixed, or with more or less water. When the oil is at a temperature producing steam, water is thrown in, and steam is produced as fast as required by the machine, without the oil passing off in vapour, or decomposing. Various experi-ments have been made, and the saving in fuel is stated at from 40 to 50 per cent.

Mary Star

SPAPIELDS BURIAL GROUND. - Towards the close of last week, Mr. Bramhall the barrister who had been appointed arbitrater by the court of Queen's Bench, to decide upon the proper steps to be taken with respect to this Plague-spot in the metropolis, sat for the first time at Fendall's Hotel, Palace Yard. After a short conversation, the proceedings were postponed for a week to allow of an examina-tion of the grave-yard being made by a chemist and surgeon to be appointed by the arbitrator.

MONUMENT TO THE REV. DR. WATTS MONUMENT TO THE REV. DR. WATES.— The inauguration of a cenotaph to the memory of the late Dr. Watts, author of the well known "hymns," took place last week at the Albany Park Cemetery. It consists of a full-length figure of Dr. Watts, in his ecclesiastical contume nine feet in height, standing on a costume, nine feet in height, standing on a pedestal of Portland stone, thirteen feet high and six feet square. In his left hand he is represented holding a book, and two others are upon the seat on his right side. It stands about the centre of the grounds.

NEW HOSPITAL AT GREENOCK .- The late Sir Gabriel Wood, whose demise took place in London a few days ago, has given in charge of appointed executors, the princely sum of 80,000%, to be expended in the erection and maintenance of an hospital in Greenock, for the reception of the aged, infirm, and disabled seamen of that port.

Cenber.

For building stabling for 100 horses, omnibus sheds, and other works, at Upper Holloway, Mr. J. Wagstaff, architect.

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Tenders opened in the presence of the parties.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stame Office to omit the names of the parties to whom tenders, že., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," S, Vork-street, Covent-garden.]

For repairing and keeping in repair for three years the Harnham, Blandford, and Dorchester urnpike-road.

For the erection of certain buildings for the purpose of a Fever Hospital, &c., in the Land of Pro-mise, Hoxton, for the parochial authorities of St. Leonard's, Shoreditch.

restoration of the south porch of Rother-For the ham church.

For paving and repairing certain carriage and footways in the district of Knightsbridge, for the paving commissioners of the parishes of St. Margaret and St. John, Westminster.

For the supply of materials to the commiss of the metropolis roads.

Ve the metropoles roads. For supplying the parish of Hackney with 10 tons weight of cast-iron Lamp-posts, to weigh not more than 34 cwt. each post. For supplying the Richmond Railway Company with 35,000 Oak keys. For excenting the works of the Hamber and

For executing the works of the Horsham and Keymer Branches of the London and Brighton Railway. Tenders to be sent in for the two con-tracts, separately.

COMPETITION.

The committee for the erection of the South Staffordshire General Hospital, Wolverhampton, are desirous of receiving plans, specifications, and estimates connected therewith. The sum of 100/. will be given for the one selected.

The committee appointed to superintend the Rebuilding of the Parish Church of Llandile are desirous of receiving designs, in the Gothic style, for the same. The sum of 50% will be given for the one selected, and 30%. for the second best.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

At Kneesworth, near Royston, Cambridgeshire, a fall of Ash and other trees; also a quantity of Fir

a fall of Ash and other areas, and a generative a poles, spirse, and topwood. At the Ship-yard, near the Cliff, Ipswich: a large quantity of superior and useful Timber, suitable for building purposes.

At Haselgrove, Queen Camel, Somerset : up-wards of 1,000 Maiden Oak, Elm, and Ash timber In the Subscribers' Wood Yard, Baltic-streets

Leith : 440 logs Honduras Mahogany, 140 logs St. Domingo ditto, 146 logs Cuba ditto, 148 planks Rio Bosewood, 147 planks of Bahia ditto.

TTY TENO

To be delivered, free, on board, in one or more Pression ports in the Baltic: 200,000 Fir railway sleepers and 150,009 Oak ditto.

TO CORRESPONDENTS.

-In measuring " Subscriber from the first." -"Buboother from the first," — In measuring plastering the optimize should be deducted. The sides of the specific states and the deducted. The walks are whicewed, and the connice be inder sta-inches in depth, it is the content to include ones third the height of cornine in measuring height of walks : if floated, two-thirds. When corning he above six inches in depth, include whole height of cornice in measuring walls, and then deduct and add (the round of room by depth of cornice) as " not set." mal."

"Well Wisher."—" Arnott's Biements of Phy-cs" may be obtained threagh any hocksallers. rice "

"Nota Victim."- We are not disposed to return to the subject at this moment: "" and the subject at the summer and the summer at the summer at the summer at the summer at the subject at the summer at the summe

"J. B. B." would best obtain the Aformation by writing to the Rev. J. W. Paph Blandibu

" D. E. T." - Either Reene's centel '0" Mars tin's cement, answers admirably for ministia 400 R and is well fitted for mouldings. "All bond soul "Assessment of Dilapidations" "" Archi 100

"D.R.," "Barrister," should have given in their names. An anonymous opinion mersiy, in such se case is worth nothing.

"Beginner." — The "circular shallow recesses" found is spandrils of Norman inches are simply ornamental : they are very general.

"X.Z.X." — A notice of the church from a local paper is in type: it shall be withheld for a few days, so that our correspondent may write to us.

"J. R."-We shall be glad to have the particu-lars of the case Porter v. Wilson,

"J. K." has our thanks. "It of 11-6 "Young Cabinet Maker." As when the store treatise on perspective will treak him what he res guires. 1.01

mpelled to postpone consideration of a hast af letters on this subject,

" T. S." - The letter about Carn stone is merely

useful. a surra ha

Postponed. -- " A few questions respecting Sew-ers," " Health of Towns," "Wolking Classes' Association," " Mr. Lacar's Restoration of the Parthenon," " St. Dubstan's (" double a wine

*** Correspondents are requested to address all communications to the EDITOR

CHARGE FOR ADVERTISEMENTS IN "THE BUILDER." "THE BUILDER." B. a. d. 10 Por Stoly Words on Loss, 1, 201

For a sories of alvestments above for a today tion will be made bry and a sorre act. in 9a Advertisements for warded from the country for

Advartisgments forwarded from the country for insertion must be accompanied, with a post-offse order, according to the shows coals. year 1 war Volume I., containing unwards of THERE HUNDERD ILLUSTRATIONS, in degantly, bound, in cloth, price 15s., and Volume ILLUSTRATIONS, pro-wards of FOUR. HUNDERD ILLUSTRATIONS, pro-vards of FOUR. HUNDERD ILLUSTRATIONS, pro-vards of FOUR. HUNDERD ILLUSTRATIONS, pro-line of FOUR and of all booksellers.

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MESTINGS OF SCIENTIFIC BODIES During the horizont of the second of the second of the second s place, 84 г.м.

Prospart, 9. Freemasons of the Church, Little Nemport-street, St. Martin's-lane, 8 P.M. WRDNESDAY, 10. Graphic, Thatched-bouse Ta-

WEDNEADAY, 10.---Grephic, Thetabed-Bouss Ta-vern, 8 P.M.; Royal Literary Fund, 3, P.M. THUBERDAY, 11.--Royal, Somernet House, 8 P.M.; Antiqueries, Somernet House, 2 Synx; Royal Society of Literature, 4, St. Martin's-place, 4 P.M.

ADVERTIGENERTS.

BOFESSOR KELLER'S POSES PLASTIQUES. ROYAL ADELAIDS GALLERY.—This cashifts at the Adelaide Gallery His Grave Tubiesen Viruses from the Ancient Maxters, which have received so largely the encomiums of the press. Every morning at half-past three, and in the ovening at mise of clock. Grast afforts have been made to add to the distin of this enhibitions. A vanisty of the public The Concerts as usual. Also Filbrow's Atmo-spheric Railway model, with explanatory locium.

sparro kaiway model, with explanatory lecture. ROYAL POLYTECHNIC INSTITU-tatoes, and the means of attracting the starch as an article of field, will be delivered by Dr. Byan, daily, at half-part Three, and on the Evenings of Mohdays, Wedstendays, and Friday, at Nine. Professor Bachhoffner's varied Lectures, with Experiments, in one of which he clearly explains the principle of the Atmospheric Bailway, a Model of which is at work daily. Mr. Downa, the celebrated Flutist, accom-panied by B⁴. Wallis on the Funoforde, will perform a Duet Concertified, and attewards a favourite Fanitasia, at Three o'clocit' on Tuesdays, Thursdays, and Saturdays, Cole-man's new AmetHend Licontories Engine, for saccending and descentified Including Eagline, for saccending and descentified Including New and very besuited of Model of tropical fruits. A new and very besuited series of Dissolving Views. New Optical Instruments, &c. Experiments with the Diver and Diving Bell, &c. &c.-Admission, Ose Shilling. Sobools, Half-price.

TO ARCHITECTS AND BUILDERS. OLLINGE'S PATENT HINGES.— Bole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always en view, for Charoh, Pash, Cocch-house, and all other Doors end Gates, of large ex-small disamilities, a grate of a ton in weight moving with these thingse air smally as a vicket; they are also admirably addited for drawing-rooms, being highly emempatial, and foldingr-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, also double-action Builse on the most improved principle, tad very superior Builse on the most improved principle, tad very superior seen at Charles Collings and Co's Patent Atletree, Sugar-mill and Sphenical-hinge Manufactory, 64, Bridge-road, Lambeth DOORTEE Pist COOD BUICA 47 DD

DORTER'S CORRUGATED, and PA-TENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iroa as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Masufactured of the best quality. Iron Funce and Hardles as usual,-The Trade Supplied.

IMPORTANT TO SURVEYORS, BUILDERS, &c. GALVANIZED TINNED IRON and ZINC MANUFACTORY, 17, Emmostb-street, Serkenbell.

Clerkenweil. J. DORE begs respectfully to inform Builders and Sur-veyers, that on account of the Encreasing Demand for Galva-nized Thused Iron, he has made such arrangements as will enable Bin to manufacture every article usually made in Zine, at the same Prizes; shee begs to recommend this metal corrugated for Booing as the most Economical, as is can be lad without Board; upon Slight Rafers. Every Article in Zine as usual, at the lowest possible prices.



Rvery Article in Zinc as usual, at the lowest possible prices. PATENT GALVANISED TINNED IRON. (MOREWOOD AND ROGERS' PROCESS.) A R C H I T E C T S, S U R V E Y O R S, BUILDERS, and CONTRACTORS are respectfully informed they can be specified with this invaluable motal for building purposes, Af the best quality and knowst terma. It is superior in every respect to zinc, and two-thirds less price than 7th above lead for roofing, no woodwork being required, but iron fairers only. 32 inches apart, rendering required, but iron fairers only. 32 inches apart, rendering required, but iron fairers only. 31 inches apart, rendering required, but iron fairers only. 31 inches apart, rendering required, but iron fairers only. 31 inches apart, rendering required, but iron fairers only. 12 inches apart, rendering required, but iron fairers only. 51 inches apart, rendering required, but iron fairers only. 51 inches apart, rendering required, but iron fairers only. 51 inches apart, rendering required, but iron fairers only. 51 inches apart, rendering required and 76 and faired also rain-water pipe beads, care sputst, bethaj store and fained pipe, eistern and water-elosets fixed. The sheets are 6 feet long by 5 ft., 7 ft. 6 im. and 3 foet wide, lind 90s. to any required weight per foot, and can be had either pien or eprugated. Please apply to CHARLES (ELL, Junior, No. 5, Quiek-set-row, New-road, St. Pancras, where references and testi-mensials of the bijehest respectability of extensive works already done can be had.

MOREWOOD AND ROGERS' PATENT GAL-VANIZED TINNED IRON.

VANUERD TINNED IRON. VANUERD TINNED IRON. T. W. BLALE-begs to asquaint the pub-olic that he is prepared to lay roofing, plain or corrugated, fix ripes, guiters, &c. Also chimney-tops and ventilating cowls of very description; also water and oil cisterns, of this igcorrodible and fireproof metal. He manu-factures all kinds of batha, as hip, shower, Rontan, open, alipper, sponging, foot, children's, and self-heating baths; also toilet-cans add pails, alop-palls; coal-scuttles, cash and deed-boxes, and fire-proof sales of very description; 10 per cest. eleaser that any house in Löndon. The PATENT GALVANIZED TINNED IRON is ap-plicibil of the following uses :- The Lining of Shipe' Store Rooma, Shipe' Water Buckets, Water Jugs and Heceivers, and for almost avers perpose to which sinc, tin, copper, brass, or any other motal is now applied; is more durable, and manufactured at much less expense. An experienced and manufactured at. For particulars, apply to T.W. BEALE, 46, Bridge House-place, Newington Causeway.

GAS LAMPS FITTINGS for NEW A BOOMTON BALL HY-DEAULIO GAS-BUSTOANTS, as pattern Opal Gas Brackets, fc.—C. DEBAUFER and SON have on view and brass hundsome Gas Brackets, Gas Pillars, newest pat-terns, and Chandeliers, at their Manufactory and Show-room, 10 and 11, Greed-lance, St. Paul's; adapted for public buildens, abops, and private houses. — N.B. Architecta, Builders, des, visibling to fit up at ahops, houses, dc., are re-quested to take an early opportunity of inspecting their stock. —Estimates girent from 8 fights to 1,000 at subusale prices.

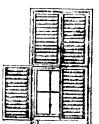
quested to take an early oppariunity of inspecting their stock. -Estimates given from 8 lights to 1,000 at wholewaie prices. OHARLES SMITH and SON, 25, GREAT CHARLES STREET, BIRMINGHAM, (ate STANDLY and SMITH, formerly STANDLY and GALB, Bull Street, Leekmiths, Rall-kanger, Bran-founders, Whitesniths, Ac., beginst respectively to solicit the attention of MAGISTRATES, ARGHITEOTS, and ENGINEERS to their immentions for pubmes, huntis may-hum, Ac. C. S. and Son will be happy to attend any com-mittee of magistrates without charge, and pubmit a supplied by them at the MODEL PRISON, LONDON, and TWENTT-THRE SIMILAR GAOLS, where they have given entire satisfactions. Among other testimensisks, nucl the approval of the inspector-general of prisons, and the supply of the whole of the ironanongery requisites for the residences of the nollity and orthogers, parts, and the supply of the whole of the ironanongers, including locks, bells, hinges, grade, apitons, and orthouses, including locks, bells, hinges, grade, spituma, and workbouses, including locks, bells, hinges, grade, spituma, and C. S. and Son beg to refer to the exception of orma-mental hrass and iron work, light castings, &c., C. S. and Son beg to refer to the extensive works per-formed by them at Windsor Castle, Northumberiand and Shan House, Bienkeini Palace, Chaiwwesh, &c. as a gue-rantee for the suppriority and derability of their work, in confirmation of which numerous letters from noblemen can be ahewn. <u>REDUCTION IN THE PRICE OF</u>

REDUCTION IN THE PRICE OF BUNNETT' AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

BUNNETT AND CORPE'S PATENT REVOLVING IBON SHUTTERS. THE validity of this Patent being com-pletely established, the Fatentee have much pleasure in stating that the very extensive domaind, and the employ-ment of improved machinery in the meanufasture, have given them an opportunity (of which they gratefully avail them-selves) of making a considerable reduction in the price of this well-improved machinery in the meanufasture, have given the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most exten-sive application this been adopted, and as affortive RE-VOLVING IEON SHUTTER can be constructed without infining B. and C.'s patent. These shutters can be ap-plied horisontally, either above or below the window, or vertically, as introduced by BUNNETT and CORFE, in some of the largest establishments : they are made with best as corrugated laths, if sequired. BUNNETT and CORFE also manufacture REVOLVING WOOD SHUTTERS, with their patent raising machinery, or withocut which no abutters can be suff or durable. BUNNETT and CORFE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULD-INGS, &c. . IN BRASS, COPFER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SEYLIGHTS, AND VARIOUS OTHER PURPOSES. Shop Fronts fitted in a superior manner with Iron Shutters, Patent Basse or Zime Stables, Metaled Engraved Stall Board Plates, best Plate Glass, and intermed Bases Fittings of all kinds, es the most advantageous terms. Es-timates given and contracts taken in Town or Country--All kinds of metal works ensecuted to say design. Metal Draw-ing, Acling, and Stamping for the Trade. OFFICE, 36, LOMBARD-STREET, LONDON. WORKS, at DEPT-FORD, KENT.







The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT Patented IMPROVEMENTS in the above enumerated Arti-cles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, Londen; or at the Licen-

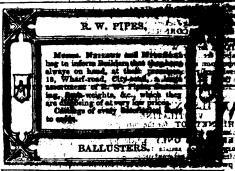
Engravings and Prospectuses may be had at the shove ad-dress, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLTING LEADS INTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRENGER THAN THE OADDINARY FLAT. LATHS (as shown by the engravings and prospectus), to ensure their general adoption.

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PLAT LATHS, AT A VERY CONSIDERABLE DEPUCTION, OF PRICE. CAUTION.—The Fatentees beg to caufion all persons against Making or Using BENT LATES for REVOLVING IRON SAFETY BHUITEES, so as to obtain increased strength or stiffaces; as they thereby render themselves liable to begal proceedings for infringing this patents. Licensee Granted

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CAEN STORE

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SOUTHWARM. PIMLICO MARBLE AND STORE WORK AND STORE GRAVE WHARF, PIMLICO KADA: A STORE SAMUEL CUN DY begs to inform Archive and Granits work is executed at the checkses positive rate Souther work, the executed at the checkses positive rate Souther work, to execute at the checkses positive rate Souther work is executed at the checkses positive rate Souther work, Tombs, Monuments, etc. MARBLE WORK for Halfs, Dairies, Tabler, Collegat Vases, at most ressonable prices. A large collection of Designs for Mural and other Man ments. CHIMNER WINKER

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Manufactory, 96, Regent-street, and 131, Chapter 1998. THE Patentee can confidently recommense edges being sheathed with IRON, and the cost firster movel than common shutters, their construction as simple, that the argest stabilishment can be opened or closed in a first movel than common shutters, their construction as simple, that the machinery. Their superiority over other Revolving Shisteness consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally cannot rust, buckle, or get out of order, and are equally reference to numerous establishments where they are find having on all occasions given the greatest satisfaction.

WINDOW BLINDS, SURANCE AND A STANDS, S

To Architects, Builders, Contractors, Upholden, and Charta M. H. BUSBY, NEW VENETIAN HOUSE 7 and 8, Anderson's Buildings, City Road, Loudon. Manufacturer of every Description of Window Bilmer, on the mest approved principles, nemely, the Spanial Oriental, Florentine, Louvra, and Venetian, Sun Shaden oriental, Florentine, Louvra, and Venetian, Sun Shaden Ferforsted Zinc Blinds, Transparent, Landscape, and Holand Blinds on Springs, Patenst and Common Rolling for the Interior; Blinds for Shop Fronts, Plain, and formanental, on the most Improved planes. Old Blinds Altered, Benovated, and Baffard. A variety of Floren-pat Stands alvers Bacady. Russic, Bennis, and etter Gender Stands alvers Bacady. Husic, Bennis, Burdes, and ormanental.

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SATURDAY, DECEMBER 13, 1845.



HE announcement of the proposed revision of the Buildings Act, has brought us a flood of letters complaining of its operation. With some trifling exceptions, however,

the cases set forth relate to the administration of it rather than to the Act itself, and several of the letters apply wholly to the proceedings of one or two district surveyors only.

We are never willing to find fault, and would at any time step a little way out of the path of strict duty, to avoid hurting the feelings of a professional brother. Our object in alluding to one or two instances of unwise conduct on the part of district surveyors, at the present moment, is to induce those who are deputed to see the Act carried out, to " do their spiriting gently," and not by an avaricious grasping after fees, to increase still further the feeling of disapprobation which has been engendered. If they would consider for a moment, as we well know a large number of the body do, that they hold their office for the protection of the public, and not for their own personal advantage, their course of action would often be different from what it is. The Act is not put into an officer's hands simply that he may find occasions to demand a fee, but that he may see its provisions for the general good (often opposed to private interests), honestly carried out; provision is made in it to pay him fairly for all he does, but any thing beyond this he ought not to look for; and what is more, must not. To return to the letters before us.

The first we take up reproaches us in strong terms, for omitting to draw attention to an information laid by Mr. C. R. Badger against Mr. Barnee, for having "made certain additions to projections " from a house situate on a plot of back-ground in the Lewisham-road, contrary to the Act. Mr. Barnes shewed that the works complained of were commenced before the first of January last. Truth to say, the award of the referees on this matter was before us (every award comes before us), but having had occasion to comment on the proceedings of this gentleman, of " Lamb and Lion " notoriety, some time ago, we were led to delay noticing it, Suffice it to mention, the referees decided there was no ground for bringing the case before them, and marked their sense of the proceeding by making Mr. Badger pay the costs, 4/. 11s. 4d.

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Another correspondent, in connection with the same neighbourhood, writes as follows :--

"6, Bath-terrace, Horsemonger-lane, Borough, Dec. 4, 1845.

Sis,—A friend of mine, a keeper of liverystables on Blackheath, has had a sign-board (about 5 feet by 3 feet, and 1 inch thick), fixed against the front of his stables, with four iron holdfasts driven into the joints of the brickwork; for doing which, the district surveyor made a claim of 30s. My friend hesitated to pay him, after which he reduced the amount of his claim to 10s., which was paid, and a receipt given for the amount. I shall feel obliged by your informing me, through your excellent journal, if the demand made by the surveyor was in accordance with the Buildings Act.—I am, Sir, &c.,

NICHOLAS METHEBELL."

THE - BUILDER. Now, this exorbitant demand was not only unwise, but, as it seems to ns, perfectly unjustifiable. It is such conduct as this, on the part of a very few individuals, which is bringing the whole body, most undeservedly, into disrepute. The Act sets forth the height at which signs or notice-boards must be fixed, and involves the necessity of sending notice to the district-surveyor before putting up such, that he may see the directions are complied with; but for a service like this, a merely nominal fee, if any, should be taken. For the inspection and removal of projections, which

involves writing notice, &c., the Act allows the surveyor to demand 10s. For such services as that alluded to by Mr. Metherell, or for seeing, for example, that a chimney-pot above 4 feet high is properly fixed, half-a-crown would be ample. This might easily be put on a proper footing by the referees.

A few days ago, Mr. Geo. Porter, the surveyor for the district of Newington, summoned Mr. John Wilson, builder, of Southwark, before a magistrate, for having neglected to give him notice of having begun to resume operations in the building of certain dwelling-houses, after suspending the progress of such building for three calendar months, for which omission he was liable, under the provisions of the Act, to a penalty of 20%.

It appeared that, in the latter end of the year 1844, the defendant, Mr. Wilson, gave the necessary notices to Mr. Porter for the erection of five dwelling-houses in the front of Pownall-terrace, in the Kennington-road, and, in order to avoid the provisions of the new Act, had formed a foundation, and laid down a certain quantity of brickwork, before the new Act actually came into force. Mr. Porter. conceiving that the building was not in such a state, when the new Act came into force, as to take it out of its provisions, the matter was submitted to the official referees, who made an award in his favour. Instead, however, of following up the award of the referees, Mr. Porter thought proper to proceed against Mr. Wilson under that clause of the Act by which a builder is required, where the operation of a building is suspended for three calendar months, to give notice to the surveyor of his intention to recommence the building, as if he were about to commence a new building. Mr. Wilson, considering the building to be under the operation of the old, and not the new Act, hed neglected to give this notice. The summones was ultimately dismissed on a technical objection.

It seems to us, with all deference to Mr. Porter, that this mode of proceeding carried an arbitrary aspect. It could hardly be expected that the builder, while contending that the work did not come under the provisions of the new Act, would give a notice admitting its control. The course taken by Mr. Porter we are compelled to place in the list of those we have termed unwise.

Those correspondents who complain of district surveyors for objecting to materials or workmanship, must not expect the slightest sympathy from us without the fullest proof that the objections were captious. On this head, and indeed in all cases where the interests of the public,—the actual purposes of the Act, are really concerned, the district surveyors will no where find more strenuous support than in the pages of THE BUILDER. The office is a responsible one. It is not a sinecure,—a quiet provision for life in acknowledgment of the merit of the holder, as some of the new surveyors really seem to think it. The money they are to receive, is for services rendered,

and should they fail to perform those services disgrace will follow. The recent fall of three houses in Cavendish-place, Wandsworth-road, and its fatal results, with two or three similar disasters, particulars of which are now before us, and which are said to reflect in some degree on the district surveyors, may serve to illustrate this assertion. Still we do not allude to these particular accidents with any view of imputing blame, our information is at present insufficient, but merely to shew the responsibility of the office, and to induce a proper consideration for it on the part of the public, when duly discharged.

We may mention, relative to the revision of the Act, that several committees have been appointed out of doors to consider the subject. A committee of the vestry of St. Marylebone met at the court-house last week; Mr. H. Biers in the chair. They were attended by Mr. John White, the district surveyor of the parish, and Mr. Scace, the parochial surveyor, and having gone through, and commented upon various matters requiring revision, adjourned for the purpose of preparing a report, to be brought up to the vestry on an early day.

THE RESTORATION OF THE PARTHENON AT THE BRITISH MUSEUM.

THE model of the Parthenon, restored by Mr. R. C. Lucas, to which we alluded some months ago, is now completed, and has been recently purchased by the trustees of the British Museum for public exhibition in the Elgin room. It is on a large scale, being about nine feet in length, by six in width. The structure of the temple is executed chiefly in wood, the sculptures are modelled in a kind of wax. It is placed upon a lofty basement, so that the pediment is sufficiently above the eye to convey something like an idea of the perspective in which the original was viewed. The figures and groups are all modelled with the greatest care, either from the torsoes brought by Lord Elgin from Greece, or still remaining there, or the drawings of Carrey made before the partial destruction of the Parthenon in 1687; those portions of the original design which have irretrievably pérished, have been supplied by the promptings of Mr. Lucas's own powers of invention, aided by a most careful study of all that the extant remains of ancient art, and the research and sagacity of modern archæology, could furnish, by way of authority and illustration. These divers materials have been combined with extraordinary industry, ingenuity, and judgment by Mr. Lucas, and with the happiest result. The impression produced by the restored model, small as its scale is, is novel and imposing. A new world of art seems disclosed to us. For the first time we behold the true character of Greek architecture.

In northern climates and modern times, the Doric order has never really engaged our sympathies; its cold, normal beauty of structure has been authoritatively proclaimed the standard of faultless simplicity, and admired as such, but the untenanted pediments, and empty metopes impart to the mind an impression of cheerless and desolate monotony; all who felt thus, unconsciously recognized the truth, that such Doric architecture is a mere lifeless thing, a body from which the spirit which once animated it had left. When we look at the model of the Parthenon, all seems instinct with vitality.

The pediments are filled with majestic forms, so arranged, as, out of the utmost variety of attitude and grouping, to produce one great harmonious composition. Along the sides of the temple, standing out like jewels on a diadem, are the metopes; each presents an allusion to the mythic and primeval period of Athenian history, a passage, as it were, from a great national epic; some exploit of Pallas, of the deities of the soil, or of Theseus or other Athenian heroes; some sacred religious ceremony; or as in the metopes brought over by Lord Elgin, a great contest like that of the Centaurs and Lapithæ, Digitized by

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is told in a succession of metopes, each a complete picture framed in its triglyphs, stand-ing out like the single combats which are suc-cessively presented to the eye in the battles in the Hiad, detached from the main action ; in the metopes, as in the description, from the infinite variety of movement and grouping, there is no monotony in the iteration of subject.

If we turn our eye from the bold projection of the metopes to the interior of the peristyle, we then behold, by a more subdued light and in a slighter relief, the matchless frieze. If in a slighter relief, the matchless frieze. If in the pediments we see the perfect beauty of divine forms as created by the hand of Phidias, if the metopes represent that second mythic period, the heroic age, so in the frieze do we see revealed to us the actual life of antiquity. The people among whom Phidias lived stand before us in bodily presence, as every five years in the most sacred festival of their city they moved in solemn array to the temple of their tutelary goddess. The procession of this frieze, from its continuity and the nature of its subject, is more studied and better underits subject, is more studied and better under-stood by the public than the rest of the sculp-tures in the Elgin room, but Mr. Lucas has done good service by showing in his model its relation to the metopes, and the consequent difference in the depth of its relief, to suit the diminished quantity of light. See some excellent remarks on this subject in the "Penny Cyclopædia," Basso relievo. We have glanced Syclopædia, Bassorelievo. We have gianced at a few chief features in Mr. Lucas's model, rather by way of invitation to the public to examine it for themselves, than as an accurate account of it. Our limits will not here permit us to do justice to a work the result of so much enterprize, judgment, research, and artistic power.

Nothing but the most resolute will and earn-est study of the antique would have enabled Mr. Lucas to deal with the many difficult questions which this question involved; to ascertain the original motive of the pedimental compositions, it was necessary for him to examine and compare the arguments of the dif-ferent writers on the mythology of the Par-thenon-arguments full of learned allusion, written mostly in foreign languages, and ap-pealing to habits of thought novel to the Eng-lish mind. With infinite tact, Mr. Lucas has is mind. With infinite fact, Mr. Licas has selected out of conflicting elements all the material most useful for his purpose; he has deferred to received authority, embodied sug-gestion, and, where conflicting theories were irreconcileable, he has with æsthetic acumen cut the Gordian knot of controversy, and relogies of design as an artist only can perceive. We regret that we can de stored the composition according to such anae regret that we can do no more than mention the chryselephantine of the Virgin God-dess, who stands all glorious within the cella, arrayed with a gorgeousness that would have tempted the cupidity of the temple-robbing monarch, Dionysius of Syracuse; nor can we enter upon the vexata questio of the metallic and polychrome decorations of the Par-thenon, which Mr. Lucas has, we think wisely, as far as possible eschewed.

Enabled by this model to realize more defi-nitely the idea of the great design in which architecture, sculpture, and painting were so marvellously combined by Phidias into one 9 harmonious composition, conveying by three different forms of expression, and, as it were, trilingually, one great idea, we are naturally 1.4 led to turn our eyes on the present condition of English art.

Why have we, in this country, arbitrarily put asunder what the Greeks had joined-Painting, Sculpture, and Archi tecture? Why did we set apart these three fair sisters at their second birth—the *renaissance*—and with step-motherly nurture bring them up in separate establishments, teaching them separate aims and principles of action, and giving to them divided interests? why, having done this, do we now as arbitrarily bring them together, after so many years of estrangement, and expect from them all at once, readiness in co-operation and common principles of design in the execution of our public works? The great task now demanded from English art, the decoration of the Houses of Parliament, so that on those walls shall be written the chronicle of the British race, in those niches enshrined the memory of their great men, in those windows "richly dight," the heraldic splendour of her regal lines-this subject, pregnant with great ideas, must not be made '

declaration and a theme " for a half taught school, nor can be dealt with by combining into one patchwork the compositions of single artists, working without concert or unity of purpose. It must be treated by a school directed by one mind, and taught to work out harmoniously, portions of one great design; to give utterance with one voice, to the great thought of which the design of such a building should bear the impress.

PRYOR'S BANK, FULHAM.

In a previous number of our journal,* we gave an engraving of an Electoral Chair belonging to Mr. Baylis, of the Pryor's Bank, Fulham, and said we might one day lay before our readers, some account of the extraordinary collection of Gothic decorations and utensils, deposited in that quaintest of quaint residences. The current number of *Fraser's Magazine* contains a charming article on this very subject, illustrated by twenty-nine woodcuts; and although to convey any thing like a complete account of Pryor's Bank, its treasures, and the kindnesses of its owners, Mr. Baylis and Mr. Whitmore, would need a volume, instead of the article sixteen pages long, here devoted to them, a very clear and pleasant notion of all is given by it.

A passing glance externally, as you pass over Putney-bridge, would ascribe it to the Cockney Gothic tribe; internally it is a mine of interest. "The whole edifice," says the writer in Fraser, "from the kitchen to the bed-rooms is a mu seum, arranged with a view to pictorial effect; and if it were to be called 'the Museum of British Antiquities,' it would be found more worthy of the name than the national institu-tion so designated. Rich as that collection is in the classic works of Italy and Greece, and the mysterious remains (until recently) of an-cient Egypt; specimens illustrative of Norman, Saxon, Romano-British, and Celtic manners, tastes, and manufactures are sought for in vain in the building nominally appropriated by the nation for their reception, arrangement, and preservation. Equally deficient is the British Museum in medieval antiquities, and the consequence is, that the artist who desires truthfulness in an English work, knows not where to seek for the necessary information.

In a print, published about forty years since, by J. Edington, 64, Gracechurch-street, of Fulham Church, as seen from the river, the ancient aspect of the modern Pryor's Bank is preserved. The situation of this humble residence having attracted the fancy of Mr. Walsh Porter, he purchased it, raised the building by an addi-tional story, replaced its latticed casements by windows of coloured glass, and fitted the interior with grotesque embellishments and theatrical decorations; and here he had frequently the honour of receiving and entertaining the late king, George IV., when Prince of Wales. It was then called Vine Cottage, and having been disposed of by Mr. Porter, became, in 1813, the residence of Lady Hawarden, and, subsequently, of William Holmes, Esq., M.P., who sold it to Mr. Baylis and Mr. Lechmere Whitmore about 1834.

By them a luxurious vine which covered the exterior was cut down, and the cottage, named after it, replaced by a modern antique house. Mr. Baylis being a true antiquary, his good taste induced him to respect neglected things, when remarkable as works of art, and inspired him and his friend Mr. Whitmore with the wish to collect and preserve some of the many fine specimens of ancient manufacture, that had found their way into this country from the Continent, as well as to rescue from destruction relics of old England. In the monuments and carvings which had been removed from dilapidated churches, and in the furniture which had been turned out of the noble mansions of England-the 'halls' and 'old places' -Mr. Baylis saw the tangible records of the history of his country; and, desirous of up-holding such memorials, he gleaned a rich harvest from the lumber of brokers' shops, and saved from oblivion articles illustrative of various tastes and periods, that were daily in the course of macadamisation or of being consumed for firewood.

The materials thus acquired were freely used by him in the construction of a new building upon the site of Vine Cottage, and adapted

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with considerable still ; but when neither the vine nor the cottage were in existence, it ap-peared to Mr. Baylie reliences to allow a mispeaced to mr. Dayle thick to anow a mis-nomer to attach itself to the spot of fire due deliberation, therefore inspecting the stratum upon a delightful bank of gravel, and the asso-ciation which an assemblage of ecclesion is carvings and objects connected with 'monstah

a delightful mak of gravel, and the association which an assembling of declessation which an assembling of declessation which an assembling of declessation memories, there collected, were likely to produce upon the mind, the new house was styled the 'Pryor's Bank.' But however duivater-istic and carefully selected this appellation might have been, that it was at first miander-stood or misrepresented by the facethous halfweet of Fulham, is proved from a Putner tradesman inquiring to what extent Measus. Pryor's Bank, and their entertamments have usually been distin-guished from those of every day by manages or plays, and the distribution of numerous life-rary precess de circonstances." One of these, "the last new bullad." diving the Palami regatin, we use led to reprint, as affording a bird's every house must have the distribution of numerous life-rary precess de circonstances." One of these, "the last new bullad." diving the Palami regatin, we use led to reprint, as affording a bird's every house must have the distribution of numerous life-rary precess de circonstances." One of these, "the last new bullad." diving the Palami regating we use led too reprint, as affording a bird's every house must have the distribution of numerous life-tamment given in the pass of avery the loss of the part of the provide the state of the state

A right pleasant day that was and the gra-tification we have in recalling it leads us to risk a "pshaw !" from those of our readers who wish to find in our pages only the practical; in consideration of whom we will take the fol-lowing dissertation one out shift simil

PLATES AND DISHES.

suggested to the writer of the article already quoted, by the number and variety of these he inds in the kitchen. The history of these he inds in the kitchen. The history of these he inds in the kitchen. The history of these he inds in the kitchen. The history of these he says, would afford an opportunity for a dis-sertation on the rise and progress of the fine arts in this country, as they present most curi-ous and important specimens of early drawing, painting and poetry. "The old English plate was a square piece of wood, which indeed is not quite obsolete at the present hour. The improvement upon this primitive plate was a circular platter, with a raised edge; but there were also thin, circular, flat plates of beech-wood in use for the dessert of confection, and they were gilt and painted upon one side, and inscribed with pious, or instructive, or amor-ous mottos, suited to the taste of the society in which they were produced. Such circular plates are now well known to antiquaries under the name of 'roundels,' and were at one time generally supposed by them to have been used as cards for fortune-telling, or playing with at questions and answers. More sober research into their origin and use, shews that they were painted and decorated with conventional pat-terns by nuns, who left blank spaces for the motos, to be supplied by the more learned monks; and a set of these roundels generally consisted of twelve. As anoriments of the style monks; and a set of these roundels generally consisted of twelve. As specimens of the style of these mottos about the time of Henry VII or VIII., the following may be taken

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THE BUILDER.

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MR. TITE U. MR. ROACH SMITH

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belatter thes Beformation, coloured, prints su--paraeded, the painted manuscript 'poesies' of the nume and monks, and the elder De Passe, and other artists of the period of James I. and Charles I.; produced a variety of oval and circular engravings, which were pasted upon roundels and varished over. The subjects generally selected were those which naturally compared themselves into a set of two as arranged themselves late a set of twelve, as the months. By the Paritans, the beechen roundels thus decorated were regarded with the months. By the Paritans, the beechen roundels thus decorated were regarded with especial dislike, and they returned to the use of the anadormed trencher and (Godly platter.' When 5 the Merzy Monarch' was restored, he brought over with him from Holland plates and dishes manufactured at Delft, where the porcels in known as Faenza, Faience, Majolica, and Fynlina ware, made during the fifteenth century in the north of Italy, and upon the embellishments of which, according to Lamar-tinière, the pencils of Raffaelle, Gidlio Ro-mano, and the Caracci were employed, had been successfully, although coarsely imi-tated. And it must be confessed, that many of the old Dutch plates, dishes, and bowls, upon the kitchen-shelves of the Proof's Bank, de-serve to be admired for boldness of design, effective combinations of colour, and the manual dexterity displayed in the execution of the patterns. The superior deneary of the por-celain of China, which about this time began to be imported freely into England from the East, caused it to be preferred to the "Dutch ware," and the consequence of international commerce was, that the Chinese imitated Ea-ropean devices and patterns upon their porce-lain, probably with the view of rendering the article more acceptable in the Dutch and English markets. But while the Chinese were imitating us we were copying their style of art in the potteries of Staffordshire, with the commercial manufacturing advantage given by the power of transforming a print to the clay over the production of the same effect by by the power of transferring, a print to the clay over the production of the same effect by means of the pencil, an idea to doubt suggested by our roundels of iCharles, the First's time, and which process became of the same relative importance as printings to manuscript. This was the origin of our common blue and white a plate of what is known as f the willow pat-od term by bergo to scott mort ", water " a stat

Listics Walking through their groves of trees, of add as Blue bridges and blue rivers, Little think those three Chinese e the fol-

They'll soon be smash'd to shivers.

Little think those three Chinese They'll soon be smash'd to shivers.' They popularity of this porcelain pattern of the popularity of the eye of taste surely a pure of the popularity of a Chinese pagoda, bridge, in and willow tree 'in blue print.' The fact is, in that the bugbear of a vulgar mind- 'fashion' of the pacertain dinner-set of earthenware, con-sisting of two soup tureens and a relative pro-portion of dishes' and vegetable dishes, with the covers, soup-plates, dinner-plates, and dessert-bane band any accidental breakage of crockery in make it a matter of extra-proportionate ex-pense and difficulty, readily to replace the same unless it happened to be of 'the blue willow pattern.' The practice, however, of using for the dessert service, plates of Worcester china painted by hand, and the execution of many of which as works of art call for our admiration as much as any enamel, created a taste for thick, if a few plates happen to be bornes in the plates happen to be dimined by hand, and the shivers'

'sravide of b'diaman' the more learned

the value of the whole set is only proportion. It was been broken may perhaps be advantageously replaced." We commend the whole article to our broken our

A geben horene in the mouthe."

Sin, -On Wednesday evening last, after the regular business of the ordinary meeting of the British Archaeological Association, I brought forward and read the letter from Mr. Tite, printed in THE BUILDER of this week, which letter I had not received when I addressed you, in reference to the vague and erroneous state-ments uttered by Mr. Tite, and printed in THE

Although this letter contains much irrele-vant matter, and I am perfectly satisfied would, to the minds of all who know me, carry in itself conviction of the absurdity of the charges brought against me, yet, from the respectability of the writer, it is calculated to excite prejudice in quarters where I may presume I am un-known. A necessity therefore arises for my meeting the charges as publicly as possible, and I regret that Mr. Tite could not have made it convenient to accept the invitation sent him to be present last Wednesday at the meeting of the Association, when he would have had an opportunity of hearing my explanation, and of making any observations which he might have thought necessary. The statements made by Mr. Tite amount to a charge of breach of faith towards him, and of opposition to the Joint Gresham Committee in their endeavours to collect antiquities discovered on the site of the New Royal Exchange. As briefly as possible I proceed to meet the alleged facts he has adduced.

On the 24th of Nov. 1840, I obtained an order from Mr. Tite to visit the excavations, during the months of December and January. I was much engaged both at home and in the country, and made no visit to the Exchange that would have required the order, until the 1st of February. On the evening of 31st of January, I returned from an excursion in Kent. On this day occurred a circumstance upon which hangs the chief charge brought against me by Mr. Tite, nearly five years afterwards, which charge he asserts is supported by three witnesses. On entering my house, I noticed a fragment of a statue of Charles II., which I ascertained had been left by two drunken work-men, who stated that they had brought it from the Royal Exchange. I immediately gave orders to prevent a like occurrence, and when the men called in the morning, I ordered them to take it to the museum in Freeman's Court, and, moreover, paid them for a barrow to carry it in. Whether they took it back or not I cannot tell, but I suspect they took it in mis-take either to the Guildhall or to the British Museum. On the following afternoon I made my first formal visit to the excavations, intending to avail myself of the *privilege* granted by Mr. Tite, to obtain information, and to make sketches. I had scarcely entered, before I was stopped by a stout burly man, in whom I recognized a person who, some years previous, had been summoned by me before the Lord Mayor for ferociously assaulting a youth then in my employ. He immediately ordered me to leave the premises, and, using the most brutal lan-guage, threatened if I delayed, to get me kicked off. I mildly expostulated with him, and begged oy. I mildly expositulated with him, and begged him to tell me the meaning of such unprovoked conduct. "" Meaning "said he, "didn't ye get a man to bring ye an image tother day? and then didn't ye bribe 'im to take it to the Mu-seum?" I at once saw the ridiculous mistake the man had made, and I attempted to set him right, but my pacificatory efforts only increased his rage and violence. I then announced myself as under the especial protection of Mr. Tite, confirmed by a written order. His reply my pen rufuses to write; it included a substantive signifying the very reverse of truth, with a forcible participle, meaning total exclusion from mercy, prefixed, and concluded with a demand of "Show me the order." I respect-fully asked him to step with me to my house, or, to permit me to fetch it. This was an-swered by an insulting observation, concluding with "We act under the Gresham Committee, and have orders to hinder you from coming here. You have bought things of a rascal called Sullivan, who we had discharged, as great a blackguard as ever lived, and I can prove it." Who the university individual he alluded to was I have not the slightest notion. During the dialogue. I was every moment expecting this Gresham agentwould have struck me, and I believe he would, had he not been restrained by

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the people who had assembled around us, and by the appearance of another person in au-thority (Mr. Tite's second witness I presume), by the appearance of another person in an thority (Mr. Tite's second witness I presume), who had that morning, called upon me about the lost fragment of sculpture. To him J appealed, and asked whether I was to be sub-jected to this usage, holding as I did an order from Mr. Tite? He replied, "Mr. Tite can give you no order to buy things here, and we have orders from the Gresham Committee to prevent you coming upon the ground." I re-turned home, made notes of these particulars, and wrote to Mr. Tite. On the following day (I believe) I again visited the works and, in the presence of Mr. Tite, bad to encounter simi-lar treatment, Mr. Tite, observing that he had given me an order, and could do nothing more ! I then said, that if his order could not protect me from personal violence, if I came again I r then said, that it is other could not protect me from personal violence, if I came again I should feel, it necessary (in self-defence), to come armed, when, if the Gresham agent should think fit to put his threats into execution, by laying hands or feet on my person, he might run the risk of being shot. But if antiquaries and archæologists sometimes speak daggers and bullets, they seldom use any beyond the and bullets, they seldom use any beyond the sharp pointed and keen edged goose quill, and the pop-gun pellet of paper, which explodes in an ill-natured critique; and if the intem-perate servant, who had doubtless exceeded his orders, had been discharged by Mr. Tite (as he would have been by some gentlemen), I should instantly have pleaded for his restora-tion. tion.

For about two months I declined, on account of fear of a recurrence of these unpleasant obstructions, from visiting the excevations. obstructions, from visiting the exception These two months, and the two months previ-ous, comprise the period during which Mr. Tite says "nothing of importance was found;" Tite says "nothing of the pit (opened in "and then he speaks of the pit (opened in April) and says, that " the clerks of the works, and the contractor's foreman, were constantly complaining to me of your interference with the workmen, until it came to an actual quarrel." Now, if nothing had been found in January, February, and March, about what were the com-

February, and March, about what were the com-plaints made which led to the *quarrel* which took place on the 1st and 2nd of February, and not in April, when the pit was opened? In fact, when the *quarrel* occurred, nothing of importance was found, according to Mr. Tite's shewing, and when antiquities were discovered in the pit, no *quarrel* took place! From the beginning of February to the beginning of April, I was engaged in prosecu-ting researches on the site of the French Pro-testant. Church in Threadneedle-street, with the assistance, not of any city company or committee, but of a private individual, Mr. E. Moxhay, and the discovery and preser-vation of two beautiful tesselfated Roman pave-ments were the results of his liberality. Here let me contrast individual intelligence, generoments were the results of his liberality. Here let me contrast individual intelligence, generolet me contrast individual intelligence, genero-sity, and public spirit, with corporate ignorance, meanness, and selfishness. Had I applied to this corporation (now of a sudden made to affect so much anxiety to fit up their one room for a museum). I should have been laughed at. "Tis only rubble and rubbish," said the leader of the Court of Common Council, when, a short time since, that body gave up the rem-nant of the old city boundary wall, on Tower Hill, to be pulled down; and these pavements in their eyes would have been nothing more, and assuredly would not have been saved from demolition, as the city wall has been, in spite and assuredly would not have been saved from demolition, as the city wall has been, in spite of the efforts of the corporation. Drawings and models of these pavements have been made and circulated throughout the kingdom, and one of them has furnished an elegant design to a maker of floor-cloth in Moorgate-street. Mr. Moxhay placed them at my disposal, at the very period when Mr. Tite falsely accuses me of being actuated by *personal objects*. I re-commended that the pavement, which could be safely removed, should be sent to the British Museum, and entirely through my advice it was safely removed, should be sent to the British Museum, and entirely through my advice it was there deposited, and I placed models of both in the collection of the Society of Antiquaries. If I had been so anxious to "obtain posses-sion" of every thing for my own collection or for "personal objects," is it likely when these interesting and valuable remains were literally presented to me, I should have transferred them to a public museum? Was it likely when I acted thus in Thireadheedle-street, I should have shown, at the same time, so different a disposition on the site of the Royal Exchange? disposition on the site of the Royal Exchange? That I should have been lavish of pounds on

other ? without orders. At this time the prealluded to was being excavated, and I made hastysketches, and took notes occasionally, but not without fear of a recurrence of former direct obstrue: tion. My visits did not achif of such minute exemination as the subject fiemandel, but no guarrel took place, no complaints could have been made, for I never remember being there without seeing Mr. Rassell, the clerk of the works, or some of the gentlemen from Mr. Tite's office, and I must have heard of the complaints if there had "been any." On no oceasion did I ever mterfere (with anybody, and the only charges that cher be imagined to and the only charges that each be imagined to have been made must have been those preferred more than two months previous, which I have shown were about and false. I hasten now to the stories about the bell, and the leaden medalet, or jetton. Mr. Tite had read in the "Archeologia" that a bell, among other ob-jects, had been found in the pit, but he has never visited my museum to ascertain if I actually possessed this enviable relic, and, if so, how and by what mena, and at what period of how and by what mens, and at what period of time. He has not, in fact, taken the trouble to associatin the truth of any of the trumpery tales upon which he scenes to have founded his accusations against my conduct and character.

"When by the circulation of handbills, by " boarding round the site," and by other means considered necessary to their archeelogical butue, the Joint Committee of Gresham Affairs had had the run of the cover to themselves, I proceed to show how, alone, and single-handed, I succeeded in preserving what these zestions gentlemen, with their handbills and boards, had overlooked. Mr. Tite says truly that this pit was filled with soft peaty earth; but Mr. Tite is not perhaps aware that this soft peaty earth contained many minor objects of interest which it was impossible to detect by boards and handbills, and which were carted away in this soft peaty earth, and disposed of at a remote distance from the site of exhumation s' remoté distance from the site of exhumation in an open unfenced situation, accessible to snybódy who might have cared to examine it. From this rejected "soft peaty earth," far from the Royal Exchange, I procured, from time to time, many curious objects of ancient art, which certainly, but for my exertions, would never have been discovered and preserved. "MY. Tite's "Mountain in Labour" pro-dices a bell, and a medulet in lead ! The latter he says, "is a very remarkable curiosity, and surely the only proper place for such could not be any private collection!" This little peace of lead came into my possession long before I had the honour of knowing Mr.

little peace of lead came into my possession long before I had the honour of knowing Mr. Tite, although he says he is a Fellow of the Society of 'Antiquaries' of some standing. It was met with during some partial excavation, before the general works commenced. So little consequence did I attach to it, that it remained for months upon my table before I was induced to examine and clean it, when I deci-phered an inscription and the Tudor arms. It was previously a lump of worthless lead, but I regenerated its defaced impress, and thus made it an object of interest, but surely not an object to be envied the possession of. I exhibited it to the Numismatic Society, and to the Society of Antiquaries; I freely permitted a wood-cut of it to be made for one of the pic-terial weekly **newspapers**; and I adapted the inscription to the obverse of a medal of Prince Albert, slesigned by me, and engraved by Mr. Stothard * to commemorate the Prince 's ad went is Jay the first stone of the New Royal Exchange, the Joint Gresham Committee having omitted to order a medal to be engraved to record this interesting event. If Mr. Tite will now point out to me the more proper place, where he insinuates a botter use would have been made of this farthing's worth of lead, I will cheerfully code possession af it. Had I been a servant of the corporating and esized some thirty or forty gold inobles, on behalf of the city, and had never rendered to solence or to the city exchequestin proper account of the tweasure trove, then blue Lite might, with some reason and justice, have imputed to me " per-sonal objects," and have worthily stood forward as a public securer. But, L trust, I have said

. Of Arlington-street, Myddleton-square. SUS A SHE TO LART

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the one spot, and coverous of farthings on the | enough to show that the accusations brought an after thought to inform that the accusations or ought against me are fair loss, marking and false; that they have all the appearance of being an after thought, and are calculated to mislead the public, and to injure private character; that they neither apply to me nor to my col-leagues in the city, and that they are unworthy the office Mr. Tite holds, through which office he has thought proper to disseminate them.—

I am, Sir, &c., CHARLES ROACH SMITH, 5, Liverpool-street, City, Dec. 6.

COMPETITION ALTAR-FIECE FOR ST. JAMES'S CHURCH, BERMONDSEY.

PAINTING and sculpture are essential as accompaniments and embellishments of architecture, and it can scarcely be said that architecture in its highest departments is complete or perfect without their aid. In the ancient Christian edifices of Europe, both were extensively employed, and painting, especially, seems to have been regarded not merely as an integral and necessary auxiliary, but in some instances as a feature of paramount importance. The architectural remains of Lombardy, of Venice, and of Sicily, with those of Normandy, and of our own country, shew that the painter was employed to an immense extent in the decorations of the altars, walls, vaulting, and other parts of churches. Passages from and other parts of churches. Passages from the Holy Scriptures; monkish legends of the lives of saints; memorials of the religious deeds of kings and princes; arabesque and floral decorations, may still be traced in abundant instances, proving incontestibly that the taste for pictorial art, and for its application to sacred purposes, flourished without interruption from the introduction of Christianity in Britain to the dissolution of monasteries by in Britain to the dissolution of monasteries by the tyrant, Henry VIII. After the Refor-mation, it was a favourite employment of bigots and fanatics to destroy and mutilate these, which had become objects of Roman Catholic superstition. The prejudice thus engendered against the introduction of pic-tures into churches, still subsists amongst many of the Protestant clergy; and has ope-rated most unfavorably on the development of art in Britain. An unworthy parsimony in the erection of our sacred edifices has further contributed to exclude from them the works of the painter, and has thereby deprived them (with but few exceptions) of their most effective and appropriate embellishments.

We may, however, hope that a better era for art has arrived. Painting and sculpture have received their due consideration in the works in progress for the accommodation of the Houses of Parliament; and the extensive application of the ancient models to new churches in all parts of England, has induced a desire to embellish these structures somewhat in accordance with those in imitation or emulation of which they have been constructed. Hence we find that stained glass, encaustic tiles, and similar accessories, are now largely employed. It is our present object to advert to the not less important point of the introduction of paintings in churches, not built in the mode adopted in the middle ages. In these the mode adopted in the middle ages. In these structures, modelled upon the classic forms of ancient Greece and Rome, the *altar-piece* is perhaps the only part to which painting can be successfully applied; and it is to be regretted that an object so well adapted to stimulate and everying the neurons of the action is the bicket exercise the powers of the artist in the highest branch of art should be so frequently neglected. Without adverting to the few pictures produced of late years as altar-pieces, we may proceed to notice the Ascension. by Mr. John Wood, which has just been completed for St. James's Church, at Bermondsey. It appears that the late Mr. Harcourt,

wealthy inhabitant of the parish, bequesthed the sum of 500%. for the purchase of a picture, to be placed in a recess over the communion table of that church. The trustees not being able to procure a satisfactory picture for the purpose, advertised for sketches, upon the understanding advertised for sketches, upon and advertised for sketches, upon and that the artist whose production. was selected should forwith execute the work, and receive the amount of the bequest. They fixed upon the ablest Ascension of Our Saviour as the subject, the and the finished sketches in oil were required to be 36 inches in height by 17 inches in width. The altar-piece, including a frame provided by idth.

the trustees. to be 25 feet in he in the tisk width. On the sthe of Departure regat by 1 Freet in 80 compositions were sent in ; several of them by members of the Royal Academy. Mr. Eastlake, R.A., and Mr. Haydon were sp-pointed to examine them, and to select the most maniform of the Model and the select the most meritorious; and Mr. Cooke, R.A., was to decide in the event of those gentlemen differ-ing in opinion. The two former however agreed that Mr. John Wood's sketch was the best of those submitted, and Mr. Cooke fully concurred in their ophilon. A decision thus unanimous, by artists of such high reputation and admitted taste, naturally excited the curiosity of all lovers of the arts; and it is therefore gratifying to find that the picture, which is now completed, fully justifies the opinion so given of its merits, and reflects the highest

honour on the artist. The figures in Mr. Wood's composition are considerably above the natural size. On a canvass of 275 square feet (25 feet by 11) a canvass of 275 square feet (25 feet by 11) the artist has given, in the upper part, a full-length figure of the Baviour, occupying nearly one-half of the picture. The figure appears baoyant in air, with a nimbus around the head, the radiation from which illumines with a golden effulgence the upper region of the sky. Clothed in a flowing robe, or mantle, even a white vestment, with arms extended, and a placed expression of countenance. He cause a placid expression of countenance, He casts a parting look towards his earthly disciples and associates, whilst his body is evidently in the act of ascension from them. The eleven disact or accension from them. ... The eleven dis-ciples, witnesses of the superhuman' event, the accension of their lord and master into²⁴ the heaven of heavens, " are at once astoninbed, terrified, 'and glorified by the beatific event. An incident so unparallel could not fail to produce varied and conflicting emotions in its witnesses. The artist bas endesvoired to portray these, in the stillades and expression of the apostles. They are represented to va-rious positions; standing, kneeting, pros-trated, with uplified hands and faces, bodies bent with reverential awe and deretion. The artist has apparently familinized himself with the best accounts, and provident distance of the age, personal character, and continues of the time which he had to depict; and he must have attained a high proficiency in his set. to have given not only variety, but simet peri sonal identity to the slaven apostlas ho has resonal identity to the stayes, apprises as an re-presented, and to have global distribution in con-tume which, hoth is, down.and.contensing, should satisfy the system of the critic, and the feelings of the Chusting, por states in the The production is one that can bardly fail to

advance the character of the British school. and to advance its/mariterious unthus considerably in his professions / We cannot conclude without expressing our hope that it will not be long before the name of John Wood is enrolled amongst the members of the Royal Academy.

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CONSTRUCTION OF ROOFS.

Sin,-I have been recommended by some professional gentlemen, well acquainted with your journal, to submit to you a question respecting the comparative strength of queen-post and king-post roofs. The building to which I refer is Dorie, the pediment very flat, and the width of the roof 60 feet. The ceiling has sunk a few inches, in consequence of the heads of the queen-posts having yielded to the pressure, and thus, much of the weight of the roof has been brought down upon the It has been suggested, that the only beams. remedy is to substitute king-post principals; these slone having strength to beer a roof so that as the one in question. Others contend that as the one in question. Others contend that queen post principals are best. By giving your opinion, you would confer a favour on many persons besides your obedient servant, Hull, Dec. 4. H. N.

*** For the span named, we should use a queen-post roof. Both king and queen-post should be of hard oak, and the heads if formed in the common manner, should be as small as possible, as by their shrinking, sagging is caused. To lessen the possibility of this, it is a good plan to make the end of the principal rafter abut against the straining beam; in this case the tie-beams should be each in two pieces, notched on, one on each side and bolted together.

VIT ... VENTILATION OF STABLES. BOBGETFULNESS OF ABCHITEGTS' SERVICES.

Bluded to Mr. Dickinson's stables, in Curzonstract, and the system of ventilation there shoping Aspracesional services are too often jargatten in descriptions of new buildings, I Jargatten in descriptions of new buildings, I am sure you will take an early opportunity of stating that these stables were executed from, my plans and superintendence. Mr. Dickinson required an adequate and effectual yentilation; Mr. Sylvester was consulted, and advised the principles of the system; and the necessary structural arrangements and work-ing out of these principles were left to the architect.

If a similar division of labour were adopted in public buildinge, which require ventilation on a large scale, and the details of construction left to the architect to embody in the building, I think we should not have to complain of the monstrous excreasences which dis-figure many edifices where the ventilating doctors have been trying their processes, apporently used been trying their processes, ap-parently without, any regard to architectural grangements. The remarks in your last gumber on the ventilation of the schools at Swinton, are so perfectly applicable to the subject, that I, feel it unnecessary to say one word more.

3.From the experience which I have had. I am, inclined to believe that many of the failures which have attended the recent adoption of the yentilating system have arisen from the doctors attempting too, much. They are like some young practitioners in the medical art, relying askely on drugs and nostrums, and forgetting the "vis medicalitis nature." In both cases I the patient would enable him to throw off ea-support, that a slight additional power given to the patient would enable him to throw off ea-sity, his complaint. I am, Sir, See., Patient cost that a flow as LITTLE.

We gladly insert the above to rectify an of is side said with the want of information in that respect. We quite agree with our es-teemed correspondent, and have often remarked it, the architect's services are too frequently forgotten in describing the merits of a building. If the result be not satisfactory, if (in his en-dear-our to meet the views of his supployer and give him all he desires for some most inadequate amount); he should pare down too much, and a failure should occur, on him rests all the responsibility, and on him falls all the abuse. 7

Acres 64 CLAIM FOR RENT IN ASSESSING DILAPIDATIONS.

¹¹ Wit have great pleasure in laying the fol-lowing letter from Mr. George Smith (the sirchitect of the Mercers' Company), before our readers. In connection with Mr. Tatter-sall's, which appeared last week,• both bearing out the opinions we expressed in the first instance, it may be considered decisive. My DEAD SIR. I have carefully permed

My DEAR SIR,—I have carefully perused and considered the "Question in Assessing Dilapidatione," mentioned in THE BUILDER of the 220d ult, † on which you desire my opinion. 14 have much pleasure in acceding to the prequest, and take leave to state I am of opinion that rent is not recoverable under the openator that rent is not recoverable under the circumstances mentioned, nor is it customary twohsing it. The lessee has a choice of two remedies, either to sue for damages during the, existence of the lesse, or by action of ejectment, the neglect of either or both, I think would and should bar him from the claim of rent. This is my view and opinion of the subject, whatever may be the legal construction put upon the case.

Barta - I remain, my dear Sir, &c., GROBOR SMETH. 1.14

Mercers' Hall, Dec. 8, 1845.

MASONS .- The Great Western Advertiser says:---"At no period, perhaps, was there a greater demand for this class of workmen than there is now at Swanses. The erection of the new Wesleyan Chapel, the Unitarian Chapel, the new Station House, and several other extensive private buildings, has produced an utiprecedented demand for masons as well as for curpenters, &c., and excellent wages are received."

> + P. 565, ente. * P. 583. ante.

A FEW QUESTIONS RESPECTING SEWERS.

1. What are the dimensions of the several

sizes of sewers now in use? 2. What is the least size of a sewer, so that it may have the requisite space for examination, cleansing, repairing, or for opening new communications with new drams? 3. What is the desirable limit of the longest

length for the smallest sized sewer? 4. What is the least fail that a sewer should

have 9

5. Has any plan been tried for forming wells at convenient distances to collect the sediment from the sewage ?

6. What would be the best size and distances for such wells? 7. Is there any data to determine, in what

average time a given length and size of sewer would furnish a given quantity of sediment?

8. Supposing such deposit sediment-wells to be found useful, what would be the best material, what the average cost of each, and what would be the value of manure that might be collected in this way in London ?

9. Could an apparatus be contrived to take out the sediment, put it into suitable casks or other vessels, to be taken away in carts and conveyed by railway trucks into the country l

10. When the best form for sewers is de-termined, would it not be desirable to have the best form of bricks constructed for them?

11. Would not a form for the bottom of a ower, resembling an inverted Gothic arch, be better than the egg-shape?

better than the egg-snape r 12. Would it not be an improvement to have longitudinal timber, as a sill at the bottom of sewers, not only for the purpose of making an even fun for the sewage, but also to prevent unequal sinkings, which in some grounds must take place, and cause sediment deposits?

13. What difference, if any, is now made in the foundations of sowers, when in clay, gravel, sand, peat, de. ? 14. When there is sufficient fall in a sewer,

why is any inconvenient limit given to the height? 15. Why should not the height of sewers

when the fall and other circumstances will ad-tait of it, he such as would allow workmen to

walk upright when examining, cleansing, re-pairing, or forming new inlets? 16. State what is the least space required from the surface of a road to the top of a sewer ?

17. What depth and space is required under streets for water and gas-pipes? 18. When a new sewer is required, what is

the usual mode of determining every circum-stance that should be taken into consideration ? 19. Is there any prepared list of points for

inquiry? 30. What quantity of silt is taken out of

sewers on an average? 21. What is the greatest distance between the shafts to the different sized sewers?

22. What are the names and descriptions of tools, &c., used in the several operations in the formation and subsequent works, and to keep sewers in efficient order?

23. Has any plan been tried to prevent the dirt, &c. from streets being carried by rain into sewers, without stopping the free circulation of air ?

24. In applying the liquid sewage as manare, would it not be better to take off as much as possible from elevated positions to the country, than to allow all to run down to the Thames,

and have the whole to elevate? 25. What extent of ground would the sewage of the higher parts of London manure, without pumping any? 26. Could not a great quantity of liquid sewage be directed to some one, or to the sove-

ral railways, and be then drawn off by a tap into casks or tanks, on railway trucks, and thus conveyed into the country, where it would be usefuí ?

27. What is the probable quantity, and what would be the cost per ton, that could be ob-tained in this way?

28. Might not sewers be made advantage-ously sufficiently large to contain water and gas-pipes ?

Woald not the proposed new park at 9.4 · Battersea be a good opportunity to adopt an improved system of forming sewers ?-From Nov. 26, 1845. A LOOKBR-ON.

THE STATE OF THE GAS MAINS.

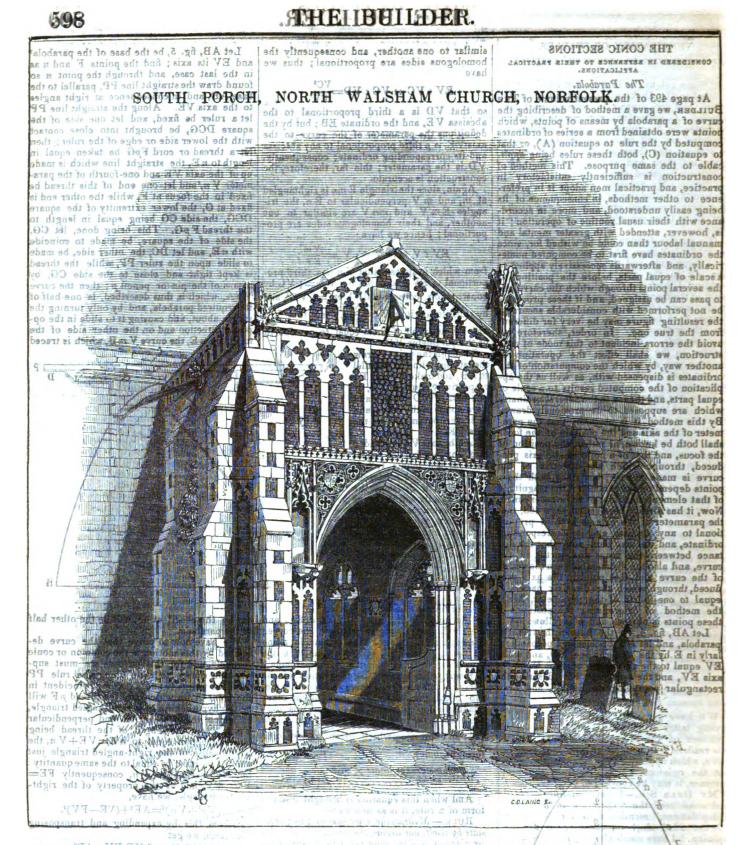
Sin,-It has long been matter of surprise to me, that the Ges Companies of London should pay so little attention to the laying of and keeping in order, the main pipes in the streets, and I believe that it is in a great measure lowing to this that the inhabitants of measure owing to take that the incentance or London are compelled to pay the high price for gas they do at present, occasioned by the great extant of leakage existing in the pipes, caused not only from dacay, but through the great careleseness displayed in their laying, great carelessances, displayed in their laying, and which leakage bears a very large per centage upon the gas made; I have known it to exceed 40 per cent. This loss might have been prevented (or nearly so), if the companies had but, employed persons compe-tent to undertake the work, and it behoves new companies to pay attention to this very im-portant branch of gas lighting; as it will give them the means of competing better with ex-isting companies, and supplying gas at a much lower rate than it is at present. The mains of the companies now established

The mains of the companies now established have for the most part been hid without ours or judgment, ignorant persons having been employed to superintend their laying, and the consequences are, the unequal supply of gre to different districts, and the lass by leakage,

a neve paid considerable statistical for this subject, and can bring forward proofs to agar-roborate my statements. It is accessive pro-sible to open the ground in any of the London streets without finding the earth; impres-nated with gas, and the iron gratings, give, evidence of the great wasta that is taking place, and this must be perceptible to any one in passing through the streets. I can refer to, the officers of the Commissioners of Sewers to bear me out in saying that it is dangerous entering the sewers, solely from this cause, until they have been ventilated by the opening of the air-holes. In addition to the nuisance, from the stench, it is most dangerous, as accident or design might occasion an explosion, that would be destructive to life and property; that would be destructive to life and property; and the Government ought to take such steps, as to make it compulsory on the different gas companies to make their main and service-pipes sound, and to see that the officers of the gas companies are competent to perform, the duties they undertake, by establishing a Board, of Examiners, as proposed by Dr. Jones in his lectures on "Gas and Gas Meters," and pra-vention notice from analying whe are entirely. venting parties from applying who are entirely, incompetent and wholly ignorant of the business, they profess, and whose only claim and meric. is that they have a friend strong the directors, whereby grocers, tailors, are get transformed into engineers, superintendents, inspectors, &c.; and it is from the ignorance of such parties that London is at present, the worst and dearest lighted city in which gas is introduced. dearest lighted city in which gas is introduced. Gas, under proper management, can and ought to be supplied from 4s. to 4s. 6d. per 1000 cubic feet, and many companies. would find, themselves in a very different position to what they are at present, and the shareholders would receive dividends instead of reports, as is the case at present with some of them. I shall resume this subject, as also on the quality of the London gas, gas fittings, and gas matters, if it should meet your views.—I am, &c., Dec. 5. "GARMON,"

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hear that the Royal Literary Institution at Bath has received a valuable present of about Bain has received a valuable present of about one hundred books and pamphlets, and several hundred engravings, illustrative of the city of Bath. The books and pamphlets relate chiefly to the history and antiquities of the Queen of the West, and show to what extent selence and literature have been indebted to her. The engravings are arranged in a large folio volume, beginning with the Roman altars of the earliest beginning with the Homma alters of the earliest period, and continued with successive maps of the city, views of the surrounding scenety, prints of its churches, public buildings, and public men. Of inseresting objects, of which engravings could not be found, drawings have been made. The collection was formed with much care, and at great capenas, by Capts Chapman, who has been often a resident of the Chapman, who has been often a resident of the city, and who now generously wishes that the public should enjoy the frait of his labours.



THE SOUTH PORCH OF NORTH WAL-

THE church of North Walsham is large, and mostly of a plain decorated character. I nave and ai-les, covered by a triple roof. It has chancel has aisles, being, in fact, a continu-ation of the nave and aisles, there being no external division or mark to separate the eastern portion of the church from the western; but internally the chuncel and the aisles were anciently divided from the nave by screens. The lower part of what was the rood screen is still remaining, and contains some good spandrils, very delicately carved i it also has the remains of painting and saints in the panels. The aisles were divided from the chancel by screens, as chapels. The nave piers are good, and of lofty proportions. The roofs are open, but very plain and rough. There is an enor-mous west gallery, yet behind it, there is a varant space large blough for an ordinary church, where the parish engine and ladders are kept: fiere, too, near the south door, is the font, enclosed by a wooden railing, having a very good carved oak eover.

The south porch, the subject of the present engraving, is of a later character than the main body of the church, being of good perpendicular

design. It is of a great size, and is open to the roof, never having been divided into two stories, as was frequently the case in large porches of this style. The part which is blocked up above the archway was, probably, a niche. The panelling on each side, and in the gable, buttresses, and plinth is filled in with the squared flint-work, so common among the churches of Norfolk. The flank has two windows, divided by a buttress, but they are bricked up as high as the springing. The tower of the church is large, situated at

The tower of the church is large, situated at the west end, and was of a great height, but is now in ruins. It was struck by lightning about a hundred years ago, since which time it has been gradually disappearing. A few years ago a great portion was obliged to be taken down. There is still, however, sufficient standing on the side next the church to stop the roof of the nave. JAMES K. COLLING.

On the north side of the chancel, near the east end, is a mural monument to the memory of Sir William Paston, knight, a native of the town, founder of the Grammar School, and ancestor of the first Earl of Yarmouth. It was erected during his life, by John Key, a freemason of London, who, by agreement dated 1607, undertook to fit up the tomb with an effigy of the knight in armour, 51 feet long, for the sum of 2002. Sir William died a few months after making this agreement, aged 80 years. The church is dedicated to St. Nicholas.

choias. The living is a vicarage, with the rectory of Antingham St. Mary annexed, in the archdeaconry of Norfolk and diocese of Norwich. King Edward the First, in his twelfth year, granted a licence to the Abbot of Holm to appropriate it, but this was not performed till becember 9, 1338, when Anthony, Bishop of Norwich, appropriated, it to the Convent of Holm, and it was to be transferred on the death of Roger de Hales, the then rector, On this event taking place the vicarage was formed, and the patronage was settled to be in the Abbat of Holm. The Lord Chancellor has the gift at 3361. The town of north Walsham is situate on the

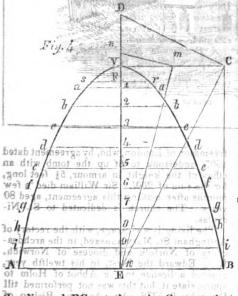
The town of north Walsham is situate on, the high road to Norwich, and consists of three streets, diverging from a central area, in which stands the church. It is about 15 miles N. Ness from Norwich, and 124 N.E. by N. from London. When the last census was taken it contained 2,655 inhabitants.

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THE CONIC SECTIONS CONSIDERED IN REFERENCE TO THEIR PRACTICAL APPLICATIONS.

The Parabola.

At page 493 of the present volume of THE BUILDER, we gave a method of describing the curve of a parabola by means of points, which points were obtained from a series of ordinates computed by the rule to equation (A), or that to equation (C), both these rules being appli-cable to the same purpose. This method of construction is sufficiently satisfactory in practice, and practical men adopt it in prefer-ence to other methods, in consequence of its being easily understood, and more in accordance with their usual routine of operation ; it is, however, attended with greater mental and manual labour than could be wished for, since the ordinates have first to be computed numerically, and afterwards successively applied to a scale of equal parts, before the positions of the several points through which the curve has to pass can be assigned, and if these processes be not performed with considerable accuracy, the resulting figure may be very far different from the true one. In order, therefore, to avoid the errors incident to this mode of con-struction, we shall effect the operation in another way, by which the computation of the ordinates is dispensed with, as well as the ap-plication of the computed results to a scale of ordinates is dispensed with, as well as the application of the computed results to a scale of equal parts, and thence to the several ordinates which are supposed to be previously drawn. By this method, it is necessary that the parameter of the axis and the position of the focus shall both be known, or rather, the position of the focus, and that of a point in the axis produced, through which the directrix of the curve is made to pass; but since both these points depend on the parameter, the magnitude of that element must first of all be ascertained. Now, it has already been stated, page 463, that the parameter of the axis is a third proportional to any abscissa and its corresponding ordinate, and we may here add, that the distance between the focus and vertex of the curve, and also the distance between the vertex for the curve and that point in the axis produced, through which the directrix passes, is equal to one-fourth of the parameter, hence the method of determining the positions of these points is obvious, and is as follows:— Let AB, fig. 4, be the base of the required parabola, and let AB be bisected perpendicularly in E by the straight line ED, and make EV equal to the axis of the curve. Upon the axis EV, and the semi-base EB, describe the rectangular parallelogram EBCV, and draw



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the diagonal EC; at the point C, erect the perpendicular CD, meeting the production of the axis in the point D; then is VD the parameter of the curve to the axis, EV. Bisect VC in m, and at the point m erect

the perpendicular mn, meeting the production of the axis in the point n, and make VF equal to ∇n . then is F the focus and n the point in the axis through which the directrix of the

⁹⁰ Since the triangle ECD is rightangled at C by the construction, and CV perpendicular to ED, it follows from the eighth proposition of the sixth book of Euclid s "Elements of Geometry," that the triangles ECV and CDV are

similar to one another, and consequently the homologous sides are proportional; thus we have

VC² NORTH WARSHAM BHUR

so that VD is a third proportional to the abceissa VE, and the ordinate EB; but by the definitions the parameter of the curve to the axis VE, is a third proportional to any abscissa and its corresponding ordinate; consequently, VD is the parameter; this far, therefore, the construction is accurate.

Again, since the triangle Emn is rightangled at m, and m V perpendicular to En, the tri-angles Em V and mn V are similar to one another, and their homologous sides are proportional; hence we have

$$EV: V m: V m: V n = Vm$$

from which it appears that V n is a third pro-portional to EV and V m; but $V m = \frac{1}{2} V C$ by portional to EV and V m; but V m= $\frac{1}{2}$ VC by construction, consequently $\frac{V}{2}m^2 = \frac{1}{4}$ VC², and by substitution it is $V n = \frac{VC^2}{4EV}$; so that V n and VF are each of them equal to one-fourth of the parameter V D. Through the point F draw the straight line rs parallel

Through the point F draw the straight line rs parallel to AB, and make Fr and Fsrespectively equal to Fn, or one-half of VD; then r and s are points in the curve, and rs is the parameter to the axis VE.

Let the axis VE be divided into any number of equal parts in the points 1, 2, 3, 4, &c., the more numerous the points of division, the more correctly will the curve be delineated'; and through the several points thus de-termined, and parallel to the base AB, draw the series of double ordinates aa, bb, cc, dd, &c.; then from the focus F, with the several distances n 1, n 2,n3, n 4, &c., intersect the ordinates both ways in the points a, a; b, b; c, c; d, d, &c., and these will respectively be points in the curve; then with a fine pen and a steady hand let a line be drawn through all the points, and the line be delineated; and through

te drawn through all the points, and the line thus traced will be the curve of the parabola.

Having thus effected the delineation of the curve, it may be instructive to shew the me-thod of calculating the parameter and the other quantities dependent on it, and for this pur-pose we must recur to the expression $VD = VC^{*}$ an expression which given in a specific EV, an expression which, given in a specific

form, becomes

parameter=ordinate × ordinate ÷ abscissa (E)

And when this equation is brought into the form of a rule, it is as follows :-

RULE.— Multiply the semi-base or given ordi-nate by itself, and divide the product by the axis or abscissa, and the quotient will be the parameter sought. Or more briefly thus :- Divide the square of the ordinate by the abscissa for

the square of the or annual of the accessory of the parameter required. Example.—The axis and base of a parabola are each 30 inches; what is the parameter, and what is the distance of the focus and the directrix from the vertex of the curve? Here the abscissa is 30 inches, and the ordi-

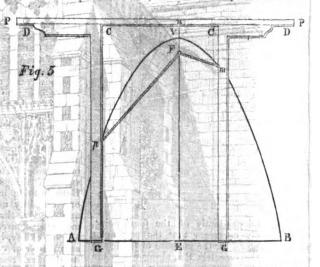
nate or semi-base is 15 inches, consequently by the rule, it is

parameter= $15 \times 15 \div 30 = 7.5$ inches,

and the fourth part of this is 1.010 more, distance between the vertex and the focus, and also between the vertex and the point which the directrix passes. It therefore follows, that if the axis be divided into ten equal parts of 3 inches each, the several radii by which the points in the curve are de-termined, are 4875, 7.875, 10.875, 13.875 16.875, 19.875, 22.875-25.875, 28.875, and 31.875 inches respectively. Add proceed with

There are various other methods by which the parabolic curve may be described, but the best and most expeditious of all is that in which it is generated by continued motion, and one mode of generating it in this way is of the Brat Earl of Yarrawollol an

Let AB, fig. 5, be the base of the parabola' and EV its axis; find the points F and n as in the last case, and through the point n so found draw the straight line PP, parallel to the base AB, and in consequence at right angles to the axis VE. Along the straight line PP let a ruler be fixed, and let one side of the square DCG, be brought into close contact with the lower side or edge of the ruler; then square DCG, be brought into close contact with the lower side or edge of the ruler; then let a thread or cord F_pG be taken equal in length to nE, the straight line which is made up of the axis VE and one-fourth of the para-meter V n_i and let one end of this thread be fixed in the focus at F, while the other end is nxed in the focus at F, while the other end is fixed at G, the lower extremity of the square DCG, the side CG being equal in length to the thread F pG. This being done, let CG, the side of the square, be made to coincide with nE, and let DC, the other side, be made to slide upon the ruler PP, while the thread is kept tight and close to the side CG, by means of the pin or nearly start the the start means of the pin or pencil p; then the curve ∇pA , which is thus described, is one-half of the required parabola, and by only turning the square about, and causing it to slide in the opposite direction and on the other side of the fixed line n E, the curve V m B, which is traced



out by the pencil at m, will be the other half of the parabola. We have now to prove that the curve de-

scribed by this motion is the common or conic scribed by this motion is the common or conic parabola, and for this purpose we must sup-pose the square to slide along the rule PP until the points G and p become coincident in the point A, in which case the thread p F will be the hypothenuse of a right-angled triangle, of which the base is AE and perpendicular FE.* Now the length of the thread being by construction equal to n E = V E + V n, the hypothenuse of the right-angled triangle just all ded to must be comal to the same quantity: hypotheness of the right-angled triangle just alluded to, must be equal to the same quantity: but VF is equal to Vn, consequently FE= VE-FV, and by the property of the right-angled triangle, we have,

$(VE+Vn)^2 = AE^2 + (VE-FV)^2$.

and from this by expanding and transposing the terms, we get

 $2 VE V n+2 VE FV = AE^2;$ but FV = V n by construction, therefore by substitution it is

4 Vn·VE=AE2, doudd HT

and since Vn is one-fourth of the parameter, the equation is

 $parameter \times abscissa = ordinate \times ordinate$, which, as we have already seen, is the equation of the common parabola.

There is another method of generating the curve by continued motion, which we think proper to introduce in this place, not that it is superior to the method just described, but be-cause the same principle is applicable to the other sections also, thus reducing the system of conic construction to one uniform principle, which is beautifully calculated to shew the mutual relation of the several sections to one another.

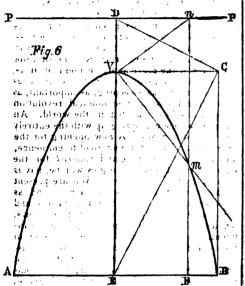
Let AB (fig. 6), be the base of the parabola, and VE its axis, exactly as in the two cases preceding; upon the semi-base EB, and axis VE, describe the rectangular parallelogram

• We have omitted drawing a straight line from A to F in the figure, but the reader can easily supply it in his copy, which will render the steps of the reasoning more easily un-derstood. Digitized by Google

EBOV, and draw the diagonal EO; at C, the extremity of the diagonal EO, arect the perin D, then is VD the parameter of the spine of the parameter of the parame and parallel to the base AB, draw the indefi-nice right line nP, which in this sage will be the directrix of the curves a state of a party Then, if the straight line of the moved in a direction always parallel to the cours V Re and in such a manner that the extramity as and an even a manner user the entrematy as thereof, may always be in contact with the asseight line *Pn*, and entry blong with *A*: the sile *Vn* of the right-angled-strongle.es *Vn* of which the right-angle is moreable about the pents *V*; then *it* follows, that the dentines interaction on *G* the side *N* or *it*. point V; then it follows, that and counterna-intersection we, of the straight line mB, with Vm, the other side of the triangle, does by this motion generate a conic parabola.

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This method, it will be observed, determines



the curve independently of the focal point, and it is, only necessary that the parameter should be known for the purpose of fixing the position of the directrix Pn, along which the describing line must be carried; for in no other position will the moveable line intersect the curve, and the other side of the generating

the curve, and the other side of the generating triangle in the same point. If the moveable line nF be carried along parallel, to itself, until the points m and F do each coincide with B, the extremity of the base, then will Vm become the hypothenuse of a right-angled triangle, of which the base is EB, and perpendicular VE; and this triangle will manufestly be similar, in that case, to VnD or VCD^* ; hence we have

But when the point R coincides with B, the semi-base BB to equal to VO, and, by con-struction VD is equal to the parameter of the akis; (bence it is, a contract of the

absoisse : ordinale :: ordinale : parameter ;

and, by equating the products of the extremes and mouns, we get in

parameter × abscissa = ordinate × ordinate ;

which is also the equation to the conic para-bels; hence the truth of the construction is manufest. There are various other methods by which the curve may be generated; but since those which have now been exemplified are sufficient for every practical purpose, we shall not insist longer on the subject, having done enough to prepare the practical man for the important applications which are to follow.

"THE LOUVER EXHIBITION FOR 1846 .- The annual exhibition of the works of modern artists at the Liouvre will be opened on the 19th of March next, and closed on the 15th of May. All works intended for exhibition must be sent in between the 1st and 30th of

Rome and Lowbon Comparison The sub jet for the Baglish essay at Frinity College, Oumbridge; this year, is " Rome in the time of Augustus compared with London fit the nineteenth century.

• The reader should connect the points F and B by draw-ing a straight line in his copy, such being omitted in the

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FOREIGN ABCHITECTURAL AND COL-LATERAL INTELLIGENCE.

The " Clouga Maxima" of Rome and the Egg-shaped Severs of London .- If any thing can prove to us, that the very structure an aspect of ancient and modern times were different. the above two constructions can. In the first instance, we perceive a very small town-old, stern Rone, whereis a king (Tarquinus Priscus) considered it the scope and object of his life-or nearly so, to erect a structure, which, for ages to come, would afford cleanliness, and therefore comfort and salubrity (vitality) to his native city. The thing is done, and done thus, that the ultimate expansion of the capital of the world does not outstrip the first, primordial plan; and the Cloaca maxima of Tarquinius suffices for the Rome of Casar and Augustus,-even now, 2,400 years afterwards, a monument of admiation for every sensible beholder.-In modern times we manage things differently; we run after all and every sort of *private* comfort and ease, but whatever belongs to the province of public utility is a matter of chance, if not of corruption and jobbing. The subject of severs, however, has been, in its main features, so ably managed by other hands in this journal, that it does not behove us but to make a few comparative observations relative to the Roman work. Calling to our minds what we have seen of the Cloaca maxima, we do not believe that its inper surface (brick) was glazed. There was no necessity for it, at any rate. Every one who has seen Reman (sys, even mediaeval) bricks, knows what they are eval) bricks, knows what they are stone, nay, better than stone, combining hard-ness with toughness; moreover, the mortar of the same kind, so much so, that nothing but (modern) gunpowder, or the crowbar and pick-axe will dissever or break this ancient *material* of building. To dilate on this would be to of building. To dilate on this would be to speak of things unattainable, or *nearly so*. But one thing has come out of late here, and one certainly not neglected by our Roman masters, viz. that sewers, like any brick and mortar structure, must have time to set, to dry, and to solidify, if they are to be *solid*. This, as a matter of course, has its physical, if not its chemical reasons. The watery portion of the carbonate of lime has to evaporate before it is capable of entering with the grit and sand, and altogether with the stone or bricks into a firm agglutination, or perhaps (che-mical) amalgamation. The Roman king was, therefore, right in building his sewers without the bustle and the astounding harass and traffic of a capital of the world; and, consequently, there was no over-hurrying required, and the thing could go on in its natural and timely progress. But our sewers can not remain any sible to the influence of the air-the thing is impossible. They can neither dry, nor settle, but must be filled up, there and then. This anomaly has been clearly exposed, of late ; but we fear that no remedy has been hitherto proposed, which can or would be resorted to, as there is no spare time at hand, either in Fleet-

street, the Strand, &c.' Curious Appliances of the Cathedral of Orvietro.—A curious solemnity is yearly cele-brated in the interior of this beautiful cathedral, in the Roman states, viz. the letting off of a huge set of fireworks. To crown this or a nuge set of neworks. To crown this inconvenience, there are some exceedingly interesting old freeco pictures in the choir, by an unknown painter of Siena, as well as those, more known, of Signorelli, which, being acted upon in this vandalian manner for centuries next have been control with cost and dist past, have been coated with soot and dirt. Fortunately, two German painters, Messrs. Baltz and Pfannenschmidt, have of late applied themselves to cleanse these beautiful works; and thus it may be presumed, that this splendid old structure will no more be injured by the explosion of excelors and explicit

splendid old structure will no more be injured by the explosion of crackers and squibs. The Paving of the City of Vienna.—The corporation of that metropolis have arrived at that persuasion, that most solid works are the cheapest. An exceedingly costly mode of paving has therefore been carried into effect, which, however, is calculated to last at least a hundred years. It consists of solid cubes of granite, about a foot square, all whose six sides are grooved, logitudinally and transversally, for preventing the slipping of horses, &cr., thus, ready for use on every side. It is calculated that as any of these, gat either worn out on one side, or even broken at a corner, it will be

heaved out; and varied on the other side, and is the granite used at Vienna (similar to that mostly used here) is very hard, the experiment is sure to succeed. The expense, however; to; pave is that manner, even the small eriy of Vienna, amounts to more than is unillower florine (100,0002.). The only thing yet indis-pensable is the strong ramming in of these cubes, as it is well known that if increfy one of the paving stones of a certain surface gens shakey, the whole connection is broken, and the desease will spread to a large extent. As, however, Vienna is unlike London, not so astoundingly underwined by a vast number of heaved out; and tarned on the other side, and astoundingly undermined by a vast number of sewers, and water and gas pipes, the ramming in can be done with the necessary force and aolidity.

Reorganization of the Royal Society of Belgium-A recent decree of the king com-pletely re-constructs the above learned body, which, the fine arts being now added to ft, will henceforth take the appellation of "Royal Academy of Sciences, Literature, and the Fine Arts of Bolgium." The Society will form Arts of Bolgium." The Society will form three classes, viz. Physical, Mathematical, and Natural Science; Class of Literature, and Moral and Political Science; and Class of Fine Arts. Messus. Roelandt and Suys are the new members of architecture. (Novul all integre Simonis of sculpture, &c. (Novul all integre)

Paris Guildhall.—Twelve statter tapterne

nascius rerum ordo.] Paris Guildhall.—Twelve statute representations representations of the Hotel de Ville, factor the face of t attained .-- Kunstblatt.

A Pentonville Model Prison at Berlin. A Pentonville Model Prison at Berlin. This huge building is now approaching its completion, surrounded by high walls and turrets. There will be room for 520 prisoners, and a complete, very complicated, separation has been effected; but the building has turned out a very expensive one, so much so that the mere interest of the capital expended will bear a proportion of 20 dollars (4. 10s.) for each prisoner.

Art-Museums in the German University Towns.—According to the programme of the Bavarian University of Erlangen, the Art museum is open twice a week, one hour each time. The libraries, also, are restricted with-in the same narrow limits—but then students

in the same narrow limits—but then students and others may take books home. Erection of a New National Gallery at Dresden.—The huge, albeit unseemly building, the Picture Gallery of Dresden, endeared still to any sensible person, as the, for so many years, shrine of such sacred objects, as the Madanna del Sisto of Rapheel, and other incomparable works, is now likely to be re-placed by a huilding more in accordance with placed by a building more in accordance with the demands of our age. It was his Majesty of Saxony's Government which, on its own free will, brought the necessity of this improved will assent to it cheerfully. The costs are estimated at 350,000 thalers, which no doubt, will assent to it cheerfully. The costs are estimated at 350,000 thalers, about 37,0002, English coin, but equivalent to 70,0002, in Dresden. As that kingdom has a surplus of revenue, 200,000 dollars will be taken from that surplus the that source, and the remainder placed on the budget of next year. Sliding-scale in the Payment of Public

Operation A very entropy segminion—the first in its kind, but of the most striking depth and justice—the just been enacted by the King of Bavania; certain additional per cantage being granted, to, the spiner (Government, officers for the present period of apprehended searcity and want, of from 10 to 25 per cent. But this is regulated by soliding scale, vis., the greater the sealary, the lass the per centage; and least but not has, this increase is also graduated as far as it concerns bachelors, or married men, or widoware with children, &c. *Completion of the Works at the Jardin des Plantes at Paris.*—The Journal des Débass gives the following list of the above works, for which the credit will be asked at the parks— building of a new park for the lions—the building of a new park for the lions—the building of a locale for the smphibious mam-malia and the reptiles — new, and expensive foases for wild bears. A new footpath is to be laid all along the wells, of the garden between the Quai and Quvier-street. *Frenck Officials disclaining any Connections of Concerns with Private Companies*.— Mr. Hericant de Thury, Inspector-general of Mines, and Councillor of the State, has ad-dressed, the French official journals in a very tar, letter—esying that his function as a Go-werpmant, officer. Journals in a very tar, letter—esying that his function as a Go-werpmant of any company, as has been er-roneously steled.

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GHRIST CHURCH, PLYMOUTH b This fabria being completed, though not yet onsegrated, we avail aprophysic a description of the building from the Plymouth. Journal :--The general disposition of this edification is the same as was adopted by Mr. Wighwick in Triaity Church, his object being to put his employer to the expense of no more ground than is actually occupied by the building, and to avoid the cost of, any external, ornament beyond that which gives architectural character to the street-front, the sides and back of the church being con-cealed by, adjoining and surrounding houses. Of course there are no windows in the outer side walls, the main, body of light being ob-tained by means of algestories over the arcales of the nave. The architect is known to be averse to the one of internal pillars where they, can be avoided, but in this case (as at Trinity), where there is a great lateral where they, can be avoided, but in this case (as at Trinity), where there is a great lateral extent and galleries are imperative, they would have been, necessary, even if the build-ing had been, insulated, ... The west front exhibits a lofty gabled centre, flanked by octagonal turnets 64 feet high, and winged by two lower galled compartments, having angle pinnacle buttresses, reaching a height of above 40 feet. The octagonal turnets termi-nate with open laterans surmounted by above 40 feet. The occagonal threats termi-nate with open lasterns, surmounted by crocketted spirettes, resembling those of Magdalene College, Oxford. The three door-ways, respectively seen in the central and wing compartments, are adapted from the beautiful originals seen in Tatershall Church, Lincolnabire... The tracery of the great east beautiful originals seen in Tatershall Church, Lincolnabire. The tracery of the great east and west windows is from Aylabam Church, Norfolk. Over the wing doors are long and narrow single-light windows, with quare-foil apertures above, and over the large west window is a loop opening, ventilating the roof. All the carved work of the west front is of Can atops the plain portion of the mean rule. Caen stone, the plain portion of the masonry being of our local limestone. The front is 72 feet in extent, and 50 feet from the payement to the top of the gable. The style is Tudor Gothic.

Gothic. Internally, the church exhibits a nave of five arches in length, surmounted by a clere-story of coupled windows, the lawer timbers of the roof being left open to view, so as, in a general way, to resemble that of St. Mary's at Cambridge. The width of the nave is 31 feet; the height is nearly 40 feet; the sisles (including the thickness of the pillars) are 18 feet 6 inches wide. and the sallaries within feet 6 inches wide, and the gallaries within them are so kept back, as to leave the ascent of the pillare unimpeded. There is also a gallery at the west end, with staircase on either hand, occupying the depth of one arch of the nave, which is therefore a blank. At the east end of the nave an arched opening 32 fact high and 16 feet broad reveals the communion recess, which, from the confined space of . the ground, is necessarily only 9 foot deep. - Friday of Public

The paipt of novel construction, approached by 10 door front A the Well'y Holiby. Thefeet by Mobel' from the rearry Holby. This fost (of Caen stand) is heat the western mid-entrance. The church has been completed, including 861. for extres, for 61. 88. 6d. above the architect's estimate—the total cost of the building being 3,4751. The accomm dation is for 1,120 sitters, of whom 35 may here-after have to make way for an organ. The clear internal dimensions of the church are, from east to west 87 feet, and from north to south 68 feet.

THE BUILDER

WESTMINSTER COURT OF SEWERS.

ON Friday, Dec 5th, a Court was held. The collectors presented their reports, and the clerk declared the cash at the banker's to be 17,1761. 2s. 7d. Mr. Phillips was ordered to present to Mr. Dowley a report of the most faulty sewers in his districts to which he alluded in his report in the Book of Informations.*

A long discussion took place between some pplicants for leave to enter a sewer built by Mr. Ponsford, who produced to the Court his account of the cost to him of the sewer, 592 feet, second of the cost to him of the sever, 552 feet, 8111. 10s. 6d.; the digging he charged at 3s. a cubic yard, the brickwork in mortar at 151. 4s. 6d. per rod, and the brickwork in cement at 171. 3s. 6d. per rod. The Court thought his claim excessive, and ordered the surveyors to measure the work and the custom rod. measure the work, and the question was ad-journed to a future day. The question as to works likely to be done

and materials to be required, was again dis-cussed, and Mr. Allason having assured the Court that Mr. Bird had had sometimes two and sometimes three establishments, Mr. Leslie carried the Court with him, by shew-ing the vast amount of the works above 500., already provided for by special contracts, the expanse of cleansing sewers and gullies in the antiquated way, without a check on the expenditure, amounting to 2,000, per annum, and deducting this, included in his plan as a labour account, from the works above 501, it left a comparatively small amount of works to be done by the new establishment, and which it was still further proposed to reduce by a tu-bular system of gullies. The honourable cam-missioner stated, that every foot of the present gully drains took twenty bricks, and the average cost was one penny per brick. The sur-veyors' report was then read, without the schedule of materials, and Mr. Leslie moved, and was seconded by Mr. Thomas Leverton Donaldson, "That the surveyor be authorized to procure the necessary materials and other matters contained in his report, from time to

matters contained in the report, from time to time, and report at each meeting of the Court the amount so supplied." Carried nem. con. Mr. Wm. Donaldson's motion to prevent the clerk from printing any paper without the order of the chairman then came under dis-ementor, in the midst of which it was moved and carried that the Court do now adjourn.

LIGHTING MINES BY ELECTRICITY .-- M. Delarive has successed in obtaining a brilliant light for lighting mines by the galvanic bat-tery. His pile is composed of several concen-tric cylinders, of copper or platina, separated by porous cylinders, of copper or platina, separated by porous cylinders, and forming a series of four or five couples. An amalgam of liquid zinc, or, what is preferred, an amalgam of potassium, is the positive metal; and a solution of sulphate of copper, for copper cylinders, and a chlo-ruret of platina, for platina ones. The diffi-rultion meintiging constant light have been culties in maintaining constant light have been overcome by employing small hollow cylinders of coke, similar to those used in Bunsen's pile, of coke, similar to those used in Bunsen's pile, but smaller, and arranged like the wicks of a lamp. A ring, or disc, of metal is placed above these, and of the same diameter; and the electric current thus passes between the two. The current must be made to pass from the çoke cylinder, that the particles of carbon which are carried off may fall again with their own weight. The whole is placed in a glass globe, which must be hermetically sealed. There is no occasion to form a vacuum in it, as the small portion of oxygen is so soon absorbed; but it must be carefully excluded from the outer atmosphere. The pile is fitted with two metallic wires—one communicating with two metallic wires—one communicating with the cylinder of charcoal, and the other with the metallic-conductor.—Post.

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CHELSEA IMPROVEMENTS.

12.3 34 ั้งวลส and draw the i ⊹aa Brau I observe that you are in the main favourable to the proposed improvements in Obsecutable to the proposed improvements in Obsecutable to the proposed improvements in in order to give as the advantage of some we

in seder to give as the advantage of come of servations hereafter. "My objects in writing is, to say there are strange whispers abroad, that many of this siterations are projected solely with the view of improving the etable of my Lord Gudgen; and that particle industry will estually be spend in doing that which indust will estually be spend in doing that which industry will estually be spend in doing that which industry will estually be spend in doing that which industry will estually be spend in doing that which industry will estually be spend in do for this same to worder of the wavel hope; for this wave of insubers of the vates payers who read, your new influential is used payers who need your new influential, journel, that you wild inquire into this matter. I constant Cholses. Concernation A: Oursen Proverany

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SOME EFFECTS OF THE RAILWAY MOVEMENT.

WE find the following suggestive remarks in the Railway Review of the current month :---

"We are not opposed to railways or railway terprise. On the contrary, we hold that the enterprise. On the contrary, we hold that the present railway movemant, reckless as it is, will produce a revolution in this country as comprehensive, as sweeping, as important, as any political, meral, or economical revolution that yet has been enacted in the world. An entire new race will spring up with the entirely new genera of roads. A new opening for the exercise of intellect, a new road to eminence, and an infinity of space and materiel for the employment of men's energies will be, hay is created, by the new system. We are present at the birth of a new aristocracy. And as force was the patent by which the old won and heid its lofty position, so in these days of ours, will a similar, a virtual position, far more ap-fluential, be won and held by the controller of force—Intellect. Wealth, possessions, una-sisted by mental power, if only of the lowest order, is in the descending scale, while com-parative poverty, backed by wit, intelligence, and that quality which will, if it exiat, manifest itself in whatever it be employed on—Genium, is rapidly ascending. The director or chafty man of a board must gain and maintain the rank by talent, or he is soon discarded. "He must know and do. He must think only in so-far as it shall lead to profitable scion, and not enter the regions of impalpable specular-tion. He must work hard if he do his duty, he mats at honestly if he would preserve his reputation. He cannot uphold himself in the routany in which he has thrust himself by acting idleness. There all is boatle, activity becomes absolutely necessary to self-preserve-tion; if he be inert, he will be infallably' crushed among the coges and swift-whirting wheels in that scheme of perpeturit motion, which he has attempted is erest, guide, and sustais: No; show decess, application; all things, float in all degrees of density. They necessarily form important adjuncts to all our affairs. They have provided a cromplication so complicated, that as fast as new of therestion another confuses it, thus furnishing themselve enterprise. On the contrary, we hold that the present railway movement, reckless as it is, will produce a revolution in this country as far more important class is created in angineessive and surveyors; that is, taking our view of the railway revolution---namely, as ocholucing to: the progression of man, and furnishing wheley some and elevating occupation for the mastel energies and powers. This is an outbity note for the some of our aristocracy, like the obuited and the army, but, for the aspiring and intelli-gent among the powers middle diasees, and the humblest poor themselves. Here no pa-tronage, but that of genius, no influence, but that of known, and experienced ability to to his work, can obtain the man of anisors and the nost difference in a solution of the solution party interference, can evalue, That man whe is the most difference in other the solutions and party interference, can evalue, the solution of ronk and conventional influence. Here whe is the most difference, can evalue, the solution and party interference, can evalue, the solution of most weighty and legitimate qualifications for-office, honour, and its of some conventional rank and conventional influence. Here here there is hope for, the wong man who would ive a life of labour in the full exercise of his-intellectual feaulties; who would rether here employment at helf the water of the work of intellectual faculties; who would rather here employment at half the walkes of it by the to

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Sec. 62

tained by his own ability. they twice the sum gained by the intersession of another, for doing bothing but that which in level with the commounds out man water in term with the court monest capacity. It is in this point of view, that we estimate so highly the point of view. for pool in the railway revelution. It pro-mises intellectual exercises and labours, for our, pepulation. It is mind that is evolved by the spread of steam communication. It is mind, though not of the highest order, that will sale the new confederacy. It is mind; matasels dailing, her highest effort, that is, and will be called into play to an extent hitherto un-equalled. It is stirring even the country singles; exciting the more active, but still plodding citizens of the country towns. They are auxious, fevered, activity, and it present maqual to the hour. Hence many are, the prey of swindling cormorants, who, thanks to also evanescent many of dathered, which hansat long retain one form, will be a short-lived race." population. It is mind that is evolved by the

RAILWAY INVESTMENT.

UNDER this head, the Westminster Review for the present December has an article which will be read with much interest by the hundreds who are at this moment contemplacing the state of the abare markyt with fear and thembling. To The jobjace is to show, that, the army of the Where is a value to more subor gover the and the second of the second seco

"What's, puchloned on 5 of that ither subrid noise Eet us hote, "says the writer, it that from "Whatever cause they may grise, the steriations "Br'confidence and Distruit in affairs of con-"Brees are as constant and certain suche the Berce are as constant and certain suche the and flow of the tides. Success has always led and now of the fides. Success has always ted to overtrailing; sometimes in tes, sometimes in 'tallow, and now in railroads, and overtaining and panic have succeeded each other strin torvals of searcely five years spart, we believe 'Point he days' of the merchants of Type and Sidon down to out own. It may; therefore Sidon down to out own." It may, therefore, " be assumed as 'an exiom, that spanic, is the "at's price greatly below its arcrige value and " him off fail flower, and inay, indeed in many " have first first in secret of the secret at large " him field for the secret of the secret at large " him field for the secret of the secret at large " him field for the secret of the secret at large " bij talists." They buy when there are no other buyers; and when all the world "are " segre to buy, they they their heads bobly and sell. At "the present manent, it may seen a bold thing "to recommend values, property as securities, " but we have no hesitation in doing so, and in adding our opinion that an investment in Hac

idding dur opinion that an investment in Inda well selected, at existing prices, would alti-mately be found a far there products step than the price is but little analogy between South Sta and Mississippi Whethes and railway pro-jetts. Let us Wesrly understand our position. We have arrived at a new epoch in the his-tory of the world. If they epoch in the his-tion of hetters, ds was the printing press, as was the steam engling, so is the valway in the after the world. If is a revolution among nations. A noral revolution as affecting the "different fundwinding, the interchange of so-

difficient of Ruo whedge, the interchange of sothe relations; the perpetention of peace, the extension of resolution in all the velations of property."

We have already pointed out the following t to do so), but it may, nevertheless, be usefully repeated :

"The change new in progress is that of supersedingistone roads by iron roads. The first road was a trick ; the second one made with hard had rough materials, sometimes paved, and there fredently thrown beer upon the ground; the third's inacadamized road; and the humber of private Bills spiled for be-tween 1829 and 1833, for roads of this con-struction was 340 of 1833; for roads of this conof turnpike-roads in Great Britain alone, and the pablic roads of all skinds (including both erose country proads and transise roads) in Great Britain and Breamd extend to a length of somey here about 150,000 miles ! We have now stooroneer dahere as an on stands, for the granten naw of them, into iron roads as speedily as may be practicablen, and possibly (as the disposition to travel increases with facilities of

Porter's Program of the Watton, vol. iil., page 109. il tas iquitei

BUILDER.

terenet \6 is the work Englishmen have set themselves to do, and the this generation, for the again, they will do it." benericug Jaci sont limitud to the second set of a second set of a

BUILDING STATISTICS.

BUILDING STATISTICS. SIE,---Will yeu have the goodness to state how many bushels of caments and, how many bushels of sand, are counted in a god of 272 feet of brickwork, reduced to 1 brick thick, When dement only is used, when cement, two-thicks and sand one-third; when cement, one-half and wand one-half, or in equal, pro-portions; when comant; one-third and sand two thirds.

two-thirds. Several books name the quantity, of compari-to a red, but all that I have even are uselyes, from not naming the proportion of sand on which the calculation is founded. Builders differ so much in their statements, and some are so energyerated, that it would be more setisfactory to your readers to have data, on which they can place more reliance. A few of these sort of particulars, provided the data may de implicitly depended on, would be of great use in essimating; setch, for instance, as the fol-leving:---The number, length, and scanlings of pantile lather in a bundle; the number, lengths, and sizes, of ingle, and double lathe in ditor; the member, fingle, and weights of hengths, and sizes, of single, and double laths in ditto; the mumber, sizes, and weights of various materials is entrin , hence, and weights of of work: the lengths, sizes, and weights of hoop-iron per handla; for band, and iron, soagies; the weights and sizes of nails, apikes, and screwn, dib Sobold, da, is, ; the quanti-ties of lime, hair, and sand, in one coat render, or lay: ditto in a yard of floated work, one coat and two coats, and in hold weights, sizes, and and two coats, and in hold weights, sizes, and qualities of tiles, slates, &c. Bliess, and athers, would be extremely useful in a tabeler form. But at another

in a tabaier form. But at present I seek most

Dec. 6, 1845. AN OLD SUBSCRIBER

TOWER HAMLETS COMMISSION. THE TENDERS FOR SEWERS.

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HOLBORN AND FINSBURY COMMISSION.

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MUSEUN OF BRITISH ANTIQUITIES .- In reply to Mr. Hawkins' letter to the Institute of litects on this subject, and which appeared Hawkins, Esq., the keeper of the antiquities in the British Museum, in which the assistance of the members of the Institute is solicited in preserving antiquities found in this country, The council, fully recognizing the importance of the object advocated in the letter of Mr. Hawking, and beautily, concurring with the, views entertained by the committee of the Archeological Institute and at the British Museum; recommend to the members of this. Institute to exert their influence, budividually Institute to exert their influence, individually as well as in their corporate capacity, so pre-vent the destruction and dispersion of sotiqui-ties in all cases of discovery that may fall under their notice; and, further, it is the desire of the council, by this resolution, (o'call forth, from the members of the profession id general, that public expression of theoret, in the rest, motion of argheology, which may then meet the wishes and suggestions conversed by them in Mr. Hawkins' letter. poles

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Towers and Smillell'; Anticess Attests stated testurel; SRathesan GliB Church bible distig Use of Birsharas; stheliBonanes a Lorden; Sitcheigerin Burkeyter? Stivelies deput bide (Ages) Moilumentio D'ophies Processing South Water; Birsharder Stitue and Statest (Water; Birsharder Stitue and Statest Water; Birshy Use infraring di in Alleging; Storig Baroly fon fill attant tess in Alleging; Sacon Baroly fon fill attant tess in Alleging; Antipities of same and statest (Mater) Baroly for a statest (Mater) Baroly for a statest Materia Statest Sacon Baroly for an infraring di in Alleging; Mari Maright invellented, separtic distant scholer is wishty spradpatid ist to histore of the Institute soft for the for statest wolume the Mary spradpatid ist to histore of the institute soft for the separt of the studies, he the state segister the set of the studies, he the state segister the set of the studies, he has into segister the set of the studies, he has into segister the set of the studies, he has into segister the set of the studies is a state set of the set of the studies is a state in the set of the set of the studies is a state in the set of the set of the studies is a state in the set of the set of the studies is a state in the set of the set of the studies is a state in the set of the set of the studies is a state in the set of the set of the studies is profession set of the set of set of the set of the set of the set of the set of set of the information is the set of the set of the set of the set of the information is the set of t nerestrer: torm is vaugne, and fank as a far industrious: and intelligent antiquery of the tible-page of the Mannaf Boermane (form Haminated MSS; de antiput aspended by Hasharto obrome hitegraphy, assessed by Hasharto

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int) a year certain, orlife but hims taken a lease, he must also he to the transfer the lease to who measures he can get to take it, with all the business being to the same. Or, as is the binefits bielopging to the same. Or, as is the cost in many instances, it makes a rogue of a cost bourst many instances, it makes a rogue of a cost bourst many instances, it makes a rogue of a cost bourst many instances, it makes a rogue of a cost bourst many instances, it makes a rogue of a cost bourst many instances, it makes a rogue bourst and a state of the drains in the daighbourshood of Lincoly a informed of a state and the state of a state of the drains in the

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will be die hicht pine ; ithe oulpit, destean ntitosinglei of britischurs, Roman, It is the hopedraw filin (2) Palley, the mehites for inpetter, Falley of Bathy) that abaut bothing j**ob**

"Biogest ick.o. The Bitter of Fredericton, on "Ale estatish Wile site of Fredericton, on "the Cathedral Jac Proderistion," writes as "followerning a 'anchos' times the contactors

10 of Old Eligitation is an all the glory and originate of that som try, and are now more visited and admired than ever, were built by the bishops of the respective sees, assisted by the multitude of the faithful, who rejoiced to pour their offerings into the treasury of God. In faitif the work was begin to builders diel, and left their work utilibiated, but others took "If op and by God the born annuard, but oners took "Hut fire colonies of England, though overy-"White dispersed, knew no such glory; and for ""Bon second the gathering in of the "un right-once and the second the gathering in of the "un right-

^{an} our state of the second to be the sole and of be continuation second to be the sole and of be continuation. At length the note of prepara-billing in heard, and in more than one colony "Guts servants think upon the stones of His ^{an} Church, and an prilett them to see her in the ^{an} Oust, "New" Brunswick is one of the first of the first of the the stones of the first. DΟ quar, New Brunswick is one of the hird colonies in which the foundation stone has been scitually laid, an event the more remarkable, when we rewect that no such work has been o1 4 ga) to i to which we reflect that no such work has been aid begun since the Norman conquest; that is, for all the last 700 years; a work in which the good-per the last 700 years; a work in which the good-took prices of God is manifestly midd known to-be wards is." The day on which this occurrence I took place was the 15th of October, and ba Bathoaw Area House." We understand bathat the rebuilding of Lord Francis Eger-benthat the rebuilding of Lord Francis Eger-pendent of a manifest, in Cleveland-square, formerly unbelonging to the late Duke of Bridgewater, in iun to be commenced early in next March. Mr.

Johnson in the late Duke of Bridgewater, is in to be commenced early in next March. Mr. Barry, the architect of the new House of gair Barly, the architect of the new House of any Barlyment, is intrusted with the erection, that our barlyment is intrusted with the erection, that "" Parliament, 14 intrusted with the erection, sus-na scentierian having designed the plan of the in-oval dided new manison." A paragraph has latery it money is a morning paper, asserting that no erection of the line architect." Such, however, is """ worth, was the architect." Such, however, is not the fact that gentleman having only made

a model some years back, which was not adopt-ed.—Herald.

Simpkin and 2. 19/letingil 192 syad nomdelly Simpkin, and "Hyghawazas" Alwawaga Simpkin, and Marshall have just published for the author Mr. Jabes Hare; a very useful illustrated sheet almanack, containing, in addition to the usual information of the calender, a variety of engineering succession of considerable important and which will be most meful for referenced ference of any circle, from 1 to 109 inches, of which the diameter is given; a table of the pitch of wheels, breadth, and thickness of tests, sudstrength in number of horses' power, goin at the rate of three, four eix, and eight fa per second ; a table for calculating the pitch of a tooffiell wheel, when the rudius and number of teeth are given. Specific gravity, strength, cohesiveness, stiffness, and resilience of various woods from Predgold. Hardness and specific gravity of various stones, weight of iron, number of bricks to any piece of work, relative value of British and foreign road measures, expansion of air and water by hest, det VACANT DISTRICT SURVEYORERS. - A

vacancy has occurred in the district of Shoreditch and Norton Falgate in doursequences of the death of Mk: Matthews Wattona Swo candidates are already in the field, vis, Ms. Robert Warton, son of the desemoil gentleman, and Mr. H. E. Kendull, the present surveyor of the district of Bt. Militia's in the Fields, and St. Ame, Solid, Bazes, Sizen, June, S. C.

storation of the new Gingfriads . Gharoh, Edinburgh, is being proceeded with 5. B

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For Building a Pover Hospital in the Lishid of Promise, Hoxten, for the parochial antherities of St. Leonard's, Sharoditols ; Mr. Wens, Trois, anchi tint.

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| Merser | 2,092 |
| Bag | 2,080 |
| Cartis | 2.044 |
| Reeves | 2,003 |
| Cotsworth | 1.998 |
| Ward and Son | 1.994 |
| | |
| Hatswell | |
| Cooper | 1,947 |
| | 1,918 |
| e lowest tender was accepted. | |
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NOTICES OF CONTRACTS.

We are sompelled by the interference of the Stamp Office to omli the mame of the parties to whom senders, Ac., are to be addressed. For the convenience of our realisrs, hourver, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-struct, Covan-garden.]

Far performing the bricklayer's, carpenter's

Jun performing the brickingers, carpenters, slater's, plumber's, painter's, and glazier's work at the St. Marylebone Workhould für the year ensuing. - For the axecution of works on the Newcostle and Darlington Janotion Railway, being a length of about 5 miles (also for an extension of the same line to Monkwearmouth, being about three-quartens of a mile in length.

For the execution of the works on the Auchin-leth and Ayr Branch of the Glasgow, Paisley, Kil-mersock, and Ayr Railway, in length about 14 miles. To be divided into two or more contracts.

For the execution of the works in connection with n extensive excavation at Edge Hill for the Grand Junction Railway Company.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

At Smachington, a quantity of capital ash and lamhopoleas ashoof sale slar, and booch timber *****

At With heopk, a quantity of ash poles, and ash

At Withybeook, a quantity of an poses, and and elso timber trees. At Willoughby, Warwick, 300 valuable oak, ash, and the timber trees, now growing. At Audiey, Had pristing, 4 fall of very choice straight larch and Socich spires. At Audiey, Had, Santon Walden, about 400 imper trees, constituing of birth ash, elm, becch, and sychnore, and a quantity of birth and ash noles.

At Halstead, numerous elm, ash, oak, willow, and fir trees.

At Brits add n Elect : about 1000 (mythat ash)

abr and i 20 asbrirges, &c.

and other timber trees. At Hisaton Hall, Cambridgeshire, a quantity of ash and other timber, trees, including a palm tree,

At Besford, pear Pershore, a considerable quan-

At Bestond, pear Forshore, a considerable quan-tity of very capital timber, consisting of oak, elm, and ash trees, of large dimensions. At there oak, why, and elm timber trees, of very angelio duality and mostly of large dimensions. At Hornoges, an extensive fail of sais, sila, willow, and poplar trees, as we quantity of excel-tent ash noise, all and other spires, for

willow, and poplar trees, and us quantary or exam-lent ash poles, elm and other spires, &c. At Halse, Somerset, about 250 capital maiden oak, ash, and alm simber trees of long lengths and large dimensions, now growing.

TO CORRESPONDENTS.

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communications to the Billion and 7000 25

Correspondents should beat in mind that THE Boundary is published early on Friday morning. Communications which reach us later than Wednesday cannot appear till the following week.

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ADVERTISEMENTS. BUAG

THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belveders-road, Lambeth, near Water-loosbridge.--SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.



MUIR'S PATENT SAW MILLS, GILLINGHAM-STREET, PIMLICO. TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c. Frepared, Matched, and Grouved principle. Boards, &c. Sawn on the most approved principle. Boards, &c. Sawn on the most approved principle. Boards, &c. Frepared, Matched, and Grouved principle. Boards, &c. Frepared, Barthan, Sawn, Sawn, Mills, Sawn, Sa

Gillingham-street, Pimlico.

GRAINING COLOURS AND LIQUID WOOD STAINS. GRAINING COLOURS AND LIQUID WOOD STAINS. MARKEN STEPHENS begs to call the attention of Architects, Builders, House Decorators, provide the statement of the statement of the statement of clurches where the appearance of oak is desir-tions, failed furniture, or other ornamental wood work, to is GRAINING COLOURS are prepared in the reviral of old the statement of the statement is GRAINING COLOURS are prepared in a damp state, and provide state a previous of the work man cannot fail in other states and appearance at all times. The difficulty of producing a time colour and of preverying the same unifor-ment of the statement of the state unifor-ment of the statement of the state unifor-ment of the statement of the sta

viceable. They also impart to woods of inferior character and of soft texture, such as beach, birch, pine, deal, &c., the colour and appearance of such woods (whether oak, maho-gany, rosewood, &c.) as it may be designed to imitate, and thus save the expense of more costly materials. The above preparations for graining and staining for pur-poses of imitation and of revival, are prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; of Mrs. ROWLAND, Painter and Glazier, 3, Broad-street; Golden-square; and it the Office of "THE BUILDER," 2, York street, Covent-garden, at which places specimens of their application may be seen.

BRITISH and **FOREIGN** SHEET GLASS, for Horticultural purposes, Sky-lights, &c. may be had at JAMES BROMLEY's 315, Oxford-street, London, at the reduced prices, also Microscopial Glass, French Shades, Plate and Crown Window Glass. J. B. will be happy to furnish Lists of Prices, or any other particulars that may be required.

DUTY OFF ORNAMENTAL WINDOW GLASS. CHARLES LOOVO begs to inform his Priseds and the Public, that he can now supply Orna-mental thus fron is. 3di perfoss superficted ; and barders from 9d. per foot, run; and having just built two of the largest Hims th Londray, is stabled to execute extensive Orders wills unpresentional displace, 1, King-street, Port-man-square. Thrisis, Cash only.

nan-square. — Torins, Cash only. TO THE PLATE.GLASS TRADE. THE FIRMIN GHAM PLATE and CROWN-GLASS COMPANY beg to call the atten-ion of the Trade, that their JONDON WAREHOUSE, 141, Test-strack, is now, open for the sails of their Crystal Plate-Blass, which for Brilliancy and Colour will be found to stand mirrelied ar any other manufactury.—All erders, addressed 0 B. MOSS, London warehouse, or to the works, Smeth-rick, near, Birmingham, will be promotive strended to.

UNION PLATE-GLASS COMPANY, A BG, Sobg-segity Econdon. A LFRED GOSLETT, Agent for the Union Plate-Glass Company, begs to inform Archi-tects, Builders, and the Trade generally, that the estension of the Weeks as Pochet Neek, St. Heien's, Lancashire, being now nearly complete, he is in a position to deliver any quan-tity of silvering or glasing glass, within one week from date of order. A. Genlet begs to assume the "Prede that the present manufacture of the Company cannot be equalled for either quality or brilling of colour. TO IULDERS, DAINTERS, CLATIERS

SASH, SHOP-FRONT, AND HOTHOUSE MANUFAC-TURER.—ESTABLISHED UPWARDS OF 70 YEARS, 87, Bishopsgate-street Without.

THE BUILDER.

THOS. MILLINGTON begs to inform his Friends, that he still continues to manufacture the above in the same manner, and using only the best materials, that have given so much satisfaction for many years past. Every article will be made in the best manner, and the very lowest price charged. Lists may be had upon application. Drawings prepared.

FOREIGN WINDOW GLASS. THOS. MILLINGTON begs to inform his friends, that he continues to receive weekly large consignments of FOREIGN GLASS, which he is determined to offer upon the very lowest terms. Address, 97, Bishops-ghte-street Without.

PLUMBER'S BRASS WORK, WATER-CLOSET PUMPS, &.-These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 34s. ; 24 Lift Pumps and Planks, 44, 10s. od.; 3-inch Pumps, 54. 10s. od.; 3-inch Bill Ball and Stop Cocks, 30s. per dozen, and every article in this branch equally low. Every article warranted.-Address, THOS, MILLINGTON, 87, Bishopsgate-street.

VARNISH

THOS. MILLINGTON begs to inform the THOS. MILLIINGTON begs to inform the can be had at his Manufactory, of the best quality and at the very lowest price. T. M. has long been a manufacturer, and has devoted much time and attention to it, using only the best of gums, and sparing no expense in the manufacture. Fine Pale Oak or Wainscoat Varnish, per imperial gallon, 10s.; Fine Carriage Varnish, 12s.; Coogl. 18s.; Body Copal, 24s.; Gold Size, 10s; White Hard, 18s.; Brown Hard, 18s.; French, Polish, 18s. per gallon. Paint, Dryers, Colours, ready and ground, and every article in the trade. If quality is taken into consideration, this will be found the cheapest house in London. Address, 87, Bishopsgate-street Without.

ARNISH .--- It has long been a desideratum WARNISH.....It has long been a desideratum amongst the consumers of Varnish to obtain a good and genuine article; brilliancy, facility of drying, hardness, and darability are the qualifications necessary, but these are seldom if ever found united. The experience of a life-time devoted exclusively to the manufacture of this article, the great and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled Mesars. George and Thomas Wallis to produce Varnishes (both oil and spirit) unrivalled in every respect, and they confidently recommend them to the trade, as deserving of notice both in price and quality. Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unadulterated article. Fine Oil Varnish, from 10s. per gallon; best White Spirit Varnish, 91s. ditto; Best Spirit French Polish, 20s. ditto; White Lead, Oil, Turps, and Colours of every description at the very lowest prices...-WALLIS'S Varnish, Japan, and Colour Manufactory, 64, Long-acre, one door from Bow-street. Established 1750.

WALLIS'S PATENT LIQUID WOOD ALLIS'S PATENT LIQUID WOOD KNOTTING. — This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the im-portant qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and dis-figuring the paint above. Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much plea-sure in offering to the public an article so long and anxiously called for.

called for. In the application, skill is not required; a boy can use it as well and effectually as the best workmen; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat. Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

O ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MER-CHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL. TO

BOILDERS, MASONS, AND THEORERS, MES, GHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL. JOHNS and CO.'S PATENT STUCCO CEMENT.-The following are the positive advantages possessed by this Invention over every Cement hithurto in-troduced.-It will effectually resist Damp. It will have regested by this Invention over every Cement hithurto in lever crack, blitstr, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It sever requires either to be painted or coloured. It will know fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be depended upon for export. It is the only Cement that it is larger Proportion of Send than any other Cements begin to periah. It may be worked through the Winter, as froat has an office upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs had or pointed with this Cement will remain usdamaged by the severat Storm. Any Plasterer may apply it, the Instru-tions for use being very elear and distinct. The first cost of this material does not exceed that of the chespest Cemants valuable advantages, nothing can approach it in point of economy. Architetta and Builders who have used this Cements have

Now in the joint with all the above-instead extraordinary and valuable advantages, nothing can approach it in point of economy. Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred. Byociment and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application to MANN and CO., SOLE AGENTS for the Passitose, 5, Misichelane, Queue-street, Cheapside, London : of whom also may be head. JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for this purpose than or other Cements, and which have become dirty and disco-loared. It is in every way better suited for this purpose than White Lead Paint, which will frequently everse. Of in fakas, MESSNS. JOHNS and CO.'S PATENT FAINT having an effinity for Sincco, binds itself with it, stopping the success, intervolvendering a pure stone-like effect, and in the finish producing a pure stone-like effect, producible by me ether Paint whishers. It is a chapten, and may be used by any Painter, used in the most exposed Marine situations.

TO ENGINEERS, ARCHITECTS, AND CON.

TRACTORS. GREAVES'S LIAS CEMENT an GROUND BLUE LIAS LIME, at 3, South Whan Paddington, London, and Works, Southam, Warwickahire Agent for Liverpool, Mr. W YLLE, 56, Gloater street, di for Manchester, Mr. J. THOMPSON, Back King streed ditto for Chester, Mr. J. HARRISON, Linen Hall-street. and

A TKINSON'S CEMENT.— The public is cellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to as. 8d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co,'s Whart, Holland street, Surrey side of Blackfriars-bridge. N.B.— This Cement being of a light colour, requires no arti-ficial colouring or painting, and may be used for stucco with three parts its own quantity of sand. TKINSON'S CEMENT .- The public is

PORTLAND CEMENT, which does not District and regards and colouring, is perfectly by-draulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Mil-bank-street, Weatminster, and sold at their Warehouses :--Druce's Wharf, Chelsea, Bell's Wharf, Chelsea, Bell's Wharf, Chelsea, Bell's Wharf, Deptored bridge, same Albion Wharf, Deptored bridge, same by Salmon and Co., Dublin, and at 36, Seel-street, Liverpool.

And at 36, Seel-street, Liverpool KEENE'S PATENT MARBLE CEMENT. WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disperving sections, which carry with them their own refutation, the philos material will very advantageously stand the test of the sections, which carry with them their own refutation, the philos material will very advantageously stand the test of com-parison with any cement of a similar nature, however IN-VALUABLE, now before the public. They derive this point of Hyde-park; on the Brompton estate, and in many other public and private edifice, both in London and the country. Amongst others may be mentioned the works re-entity executed at the Colosseum, Regent's park, where its hardness and beauty of uppearance have caused it to be ex-tensively used for skirting and other mouldings, in place of void, for columns instead of marble, and as a substitutes tor store in paving the floore of the corridors and conserva-tion. Patentees and manuficturers, J. B. WHITE & SONS.

patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

POLONCEAU'S BITUMEN PAVE-MENT for paving Foot walks, Tarraces, Gardan walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warchouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwell-ing Houses, Porticos, Balconiae, and Sheds. Price St. 6d. per square yast. BITUMEN for covering the Arches of Bridges, Calverts, See Ac. on Ballways and other places (with instructions for hying it down), may be had at the rate of 44s. per ton, by applying to JOHN FILKINGTON, 16, Wharf-room, City-road.

TO ARCHITECTS.

IN consequence of many complaints having veen made to the Company, by Architecta, of a spurious material having been used in the execution of Works where the USYASEL ARTHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have anthorised CERTIFICATES to be granted to Builders

SEYSSEL ASPHALTE

SEVSSEL ASPHALTE has been used. For the purpose of scenaring the use of the Gennine Article, Arghitects and others are recommanded to insert in their specifications the "Seyssel Alphalte, Cla-ridge's Patent," and not marryly "Apphalte," ar "Bitu-men," as in many cases where these terms have been used, gas-isr and other worthless and offensive sempositions have been introduced. I. FARELL, Sceritary. Strangate, near Westminster Seyssel Asphalts Company. Bridge, Jan., 1845. Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Conarty, price 1s.

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"..." In proof of the necessity of the above advertises, in "..." In proof of the necessity of the above advertises, in may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been associated by Mesers. GURTHS, builders, of Stratford, a spuriess material has been used by them, contrary to the specifications, which expressly mentioned, that "Clarkings's Asphalts" tras to

expressly mensioned, that "Clarkings's Asphales" was to be used. Also in the case of a work at Lewisbans encosted by Mouran ROBEET and DANIEL TOUNG, of 10. Crownares, Walworth-road, where Scyssel Asphalte was specified for, a spurious article was nevertheless inid down by them.

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BATURDAY, DECEMBER 20, 1845.



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N Saturday last, a cause was tried before Lord Denman, in the Court of Queen's Bench, having considerable interest for the architectural professiou. Mr. George

Mair, the architect, was plaintiff, and Mr. Ward, a geatleman of fortune, residing in the Isle of Wight, was defendant. The action was brought to recovar a sum of about 511*l*., alleged to be due from the defendant to Mr. Mair, on account of services rendered in his professional character.

Adopting the substantially correct, abstract of the case that was given in The Times, it appeared from the evidence that the defendant had some years ago employed Messrs. Morgan and Lee to construct a mansion upon his demeene at Northwood, and that those gentlemen had furnished the original design for the building, and superintended the construction of the carcass of the house. The defendant, however, interfered very minutely in all the details of the proceedings, and Mr. Lee found his time so much occupied by this particular case, that he was obliged to resign. In these circumstances, Mr. Ward was introduced to Mr. Mair, then, in 1838, a young man who had been but a few years in the practical exercise of his profession, but who enjoyed a high reputation among his professional brethren. Mr. Mair having undertaken the conduct of the work, proceeded to perform all the duties of his position up to a recent period; when he resigned the engagement, in consequence of a difference between himself and his employer as to the principle upon which he was to receive compensation for his services. It did not appear that any contract, either expressed or perhaps implied, had been made between the parties upon this important subject. Mr. Mair alleged his expectation to be that he was to receive a commission of 5 per cent. upon the whole sum which might be expended in carrying his own designs into execution, together with his travelling expenses to and from the Isle of Wight, and a compensation of two guineas a-day for the time actually occupied in going and returning. Mr. Ward, on the other hand, supposed that the compensation in all departments of it, was to be nothing but what his own judgment should approve and his "generosity" bestow. At the time when the final difference and separation took place, he had given to the plaintiff several sums of money, amounting altogether to about 1,100%, beyond which, the plaintiff claimed about 500l. more.

The charge made was 5 per cent, on 23,000*l*.; 1,150*l*. and 540*l*. for travelling expenses, time, and money expended for the defendant.

The plaintiff produced a number of witnesses to prove the performance of the works, and that the principles on which he claimed payment were universally acted on by the whole architectural profession; these included Mr. George Smith, Mr. Tite, Mr. Shaw, Mr. Little, Mr. Wyatt, and Mr. Scoles, who all bore testimony to the excellence of more than 400 drawings which had been made for the works. Mr. Wyatt, who had seen the progress of the building, said he would not undertake to make the drawings for a thousand pounds, and Mr. Tite, THE BUILDER.

to whom the plaintiff is much indebted for powerful assistance, declared they were worth 1,400%. The works had been in hand several years, and the greatest attention had been paid to the matter by the plaintiff during the whole time. It may be well to mention, for the full understanding of the case, that the defendant had refused to allow an examination of the premises, so that the plaintiff's witnesses were compelled, in order to judge of the fairness of the charges, to obtain from the drawings the cubical contents of the buildings, and put such a sum per foot as they thought just.

The Attorney-general, on the part of the defendant, called no witnesses. Lord Denman, in summing up, told the jury, as he had previously urged during the trial, that, although the architects had all deposed to the existence of a custom to pay a commission upon the outlay, such custom could not bind the defendant, unless at the time of making the original engagement he understood that such were the terms upon which compensation was to be made. His lordship's argument was, that this mode of charge induced dishonesty, by making it to the interest of the architect to swell the sum as much as possible, for the sake of his commission! It might be custom, he said, but it certainly was not law. The question, then, for their consideration was, whether the plaintiff was in justice entitled to a larger sum than that which he had already received for the services which he had performed. After a short consultation, the foreman of the jury said : "We find a verdict for the plaintiff for the whole amount claimed ;"-without any reference, so far as we can learn, to the question of per centage.

The uncertainty which exists as regards architects' charges is embarrassing and hurtful, and calls for removal. Custom is strong : next to law the strongest; but in the face of the opinion expressed by Lord Denman, few would go into court with the view of enforcing a per centage, unless able to shew, by the time occupied, or the actual worth of separate services performed, which is not always practicable, other grounds for the charge. Lord Kenyon ruled, long ago, that a per centage could not be recovered; and Lord Ellenborough, in the matter Chapman, Gardiner, and Upward (architects) v. De Tustet, tried in 1817, ruled, that it could be; and the jury gave damages after the rate of 5 per cent. upon the total amount of the bills."* In "Starkie's Reports" it is said, relative to this case, that evidence was given that this was the usual mode of charging for the description of business done, and that Lord Ellenborough left it to the jury to say, whether this mode of charging was vicious or unreasonable; and if they thought it was, to deduct accordingly. Mr. Scarlett, on the part of the defendant. urged that it was unreasonable to suppose that a surveyor could be entitled to a remuneration fixed upon the amounts of the bills which he himself was to regulate and settle. It was his interest to swell the sum as much as possible for the sake of his commission; and therefore, he contended, that the plaintiff's demand was not founded in justice.

The assumption of Mr. Scarlett then, and of Lord Denman now, is in reality worth nothing: it is absurd to suppose, that any architect would waste a hundred pounds of his employer's money, and sacrifice the feeling of having done his duty, for a trumpery five pounds. A real objection to this mode of charge would seem to be this—that an architect's ability or standing in the profession goes for nothing. Mr. Brown, Jones (no Inigo), or Robinson, who makes drawings and superintends the crection of a huge warehouse, costing ten or fifteen thousand pounds, and Mr. William, of Wykeham, who designs and carries out a gem of a chapel with an expenditure of a tenth of that sum, are paid very differently by this system : the latter might require scores of drawings where the former needed one, saying nothing of the higher order of mind exhibited, while the remuneration would of course be but a tenth part. Not that a true artist,--one who loves his profession,-would ever think of this, or hesitate a moment between two such works if the choice were offered to him; still this is the pounds, shillings, and pence state of the case, and does not seem to be wholly correct.

Without, however, proposing any alteration in the mode of charge usually adopted, it does appear to be very desirable that its legality or otherwise should be set at rest. The custom is general, and the public know it. Lord Dane man says such custom will not bind, unless at the time of making an engagement with an architect, the employer understand that such: are the terms upon which compensation is to be made. It is not the custom to enter into an' agreement with an architect when his services are required any more than it is with a solicitor, but the mode of charging being universally known, we must consider, with all deference to his lordship, that it is understood by an employer if no other terms are stipulated.

The newspaper report states that the jury gave a verdict for the sum demanded, with intimation that it was not founded on a right to the commission, but upon the general value of the services which the plaintiff had performed. This, however, we venture to doubt, —certainly nothing was said by the intelligent foreman in delivering the verdict to induce this belief.

A committee was appointed by the council of the Institute of Architects, last session, to inquire into various points of professional practice. We cannot help thinking it would be advantageous, although we know others view the question differently, if this committee were to state the ordinary charges of the leading architects for different services. That a difference of opinion exists on various points in this respect (without reference to the charge of five per cent. on amount expended, for certain understood services), was shewn in the case before us. Mr. Mair claimed, in addition to the five per cent., the travelling expenses, and two guineas a day for the time occupied in the journeys. All allowed the first, as a matter of course, but with respect to the latter, the practice of his witnesses differed.

We will venture to say, there is not an architect in practice who has not desired to know, at one time or another, what was the ordinary charge of other architects for some particular service.

We shall be glad to assist in supplying this want, and therefore solicit members of the profession to favour us in confidence with a memorandum of their customary charges, and any remarks on the subject that may occur to them,—not to be put ferward in their names, but as materials for some general deductions.

SUPPLY OF WATER.—A local paper says, the directors of the South Shields Water-works purpose, if three thousand families will agree to take the water, to supply the working classes of the town with water ad *livium* at the rate of a penny per week.

[#] Quoted in Elmes's "Architectural Jurisprudence."

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THE BUILDER

THE PUBLIC HEALTH.

DR. GUY, in a lecture on the Unhealthiness of Towns, recently published by the "Health of Towns' Association," gives the following

"1. That the districts inhabited by the paorer classes are badly drained and badly cleansed. That in the houses of the poor there is a

eat want of all the conveniences which contribute to cleasliness and decency,-an ample supply of water, efficient house-drains, and cee for the reception and discharge of refuse matter

3. That the rooms inhabited by the poor are over-crowded and ill-ventileted.

4. That the shops and workshops of the poor are also very imperfectly ventilated, and in other respects extremely unwholesome ; and that these evils are often greatly increased by long hours of work.

5. That in the districts inhabited by the poorer classes there is a great want of open spaces for exercise and recreation.

6. That the evils attendant upon scanty sup-plies of water in the houses of the poor are exaggerated by the want of cheap bathe and washing places. 7. That the several evils enumerated in the

six foregoing propositions, and the excessive liability to sickness, high rate of mertality, and curtafiment of human life, specified in the first four propositions, stand towards each other in the relation of cause and effect.

The economic results of the circumstances

the poor themselves, arising from loss of work or of situation, and the expenses attendant upon unnecessary sickness and premature death. 'nΤα which may be added, the increased contributions to benefit societies, rendered necessary by excessive sickness.

2. A heavy annual expense entailed upon the community in the shape of large contributions to hospitals and dispensaries, and the general charities of large towns, and of increased assessments to the poor-rates. 3. A loss sustained by the Government, in

consequence of the diminished physical power and greater liability to disease of recruits raised from among the inhabitants of large towns. 'To which must be added the expenses necessarily attendant upon the crimes springing out of the unfavourable physical circumstances, d consequent noral degradation of the poor. The moral and religious effects of the cirand consecut cumstances already detailed are :---

1. The sacrifice of self-respect, and the formation of had habits, among which the vice of intoxication holds a prominent place

2. An absence from schools and other places of instruction, from places of innocent recrea-tion and amusement; and from places of wor-ship, from a want of the means of cleanliness and

and of decent clothing. 3. A large amount of crime, directly pro-duced by over-crowding, and the admixture of persons of both sexes, and of all ages, in small and confined rooms.

The remedies for this fearful combination of evils, physical, economic, and moral, are partly in the power of the sufferers themselves, partly in that of landlords and employers, partly in the power of associations, and partly in the power of Government alone.

The remedies which the labouring class have at their own command are these :-

1. The disuse of intoxicating liquors, and the areful avoidance of the temptation to drink them under whatever shape it may offer itself. 2. The disuse on the part of mothers and nurses of Godfrey's cordial, children's quiet-ness, and every preparation of that class, what-

ever be its name. 3. Scrupulous cleanliness as far as the means of cleanliness are provided; personal cleanli-ness by the occasional use of warm baths; daily washing of the entire surface of the body with cold water; washing of the hands after work, and of the face, hands, and feet before retiring to rest; a frequent change of body and bed-linen; and household cleanliness.

4. The prompt removal, as far as it is prac-ticable, of all slops, and every kind of refuse

The practice of ventilation at all seasons of the year, by opening the doors and windows the first thing in the morning, and thoroughly airing the bed-clothes for a short time before retiring to rest; the introduction into the win dow of a perforated zinc plate, or other cheap and effectual means of admitting fresh air, without occasioning too much draft; and leaving the chimney open. 6. The choice, where it is practicable, of a

large and lofty room, preferring the higher stories of the house; and where it can be done without inconvenience, choosing a residence in the suburbs. When there are many in a family, making any sacrifice to secure two or more rooms

7. When there is a choice of employments, to avoid sedentary occupations, and those offering the greatest temptation to drink; where there is a choice of masters, preferring the one whose rooms are largest and best ventilated, and whose hours of work are most moderate; in those cases where work may be done either at home or at the workshop, to do it at home. The remedies which are in the power of

landlords and employers are these :-

1. The landlord will best consult his own pecuniary interest, at the same time that he will discharge a bounden and most grateful duty, by keeping his houses in good repair, supplying them with water and all proper con-veniences, and securing, as far as it is in his power, efficient cleansing and sewerage. He should also whitewash the rooms at least once a year; and should take care that, after the visit of any contagious, disorder, they be tho-roughly cleansed, fumigated, and ventilated. His pecuniary reward will be higher rents, and those rents better paid; and he will reap the joint recompense of justice and mercy.

2. The employer may do the same good on great scale, and reap the same rewards, by giving his workmen room to breathe, keeping his chimneys open, selling his stoves, hot water and hot air apparatuses, and returning to the good old English open fire-place, with its true economy; conducting the foul air of gas-lights, if he use them, into tubes fitted for its discharge, and resorting to some efficient means of ventilation. In large establishments the open fire-place will entail too great an expense; heating by hot water is therefore to be preferred ; but a free ventilation-a free entrance and free exit of air-is absolutely necessary. By paying his men on Friday, or on Saturday morning, and on his own premises; by adopting moderate hours of work; by encouraging, or, if he please, insisting on, the appropriation of a small part of his men's wages to insure them against casualties, he will be discharging high duties, and will see and enjoy their benefits. The things that are in the power of asso-

ciations may be stated thus :-

1. To promote inquiries into the actual phy-sical condition of the working-classes, and the influence which the circumstances that surround them have upon their health and well-being; to instruct the public by lectures and cheap publications, and to urge on the legislature by public meetings, petitions, and all constitutional means, the necessity of interference.

2. A very important kind of association for carrying out these great objects, is an association of the labouring classes themselves. Such an association has been recently set on foot, and from my heart I wish it all possible success.

The "Working Classes'Association" referred to has been formed in the metropolis for improvto has been formed in the metropolits for improv-ing the public health, and seems likely to effect much good. In the "First Address from the Committee," just now issued, in reply to the question, "Why is there so much discase among us?" The answer is, "Because, in numbers of things, we do just what by our nature we were never meant to do. For example :-

lst. Man is intended to draw in fresh air Almost all people, every time he breathes. when in their houses, and the working people in their shops, breathe the same air over and over sgain.* To shew the necessity of allowing fresh air continually to enter living rooms, and the bad air to escape, it may be stated that every person during each minute of his life destroys a quantity of air twice as large as himself.

2nd. Man ought to breathe pure air at every breath. Our sewers and drains are so bad, that the vapours and foul gases rise, and we breathe them.

• It is a melancholy fact, that by far the greatest mumber of houses and rooms prepared for the labouring classes to live and work in, are most hurtful to the health, and quite unfit for human beings to inhabit.

3rd. Man was intended to take emerciae in the open air every day. Neither his beart, his stomach and bowels, his liver, his akin, his lungs, his kidneys, nor his brain will act rightly without walking exercise every day. "Host of us do not get any walk, or only a very stort one, which is scarcely of any use.

4th. Man is formed to take simple, " state, 4th. Man is formed to take simple, "plaid, wholesome, food. He eats all sorts of things, which not only do him no good, but do him harm, and he drinks large quantities of beer, spirits, and wine which hurt his stomsch, and take away the proper use of his brain.

5th. Man ought to wash himself all over with water every day, so as to cleanse the pores of the skin, else they get stopped up, he cannot perspire rightly, and his skin cannot breathe. The majority of the people only wash their hands and faces every day. 6th. Man should wear clean clothes mext to

his skin, because the body gives off bad fluids. At present many people wear the same things day after day for weeks together. day

7th. Man was intended to live in the fight. Many, very many, have scarcely any fight in their rooms.

8th. Man in this climate must wear warm clothing. Many have no flannel, and are clad with heavy and useless things."

Under the head "How are the Disease to be put a stop to?" They say " "After thinking over what has been said about the causes of ill health, it must be con-

about the causes of ill health, it mins be con-sidered how the working-people can put in end to them, and it will be their that the people themselves can do a great deal, What can the work-people do? Ist, They can ventilate their monis—the plans for ventilating them will be shewn in the Address on Ventilation from the com-mittee. mittee.

2nd. They on claim assistance from the rich, so as to have good drainage in their houses, and to have proper sewers and those things necessary for the health and doceacies

of life. The TANK AND THE STAR people to provide them open appens of ground

for healthful exercises, and they can be a superior of the second
being sold. 5th. Working people, can be more clearly; they can be the and space themaelres in their houses, and they, cam petition, for a better supply of water. They, will also, make use of the baths and wath-houses preparing for them, instead of having the washing done at home, which can an avery thing they have to monifer which causes every thing they have to monider and decay.

6th. The working classes can seek, and endeavour to obtain, more light, in their homes, and they can improve upon the plans of clothing. . 9

= . COMPETITIONS P

CAMDEN TOWN CHURCH.

Sin,-Perceiving advertisements, from time to time in the columns of your admirable Journal, calling upon architects so submit designs in competition for various, public buildings, I think it my daty to direct your attantion to some circumstances monnested with the late competition for a church the be exected at Cumden Town. I think the case will justify my intrusion; and perhaps a police of it may be the weans of preventing, in source, degree, a recurrence of the causes for somplaint, and, at the same time, inform my hupther com-petitors of the jeopardy in which their designs . remain.

A limited number of architests submitted designs, by invitation, to the committee for building the new church early in April 1985, which designs were subsequently exhibited in the board-room of the commissioners in St. Pancras. Having waited with some patience until the latter end of September, I make a se-quest to two members of the committee for the ace return of my drawings; but as they failed, to comply with it, I wrote to the security, en-

A petition is now prepared for signature proving a vernment to secure Battersea fields are place for instant envoises. It may be control by the west-partia by secu-from the demassi parts of London for a penny or two petit if it is allowed to be built spon, one of the few results sources of health to the work-piople will be there for two

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plaining the great inconvenience I suffered by their detention. To this I received a polite reply; but the drawings being still withheld, I arent, in company with one of the members of The committee, to the room, and took possession.

The drawings, when I was there ten days geven months before, with this addition, there were lines stretched across the room over its whole arcs, as if it had been metamorphosed into a laundry? The windows were wide open, and shirts, sheets, and architectural drawings were hanging out to dry? How often pur poor perspectives had been damped and dried I know not; but had poor Sidney Smith seen them, he would have entered into a facetious calculation as to the number of washings they had endured. Once a fortnight, he would have said, is not too often to indulge in laundry; and so $7 \times 2 = 14$ would have been the result.

When I had taken down and rinsed my wretched-looking bit of stationery, I dis-covered a large hole burnt in its very centre !-a round hole with a halo of variegated scorch ! I bethought me that the committee had peradventure, in some excess of past anxiety, ironed out my drawing, and so completed the

process. (Sidney Smith, when he was injured, rebuked by a joke and pointed a moral. I think I may venture to deduce from the foregoing facts, zome, advice profitable to our brethren. To some advice profitable to our brethren. To those who have drawings at Camden Town I would say, "Run and get them; for whilst I write they may be in ablution," and to those who desirp to join in future competitions I would add (with a desire to save their hopes and drawings from a damper), "Frame and glaze your designs."

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Linclose my card as a voucher for the truth of these statements, and am, Sir, yours, &c., Portsmouth, Dec. 10, 1845. C. W. F. mule issa bus 🛲

FOREIGN ARCHITECTURAL AND COL-BATERAL INTELLIGENCE. - Set Dire 40.00015

London.—It hardly needs' repeating, what is recognized now a days by all sensible men, viz. that we moderns are very much behind the ancients and even medicevals, in most things connected with the sinctural of public and private works. Look (to point again at one thing) at the breades of those mediaval Italian-aye, and even larger Belgian and Bohemian efficies. We build sheltered walks Bonemian' cities I' i We build sheltered walks ((saloons, greenhouses, &c.) for our own indi-vidual and personal benefit they did it for the convenience of all." Thus Goethe says very truly, that Italian demoorsoy went so far as even to erect balls so huge, that they re-semble a market phase hammed in and covered in by walls - such for instance. that colord? in by walls - such for instance, that splondid structure, the Solone of the Procurazis at Padua. <u>There</u>, and under the shelter of those mile-long arcades of Italian cities—met every one who choose, the *nobie* and the *citta*dino, the lawyer, physician, and artisan; all being thus combined, not into the lump of "Receiling equality, but the wise equality of a "funity; gradations pre-ordained by Omnipo-"tence. If such plans were required and deemed most essential in media val Europe-how much "more with us 1 These athletic personages, unscathed by exorbitant luxaries, ailments, and maladies without end; moreover, under the serene sky of Italy, mild sun and balmy air-We, a nation of patients, with a morthern sun who rarely deigns to look at these lands. We moderns, however, imagine and project many things which have only one defect, viz., they we rarely effectable. Thus, a plan has been mooted of late to overspread all (or at least many) streets of London with transperent arendes or galleries. The thing is absolutely impossible considering the flood of people who circulate even in such spacious streets as the Sfrand, Oxford-street, &c. ; on which account In the only more foot-passengers, but also persons "Editions, role of iron, &c., are to be taken into understore." Fancy all these hemmed in "Within the narrow limits of an arcade ! Why, supernet of and the middle inters of the people because it is impossible.

all streets are arcuica.

There is a fact necessarily to be taken into acaccount on the present occasion-viz. that one-tenth of our population, at least, are subterra neous-the dwellers in the areas, vulgo, the cellars; although the New Building Act has, very properly, curtailed the number of London moles and hedgehogs. And thus it would be required to preserve the present footpath (trottoir) and on the inner side erect those arcades --still transparent, as not to encroach at all on the ground floor and arca dwellers. The appliance of cast-iron pillars, stone pedestals, and (duty-free) glass panes, would make the whole an exceedingly convenient, wholesome, and tidy concern — invaluable for the invalid, and an exceedingly convenient, wholesome, and tidy concern — invaluable for the invalid, and any one, who, by adequate free-air exercise and sociableness, even during our constant bad weather, wishes to escape the being numbered within this category. Plenty of free-air exer-cise would soon procure room for (the fewer number of) patients in the Free Hospital. Naples.—We have been favoured with a sight of the work presented to the members of

sight of the work presented to the members of the late Scientific Congress, of which but a few copies have reached this country. It is enti-tled, "Descrizione dei Luoghi celebri di Na-poli, e sue Vicinità" (1845, 2 vols. 4to.). It is published by order of the king, and contains a very deep-wrought description of the public edifices, monuments, &c. of the above capital. A list prefixed to the work contains the names of the different contributors, according to the different branches — as public edifices of the middle ages, art, and the like. It is illustrated by lithographs, representing the most important sights of Naples, which, although not master-pieces of execution, are respectable. The Embellishments of Paris.—This notice

could be almost stereotyped, just putting new heads here and there, as there seems, indeed, an energetic system at work, to make Paris the metropolis of modern architecture and art. The works for the building of the library of Stc. Genevieve, under the direction of Mr. Labrouste, architect, were so actively pro-gressed with last season, that the façade on the street des Sept-Voies is completed. As the cold season approaches, and for the sake of protecting the blocks from the ravages of the frost, those not yet worked in have been capped appear, and form an avenue common to the two colleges of St. Louis and Ste. Barbe, the approaches to which will be improved by the widening. The places around the Panthéon will also very soon be enlarged, and the owners of houses are already treated with for their property. From these, the alignement will be made towards the new library Ste. Geneviève.

Preparations for the Monument of Napoleon Preparations for the Invaluence of Interest in the Invalides.—It is now decided, that the tomb of the Emperor will be surrounded by statues of twelve of his marshals. They will be colossal, and executed after the portraits and busts existing in the various art museums, and symmetrically placed around the imperial cataphale, thus to form a sort of funeral pageant around the monument. Government has just purchased twelve huge blocks of white marble, which are lying in the vicinity of Leghorn, and which are to be conveyed to Paris by water, for being employed for the sculpturing of the above colossal statues.— Journal des Débats.

Prizes for virtuous acts — awarded by the French Institute.—After the revolution of 1830, the French went, for a time, in the train of Ideality-to which sentiment we may ascribe the addition of a department of moral and political science to their Royal Academy of Lite-rature, and the establishment of the above prizes; the latter cavilled at, still an acknowedgment for the artisan and other servants, tempted into acts of magnanimity. Mr. Dupin, president of the R. A., had to speak on the distribution of these prizes. He stated, that it was not the province of the Academy to decide on the doctrinal merit of good actions, and that it had endeavoured to reward actions, considered virtuous according to all codes of morality. The prizes consisted in sums, and medals of the amount, of 3,000 fr. (120%), 2,000, 1,500,

and several of 500 francs.—Journal des Débuts. Meeting of the "Society of Encouragement," at Paris. 261A Nov. Mr. Dumas in the chair. This is one of the minor, yet very useful sections of the French metropolis, to be com-pared with our Society of Aris. The arissian well at Monndorf (Luxembourg) was first adverted to, whose extraordinary low expense (vide BUILDER, p. 559) bids fair to make such wells exceedingly non-erous in every part of Europe.—Princess Galitzia has sent to the society 1,000 frances, for preparing a prize on a monetary unity, more expedient than the high English pound, and the French centime. —Air. Sorel exhibited a new apparatus of do-mestic heating, which consists in a liping of the chimney by a range of reflecting bricks. Mr. S. believes, that in burning coke, a saving of 60 per cent. on the present axpense of do-mestic fires might be effected. —Dr. Boucherie read a paper on the artificial preservation of timber for rallway purposes, by the means of chemical injections. Dr. B, states his expari-ments to be coalfrance by a test of three years. The most important is, that, while hitherto merily out was used in the construction of merely out was used in the construction of rails, Dr. B. says that inferior timber can be prepared by his process to do the same service.

Remedies against Pauperism. - This sort of national disease begins to attract much of public attention, and be matter of parliamentary discussion in several of the chambers in Germany. The following heads, adverted to in some of the late debates in Meckleaburg, seem to be worthy of notice :---Cultivation of all available soil in the most approved and scientific way; the undertaking of all and every sort of public works; an aniversal dif-fusion of a sound, proceed education, and the publishing of *practical* tracts on material as well as moral topics; gymnastic schoola () and public playgrounds; savings' banks—even in minor towns and less peopled localities; temperance societies; emigration, - Allgemeine Zeilany.

Progress of Art movement in Prussia. A great sumber of artists, many of them first rate, have addressed a memorial to the of State for Public Instruction, Secretary drawing his Excellency's attention to the inad-equate patronage bestowed on the arts in Prussia; and pointing, especially, at the back-ward state of monumental painting (freeco, encaustic or stereochromic) of the Prussian metropolis, compared with Paris and Munich. Mr. Eichhorn has received the memorial with extreme politeness, scenningly well pleased with the opportunity thus given to him, to bring this important subject under the notice of the king and the Council of State, in which number of architects and other artists and literati have a seat. J. L-

MERIT IN HUMBLE LIFE NOT TO BE DISREGARDED.

...

-I find in THE BUILDER of last Satur-Sin, day week, the article sent by me, and inserted by you in THE BUILDER of the 15th Nov. has at last been noticed by one of your correspondents, Mr. T. B. Lawrence, who, after referring to the case of ventilation so successreferring to the case of ventilation so success-fully adopted by an obscure country individual, requests to be informed by "A Working Bricklayer," what is the nature of the plan, which, he observes, at present appears somewhat doubtful. In reply, I beg leave to inform the gentleman, that the obscure country individual and the "Working Bricklayer" are one and gentleman, that the obscure country individual and the "Working Bricklayer" are one and the same person, and that after the opinion of an eminent M.D. was given, and rejected for its absurdity, the opinion of the "Working Bricklayer" was asked. He gave it; his system was adopted, and though more than six years have passed away, yet not one case of either fever or small-pox has occurred in the building. though in the town where it is the building, though in the town where it is situated scarlet fever has been very prevalent lately, and many have died. I cannot exactly understand whether Mr. L. means the plan is somewhat doubtful, or the success of the plan. If he means the latter, I can have testimonials from the most influential gentlemen in this town and vicinity. If he means the nature of the plan, it certainly was not stated by me what the plan, it certainly was not stated by me what the plan or system was; nor do I intend it at present for the following reasons. Having known for some years a simple, yet certain, method of destroying the black damp, or as it is called, carbonic acid gas, in wells, vaults, vats, &c., I gave publicity to it; the first time was after the loss of two or three lives in a grave in Aldgate churchyard. Twrote to the editor, of the Globe or Sun newspaper, I forget which, an article in order to prevent similar which, an article in order to provent similar accidents. When the fatal accident happened at Barclay's brewery, about two years ago,

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where two men lost their lives by attempting to clean out a large vat contaminated with the deadly vapour, I wrote immediately to the firm, but common courtesy was wanting; no answer was returned. Well knowing by prac-Ucal experience the certain effects to be produced, I wrote to the Society of Arts and Sciences; they saw the infallibility of the means, and on the 2nd of June last, in the Society's Great Room in the Adelphi, the "Working Bricklayer" received from the hand of his Royal Highness Prince Albert, an honorary testimonial. After this mark of public approbation, several scientific gentle-men expressed their surprise that so simple and cheap a preventive should not have been almost universally known among men of science, and that a country "Working Brick-heyer" should bear away the bell. It was not for want of publicity; I gave it was not enough. It was prejudice, that deep-rooted prejudice, existing not in London alone, though it is much too prevalent there, but in other places, against any thing emanating from a plain country mechanic. Unless a man has the title of M.D., F.R.S., or some other, let his genius be ever so great, few are to be found to give him assistance. If he succeed in crawling ip to public notice and public usefulness, it must be by dint of his own exertions. It appears as if science, or scientific men, were confined to the metropolis, and even there, to superior stations in society, but it is not so. At ingenious young man from this town during the building of St. Paul's, went up for employment as a carver. When inquiring of the workmen, he was only laughed at by them, and called a "hodge carpenter," yet he perse-vered; saw Sir Christopher Wren, to whom he shewed a specimen of his abilities as a carver, and the carved work in the interior of the cathedral was executed by this countryman. The celebrated and almost inimitable painter, Gainsborough (the son of a little tradesman born in the same street in which I am now writing), is another proof, if any were wanting, that it is not the rich or great that alone possee the talent or scientific knowledge. These arks are made not out of vanity, or illfieling, but to shew that genius or science is not confined to large cities or opulent men, But resuming the subject, having felt the effect of this too-much-existing prejudice in the case of preventing accidents in wells, &c., it operates as a bar to giving publicity to the simple method I have adopted. I am wellaware one system will not suit all cases, but the means must be adapted to the case, and according to circumstances. I have read of various plans in advertisements, and in other sources of information, devised and adspted for effectual vestilation ; in particular that absurd one of Dr. Raid's, at the Central Criminal Court; but the more I read, the more I am convinced that the one simple idea on which effectual ventilation must stand or fall has not yet been mentioned or practised from in any accounts I

mentioned or practised from in any accounts I have as yet read upon the subject. But in courties to Mr. Lawrence, I assure him, that though I decline informing him of the plans which have been adopted successfully by me, at present, yat if he will have the kindness to give me his profession or trade, I shall not have the least objection to correspond with him upon these or any other subject in which air and its effects are the principals. But for the reasons before named, I feel inclined to write again to the Society of Arts and Sciences, where its intrinsic merits will stand or fall, and where there is not that prejudice existing against those who are placed in humble situations, which too often exists in the breasts of

many, especially against countrymen. I read, Mr. Editor, with great pleasure, the manly, straightforward, scientific remarks at the concluding part of the article on the training school at Swinton; it is observed "every architect is able to receive valuable information from men of science eminent in their own walk, and is anxious to seek it." this is very true in buildings, as well as ventilation or any other science, but it is very, very seldom practised by architects. Practical scientific workmen could, if requested, give architects much valuable information. The remark, "the ventilation must be adapted to the building, and not the building to the vantilation," is equally true. I also read with surprise the emormous expenditure bestowed upon ventilating the building; po less a sum than 5,0004.

THE BUILDER

appears to have been expended upon it. I am no seer, but have my own opinion upon the system adopted. Should it be found to answer, I shall be greatly surprised. I think no man who understood ventilation would adopt the plan of having numerous holes drilled in the floors of the principal school rooms. I would ask Dr. Reid, I would ask any scientific man, whether a constant upward eurient, or rather currents of air will not rather be the constant cause of colds and sore throats, as in the case of the Central Criminal Court. No doubt fresh air will be admitted, but I should suppose at the hazard of the health of every scholar.

I am, Sir, &c.

A. J. GREEN, Working Bricklayer. Sudbury, Suffolk, Dec. 8th, 1845.

• Without any desire to interfere with our correspondent's intention, to transmit the particulars of his system to the "Society of Arts," we would make this general remark that the pages of THE BUILDER are open to all who have real information to communicate, and that to the best of our ability we will judge if it be so or not, without stopping to inquire if it emanate from gentle or simple. We have the elevation of the operative classes ancerely and warmly at heart, and will do all in our power to advance it. If we can aid struggling merit, it will at all times be a satisfaction to us to do so.

BRICKWORK IN ASPHALTE.

LEABNING that the Seyssel Asphalte Company were engaged, under the superintendence of Mr. Mylne, in building, with asphalted brickwork, the interior of a new reservoir on Highgate Hill, we made a pilgrimage a few days ago to that now distant spot, which, measuring by time, has been removed, thanks to railways, as far from London as Windsor, for example, used to be. We found the reservoir nearly com-pleted, and apparently a very satisfactory work. It is 100 feet square at the top, and 13 feet deep. The bottom was puddled with clay 18 inches deep, and laid with 9 inches of brickwork in mortar, with a course of bricks flat, in asphalte, on that, covered with asphalte half an inch thick. The sides (sloped at an angle of 45 degrees), consist of two 42 inches of brickwork, in mortar, laid against the earth, with a third 41 inches in asphalte, covered on the face with half an inch of asphalte, as at the bottom. The top of the brick sides is coped with asphalte sprinkled with grit.

The facing of asphalte was given to each brick before it was laid, by putting a number of them close together in a frame, and pouring over them the required thickness of asphalte. The bricks were then separated, and each laid with asphalte, the joints being afterwards pointed up with the same material. In laying the bricks care was required to keep the face even, and it was found necessary to hold each brick in its proper position about half a minute, till the asphalte had set. This application of asphalte, somewhat novel in this country, promises to be of considerable value.

HEDGEROW TIMBER.—It has long been a question, whether a loss is not sustained in growing hedgerow timber. The following calculation, made by Mr. Isuac Foster, of Great Totham, Essex, a gentleman of much experience, appeared last week in the *Chelmsford Chronicle* :—

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So that the proprietor of 1,000 acres loses more than six thousand pounds by letting it stand. RAILWAY NEWS FROM PARIS. [PBOM QUE OWN CORRESPONDENT.]

THE statutes or by-laws of the Straebourg and Nantes railway companies have just been published. The capital of the former is fixed at 125,000,000 fr., divided into 250,000 shares of 500 francs each. More than one-third of the shares stand in the name of Englishmen, but is consist of fost Facilishmen hold a much but, in point of fact, Englishmen hold a much greater number, several of the largest French holders—Rothschild, Hottinguer, Laffitte, for holders—Rothschild, Hottingder, Lamite, for instance—representing our countrymen. The capital of the Nautes company is fixed at 40,000,000 fr., divided into 80,000 shares of 500 francs each. Nearly 30,000 shares stand in the names of Englishmen, but, as in the case of the other company, they really and truly hold a much greater number. The ad-indication which conferred these two really are judication which conferred these two railways upon the respective companies has been approved by royal ordinance, and nothing now remains to be done but a further approval by ordinance of their statutes, to give the compa-nies all their rights and privileges, and to esta-blish them as societés anonymes. Some of the Strasbourg companies, in rendering to their subscribers the sums overpaid as deposit, think right to deduct two, four, and even eight sons (4d.) per share, under the pretence of covering. the preliminary expenses, as if the interest on the sums paid up were not amply sufficient for the purpose. One of them has even had the monstrous audacity to keep one franc, 5 sous on each share, to make up for losses, occa-sioned by Bourse transactions, Iteally one is astounded at the iniquity of such a demand, when it is remembered that to presume to speculate at all with the money of the ahareholders, was a most scandalous breach of trust.

One question remains to be settled before the Paris to Strasbourg railway can be handed over to the company—it is relative to the station at Paris. The inhabitants of different quarters contend with much vivacity to have it placed in the midst of them; but, upon the whole, I am inclined to think that the site chosen by the Government is the beat that could be adopted, all things considered. It is situated in a street of sufficient width, and which can be made still wider; it is close to the two great mercantile streets of this capital—the faubourg St. Denis, and the faubourg St. Martin, and, above all, it is infinitely cheaper than any other site that could be proposed.

The day fixed for the adjudication of the railways from Paris to Lyons, and from Creil to St. Quentin is the 20th of the present month, and Friday before last was the latest day allowed for companies intending to offer for the concession of either line, to give, potice to tha Minister of Public Works, Similar "fusions" or amalgamations, to what were effected between the companies for the northern railway, from Paris to the Belgian frontier, were expected, but the result has not confirmed the expectation. Eleven of the Lyons companies have united, dividing among themselves the capital in the following manner:--

| • | Shares. |
|--------------------|---------|
| Receveurs-Généraux | 13.333 |
| Messageries | 43.333 |
| Union | 42.364 |
| Ganneron | 42.364 |
| Calon | 42.364 |
| Laffitte Blount | 42.364 |
| Lapinsonniére | 38.835 |
| Griolet | 27,500 |
| Ardoin Verdian | 24.209 |
| Hottinguer | 13.334 |
| Rothschild, fréres | 10,000 |

Total shares..... 400,000

The three companies of the postmasters Française and Engineers have also united themselves into one company, each taking an equal share of the capital. The Creil to St. Quentin companies were not able to agree among themselves as to the share which each should have in the capital; and accordingly no fewer than five gave the necessary notices to the Minister of Public Works of their intention to appear at the adjudication. The five companies are as follows :--

The company represented by Rothschild Fréres, Hotinguer, Laffitte Blount; the company represented by Mr. Cordier, deputy, Marquis de Diep, Baron D'Angré, &c.; the

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company represented by Comte de Colbert, General Corbinean, &c.; the company represented by MM. Seguin, de l'Ousle, de Latena, Michelet, &c.; the company represented by He Duke of Vincence, Comte Lancosme, — Breves, Comte Lagrange, &c.

Dreves; Comte Lagrange, &c. b^aIs not such a result to be lamented by the shurtholders in all the companies of these two pharenoiders in an the companies of these two railways? They cannot all win, which is the first thing to be regretted, after having waited so long and spent so much money, and incurred so much inconvenience to have a share in these great mercantile undertakings. The next thing to be regretted is, that the winner will, by the competition, be compelled to accept the lease for a shorter period than could be de sired, whereby the shareholders will not obtain so large an interest as they may have had reason to expect. Some people say, that the cause of the opposition that will take place for the Paris to Lyons Railway, was the refusal of the eleven amalgamated companies to admit the smaller ones into their body. But I know from excellent authority, that it arose from the extravagant prefensions of those little companies themselves, not one of which had the Balf of its capital (i.e. the half of the tenth part of the capital paid up, but which, never-theless; chaimed to be considered equal, or nearly so, to such companies as that of Laffitte, the most wealthy and important mercantile nen of Empland and France. But after all, people attach no very great importance to the threat-ened 'opposition, - it being thought that the opposition of Public Works, or retire at the lest moment of its own second. With respect to the Creil to 'St. Quentin companies, the matter is different. Some of them are of the very afghest respectability and the most unquestionable substance. Hence it is feared that the competition will be very severe, it being of the utmost importance to them not to"be defeated after all their trouble and expenditure; and it being also of the very ut-Minist finiportures to the company of the Northerd rallway not to permit the Creil to St. Quentin fine, which is an embranchment or its own main line, to slip out of its hands. In fact, in the hands of a rival company the Creil 10"St. Quentin embranchment may be made a very formidable rival to the main line. The annual returns of the line from Creil to St, Quentin are calculated at 3,080,000 fr., which will yield St per cent. for the share-bolde rs on the capital they will have to dishurse

The Lyon's to Avignon Railway was announced by socking and working the line. "The Lyon's to Avignon Railway was announced by soint newspapers for adjudication on the 15th of January; but I have the best authous the 15th of January; but I have the best authous it is solved by soint of the subject. The difficulties and disputes as to the strate are now under the consideration of the Council des Ponts, et Chausses, and the Minister of Public Works.

The railways at present in course of executhere are running a career of uninterrupted prosperity. The receipts of last week on the Paris and Romen line were 125,516 fr., whilst those of the corresponding week of last year were 101,294 fr. The receipts last week of the Paris to Orleans Railway were 148,870 fr.; whilst in the same week last year they were only 123,216 fr. On the St. Germain and Yersailles (right bank), the receipts for the month of November were 177,077 fr., whilst in the month of November last year, they were not more than 140,750 fr. On the Versailles (left bank) Railway, the receipts for November were 45,613 fr.; in the same month last year, the Railway du Gard yielded 217,214 fr.; the same month of 1844 produced only 184,592 fr.

Our Bourse appears to have entirely recovered from the crisis which weighed upon it during the whole of the last month. On railway shares there has been a very general and a very striking improvement in prices. December, 1845.

"Trible CATHEDRAL OF ST. DENIS. — The minimum treeted to the memory of Louis XVFIT, in the values of the Cathedral of St. Datilis, is about being completed, and, when finished, that of Charles X., his successor, will be provided with. When this is done, all the Prevent Rings and Princes up to 1830 will be there represented when by a tomb, a monamenty or a ward. — Galiynan's Messenger. FREEMASONS OF THE CHURCH.

DEC. 97R.-Sir Walter James, Bart., M.P., Vice-president; in the chain. Mr. James Finn, her Majesty's new consult at Jerusalem, was elected corresponding delineator for that important locality. Mr. J. O. Halliwell, F.R.S., was elected an honorary fellow.

Was cleaves as minutery tenews. Mr. George Issace contributed two fine majuscules, illuminated on vellum is gold and colours, of the 14th century. Mr. W. H. Rogers exhibited a curious brooch of ancient Irish workmanship in brass; a chasele button of the 15th century in silver; and the seal of Macarius, Bishop of Antioch in the 15th century, having in the centre a figure of St. Peter sitting upon a throoe, on a pinnacle of which a cock is roosting: the handle terminates in grote-que heads. This seal was purchased from the collection of Mr. Till. Mr. Mayford exhibited an exchequer tally of the time of Edward III. Mr. E. B. Price exhibited specimens of foliated encaustic tiles from the ruins of Sunbridge Priory, Kent; Bradenstoke Abbey, Wilts; Reading, Berks; and St. Ann's, Blackfriars, Botolph-lane. The secretary, Mr. W. P. Griffith, exhibited a small sculptured female effigy, in stone, painted and gilt, from one of the religious establishments in Somersetshire; a very interesting relic in a perfect state of preservation. Its date is about the latter end of the 14th century. Also a painting of Harlington Church, Middlesex, by Mr. Vincent Figgras.

Mr. Cull then delivered an inaugural lecture on architectural acoustics. He began by calling attention to the science of acoustics as an important branch of physics, to the use of the science by physiologists to explain the offices of the several parts of the car in hearing, and to the applications of the science by architects in the erection of buildings, so that the tones of the human voice and of music should reach to the whole of an assembled auditory unimpaired by resonance, and undistarhed by echoes. He regretted that many buildings were monuments of acoustical ignorance. Sound, he suid, is not, as some philosophers describe it, motion, nor as others teach, resisted motion, but is a sensation sui generis. In all cases, however, the sound is resisted motion, however, the physical cause of In common tanguage we speak of noise, sound, and musical sound, to express distinctions in what we hear. "A quill," suys Dr. Thomas Young, "striking against a card causes a noise, but striking successively against the teeth of a wheel, or of a comb, a continued sound; and if the teeth of the wheel are at equal distances, and the velocity of the motion is constant, a musical sound. The general terms, pitch, loudness, quality, and duration, embrace all the distinctions which are audible in sound, and which are skilfully adapted by the musical composer to express sense and sentiment in music, which may therefore be appropriately termed a tonelanguage. In common noises, we detect only loudness and quality; in cound we distinguish loudness, quality, and duration; and in musical sound we discriminate loadness, quality, dura-tion, and pitch. Duration cannot be predicated of noise, because it is limited to the moment of collision, and is incupable of further extension. Mr. Cull described the physical causes of these distinctions in sound, and then explained the transmission of motion in the undulations of a stretched cord; of water disturbed by throwing a stone in it; of a field of corn, and of the particles of highly elastic bodies, in order to understand the conduction of sound by the air, which will form the subject of the next lecture.

After the lecture, it being the anniversary of the society's foundation, the secretary delivered an address, reviewing the progress made during the past year, which he considered the first year of active operation; noticing, also, the complete course of introductory lectures which had been read, as well as the assistance the society had given towards restoring objects of antiquarian interest (St. John's Gate, Clerkenwell), as an earnest of what the institution would do if sufficiently supported. The best thanks of the meeting were given to the vicepresidents, the treasurer, and the officers, for their zealous exertions during the past year, and they were re-elected for the year ensuing. The next lecture was unnonneed for Jan. 13, ("On Ecclediastical Design," by Mr. G. R. Lewis.

ANTIQUARIAN NEWS AND DISCOVERIES

DURING the past weik, a Roman tesselated pavement has been brought to light at Colchester. It is of considerable extent, and of the plain red description, without any variegated design. Remains have also been discovered, on the same spot, of fresco painted walls, and from portions of charceal and other appearances, it is supposed that the building in connection with these remains must have been destroyed by fire. At Bungay, in Suffolk, during the execution of some repairs at the Grammar School, a stone was discovered in the front of the house, with the following inscription; :

Exurgit intran tunnlo subtriate. cg.daren , 1.16 Sie Schola nostra redit clarior usta rogo-

1690. This date clears up a doubt as to the time when the present school was erected, the town having been almost entitely destroyed by fire on the lat March, 1683.—Cha the 28th ult the surface-ground in a paddock, at Orpington, suddenly gave way, and developed, at the depth of 16 feet, subterraneous arched chame bers.—*Galignani* gives an account of the recent discoveries of eighteen Galle-Romma tombs at Luxeuli (Haute Space). There monuments go back to the first centuries of the Christian era, and the greater muches owned appear to have belonged to the Prope prises as far as may be judged from the cup of the functions, represented on the interior of the functions, represented on the interior of the are written in legible characters at their keys.

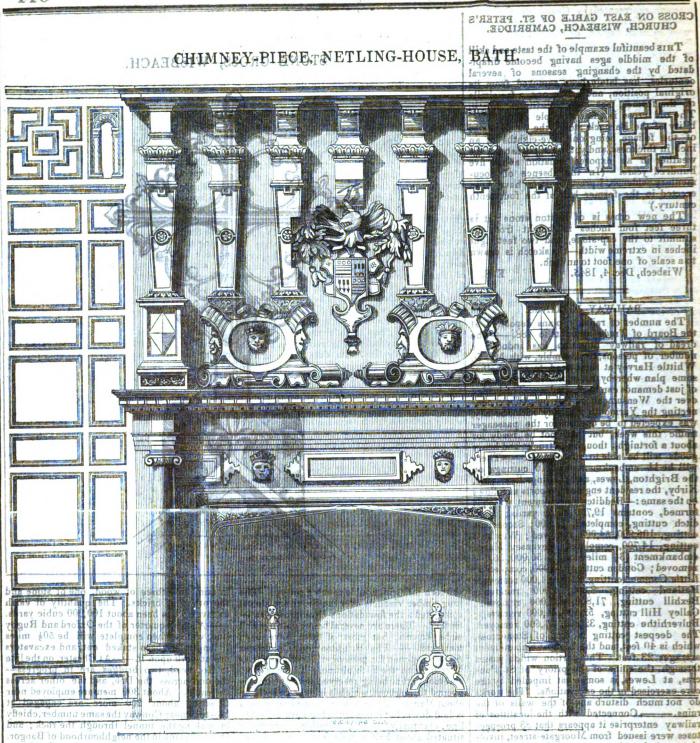
Mr. Hawkins, whose letter to the heading of national antiquities we recently printed, has addressed a letter to the obsergies, of sthe several reilways on the same subject. Houles, points out the bigh probability that, in the prof. gress of the railways now in the course of tors mation, many very interesting antiquitide will be brought to light : without some special ine terference for their protection, such objects are too often ignorantly destroyed by the work was by whom they are found. He asks the drame tors to give orders for the preservation pleasant tiquities found in making railways, and to affind ! facilities for the record of such discoveries, and for the inspection of the objects found in Mr. Hawkins remarks : "Autiquities out senty. be classified by the must extensive comparison of specimens; for such comparison is compared of specimens; for such comparison is smoother the actual justaponition. of the shirtist to available pared, a knowledge of the district to available they belong, and, as far as possible, of the sizer cumstances of their discovery if they meaned, partially preserved, or recorded, much of the is value on avidance is lost or if they are estimated. value as evidence is lost or, if they are seationed in collections for appris the minute distinctions and researchances on which short arranges depends can scarcely bo persent de orget parter oeived, rendered available, in archanorigicaliz research."---We are perdide desent time berge satisfactory replice base ligen propined outsing

BATHS AND WASH MUMADNIFOR THE SWAR

In the evening updates of Story entering celebra version of the bord Major took the district London Taverng the bord Major took the children In the course of the ovening delision were announced anothing together to about 1000 cl

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STHEIUBUILDER.



CHIMNEY PIECE IN NETLING HOUSE, BATH.

WHILST Sir Walter Hungerford was building this, his town residence, John of Padua was engaged at Longlest; at a house at Bradford, known as the Duchess of Kingston's; and at Claverton, all within a few miles of each other that the knight was aided by this celebrated "builder" in his undertaking; and as much of the detail in the "Duchess's House" very choicly resembles this chimey-piece, I think

closely resembles this chimney-piece, I think it may be considered as a work of his. 'The Hungerford family were possessed of immense wealth? Thomas Lord Hungerford married a daughter of it the Percy,'' Earl of Northumberland, and gave their only daughter of the tal and Hunger with a down of no and heir to Lord Hastings, with a dowry of no less than eighty seven manors. This Hunger-ford has left us a fine specimen of the architecture of his time at Littlecot, in Wiltshire, near the town from which the family derive their name.

"Sin Edward Hungerford, in the time of Charles II,, dissipated all the estates of his ancestors. Amongst his recorded extravagances was the purchase, at the cost of 500%, of a blue wig to appear in at the coronation of the king. Farley Castle and the estates were in 1686 sold, and can be traced through the Bayatum and dent plane of the plane, to an extent which

Frampton families to the present possessor, Mr. Houlston; but what became of, or into whose hands fell, the town mansion, I am not able to find. It is at present in my possession, held under the Hospital of St. John ; a charity

of very early date. The room in which this chimney-piece is situated, is occupied by the Bath and West of England Agricultural Society, and their annual meeting is held in it. The house has from time to time been dreadfully mutilated, and now but little else remains of the works of Sir Walter Hungerford and his architect than the chimney piece before you; but thinking it the chimney piece before you ; but thinking it worthy of publication, and it having as yet escaped observation, you may, if you please, give it a place in THE BUILDER, under the authority of your obedient servant,

Bath, 1845. EDWARD DAVIS.

COUPLAND'S PATENT FURNACE.

This furnace is the result of some of the many efforts that have been made to prevent smoke and save fuel. The possibility of avoid-ing altogether the nuisance of smoke, and effecting a saving at the same time, being almost universally admitted, the only question is the best means of effecting the desired end. euverts and bridges have been built, six bamps and mibully sin are are doid w of soamut aft al of permanent road have been laid, and repute in the construction of the wird we have

tuses were issued from M ving capital to the amount of Cresham-street saed requiring the sum

coals are supplied from below the fire, up wards, and there is at the same time a passage of atmospheric air passing through the fuel, by which means all the products of the coals are consumed, whereby smoke is prevented. This is done by lowering at pleasure and in a portion of the fire bars sufficiently below the fire to enable a fresh supply of fuel to be placed thereon, and then raising them again to their former place, and retaining them there till the fuel is consumed and a fresh supply required, without interfering with the draught necessary for the combustion of the fuel while being so consumed. An extract from the *Liverpool Health of Towns' Advocate* will exemplify the increased heat gained by burning smoke. Mr. H. Holds-worth, of Manchester, has shewn, that in the front flue of a furnace, of common construction, the thermometer seldom rose above 1100 deg. Fahr., and often fell below 940 deg, the mean being 975 deg., while in the same furnace, when consuming its own smoke, the mean ten-perature was 1160 deg. The quantity of water exaporated by a pound of coal was one half greater than when the smoke was not com-sumed.

culverts and bridges

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CROSS ON EAST GABLE OF ST. PETER'S CHURCH, WISBEACH, CAMBRIDGE.

THIS beautiful example of the taste and skill of the middle ages having become difapi-dated by the changing seasons of several centuries, has lately been removed from its original position, and a new one, a fac-simile of the former, has been substituted for if. The old cross is a fine example of the dura-bility of the Barnack stone, the small stalks of the foliage being only five-eighths of an inch in thickness, and yet it has withstood the weather in an exposed situation about five hundred years. (In the absence of docu-mentary evidence, I presume it to have been erected in the former half of the fourteenth century.) century.)

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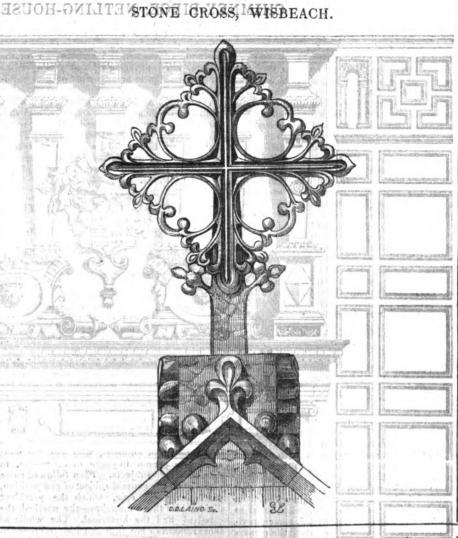
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century.) The new cross is of Ketton stone; it is three feet four inches in height from the summit to the cap stone, and two feet eight inches in extreme width—the sketch is drawn to a scale of one foot to an inch. Wisbech, Dec. 4, 1845. E. S.

RAILWAY JOTTINGS.

RAILWAY JOTTINGS. The number of railway plans deposited at the Board of Trade amounts to 788.—The dread of Trailway litigation has induced a number of persons, to assemble, with Mr. D. Whitle Harvey at their head, to see whether some plan whereby an equitable arrangement of just demands can be devised.—The bridge over the Wensum above Carrow Abbey, con-necting the Yarmouth Railway with the Ely, was expected to be opened for the passenger traffic this week, but will not be ready for about a fortnight, though the trucks and heavy goods will be able to run over it.—There will be 11 embankments and 10 cuttings on the Brighton, Lewes, and Hastings line. Mr. win be 11 embaaments and 10 cuttings on the Brighton, Lewes, and Hastings line. Mr. Kirby, the resident engineer, reports as follows on the same: --Redditch embankment, which is formed, contains 19,700 cubic yards; Red-ditch cutting, completed, 11,800; Stonecross cutting, 106,900, 54,000 removed; Westham cutting, 14,700, completed; Pevensey Marsh embankment (3) miles long), 50,000, 36,000 removed; Conden cutting, 13,000, completed: Little Common cutting, 25,800, 4,000 removed; Hatland cutting, 52,800, 4,000 removed; Bexhill cutting, 71,800, 37,000 removed; Galley Hill cutting, 52,500, 44,000 removed; Bulverhithe cutting is that of Stonecross, which is 40 feet, and the highest embankment averages 23 feet. The portion which passes through the ruips of the priory of St. Pan-cras, at Lewes, is somewhat impeded by the cras, at Lewes, is somewhat impeded by the care exercised in the excavations. The works do not much disturb any of the walls of the ruins.____Connected with the localities of railway enterprise it appears that 83 prospec-tuses were issued from Moorgate-street, invol-ving capital to the amount of 90,175,000, and from Greshan-street 20 prospectuses were issued requiring the sum of 17,580,000/. The operations to connect Richmond with the Great North of England Railway at Cowton Great North of England Railway at Cowton have commenced, and a great number of exca-vators are now employed in the neighbourhood of St. Martin's, near Eastby Abbey.— The electric telegraph is now completed between Dover and Edenbridge, as well as between the latter place and Maidstone. It will be continued from Edenbridge to the Doctor Bridge terminue and the Brightener? between the latter place and Maidstone. It will be continued from Edenbridge to the London Bridge terminus and the Bricklayers' Arms station.— The proprietors of the Lon-don Auction Mart have come to a resolution prohibiting, on their premises, the sale of rail-way scrip.— The great tunnel in the Shef-field and Manchester line, nearly three miles in length, is nearly completed, and the opening of it is expected to take place in a few weeks. Last week a party, including the engineer and one of the directors, passed through with an engine.— There exists a prospect, amounting almost to a certainty, that the Eastern Union fine will be opened early in the spring. The line commences with the Colchester Extension and Eastern Counties at Ardleigh, and, pro-ceeding thence towards Ipswich, passes over tableland at Manningtree Valley, Dedham, Lawford, and over the river Stour. The quantity of earthwork removed has exceeded 700,000 enbic yards, being two-thirds of the whole quan-tity required to complete a double road. Thirty culverts and bridges have been built, six miles of nermanent road have been haid. and culverts and bridges have been built, six miles of permanent road have been laid, and



thirteen miles of double fencing set up. The long timber viaducts over the Stour are almost completed; the foundations have proved satis-factory. There are several heavy cuttings and factory. There are several neavy cuttings and embankments, but most of them have been mastered. — The Brighton and Chichester line was opened for passenger's traffic as far as Worthing on the 24th ultimo. There was no Worthing on the 24th ultimo. There was no ceremony, that being reserved until the line is opened throughout, which it is expected will be about March. At present only one line of rails is laid down, but it is intended to have a double line eventually. The Worthing station is situated about half a mile from the centre of the town. — The coast line of the South Devon, near Teignmouth, met with another mishap last Sunday night. The *Exeter Gazette* says that during a neap tide, the waves, which Devon, near Teignmouth, met with another mishap last Sunday night. The *Exeter Gazette* says that during a neap tide, the waves, which were large and very wide apart, broke over the doomed wall in succession, making light of the roadway of sand, and causing the wall to tremble with the repeated shocks. This was particularly the case at the large breakwater about midway between this town and the Parson and Clerk, where the sea was fast washing away the *permanent* road; and soon after church time, the wall to the eastward of it was seen to totter; and after several distinctly perceptible vibrations, about 120 feet in length fell into the sea, leaving about 20 feet standing adjoining the breakwater, which was protected by a projection. — The engineer of the Manchester, Huddersfield, and Great Grimsby, line has reported that, from experiments recently made, the practicability of the pro-posed tunnel under the Trent is placed beyond question. — The works of the Cockermouth and Workington line have been let to Messrs. J. and W. Ritson, who completed the contract and Workington line have been let to Messrs. J. and W. Ritson, who completed the contract between Workington and Maryport. They engage to make the line for 37,000l. and to complete the whole in nine months after ob-taining postession of the land.— The Lytham and the Blackpool Branches of the Preston and Wyre Railway, the former 4 miles 6 furlongs in length, and the other somewhat less, are all but complete. The Lytham line is finished. There is no work of any magnitude on it ex-cepting in the construction of the bridges, five

in number,—three of wood, one of stone and the other of bricks. The quantity of earth excavated has been about 100,000 cubic yards. —About a quarter of the Oxford and Rugby line, which when complete will be 504 miles in length, has been staked out, and excavators are at work upon it.—At Chester, on the line to Holyhead, two bridges are in progress— the one across the Dee, and the other across the canal. About 300 men are employed near Chester ; about 200 more are engaged at Mostyn ; near Conway the same number, chiefly in making the tunnel through the rock ; and about as many in the neighbourhood of Bargor. —The different lines uniting at Leeds are reported to have agreed to contribute 100,000/, each towards the establishment of a central station.—It is estimated that since the proro-gation of parliament, 100,000/ % a wock line been suggested that the extremely unplica-sant motion experienced by passengers in most of the English lines arises chiefly from the top-heaviness of the carriges, and the insuffici, ency of the base. In many instances the wheeds of the English lines arcses chiefy itom the top-heaviness of the earriges, did the insufficial ency of the base. In many instances the wheels stand on a base is feet 6 time by 4 affects line the length of the body is all ito killeter; and the height between 9 and 10 feet from the adh. That such a top-heavy iconstruction could de steady at high velocities is italicist impossibles. It appears that in Germanysix wheel carviages nearly 30 feet long are used and are perfectly free of the inconvenience referred to. On some of the Irish lines 30 ft. carriages with six wheels have been adopted, and given great satisfaction. In the United States some of the carriages are 80 feet long. An immense number of work-men are employed on the Lancaster and Cara liste line. The embank ments and cuttings are very heavy, and the process of blasting large quantities of stone that obstruct various parts of the line is still continued. II The lengthened embankment near Carlisle is completed, and the viaducts at Gatthier are nearly formed some Mr. Gravatt, the engineer of the Great Eas, tern and Westerny has been charged publicly. by the directors of the company, with gross carelessness and culpable dilatoriness in the preparation of the plans, to an extent which

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placed them in jeopardy, and he has been discharged from his office. -Part of the Furness Railway having to run along a marsh called Salthouse Marsh, which is covered by high tides, an embankment was formed whereon to lay the rails. The Preston Chronicle reports that, during the late gales, the sea has entirely swept away the whole of the embankment, crection of a new and enlarged station at Cambridge, nearly half a mile nearer the town, has been resolved upon. Improvements have been made at the Shoreditch terminus by the completion of a new suite of waiting rooms for row visducton the Lancester and Carlisle line is nearly finished. The last arch was keyed in on the 29th ult. The viaduct spans the romantic valley of Borrowdale nearitsjunction with that of the Lune, at an altitude of 68 feet, and is built of a light red freestone, 68 feet, and is built of a right feet, which is except the interior of the arches, which is composed of brickwork.-----The first contract composed of brickwork.-----The first contract on the Whiteby Branch of the York and North Midland line has been taken by Mr. Reed; it is about seven miles in length, from Pickering to Baindall; and the works have been commenced

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UNDERGROUND ROOMS.

Sin,-Seeing by your valuable publication, there is some chance of the New Building Act updergoing a revision in the next session of Parliament, I heg to call public attention, through the medium of your pages, to Sche-dule K, which will render tenantless the underground apartments of nearly the whole of the small houses in London after July, 1846, without remunerating the owners for the loss of rent for the same, although each of these houses has been built agreeably to the old Act, and under the inspection of the several district surveyors. Therefore, Sir, I do think that should Schedule K be not entirely erased from the new Act at the expected revision, so far as existing buildings are concerned, some provi-sion should be made to remunerate the owners of such property, who are generally small tradesmen and frugal mechanica, persons who ought to be assisted and not injured by Acts of Parliament. 20,000,000/. were not long since voted to remunerate the rich owners of since voted to remunerate the rich owners of human flesh, whose property in the same was prohibited by Act of Parliament, I therefore ask, upon the broad principles of justice, for remuneration for the owners of small houses that may be effected by Schedule K. By inserting the above remarks in an early number, you will much oblige, Sir, yours, &c., Cumberland Market, Dec. 3rd. W. P.

CAMBRIDGE ANTIQUARIAN SOCIETY.

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A SPRCIAL general meeting of the Cambridge Antiquarian Society was lately held at the Philosophical Society's rooms; the President; the Rev. Professor Willis, in the chair. The President opened the proceed-ing by reminding the meeting, that the Society had already existed for several years in this University, and had from time to time issued publications, on architectural and other subjects of antiquarian interest. It appeared that several of its existing laws would, if strictly adhered to, confine the Society's operations within very narrow limits, and that it had been proposed to offer some modification of these rules, in order to increase the efficiency of this Bociety. He considered that members of an University, highly educated as they are, coming as they do from all parts of the United Kingdom, periodically revisiting their homes, or travelling over the whole world, have greater opportunities for the collection and mutual communication of varied and curious information than 'persons in any other situation. Hence, the himitation of the Society's researches to Cambridge and its vicinity had been in fact practically disregarded. The well-known Society which lately occupied the field of architectural researches in this University by the second se

hold more frequent meetings, which taking place in the evening (and not as bitherto in the morning) might, it was hoped, assume a more attractive character than they had as yet possessed. He wished it to be clearly underpossessed. He wanted it to be clearly under-stood that, whilst giving to architecture a prominent place among the objects of its labours, the Society was desirous of confining itself to an historical and artistic view of the subject, not interfering with or giving advice for the erection or arrangement of new build-

It isstated that the subscription to the Society will in future be one guines annually, and that the evening meetings will be commenced in the ensuing term. The President expressed a hope that he should be enabled at an early meeting. to lay before the Society an architectural account of the recent discoveries in the chapel of Jesus College.

DISTRIBUTION OF PRIZES AT THE ROYAL ACADEMY. PROPOSED UNION OF THE STUDENTS.

ON Wednesday, the 10th., sixteen medals, gold and silver, were distributed amongst the competing students in the various branches of competing students in the various branches of art, including a gold medal with the discourses of Reynolds and West, to Mr. A. Johnson, for the best architectural design for a National Record office; and a silver medal, with the lectures of Barry, Opie, and Fuseli, to Mr. W. Walters, for the best architectural drawing of the Starry defort of Sommer House drawing of the Strand front of Somerset House.

Mr. Jones, the keeper, who took the chair in the absence of Sir Martin Shee, read an address to the students, written by the latter for the last distribution. It related principally to the importance which ought always to be attached to the choice of subjects in painting. On this point the president wrote with much earnestness, regretting that it was not always in the power of an artist, who was the most competent person to judge of his genius, to select his own subjects. Then followed some select his own subjects. Then followed some remarks on the general subject of composition, particularly the epic, which the president divided into three branches—the poetical, the classical, and the historical. The whole of these remarks were illustrated by reference to the best examples of the most celebrated pain-tera. In the course of them the president strongly condemned the introduction of discordant objects into pictorial compositions. There were examples among the best painters of these inappropriate introductions, but they were not on that account to be imitated, but rather shunned. The address concluded with some glowing anticipations of the effect the judicious adornment of the new houses of parliament would exercise over art

The day after the distribution, the students dined together at the Freemason's Tavern, which was chiefly noticeable for the announcement, that it is in contemplation to establish a monthly conversazione, so that the students may become better acquainted with each other. They are also about to form a museum of costume, which will be of the greatest utility to the student, and an establishment where any large work of art may be executed by any person who does not possess the required accommodation at home.

ROYAL INSTITUTE OF BRITISH ARCHITECTS:

At an ordinary meeting, held on Monday evening last, Mr. Tite, vice-president, in the chair, a number of donations were announced, chair, a number of donations were announced, including Mountfauçon's Antiquities, from Mr. Foxhall (a handsome gift), and a plan and section of Wren's church, St. Benet's Fink, about to be taken down, from Mr. Edwin Nash. Mr. R. L. Roumieu, of Lancaster-place, and Mr. David Bryce, of Edinburgh, were elected fellows. The chairman then read an elaborate notice of the proceedings taken in building the original Exchange, by Sir Thomas Gresham, and the Exchange built after the great fire in 1666; as derived from the records of the Corporation of London and the Mercers' Company. Mr. Tite also gave an interesting account of the antiquities dis-covered in preparing for the foundations of covered in preparing for the foundations of the present building, and exhibited a number of the articles that were found. We hope to print the substance of this paper at some length next week. . v: 5- i

MR. THE . MR. ROACH SHITH.

Sin, -The two letters which you have pub-lished from Mr. G. R. Sniph would have the ceived no further notice from me but the ano expression, that IF have " falsely " aleased him : to this allegation I consider it die a myself to make a very brief and shall hepige My principal design is; therefore, to for a sort in the strongest manher; the truth of the statements I have already made, and while, it will be readily seen, are in the main proved by Mr. S.'s own admissions. - nd 1

With respect to my power of 'enforcing my own orders; as the contractors were owned immediately to discharge any person from the works at my instance, it is evident the could have that no difficulty. This power h should certainly also have exerted if the accusation made by Mr. Schad spectree to me (upon the inquiry made at that the ill his pre-

after the rubbish had been carted away, aurely Mr. Smith need not be told that watched and cautioned as the labourens work, partir & stor was only to be regarded as w plauris work, so in the mode of evaling, on their parks, very solider legal dow' sequences. If, however, this statements but been true, it would have ufforded no justif tion for not restoring the artivles of such dist

the proper authorities. This and bernoong sar With reference to Mr. Santh's pleases the insignificant value of the Meduler, if reply that insignificant value of the Midlafer, II reply, that the principle of property remains unarrent and that I certainly did not explore unables answer from an abliguery, and own replies of I At the close of Mr. Smith's biner, I purceive he uses the term " colleagues, " IP the War any reference to the members of the Michael of allocing Acceleration in the members of the Michael of the shorter and the members of the Michael of the shorter and the members of the Michael of the

any reference to the members of the A filled, ological Association, whether called a filled, individually, T beg, in the atrongest certain, to deny any idea of connecting my cliarge a darast Mr. Smith in any maner with that the filled a respectable body. I regret, as every filled in the scheeology must do, the division litto, two Societies, but I have never taken of the filled either. I have 'valuable personal filled fatt both; and if, is I undersuid; the time of fatt circumstance under which my of filled fatt ment was made, gave colour to addition scheed circumstance under which my original state. ment was made, gave colour to an independent that I had either the one of the other in unor mind, I key most distinctly and 'employed all's to disclaim any such then light 'Employed all's With the Big Sol and the second state of the 17, St. Helen's place, Dec. 17, 1981. M of the

VALUE OF RAILWAY SHARES TO STORE ORIGINAL HOLDEBSE OF MILLION AND AT PRESENT REPORTED STORE

The following table, from the dining Jours nal, will give some idea of the value of railway property for investment, as compared with the funds and other undertakings; it will be seen that, although none of them pay 5 per cent. at present rates, to the original holders, the diridend varies from 31. to 101 per gent.

Par cent. pr acht 49978899855443 -----Present price. NZ-89223858223 g - anne anne Reda rrent.r original proc. paid. NSZSSSSZZZZZ an and Obuccester ction for a Birmingham d Brighton of Bouth-Wetern and Brachester and Each Reilwayt A Disk 1.0 Birmingham Birmingham Birmingham dramera Counting Great Jurceits Great Mesternit London and F Ja Baason eyer at a Berlie and Shefferlä and Nou Yore and Yore and Yore and Yore and Nou Yore and Nou Yore and Nou Yore and llands . fileld av . . . -------Ĩ -----₿i_a

NOTES IN THE PROVINCES.

It is in contemplation to erect a bridge over the Mersey at Russorn. Some idea of is magnitude may be formed when we state that there are to be five wet arches of 280 feet that there are to be five wet arches of 280 feet span, 100 feet above high water mark at spring tides, and 168 dry arches of 30 feet span, and 54 feet high, making a total of 2,480 yards of arching. When completed, it will be the greatest work of the kind in Europe.——At the same place, Lord Francis Egerton is about to erect docks of great extent, also a custom-house, the present edifice being found most inconvenient for this thriving port.——A subscription has been set afloat for the purpose of re-newing and effecting other improvements of re-pewing and effecting other improvements in St. Michael's church, Coventry. The re-quired outlay is estimated at 5,0001.----The vorks at the two new churches at Morton and Stockwith, near Gainsbra', are rapidly ad-vancing; the roofs have been reared some time, and are nearly slated. The wood-work for the interior is in a state of forwardness, under the auperintendence of the contractor, England in Castle-street, Liverpool, are both to be built of stone, brought from the Darley Dele Quarries, Derbyshire, from which also was procured the stone used in the erection of the Liverpool Assize Courts.-----In Ireland, a decision has been at length come to with respect to the rival claims of Armagh and Belfast, for the site of the Northern College. The latter town has won the prize.----It is in contemplation, in the ensuing spring, to effect several improvements in the fine minster church at Wimborne; a substantial edifice is also to be erected for the endowed free school, in room of the present dilapidated building. ng less than aeven churches have been either rebuilt or newly founded, and nine schoolhouses erected, involving together an outlay of nearly 30,000% —— St. Mary's Episcopal chapel, at Dalkeith, was consecrated last week. It is a Gothic building, and a local paper says, that "no expense has been spared in its decoration, so as to render it suitable, in every respect, for the reception of her Majesty should guous to the Ipswich station-house. They are built on the humane principle, sanctioned by the Inspector of Prisons, which is, that in con-structing *s* place of confinement, due regard should be paid to the health of the accused, or well as to be converter. They are dere as well as to his security. They are dry, warm, and well-ventilated.—A plan for the warm, and well-ventilated .extension of Folkestone by the erection of a considerable number of houses on Lord Radnor's land, was submitted, a few evenings since, to a public meeting of the town's-people, G Rohins, Esq. The called by the mayor, G. Robins, Esq. The scheme, as explained by the originator, is on the principle of a building society, by the operation of which each member will, in sucssion, become possessed of a residence in will have to be pulled down. The estimated expense is 6,5004. — The London and Bir-mingham Bailway Company have publicly contradicted a report that they had altered their views with respect to the central station, which they propose to make near New-street, Bir-mingham. They further state that the pro-posal has received the sanction of the commissioners and governors of the Free school.-The members of the Royal Southern Yacht Club are about to erect at Cowes a new Clubhouse, at a cost of 6,000/. The foundationstone will be laid in a short time by the com-modore, the Marquis of Conyngham.—Mr. Peto is preparing plans for the improvement of Lowestoft harbour, and there is a prospect before long of sea-borne vessels reaching Beccles through Lowestoft, its natural port. — The extensive iron-works now in course of erection at Oakley, Fifeshire, are deserving of notice. The engine-house is built of etone from the new Carnock quarry, and is 40 feet below and 50 feet above the surface ground. There will be three or four windows in each front about 30 feet in height, each window THE BUILDER.

being arched and ornamented with a moulding; and the whole huilding surmounted with a very rick coping. The lever wall, which runs across the building from the foundation to the top, is 90 feet, and about six feet in thickness. It is built of polished stones of enormous size, each block being three tons in weight. So extensive is the building, that in it there are denosited 60,000 cubic feet of it there are deposited 60,000 cubic it there are deposited outline cubic feet of stones below the surface of the ground. The next most conspicuous objects are the fur-naces, two of which are far advanced, the chimney-stalks being each about 180 feet in height.—— Mr. Sotheron, the proprietor of Devices green is about to incluse the same Devizes green, is about to inclose the same, not with the view of excluding the public, but in order to make it more available and more useful to those who may be inclined to resort to it for air and exercise. New walks and ornamental plantations will be introduced secrating a portion of the Edinburgh Cemetery Company's grounds, together with the little Gothic chapel erected thereon, near Inverleithrow, took place on Saturday last.——A syndi-cate is about to be appointed at Cambridge for the purpose of ascertaining in what manner a tax may most conveniently be laid on the members of the university with the view of forming a new botanical garden. Already several suggestions have been made, having for their object such architectural improve ment of the town as the projected change will admit of .----The Cominittee of the Dock Trust, at Liverpool, purpose applying to Purliament next session for power to construct several large new docks on an extensive site, principally covered with buildings. at present The premises to be purchased number 643.

MR. BASEVI'S SUCCESSOR AT THE FITZ-WILLIAM MUSEUM, CAMBRIDGE.

THE Fitzwilliam Syndicate conceiving that the great loss which the university had suffered by the lamented death of Mr. Basevi, the architect of the New Fitzwilliam Museum, made it proper for them to offer to the Senate a report describing the state in which the designs for the building are left; and to bring under the notice of the Senate the state of the engagements made with the contractors for the execution of the work, wrote as follows :--

The Syndicate find by an examination of the drawings left by Mr. Basevi (which have been sent for their inspection by his brother, Mr. N. Basevi) that the designs for the greater part of the work remaining to be executed are in a forward state; but they conceive that these designs not having been perfected, require, for the completion of the work, the assistance of an architect of the same order as Mr. Basevi in professional eminence and skill.

The Syndicate think it highly desirable that the building should be completed with a close adherence to Mr. Basevi's intentions, so far as they appear in a settled form in his designs.

The Syndicate have also ascertained by inquiry of Mr. N. Basevi and of Mr. Baker, the state of the pending engagements with Mr. Baker; and the results of this inquiry will be laid upon the Registrar's table. The Syndicate, considering the high pro-

The Syndicate, considering the high professional character of Mr. Cockerell, and the confidence already reposed in him by the University, beg leave to recommend that Mr. Cockerell be appointed Mr. Basevi's successor as architect of the New Fitzwilliam Museum, with instructions to adhere as closely as may be to Mr. Basevi's designs in carrying on the work to its completion.

St. John's College Lodge, Dec. 9, 1845. There was a congregation on Monday, when grace was offered to appoint Mr. Cockerell to be the late Mr. Basevi's successor as architect to the New Fitzwilliam Museum, in conformity with the recommendation of the Fitzwilliam Syndicate in the above report.

THE SKRW ARGH AN OLD INVENTION.-"Now visit the Alcazar [Cathedral at Seville], but first observe a siggular Moorish skew arch, in a narrow street leading [from the Cathedral] to the Pueta de Xerez; it proves that the Moors practised this now assumed modern invention at least eight centuries ago." -Rord's Spain.

THE restoration of the interior of the man of this venerable and interesting structure is now goupleted. Fram the Hull Racket we learn that the galleries have, with all the modern pewe upon the ground floer, here taken away; the antire area of the nave cleared of every thing; and the stone-coloured paint removed from the lofty piers, their capitals, and i, and arches. Upon entering the great western door, we find ourselves apparently in a comfortable porch, but in reality passing through the great organ, which has been constructed upon a grand scale by Messra Foster and Andrews, of this town, after an elegant design by Mr. Lockwood : representing to the eye, looking west, the appearance of a handsbme gothic screen. The whole of the nevel is now fitted up with oak stalls, enriched with poppy heads, carred by Mr. George Pock, of Hall. Most of them are executed frach easts of existing models in Lincoln Cathedred, taken by Mr. Keyworth, sculptor, the Yorkshire Archiv-tectural Society's modsiles. For some distance eastward from the forit, the seats, or stalls, run transverse ; so that the standards of solid oak (no other timber having been permitted to be used in the bwark); with carved halt ray, however, to the anal which separates the nave from the transepts, a change takes place, and a change for the better it certainly place, and a change for the better it certainly is; here the church assumes the aspect of a cathedral choir, the stalls being arranged, parallel to the aisle, and the standards and poppy heads meeting the eye to the greatest advantage. 'A portion of this part of the church has been fitted up with separate stalls, which the churcher advantage is a neuroperior with which the churchwardens, it is presumed, will carefully allot. Adjoining these stalls, to the eastward, are smaller ones, on either side, for the singing men and choristers of the church; these abut upon the pulpit and the church; these abat upon the pulpit and the lectern, which form the most conspicuous objects in the nave. The pulpit, which is of stone, is fixed, adjoining the third pillar on the south side of the nave. It is de-signed in perfect keeping with the stile of the mave, and is highly enriched with a series of niches, which are, we understand, to be decorated with crimson and azure and gold. It is ascended by a winding staircase of stone, composed of fourteen steps. The reading desk is of oak; it occupies a position against the third pillar on the north side of the centre aisle of the nave. The front is composed of an oak screen of Gothic tracery, open and supported by buttresses of the same behind are three stalls for the officiating and supported by buttresses of the same, behind are three stalls for the officiating clergy. From this point to the tower the stalls continue to be placed as in a minster stalls continue to be placed as in a minister choir, the front towards the hisle being hand somely, though nearly decorated.

It is not, we find, at present the intention to pave the middle and side sisles with encaustic tiles, as was first intended; want of funds, we believe, is pleaded for this omission. The font, which is of Purbeck marble, and, highly enriched, has been thoroughly cleanaed of the many coats of stone-soloured painter which, up to a recent period, covered its sculp, tured ornaments, and it now occupies its proper position, near to the western door, We are sorry to find that it has not been restoned in its original manner, for some reason or another that we cannot account. The eight small pillars that stood originally round the centre shaft of it have been omitted. IVe trust that the proper authorities will see to, this matter, and not allow its ancient features to be altered.

The panels of the ceiling have been painted with ultra marine, whilst the members of the beams are "picked out" in colours, crimson and gold. The centre of the panels is studdedwith gold stars. In different parts of the roof are painted illustrations of the instruments of our Lord's passion, with monograms, &c. Some of the richly-carved capitals of the columns of the pave are decorated with crimson and blue and gold. The whole of the embellishments of the ceiling, &c., were done by Messrs, Binks and Son, of Hull, after the designs and under the superintendence of Mr. Lockwood, architect, to whose care was entrusted the entire restoration.

The cost which has at present been incurred is about 3,0004, of which sum the church, wardens have taken upon themselves the re-

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STAR DAD LED s sight the provide set of the walls beauth they are to raise by the income from the set eren. The yest of the sein has been guaran note by a few gentlehen who have taken un interest in the subject, and who have yet for med then part with much whitt. The future con-grantions will be devoted to the restoration of riserious will be devoted to the restoration or the chancel. Several handsome donations will provide by various gentlemen present fewards this desirable object. We trust that a piecross attempt will be made to follow up this beginning, and that, the requisite funds being, shallow, the restoration of the choir being, shall be desiration of the choir may be proceeded with. and hearing

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ROUND TOWERS IN FRANCE.

At a late sessional meeting of the Cork Cuvierian Society, Mr. Windele read a paper the antiquaries of that country regarded as resembling the Irish round tower, not only in form, but also in the mystery which hung over their origin and history, in which we have some curious speculation on this antiquaries' Sphynx. The French work from which Mr. Windele as extracted these remarks, transfere all the Irish round towers to England ; and, as it will be perceived, that of Ardmore among the rest. French are unlike the Irish towers. Those of the former are of various figures, principally octagonal and of very moderate height. The tower of Quineville called *Cheminée de Quine-*ville is one of these. It is situated within 8 lengues of Cherbourg, is hollow throughout, having neither stairs nor floors. It consists of a base circular within, and 17 feet high, con-structed in that style called by the Romans Opus reticulatum ; above this is placed a cylindrical column, 112 feet in height and 20 feet in circumference. The external face is ornamented with Corinthian and Tuscan pilasters supporting an entablature, above which rises a dome, roofed in the form of a transited cone. Some think that it has served as a Pharos, others, that it is an ancient befiry. But it is neither within view of the seam But it is neither within view of the sea nor per to any church. There are, however, in France, isolated towers in the vicinity of innches. They belong to the middle ages. The compary of the Innocents at Paris, is the compary of the Innocents at Paris, is the off an octagon form, surmounted by a come; it is 44 feet in height, and 12 feet in Martimers in the Martimers is the At Monthrau, near Martignon, is an optagon, 35 feet high and 16 in Men. The door is 8 feet above the ground. In the cloister of the Monastery des Dames, at Funtermalt, is an ancient tower, 76 feet in height and 20 feet in diameter. The learned inent, the long wearing themselves with conjectures over or the probable us dre wees of these 12 structures. Bat in 1790 (sic) M. Chas. Smith discovered, at London, a manuscript, which entirely cleared the obscurity of the subject. In that it was found that these towers were built in the 9th and 10th centuries, an epoch built in the Sin and JUID centuries, an epocn when singular practices often accompanied the intervise of religion, and that they served as penitential prisons : "Inclusaria acti in-penitential prisons : "Inclusaria acti in-built in construction in England many of the of Ardmore, which is 100 feet in height, if is constructed of out bricks if The "It is constructed of cut bricks! ጉሥ pinion held, that the tower of Quineville was tiqueral monument, sppears to the French an-tiquary to be the most probable and reasonable tiongst many other conjectures. The Unelli the ancient lababiants of the territory-Le Colentin — in which it stands. It was conquered with difficulty by the Romans, and is was doubless on the termination of some

as doubtless on the termination of some bloody contest, fought probably on this site, that they erected this tower, as a monument of their victory and of their dead. At Vie-le-Comte is we edifies much recembling that at Quineville. the is a massive circular structure, 25 feet in diantetor, 20 in beight. It serves as a chapel and charnel house to the Church of Sainte Observed de Via. It is avidently of an age polarior to the Toman Conquest; its object that of a function in doman to rected to the manes of waviers deed in combat ; like the Turris, Magna of Wismes, which has baffled "the segenty and eradition of many learned "trite fr. There notices Mr. W. actracted from "wark on the indicted antiquities of Gaul, a "Cool: not way accessible in this country.

NEW CHURCHES IN THE WEST RIDING OF YORKSHIRE.

No fewer than four new charches were lately consecrated in this riding during one week by the Lord Binkop. of Ripss. We obtain the following particulars from the Hull Packet, On the Tuesday his lordship consecrated St. James Church, Metham Mills, This church

has been erected at the sole expense of the late James Brook, Esq., of Boston. Seven or eight years ago a large echeol-room, with a small chapel at one end of it, licensed by the bishep for divine service, and two houses at the other end was erected at a cost of no less than 4,0004. For several obvious reasons it was considered desirable to have a separate church, and the same benevolent individual directed a church to be built, principally from the materials of the former. and at an additional expense of above 2,000%. It is of the gothic style, in the form of a cross. At the east end is a painted window presented by Mrs. Brook, the widow of the respected founder. The pulpit and reading-desk, presented by C. Brook, Jun., Esq., are of carved oak, by Mr. Wolstenholme, of York. A carved oak screen for the Commandments, above the communion place, has been presented by Mrs. C. Brook, and two oak chairs to match it, by Mrs. W. Leigh Brook. Every other part of the church corresponds with these, and no expense or trouble has been spared to exhibit a handsome example of church architecture without introducing any of the nevelties which are offensive to the feelings of some Protestants. It is designed to seat nearly 400 adults and above 250 children.

On Wednesday, his lordship consecrated the new church of St. Luke the Evangelist, at Miln's Bridge, near Huddersfield. This structhree is a specimen of Norman architecture, from the design of Mr. William Wallon, architeet, Huddersfield, and is calculated to contain 602 persons. It is built on ground liberally presented by Sir Jos. Radcliffe, Bart., by whom also an acre of ground has been given as a grave-yard, and an equal area for a parsonagehouse and grounds. The building fund was raised mainly from the family of Joseph Armitage, Esq., of Miln's Bridge House, by one member of which (Miss Armitage, of Honley) 1,000% was most munificently sub-actibed. The whole cost is about 2,500%.

On Thursday, his lordship consecrated a church which has been erected at Roberts' Town, a district in great need of such a pro-vision. The fabric is simple in its design, but affords ample accommodation.

On the following Tuesday, the new church at Garforth was consecrated by his lordship. This is of the early English order, of the cruciform shape, with aisles to the nave. The nave, tran-septs, and chancel, are of equal width, diverging from the tower openings, which have lofty and deeply moulded archivolts. The tower rises from four massive and shafted piers at the intersection of the nave and transepts, and is surmounted by a spire sixty feet high. The sittings are all open and uniform, providing for upwards of 500 persons. The pulpits and font are of Huddleston stone carved; the glass of the windows is in imitation of the ancient cathedral glass, of amber tint, with the excep-tion of the east window, which is of stained glass, executed and presented by the Misses Gascoigne of Parlington, and one given by Mr. G. F. Jones, of York, the architect.

ARCHITECTURAL AND COLLATERAL FO-REIGN WORKS, LATELY PUBLISHED. GERMAN WORKS.

GERMAN WORKS. Andenken.—Keepsake of the Third Meeting of German Architects and Engineers at Prague. Prague. 12mo., 3s. (Contains the History of Architecture in Bohemia, by Professor Vieces/ed.) Andeutungen.—Hints on the Scope of Evangelic. Church Building. Hamburg. 8vo., 2s. Förster, C. F. L., Bauzeitung.—Builders' Gazette, general. 10 vols. 8vo., with atlas in folio. Vienna. 11 156

11. 158. 14. 105. Schultz, A., Populäre.—Builders' Gazette, the popular. 2 vols. 4to., with atlas in folio. Weimer. Bericht.—Official Report on the General German Industrial Exhibition at Boelin, Berlin. 8vo.

1s. 6d. Bevicht .-- Detailed Report en ditto. Berlin. Svo., with a Pian of the Exhibition in folio.

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 Beschreibung.—Description of all Inventions and Improvements patented in the Austrian Empire.
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fallo. 78.

Semper, Professor; Ban.-The Building of Est gelic Churchet.

gelic Churches. Erwiederung.- A reply to Professor Scrapf's Work. Hamburg. 8vo., 1s. Gailhabaud, J., Denkmäler.-Montiments of Air-chitecture of all times and countries. German Belines by Dr. Engler and Architect Lobde. Hamburg: tto., 72 parts of text, and 72 of plette. 71. Gebhardt, J. C. R., Erfindungens-The Newest Discoveries and Improvements in the making of Bricks, as well as Burning Lime and Parts-plaster. Quedinburg. 8vo., 3s.

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SIR,—The subject of sewers and drainage baring at this time deservedly obtained much public attention, the most eligible form, com-bined with the least possible expense, naturally becomes a leading feature in the question; and believing the following may give some little force to the information already published, I

beg to mention it to you. I last year built about 1,500 feet run, of the egg-shaped sewer, with the small end down-wards, for T. O. Tyndall, Esq., in his park at Oliston, Bristel, preparatory to letting the frontage for villas and other building purposes, that form of sewer being considered, after much careful investigation, the best for keep-ing the current in the most compact hody, and ing the current in the most compact body, and therefore of giving it the greatest power to covry off the soil and prevent accumulations in its course.

With regard to expense, it did not in the estimated cost of making a sewer with upright sides, sentiming the armo superficial open space of water-way. Not having found it de-sirable to charge my good opinion of the egg-shaped form of sewer, I have lately prepared working drawings and specifications for up-wards of 3,000 feet run of sewer of a similar discription, which is proposed to be made at a arighbouring which is proposed to be made at a brighbouring which is proceeding statement be of any service, you're quite welcome to use it.

| Dec. | 15th, | 1845. | CHARLES DYER. | |
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| | | in in | | |

And A town Miscellanea.

Busts, &c. In addition to the busts of distinguished statesmen, warriors, and divines, already presented to Einscallege, Earl Howe his signified his invention to contribute one of his signified his intention to contribute one of his grandfather, "the famous admiral of the lat of Jung 1794." Mr. Behnes has been se-berded to arcaite it, Colonel Reid, the new member for Windon, has also signified his intention of proceeding one of George the Third; and has commissioned Mr. Woodington to execute the same. Mr. Behnes, the sculptor, having expressed a desire to present a bast, excented by bigaself, of the great Lord Clastham, the college autherities have willingly accepted the withfit. Mr. Purk has recently completed wish wof in the d of Campbell, the poet. Tt is of colossel size, and intended for a poet. 'It is of colossal size, and intended for a that great jurisprudential writer.

that great jurisprudential writer. AUTIFICIAL STONE.—A patent has lately been granted to Mr. Pryce Buckley Williams, of Llegodir, Mootgomeryshire, for certain im-provements in the manufacture of artificial sione. The patentee employs for the base of his composition, sulphate of barytes, reduced to an impalpable powder, and mixed with some flax, such as fluor spar, quariz, horax, &c. For the production of a fair specimen of white marble, we are directed to take of sul-phate of barytes four parts by weight. crown white marble, we are directed to take of sul-phate of barytes four parts by weight, crown glass one part, and dried borax about one-fourth of the weight of the crown glass; these are to be finely pulverised and intimately mixed, then placed in a covered vessel, trough, or pot, according to the size and shape re-quired, placed in a furnace, and subjected to we intense heat. When it is required to pro-duce grained, or veined marble, the patentee duce grained, or veined marble, the patentee employs those metallic oxides which are not volatile, and which are used for the same pur-

Poses by porcelain manufacturers. VACANT DISTRICT SURVEYORSHIP.—Since our last impression two more candidates have starsed for the vacant district surveyorship of Shoreditch and Nortan Falgate. They are Mr. William Moseley, of Upper Albany-street, and Mr. Herbert Williams, Great Ormond-street. sloss, has been placed in a tower at New York. It weighs no less than 8,125 be.

THE BUILDER.

NEW CHURCH AT HOMEBTON. - The new church in the Bigh road, at Homerton, new building by Mr. Geary, inder the superinten-dence of Mr. A. Ashpitel, archisect, is making satisfactory progress. It couldings of themcoll and mare with she also on the south side, and a tower at the 'west-end of the nave. The walls, standing on concrete 5 feet & inches wide and 5 feet 8 inches deep, are formed externally of Kentish-rag stone, and internally of the "hassock," and the dressings of deers, windows, &c., are of Cuen stone. It is built under the church commissioners. PUBLIC MUSEUMS. - The inhubitants of

Bury St. Edmunde, in public meeting meenbled, have resolved upon establishing a museum, under the Museums in Large Towns Act.

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[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, ice., are to be addressed. For the convenience of our resders, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, Work-atreet, Covent-garden.]

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London. "Tyro."-The Archzolojia (pronounced Ar keyologea) is the title of the volume issued annually by the Society of Antiquaries, and con-sists of miscellancous papers relating, as the name

eists of miscellaneous papers relating, as the name imports, to entionity. "Fell of Homes, Wandsworth Road."-Mr. Rogers, District Surveyor, informs v, with reference to our leading article last week, that the accident was caused by an improper escan ation of the basement story below the foundations of the walls, without his knowledge, and that the per-armage ed their satisfaction with the per; prmance of his duty.

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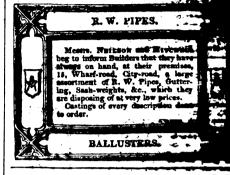
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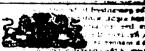
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application. The great importance of STRENGTH and STIFFNESS in the Laths of BEVOLVING IRON SHUTTERS, when required for SECURITY, is SO Obvious, that it is only necessary to point out the fact that the FATENT CONVEX LATHS ARE 12 shown by the engravings and prospecting, to ensure their general adoption.

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PLAT LATHS, AT A VERT CONSIDERATION AND DESCRIPTION. CAUTION.—The Patentees beg ta cantion all persons against Making or Using samt Lawas for REVOLVING IRON SAFETY SHUTTERS, so as to obtain insreased strength or stiffness; as they thereby reader thermaly results to legal proceedings for infringing this patents. Licenses Granted



SATURDAY, DECEMBER 27, 1845.

ADDRESS.



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ITH the present number we close our volume for 1845. During the year that has passed since we issued our last address, we have striven earnestly to redeem the pro-

mises therein made, and to render T_{HE} BUILDER worthy of the encouragement and support kindly awarded to it by the public. In proof of this we are able, with respectful confidence, to appeal to the work itself, and venture to aver that it contains a body of information of the greatest value to a large and varied class. The public, we say it with pride and gratitude, have acknowledged our endeavours in the most substantial manner, and THE BUILDER is now the universally recognized organ of those who are engaged or interested in the arts of construction or design.

Self-gratulation is never becoming. If there be a time, however, when it appears less objectionable than usual, it is, perhaps, when justifying former professions, with the view of obtaining entire belief in those you are about to make; and we may therefore hope to be excused at this, the termination of the year, for the previous expression, and a further brief reference to what has been done during that time.

The volume contains 630 pages of letterpress, exclusive of advertisements and Supplements, and has 280 illustrations, — many of them of great excellence. Apart from the picturesque views, it will be found to contain, when looked at as a whole, a large number of Gothic details, practically useful, in the shape of decorated and perpendicular windows, doors, fonts and font covers, of various periods, bench-ends, &c., as well as many valuable examples of Elizabethan architecture and fittings.

"Improvement" has been our key note,---the improvement of the metropolis, the improvement of buildings in a sanatory and constructional point of view, the improvement of our operatives, improvements in ventilation, and improved form of sewers have been constantly urged by us with sincere zeal, resulting from a sense of their paramount importance.

The new year! how numerous are the emotions to which this sentence gives rise, how important are the duties that it reminds us of. Is it beyond our province to urge our young readers, briefly and in passing, not to disregard

• Covers for binding THE BUILDER may be obtained at the office as usual, price two shillings; or the publisher will undertake to bind sets at three shillings per volume. THE BUILDER.

its promptings, but to endeavour by industry and application, to supply the omissions of the past?

With the new year we shall again come before the public, with the determination to improve to the utmost the character of the journal, and to merit a further increase of public favour, and a numerous accession of readers: to our present friends and assistants we look with confidence for a continuation of their kind and valued support.

THE ARCHITECTURE OF FLORENCE.

In previous papers, illustrative of Italian architecture, we have endeavoured to indicate the materials for general history, to be deduced from the monuments of art. Had the pages of this journal been less devoted to matters purely professional, and momentary, than necessarily they are, we might have further excited the attention of our readers in a ground little trodden, and pregnant with interest. Let it suffice here to say, that to whatever phase of art we look, we need no lens to discover the impress of the age, which originated the work, the political and social state of the people. We have noticed the long dearth of art in Italy, previous to the influx of the Gothic style, as coexistent with internal commotion, and the decay of letters. We have examined the position of the art under the atmosphere of commercial prosperity in Venice, and Genoa; brilliant in spite of dissensions, internal as well as external; and, with the work before us, we now propose to speak of the peculiar influence upon, and character of, the architecture of Florence.

Not less distinguished for commercial greatness, than the other republics of Italy, Florence attained a remarkable eminence in art. Having acquired considerable wealth by attention to manufactures, its commerce was extended to all parts of Europe; and subsequently, the possession of a sea-port enabled the Florentines to compete with the Genoese and the Venetians, on the Mediterranean. Engaged in banking, the money trade of nearly all the kingdoms of Europe fell into their hands; and in several states, they were intrusted with the collecting and administration of the public revenues. But, that remarkable state of civil discord, into which all the cities of Italy fell, was nowhere more perceptible than in Florence. The rival parties of the Guelfs and the Ghibellines, and later, of the Neri and the Bianchi, kept the city in ceaseless commotion from an early period of its history to the time of the Medici. It was this very state of circumstances, which produced the peculiar style of Florentine architecture.

Florentine architecture. The influence of the Gothic style was felt in Florence until a late period. Though, in that city, probably the first advances towards the disuse of Gothic architecture were made, many of the old forms lingered in the principal façades even to the middle of the fifteenth century. In 1298, Arnolfo di Lapo, according to Vasari, but according to Molini, Arnolfo di Cambio da Colle, laid the foundations of the Cathedral of Sta. Maria del Fiore. This com-mencement was previous to what is generally understood by the "revival;" yet the building nderstood by the "revival;" yet the building eems to have been conceived in an original style of architecture. Orgagna and others fur-ther advanced the cathedral, and greatly con-tributed to the alteration of style. But in 1407, the city called a meeting of architects to discuss the best mode of completing the cathedral, and Brunelleschi boldly offered to raise the dome. This architect at length succeeded in producing the earliest, and perhaps the most wonderful, cupola of the world. The influence, which Brunelleschi thus acquired, enabled him to work that change in the style of Italy, which he had learned to contemplate, whilst engaged in the examination of architectural works in Rome. His abilities were exercised in other cities of Italy, and he was employed by Duke Filippo Maria on the fortifications of Milan. He left a school of architects imbued with the principles on which he worked, who rapidly spread the change. Almost at the same time,

* Architecture Toscane, ou, Palais, Maisons, et autres édifices de la Toscane, mesurés et désainés par A. Grandjéan de Montigmy et A. Famin, architectes, anciens Pensionnaires de l'Académie de France, à Rome. 'Paris, 1857. the dukes of Milan, and the princes of Italy were actuated by love of art; Alberti produced bis famous treatise,^o and further carried out the native style; and Roman forms and principles were everywhere dominant.

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ples were everywhere dominant. The most striking characteristics of Florentine architecture are massiveness and severity. Large blocks of stone were easily pro-cured in the quarries of Tuscany, and solidity and strength were in some measure demanded in a residence, which had often to answer the purpose of a castle. In the refinement of details, the Florentine school is inferior to those of Venice and Rome, but for bold, imposing masses, no city is equal to Florence. The walls are, almost universally, rusticated the entire height, and in some cases with pleasing variety in the treatment. The apertures in the ground florence of the section of the the ground floor are at some distance from the ground, and are square, and small in size. The cornices are frequently on a grand scale, and are, in the earlier buildings, provided with the means of defence. The line of front is generally unbroken, and the plans do not display the same ingenuity, as those at Venice and Genoa.—The buildings of Florence, says the work before us, appear to be not the work of ordinary men; we enter them with respect, believing to find them inhabited by beings of a nature superior to ours. Whether the eye is arrested by monuments of the age of Cosmo de Medici, or of times which preceded or followed it, all in this imposing city carries the imprint of grandeur and majesty. Frequent revolutions obliged the chiefs of parties to comsider their personal safety, along with the magnificence of their dwellings. Externally, they are examples of the skilful union of grace they are examples of the skilful union of grace with simplicity and massiveness, internally, models of exquisite taste. After Rome, Flo-rence is the most interesting city to every artist. — The courts are often elegant, with fountains and gardens. The cornice is some-times of little height, but great projection, with two modillions, ranged one over the other in a curious manner.—The Pitti palace has a ba-lustrade, formed of small Ionic columns, sup-posed to be the earliest instance of that member. The rusticated archivolts are gene-rally of small stones, the intrados semicircular. member. The rusticated archivoits are gene-rally of small stones, the intrados semicircular, but the extrados a pointed arch. Up to the middle of the fifteenth century, the window with a central column, each light having a semicircular arch, the whole being covered by semicircular arch, the whole being covered by a semicircular head, was universal. Iron-work was much employed, and many of the buildings had lanterns at the angles, and rings suspended at intervals. About the middle of the fifteenth century flourished one Nicolo Grosso Caparra, an excellent worker in metal, and the cressets—"lumiere maravigliose," are beautiful specimens of his work. It is said, though the evidence is not clear. that the vight though the evidence is not clear, that the right of affixing such cressets way a peculiar howour, granted to the families, who had distinguished themselves by the gown or the sword, and that those of less consideration were only allowed to illuminate the battlements of their towers.

One of the earliest buildings of Florence is the Palazzo del Podestà. It is generally me derstood to have been built by Arnolfo di Lapo, but much resembles the style of Orgagua. It has a very decided Gothic character, and has the date 1250. The Palazzo Vecchio, erected by Arnolfo in 1298, had enormous battlements, and projecting machicolations. The building was greatly altered by Vasari, under Cosmo de Medici; and at that period gained the appearance represented in the work. The court is lavishly embellished with painting and sculpture, much of it of a later date. The "Piazza del Gran' Duca" contains many remarkable works of art. Passing by the statue of Cosmo the Great, a curious structure is the Loggia de' Lanzi. It is an excellent example of the transition from Gothic architecture; with much of the earlier style about the cornice and ornaments, it has semicircular arches, rising from shafts composed of clustered pilaters. It was built in the year 1256: Organa was the architect. Omitting many churches of early date, which are very slightly noticed in the book before us, we come to the Palazzo Riccardii. This building was commenced in 1430, under Michelozzi: it is a noble specimen of the styles It is in three stories, each rusticated, and is surmounted by a massive cornice. The ground story is lofty, and has five Jange arches and

* De Re Ædificatoriá. † Murray's Handbook to Northern Italy.

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Annanati, the architect of the Ponte della Tri-nita. The has employed "columnia decoration, the annality of the architect of the Pathazzo and the architect of the Ponte della Tri-nita. The heild by the former was the work of Annanati, the architect of the Ponte della Tri-nita. The heild by the former was the work of Annanati, the architect of the Ponte della Tri-nita. The heild by the former was the work of Annanati, the architect of the Ponte della Tri-nita. The heild the trades and the Annanati, the architect of the Ponte former of the former was the work of Annanati, the architect of the Ponte della Tri-nita. The heild the trades and the trades are the Received the trades and the Annanati, the architect of the Ponte della Tri-nita. The heild the trades are the intervel. Alberti, the restleard work, and the Anna the trades are found the trades are the trades are the trades are the trade architect of the Ponte della Tri-nita. The heild the trades are the trades are the the trades are not he the trades are the trades of the trades are the found the trades are trades the trades are trades the trades are the trades are trades the trades are trades to the trades are trades bdf ethiptövelf (three örders (ff fillssters); but The Tusticated work, 'and 'the schiveirentar heided windows als still preservet. The doors and of remarkably good distater - The Pa-lazzo Strozzi is probably the thest example of the Florentine style; it was built in 1499 by Bandette de Malano, and Simone Pallajuolo, cuited Cromer. The cornice is very fine. The totals and yanges of windows, with circu-the totals, and yanges of windows, with circu-the totals, and yanges of windows in the basement. The totals and yanges of windows in the basement. The totals and yanges of windows in the basement. The totals and yanges of windows in the basement. The totals and yanges of windows in the basement. The totals and yanges windows in the basement. The totals and yanges windows in the basement. The totals and yanges windows in the basement. The totals and yanges windows in the basement. The totals and yanges windows in the basement. The totals and yanges windows in the basement. The totals and yanges windows in the basement. The totals and yanges windows in the basement. "The totals and yanges with very pleasing 'differ' is of very simple character, and sharedenight of linemost of the Florentine build. yanges the basement: we missed in var.couple of network examplement: mut often 'abtaining in Eng-stal Joint from present with totals with status and in the distance with the from of the Palazzo Bar. to built is the ownite is also very good. Here

s ; the cornice is also very good. Here Ludent the angles are formed by planters, round subject the angles are formed by planters, round subject who strings and cornies are brakers: It was built by Baccie d'Agado, in 1520. (1) and (1) We upw approach the period when 'Fin-1.4 100

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Whole was imported. It was built in 1530,
 All persons are aware, that is one of the most beautiful palaces of Italy, and that it has been fathered by dir. Butry in the Travellers! Club.
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much noise, but the illustrations of the other modeling will wall spars or examination of the astronautor of the more in the library of the Museum sub inducetive, and it would greatly increase the out vector of that institution were all conti-bus **quarter** was generally accessible. E. H.

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 Landat, Daci Shab, 1845.

AHEIBHILDER.

AWABDS OF THE OFFICIAL REFEREES DISTRICT SURVEYORS FEES.

MR. ENTECOTT, of Deptlord, having raised

MR. ENTECOTT, of Deptord, having raised and altered, a, kitchen huiding attached to a dwelling-house of the third fate. Mr. R. P. Browne, the district surveyor of Greenwich, required a fee of 17, 52, and on his refusing to pay it, summoned Mr. Entrot before Mr. Arail, one of the magistrates of the metropo-litan police courts. Mr. Trail, on hearing the case, expressed his doubts whether Sche-dule C, part 7, should not be taken in con-nection with Schedule L, and the attached building be taken of the rate to which it would belong if built by itself, viz. fourth-rate, and entitle Mr. Browne to the fee for additions and alterations to that rate, viz. 10s.

and alterations to that rate, viz. 10s. Mr. Browne contended, in support of his claim of 11. 5s., that Schedule C, part 7, ap-plied to construction and materials of attached or detached buildings only, and that Sche-dule L, so far as regarded the fees to be charged, is distinct, and that additions or alterations to attached or detached office-buildings are to be taken on the scale of the buildings to which they are attached, and that the building altered

they are attached, and that the building attered being attached to a building of the first class and third-rate, the fee was 11.5s. Mr. Trail, refraining from adjudicating on the question, the parties sought the award of the referees, and Mr. Browne agreed to pay the charges and expenses of the referees. The award was :- "That the fee charged by

the district surveyor for an alteration of an attached building, should be the fee appointed by the said Act to be paid for alterations of buildings of the rate to which such attached building shall by itself belong, and not of the rate of the building to which such attached building is attached."

ROOF-COVERINGS.

The references have decided (on the requisi-tion of Mr. M⁴Leod and Mr. Stow, of Camber-well), that asphalte of Seyssel may be deemed a proper substance for covering a roof or other structure, provided such roof or other struc-ture be wholly composed of, and be upborne by, incombastible matter, or matter indestructible by fire.

EXTERNAL LINE OF FRONTS.

Several awards have been made preventing the erection of shops or other projections, on the fore-courts of buildings, as the same would have projected in the opinion of the referees "beyond the general line of the fronts of the bouses."

SHOP-PRONTS

Mr. Hodges, in altering the Weavers' Arms, public-house, William-street, Bethnal-green, formed the whole front, as high as the firstfloor, in wood-work,---the brick piers between the doors and windows being covered with "11 inch deal to form rustic work." Mr. Hodges considered these might be deemed plasters or

That these parts " are not to be deemed such pilasters or woodwork as are by the said Act permitted, but that any such pilasters, with the entablature above the same, must be executed of the same materials, as are by the said Act directed to be used for external walls, or of such other proper and sufficient materials as the said official referees may approve and per-mit, and so that the same do not overhang, encroach, or drip, upon any public way."

WIDTH OF STREETS.

Mr. Pownall, district-surveyor, having served Mr. Thomas Archbutt with notice that certain buildings in course of erection by the latter on the south side of Bainbridge-street, Oxfordstreet, were not more than 21 feet from the buildings on the north side of the street, in-stead of 40 feet, as prescribed by the Act, the opinion of the referees was sought. They

said Danoridge street, opposite to the units-ings in question, has not been altered, and the thoroughfare of the said street his hot been stopped, the said street is to 'fe deemed to be an " already formed " street, within the meaning of the Metropolitan Buildings Act: and masmuch as the Duildings in question are being built not nearer to the balling of the ball thereto' withe sall of the distribution of the second sec Turthier übbertute overid schwalg their the same are not restrikany tei thir dide gloti specifie an relates to the distance and bath shuthings from the belt dage shuther and bath their init specet." The costs, to be the mich also be interplained to the building a djournist stick ting spinned to the an interior building a wat, wird charged to the mich

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THE BRIDGES OF CHINA

THE BARBAS OF CHINA. THE SIGNAL OF THE SHEET SHE merely apply to this-modern Eastern people, as we shall perevive this the insciant works (very another indexity the pair indexidential and by they surpose even the loss destions what we they deemed thinking particulars to daine of a Do Onioner, " from when work more large this this

a De Ouigner, i from where work most statis information is derived, produlen the pussibility of mistake, at least is die aska feature of The Bridge of Layang, poor as around the Soa in China Actor in to report of tra-vellers, the greatest inder ins the actual is Breeted in a similar way on the bridge is and the Bridt to extend to 26,800 Parts for the length is said to extend to 26,800 Parts for the bridge is and to extend to 26,800 Parts for the bridge is and to extend to 26,800 Parts for the bridge is and to extend to 26,800 Parts for the bridge is and to extend to 26,800 Parts for the bridge is and to extend to 26,800 Parts for the bridge is and to extend to 26,800 Parts for the bridge is a state place of the pillars is meanly 74 foot, the distance of the pillars is meanly 74 foot, the when form the roadway, yourset broads. The distance of the pillars is meanly 744 floot, the latter being 70' feet high, and to forest broad, and threighthered with blobb the best broad, form of triangular prisms, which entend sover the whole beight of the pillars up to the snaa-versal With." The latter (of worve adors than you don't have a the however, anoigh no more then 49 foet, old Paris measure, to the distance of the pillars, and only 41 feet to the breadth and thickness of the transversal elabs-by which, of course, the length of the bridge is reduced one-half. tength of the bridge is reduced one-ball. Even so, it would be an astopishing structure, being rir times the length of the longest bridge in Europe, via. the Pont de St. Esprit, at Lyona. The paraget is, according to some reports, a railing, according to others, a ballas-trade, and, every piller supports a present on

· Voyages à Polting, Millill, die, Mild Bunt Fullerille de sander 1700 à 1991. Paris, 112, 100.

197590 which a lion, 21 feet long, and made of ene

constructed infillutka of white stone, 24-28 fact lang; by 5 for in thicknow. The Bridge of Measurhan, in penarkable, by the ishape of its: pillars, where, sides inse steep: like forthic one, with rounded topois The langths of this bridge is above 2,000.forth. It islands of this bridge with mined michan, The bain, stehes are, 20 feet high; and 22 braid, and shown with a release of eircular form, 50 feet brades or the bridges.

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of eircular form, dd feet buneds of interest 2 The Bridgetof. find-history bien, in the Zake-biany, --in committeele, for, its: likeness to the style of. Roman bridget, hencessly; with that of the Pone, Jenjeuke, riv. Rome, ... Its Hengthis about 550 feet, it consists of three semi-circular marken, if which the middle one form the 40 fet the two enter one 27 fet in smay harfa fett, the two outer onts 27 feet in width, The pillan shout 10 feet brand, are furnished with one mented capitals, which end in the form of chailsteral triangles. The spurs is the framm of chailsteral triangles. The spurs are very strong, and popped for in the stream. On each side of the middle arch, between it and the shark of this adjoining it, is an open-ing in the shape of a stimistropilar arched-over passage, just as at the ancient Pons Janioulus. The whole bridge slopes down very steeply towards the two banks of the river, in form of a the size a context and

of a flat sirely of the second of the story, in form The new bridges of China. are, either of stone-torsof britkusan image, and not con-spicuous for either boldness, design, or dura-bility.

AZINO TO ERDAIRT SHE THE PARTHENON ILLUSTRATED AT THE PARTHENIM ISPUM, 1

a crossel arsbout-sint or y ars y ar I we concated under we described. Mr. Lucas's able model of the Battbeton restored, " just then completed and spurphesed by the truates of the Miscum for the illustration of the Elgin es an e ameeum for ha husting to of the keys gallenya: .(We have new; the gratification to manipa that:a tespend.model of this wooderful building, by the same artist, representing the temple as it appeared immediately after the explanation in 1687, when the Athenian Acto-polic twas beinged by the Venetians under Momening that beinged by the Venetians under Momening thes been hought by the trastees. Monaini, the been hought by the trustees. In this model nothing is introduced that is not perfectly automiticated, and we have a faithful transcript of the temple, as it appeared in its mostimelanchely appear. The presence of theso two motifies has altered the character of the contents, in: an educational point of give, The innormal sculptures; there deposited, for merly disjointed magnets, hardly to the unit inte one whole-mad the spectator, in the degree that he comprehends will appreciate the degree that he comprehends will appreciate the degree

The model are at present screened from public inspection, bat will be thrown open after Christmas, when our readers should pay them an early visit. The length of each model is 12 feet, not nine, as stated in our first notice. notice.

FRENCH STEAM HAMMER.-At the Paris Academy of Sciences, M. Morin described a steam hammer which was shown at the last exhibition of National Industry. From the account given in the French papers, it is an exact counterpart of Nasmytre, which we have on several occasions noticed, 19

ASSERTED ABUSES IN WESTMINSTER COURT OF SEWERS.

REPLY TO WR. LESLIE'S PAMPHLET.

On page 375 of the present volume of our journal, will be found some extracts from the letter addressed by Mr. Letle to the represen-tative vestries, "charging the Westminster Commission with misconduct. Sir James Graham, our readers will remember, forwarded a copy of this letter to the commissioners, and a copy of this letter to the commissioners, and required a reply. A committee to draw up the reply was appointed—consisting of Mr. Alderman John Johnson (the Lord Mayor), Messrs. Willoughby, H. Harrison, T. L. Do-nuldson, W. Hawkes, Frederick Crace, and John White,—and their report is now before us, We shall allow the commissioners to speak for themselves, as we did Mr. Leslie, and let the public judge between them. The report commences by objecting to the interference of the vestries, and asserts that they have no more authority to discuss the manage-ment of the sewers-rate than the Sewers Com-missioners have to question the disposal of the

missioners have to question the disposal of the

poor-rate by the vestries (?) It continues: — "The pamphlet takes a range for its observations of nearly forty years, and combines sweeping allegations with some particular statements, and much personal im-putation, and though there remain but eight acting commissioners of the early period, and the great body are of modern appointment, they are called upon to investigate the acts of their prodecessors, many years after the decease of the able and honourable chairman, as well as of the clerk and other officers, under whose respective authority and care the business was then conducted. We cannot but think that the time of the

court, and of your committee, might have been more justly, as well as usefully, passed in dis-cussing present improvements, rather than past transactions."

The report denies that the commissioners are self-nominated. With respect to the responsibility of the commissioners, it says: "It may be shortly stated, that it is the same as with other courts, their proceedings are subject to the review of all the courts in Westminster Hall; review of all the courts in Westminster Hall; and the law reports, as well as the records of the court, will sufficiently establish the fact that they are frequently made responsible. The commissioners, acting always collectively as a court, can, indeed, only be dealt with as a court, but individual misconduct, at all times, subjects the particular commissioner to the Characterized

Chancellor's supersedens. It is important to bear in mind the constitu-tion as well as actual composition of the Westtion as well as accused composition of the west-minster Court of Sewers, in considering its in-dividual members. The qualification of a con-missioner is a freehold, and the commissioners are the representatives of the freeholders of the are the representatives of the freeholders of the district whose property is subjected to sewers-rate. The choice of commissioners is, indeed, wested in the Crown, through the Lord Chan-cellor, as that of all justices is, because the occumissioners have judicial functions to exer-size; but they are not less the representatives of the freeholders on that account, and practically the commission has always embraced tically the commission has always embraced the great and principal proprietors of the dis-trict, as well as the professional and mercan-tile classes, so that the commissioners actually comprise the great proportion of the landlords within the limit of the commission; whilst in order to secure a due regard to the interests of the great proprietors, their chief professional agenta (heing also freeholders) are great agents (being also freeholders) are generally added to the commission."

"With respect to commissioners unduly pressing on the court their own interests, it must he remembered that it is the interest of must he remembered that it is the interact of the collective body to act on general principles, and that, in so large a number of commis-sioners, individual wishes are certain of being counteracted by the general sense, and it is practically found that the pressing of such individual interest defeats the very object in-tended? tended.

tended." "With respect to the allegations of the con-tracta being a long time in two families, it may be, in the first place, observed, that sewer work is a peciliar description of construction, and was more so formerly than since the introduc-tion of, railroads. I bat it requires a suitable plant and a fame of workmen accustomed to the varieties of poil, and the difficulties of springs, &c.; and it is obvious that parties

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once efficiently provided for "such operations would do the work cheaper and better," and with greater dispatch than ordinary boilders." "It page 5 of the pamphlet, complaint is made that the sever across the Marquis of Lansdowne's garden cost 6,637/. 2s. 3d. 'Now the facts of this case deserve particular atten-tion, not only is illustrating the advantage of employing permanent contractors in sever work, but the occasional results of public ad-vertisement for tenders. "Landars for tenders."

Vertisements for tenders. Tenders for this work were received from Mesors. William Stewart, John Jones, and John Hughes for, 12,7004, and from Mr. Wil-John Hugas, ior, 12, 1940, 8th from Jur. Whi-liam Whitehead, for 8,7984, which so, far ex-ceeded the estimate of the surveyors that they were rejected by the nours, and the work was eventually done by blessas, Bird, their ordinary contractors, for 6,6374, 28, 30, including all

antractors, for 6,644,25, 54, including all outras, With reference to the second, ellegation on the contracts, the point for consideration is, whether the tenders accepted were not the lowest, and if not, whether they were not pre-ferred for a substantial and anfiltient, reason. In 1830, 1833, 1836, and 1841, also tenders, ac-cepted were the lowest; in 1832, Alexandre, Epn-nett and Hust's tender was preserved to Hr. Manafield's; and in 1856, to Mr. Sayist Ac-On referring to the using sectors by the conic to obtain and maintenand proceedings of 1822, which use extraoted in the Appendix No. 5, it will be seen what persent ent pre-ferred to a bubble and antipersent states by the conic to obtain and antipersent states by the conic to obtain and antipersent states by the states the bestimaterials of the set theory but is the world 'to suppres, that the persent by the states are used an abas the briefles that beet the subject of the court's espatial care at the previous meeting, and that Mr. James Mansfield (who by the way we not of the firm of Wigg and Alamatical ' having again pro-duced, such as angle of briefle, and again pro-duced, such as angle of briefle, and the firm of Wigg and Alamatical ' having again pro-duced, such as angle of briefle, and the act the and would not allow to be used on the works of the world mot allow to be used on the works of the sentery,' his tender was not accepted, and Meesre. Bennetit and Hunt's, being the next newlers,' dis tender was not accepted, and Mossie Beausti and Hunt's; being the next lowest, was accepted.

The question here is simply this, whether the allegation on the records was true. We should say, on the face of the whole same tion, as set forth in the Appenting 5 busneting the was, but we have the express subscript of Mr. Dowley, the matroyen at the patient for shying that the bucks and the distribution of field work and it such a with bucks and the new and allow to be used on the winks of the new and and these all the scale used is ide the president of the contract of the clining a kiner tends to mission and the standard of the clining of the standard of the s mlt Anriala

at once faile to the ground at show ad I i In 1926, it will be been in the Appendix No. 6, that AR. Sower had onitied from introden lation, "the carrier way of each introdent and rubbies," MASS shows from the way the fore, provided for an important form of fork, his feider way rejusted, and important form of fork, his feider way rejusted, and important form of fork, his feider way rejusted, and important for Month of that there was a similar unitsion in Mr. Maissoid that there was a similar unitsion in Mr. Maissoid that

not in every suish ones form any present in the estimate of howard or the interference of the ininetes, it is by ions that Mri South and discovered the error of this alteristics, and did

the survey of the error of his allost the former had discovered the error of his allost the former his tender. The lowest particular did not press his tender. The lowest particular did not press his tender. The lowest particular did not press his tender. The lowest particular did not press his tender. The lowest particular did the note of the distribution of a dotting it indexed on There are two industry will sol elisable dots for the one of the distribution of a dotting it indexed on the one of the distribution of the d



and then to take the lowest tender of the parties ao selected.

We apprehend the latter to be the best course för all important works, and emphatically so for sever work, which is concealed from the public eye, required to be durable, and executed with dispatch ; but we do not feel called upon to discuss this at large, for it will be sufficient for the justification of the Commissioners of Sewers to state that her Majesty's Board of Works adopts this course, and that most works of an important character are so contracted for."

"We now come to the comparisons drawn by the writer of the pamphlet between the Works of this Commission and that of Holborn and Finsbury, and we at once repudiate the valling in question the proceedings of another Commission. Composed of able and honourable men, as the Holborn Commission is, we have no doubt that their proceedings are based on a sense of public duty and the public benefit. Having no power to examine into the transactions of that Commission, and furnished only with a few materials for checking the statements in the pamphlet, we protest against the members of this Court being called upon to institute the comparison."

* The comparison made between the works of the two Commissions will more strikingly Histrate the unfairness of the allegations in

The periphet. "Irwill be seen, by the report in Appendix No! 8, that i Holborn sewer of 12 feet 10 inches, sectional area, with 10 feet 6 inches reduced brickwork, is compared with a West-trinster sewer of 15 feet, with 16 feet 6 inches brickwork; and a Holborn sewer of 9 feet 10 inches with 9 feet 6 inches brickwork, is compared with a Westminster sewer of 11 feet 54 inches with 14 feet 4 inches brickwork.

But this is by no means all, as the following comparison of the sites will show :---

| companies of the st | |
|--|---|
| Weelminder Commission. | Holborn Commission. |
| Albemarie - street, St. George's | |
| Cartle-street and Hem- ming's-row, St. Martin's | with { Parkfield-street, 1sling- ton, Battle-bridge, and Holloway-road. |
| Wellington - street and | with New-road, St. Pancras. |
| Berner's-street, St. Ma- | with Battle-bridge, and Hol- loway-road, and Bedford- square. |

Now, here, the constructing of sewers, in a maiden soil, unincun bered with vaults, old sewers, or any of the extraordinary obstructions which present themselves in old streets, is com-pared with those old streets where such diffi-culties occur."

construction of the sewer, but in the difficulty of excavating in a narrow court without damage to the houses on either side. Mr. Leslie states that the 'original report' in this case has been altered, and does not correspond with the copy on the records. We have com-pared, the two, and find that they exactly agree; and there is no reason to doubt but that the report is in the same condition now as when presented to the Court. We have also referred to the rough draft of his report, which has some alterations in it, made by the officer, as is generally the case with such papers ; they do not, however, affect the *bona fides* of the transaction, and were evidently made at the This case, in fact, only affords one more illustration of the difficulty and expense of constructing sewers in the older parts of the metropolis, and that a comparison with a line of sewers in a new district cannot fairly be sewers 1 made.** 39.0

mide, "* * Mr. Bowley mys on this matter, Appendix No. 10: "I would state, that the excess above the estimate arose from the peculiar situation and other circumstances attend-me the work in question. In the first place, I would remark that the waith of the court between the bouses does not ex-ored twelve feet, That the houses are very old and dilapi-flated, and that the front walls (which are built upon brest-buinners, and supported by score, posts, are much out of the perpendicular, and have a tendency, in the event of the foundations Leing disturbed by the slipping or falling of the earth during the execution of the works to the sever, to fall outwards into the court. This necessarily occasioned great of the building given way, the result might have been of the most serious fairtre. To guard against such a casually, it was deemed advasable to strut across the court from side to side, as no to put up raking shores to the work, the internal parts of the buyes, buy ty be interfired with, and to be afterwards

THELBUILDER

What the Sccretary of State will say to the reply remains to be seen; nor are we disposed to offer any supposition at this moment. One most important matter touching the public health, and involving in a great degree the question of the efficiency of the commission or its officers, is the present state of the sewers; and to this, on the part of the public, we feel ourselves under the necessity of calling the immediate attention of the Court. At a meet-ing on Friday, the 19th inst., when Mr. Dowley was called on for his report on the faulty sewers, pointed out by John Phillips, the clerk of the works, he said it was not ready, nor would it be in six months. This would seem inexplicable, but for what occurred afterwards.

r. Leslie stated that he had heard that Mr. M Phillips, in pursuance of the order of Court, had reported 123 sewers in his district as more or less filled with offensive matters, and some completely obstructed ! He thought it was a proper occasion to notice an occurrence of which he became cognizant that morning, in inquiring below what the labourers had been employed in. And this was one case not in Mr. Phillips's district, but in Mr. Morton's. The facts he had clicited were these: that about seven years ago 160 feet of second size sewer were built in the New-road, by the trustees of the Parochial Schools, communicating with the sewer into Devonshire-place. Mr. John White's house-drains, Devonshire-place House, New-road, having become stopped, he entered a complaint on the 28th November last. Since the complaint had been entered, out of the length of about eighty feet, sixty fire loads of silt, said to be Macadamised road-stuff, had been lifted up and carted away, and then about three feet in depth of the looser soil was washed down the Devonshire-place sewer.

Mr. John White said it was very extraordinary; the stuff appeared like putty, it was so tenacious.

The chairman, Edward Willoughby, Esq. tendered his resignation, which was accepted, and Capt. Bague moved, and Mr. France se-conded, a vote of thanks to the late chairman for his past services.

RAILWAY JOTTINGS.

Mr. Gravatt does not stand alone among the engineers in having failed to satisfy the ex-pectations, whether reasonable or unreasonable, of certain railway directors; the managing committee of the Dudley, Madeley, and Broseley Railway have met, and denounced Mr. Giles, their late consulting engineer, in consequence of his failure in effecting the deposits of the plans. They advertise that his services are dispensed with, and they contemplate takink such proceedings against him as counsel may advise. Mr. Blunt, another engineer, is severely denounced by his employers on the Derby and Manchester (Ashbourne) line, and was accused, at a public meeting, of gross neglect in his plans, which have been ex-amined by Mr. Hawkshaw, and found wanting. It appears, from a list relating to the number of schemes for new lines, in which the principal engineers are respectively engaged, that Mr. Brunel is connected with 14, Mr. Robert Stephenson with 34, Sir John Macneill with 37, Mr. Locke with 31, Mr. Vignolles with 22, Sir John Rennie with 20, Mr. Rastrick with 17, Mr. Miller with 10, Mr. Gravatt with 10, Mr. S. Hughes with 9, Mr. W. Cubitt with 11, Mr. Gibbs with 12, Messrs. Birch with 7, Mr. Blunt with 8, and Mr. Braithwaith with Q -On Saturday last the first sod was turned on the Bedford and Birmingham line, at Brogborough-hill, about the centre of the line. The ceremony was performed by the Duchess of Bedford, assisted by Lord Alford ; the Duke of Bedford being unable to attend, having

made good and left perfect in every respect, even to restoring portions of the paint. Hesides these works, others, far more expensive, were obliged to be resorted to for the security of the buildings; for instance, when the ground was in progress of being exca-rated, it was found necessary in many parts to dig out and wheel away the same for the entire width of the cours; in order to secure the foundations of the houses, in the course of which work, whatever brickwork was met with, forming areas, tanks, and cisterns, &c., had to be taken down, and built below the basements of the contignous honses, as also with the view of obtaining a solid foundation upon which to rebuild the areas, &c., it was deemed prudent to fill in at the sides of and over the sever with concrete, and to leave in most of the strats and planks below the level of the paving."

been summoned to London by Lord J. Russell. -An experimental fron carriage is said to be now running on one of the Belgian lines, and it is thought that eventually it will be found cheaper than wood, and as good.— It may be mentioned, as a proof of the immense amount of business now being carried on by manu-facturers of locomotives, that no firm engaged in the trade will contract to supply engines in less than three years. — The operations on that part of Messrs. Grahamsley and Reid's contract on the Newcastle and Berwick line, which is not sublet, have been stopped, in consequence of the workmen refusing to accept of the wages offered them, viz., from 14s. to 15s. per week: The men demand 18s., which have that the opening will be delayed. The portion near Bow-ereck has sufficient most .---- A great -A great number of men are already employed on the Trent Valley line, in the neighbourhood of Rugeley; the shafts for the tunnel at Shugborough are in a state of forwardness, and the general preparations are upth as to justify the expectation that the line will be opened in eighteen months from the present three the The Newcastle and Darlington company are about to commence their branch from Pelaw to Washington (five miles), and the extension of Mr. Stephenson, the English engineer, and Prof. Matteani have, at the request of Prince Demidoff and Prince Ponialowsky, who have ob-tained the grant for the railroad from Florence to Forli, been making surveys, to sacertain whether the said line is practicable. The re-sult is decidedly favourable to the undertaking. The line, if carried out, will form a means of rapid communication between the Mediterra-Railway Company have very recently provided baths, at one halfpenny, for their numerous servants and workmen at the Swindon station. On the first Saturday after the opening, fifteen thousand gallons of water were supplied to the baths, which were in constant use throughout the day. A laundry is in progress, and will shortly be opened by the company.—— The great tunnel connected with the Edinburgh and Glasgow line is near completion; workmen are engaged at it night and day. It is nearly 1,000 yards long. Upwards of three-fourths of it is inished. The other tannel, 170 yards long, is in a forward condition, and the rest of the line having been laid with the sleepers and rails, the company expect that it will be ready for opening by March or April. The opening of the iron bridge over the Wensum, near Norwich, and which connects the Norfolk line with the Norwich and Yarmouth, took place last Monday week. Its weight, including piles, which are of iron also, headed plates, &c., exceeds 323 tons. It is a swing bridge, so as to admit vessels navigating the river. The turning is effected by a wind-lass and the arrangement is ac simple the river. The turning is effected by a wind-lass, and the arrangement is so simple, as to afford a single person full power to work it. The centre forms 16 arches of 33 feet in length, and on each side are the standards, forming piers, surmounted by gas lamps, shew-ing red and green glasses, according to the state of the tide.—Part of the permanent way of the Middlebro' and Redcar line is finished, and it is expected that the whole will be completed by the early part of the summer.

ANCIENT PAINTING IN CARPENTERS'

HALL. A VEBX curious and interesting ancient fresco (?) painting has just been brought to light in the execution of certain restorations now in progress at Carpenters' Hall, London Wall. It is on the wall, at what may be termed the dais end of the Hall, and having been covered up from time immemorial, no one knew of its existence. The subject of it has reference to the craft of carpenters,-representing our Saviour and his father at that employment; likewise (as is conjectured) Solomos overlooking the erection of his temple, and Noah engaged in the construction of the Ark, in separate compartments. An artist employed by one of the archmological societian has been at work copying it, so that it will probably be engraved.

ARCHITECTS SIGNING THEIR DEEDS.

Sin, -- I humbly beg leave to write you a few lines with regard to architects inscribing their hames on their works, lately referred to in THE BUILDER. Melrose Abbey having been likewise noticed more than once in the same journal, I take the liberty of forwarding (and journal, I take the intervy of forwarding (and which I hope will not be unacceptable to you), a copy of an inscription which an old mason pointed out to me in the interior of the abbey. I think it is on a door-head which leads up to the belfry on the south front, but I am not certain, as it is five years since I saw it: --

F. John Murdo, sometyme called was I, Born in Paris certainelye, And had in charge the mason works Of Sanote Androges, the High Kirke : Pray to God and Mary baith To keeps this boly Kirke frae akaithe.

I am, Sir, Se.; ABAM PATERSON. · Brockhamgreen, 16th Dec., 1845.

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OPENING MEETING OF THE SOCIETY FOR THE ENCOURAGEMENT OF ARTS, MANUFACTURES, AND COMMERCE.

" On the 17th inst. B. Bond Cabbell, Esq., ⁽¹⁾ On the 17th inst. B. Bond Cabbell, Esq., ¹**F.R.S.**, one of the vice-presidents, took the chair, and an address from the council was read by the secretary. The council congra-tulated the society on the anspicious com-mencement of their *ninety-second session*. Uning the recess the society had undergone a "complete reorganization, and the new system "of management proposed by the council had been almost manimously confirmed by two general meetings; so that the society being "this renewed in youth, would, it was antici-pated, display all the vigour and energy of a field influence of an old one. "It was the intention of the council to add

It was the intention of the council to add largely this year to the value and number of the premiums. In the fine arts, the mechanical the premiums. In the fine arts, the mechanical arts, the manufactures, agriculture, and com-merce of the country, rapid improvements were in progress, which it had been the peculiar province of this society for nearly a century to encourage and direct, and in which nearly 100,0007, had already been expended by it with 'great public advantage. In the present session many valuable subjects were about to be offered for competition by premiums; and so 'farge's a number' of important papers were now coming forward for notice, that the council be-lieved the suspices under which this session commenced were unusually bright, and they therefore' had to congratulate the members upon the improved prospects of the society. The first communication read to the society.

The first communication read to the society was a paper on certain improvements in con-structing the locomotive engines and permanent way of railways, with reference to the question of wide and narrow gauge, by Mr. J. G. Bodmer, formerly of Manchester, now of London.

formerly of Manchester, now of London. In this paper the author examines the ques-tion of the relative merits of wide and narrow gauge; he ascertains that the question is not one either of relative safety or danger, but that it resolves itself altimately into this inquiry: — Which gauge will admit of the most perfect means for obtaining high velocities with greater regularity and economy? At present, the admits, the broad gauge has the advan-tage in more powerful and speedy engines. But he then proceeded to shew that by placing the cylinders outside, and by in-creasing the fire box and flue surface in the minner he proposes, and by adopting the principle of compensation as in his double piston locomotives, high velocities may be obtained with security; safety; and advan-tage. In short, that as powerful an en-gine in every way may be placed on the narrow gauge as on the wide one, and one equally well adapted to high velocities. He equally well adapted to high velocities. He when went on to shew how the chief limit to increase of power, and the corresponding in-crease of weight in locomotive engines, concrease of weight in focomotive engines, con-sist wor so much in the construction of the "engines as in obtaining a permanent way, suit-"able for the scipport of such enormous loads. By these loads travelling at high velocities, conclusions are produced, which derange the perminent way, and are at present the chief, sources of danger and cost; and the chief limit to the speed. He approves of the tri-

angular sleeper originally invented by Rey-nolds, and he proposes to use a modification of that on a larger scale as a longitudinal bearing. He also proposes that the breadth of the rail should be so increased as to diminish the continual attrition so destructive to wheels, and procure greater durability. In the conclusion of the paper he suggests that an experimental railway sught to he constructed, either at the expense of the Government or of the joint railways, for ascertaining the best means for giving the increased velocity, which the public are beginning to demand, in the best manner. The paper gave rise to a long discussion, which elicited the opinions of engineers and scientific men present, on the merits of Mr. Bodmer's plan. The next paper read was a sequel to the former, by the same author, on improved crank axles and axle boxes, by which greater security and economy are obtained in railway trains running at high velocities.

CITY ANTIQUITIES. MR. TITE U. MR. BOACH SMITH.

SIB,-It is, doubtless, much more convenient and easy to Mr. Tite to assert and re assert, and to make a brief and final reply, than to substantiate and prove the truth of the statements he has made relative to my researches. If he imagine his charges are proved, or are capable of being proved, either by his own efforts to adduce facts to give a colouring to his assertions, or by any admission made by me, I suspect he is the only individual who has empfortured the last four number of Ture carefully read the last four numbers of THE BUILDER, and arrived at such a strange conclusion.

clusion. He has not only totally failed in making out a shadow of a case to justify his conduct, but he has hinself established, by most glaring and serious mistakes in dates, and in the consecu-tive occurrence of particular circumstances, his ignorance of the real state of the very matter in question. I not only said from the first that his charges were false, but I maintain that his own statements prove them to be so; and, had I not believed that he had been im-posed upon, and had too easily lent his ear posed upon, and had too easily lent his ear to idle and silly tales, I should have termed his charges wilfully false.

If Mr. Tite had given me an opportunity of meeting his accusations at the meeting of the Institute of British Architects, or had had the manliness to attend the meeting of the British Archaeological Association to which he and six of his friends had been invited to hear my exposition of the monstrous absurdity of his assertions, and when, had they been true, he he would have heard some curious instances of the manner in which valuable antiquities have often been collected far from the place at which they had been disinterred. Mr. Tite's re-searches, I suspect, have not led him to ramble far from the site of the new Royal Exchange, in he would net dishlare ar effect to disor he would not disbelieve, or affect to dis-believe, the fact of such objects being often found many miles from the site of their ex-humation, and often after the lapse of con-siderable time. A friend of mine, living in the suburbs of the metropolis, collected upwards of four hundred Roman coins, which had been deposited close to his house in dirt and gravel brought from London. Will Mr. Tite venture to say, that the industry and in-telligence of this gentleman, which saved from utter destruction objects of interest to science and history, " would have afforded no institution for not restraine the articles the justification for not restoring the articles so found to the proper authorities." The anti-quities I obtained, under almost similar circumstances, were not procured by the agency of Mr. Tite's servants, or those of the Gresham committee, although Mr. Tite may find it needful to bolster up his case by the invention of such notions in order to condemn them as my "admissions." In short, Mr. Tite has propagated stories which I have exposed to the world as unfounded in truth ; and he now tries, instead of honestly confessing his error,

tries, instead of nonestly contessing his error, or taking some stops to prove his assertions, to concoct something agreeable to himself, and calls it my "admission!" Mr. Tite still disputes my right to the leaden medalst, and talks about the "principle of property." Why does he not induce his patrons to institute an action at law for its re-

covery? Simply because he is well aware that the Joint Greeham Committee never possessed and never had any right to it. It became my legal property when it was presented to me by the legal owner, before, I think, Mr. Tite had any connection with the Royal Exchange, or any particular prospect of being appointed architect to the new edifice. It became both legally and morally mine, when from a dirty bit of worthless lead I created it an object of interest to the antiquary, and of envy to the illiberal and narrow-minded.

I heg leave to explain my meaning of the term "collesquea," which Mr. Tite seises upon in order to make allusion to the British term Archæological Association. In his speech to the Institute of British Architects, Mr. Tite laid strong stress upon the activity of "collectors," who secured all the city antiquitie for their own collections, to the great mortifi-cation of "city authorities." The only persons who have collected, that is to say, who have understood and preserved the precious remains understood and preserved the precious remains of antiquity, which for many long years, "city authorities" (proper authorities Mr. Tite terms them !) have regarded as "rubble and rubbish," are Messrs. Kempe, Gwilt, Newman, Chaffers, and Price, and these must be (in-cluding myself), the "collectors!" Mr. Tite referred to. If not, who are they? These gentlemen I feel proud in calling "my col-leagues." Our labours are partly before the public. If health and leisure permit, I hope before long to render such a complete account before long to render such a complete account of our stewardship, as will not be discreditable to our exertions to preserve the city antiqui-ties from the vandalism of committees, and the whole tribe of "city authorities," and from general profound ignorance and indifference. This account will include a full, and chronological detail of circumstances connected with increase detail of circlinstances connected with the excavations, made on the site of the Royal Exchange, the length of which, even were not your patience exhausted, world be an objection; perhaps, to its insertion in your pages on the present occasion.—I am, Bir, &c., O. Reace Suite.

Liverpool-street, City, Dec. 20th.

CAMBRIDGE CAMDEN SOCIETY.

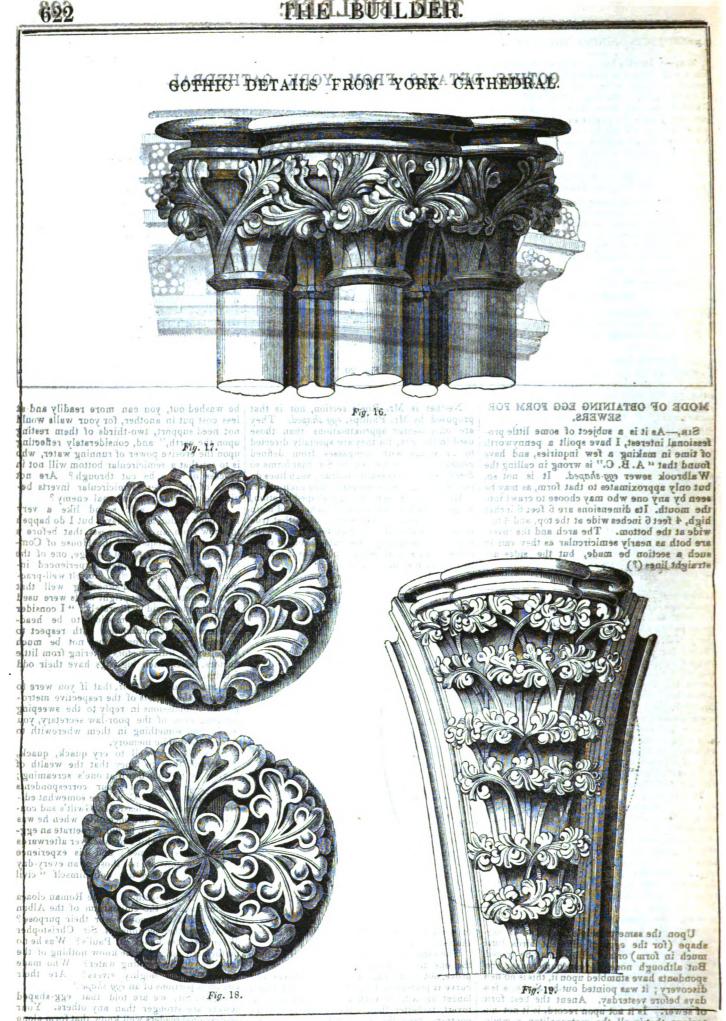
THE committee of this society have just issued a report of the present state of its issued a report of the present state of its operations and prospects. From it we learn that they have appointed A. J. B. Hope, Esq., M.P., M.A., Trinity College, to be chairman ; the Rev. F. W. Witts, M.A., King's College, to be treasurer; and the Rev. B. Webb, M.A., the Rev. J. M. Neale, M.A., of Trinity College, and Mr. F. A. Paley, M.A., of St. John's College, to be sccretaries.

Among the presents received by the society, special mention is made of some original drawings and measurements of St. Helen, Bishopeings and measurements of St. Helen, Disnopa-gate, by Mr. J. B. Gardiner; and some in-teresting rubbings of brasses, lately executed by the Messrs, Waller. Reference is also made to the following grants voted by the committee: towards the restoration of the church of St. John, Croxton-Kerriel, Lincoln; of the Norman Tower at Bury St. Edmund's and towards the re-Building of the Church of St. James, Woolsthorpe, Lincolnshire. Other

Chad, Birmingham, on Sunday last, after High Mass. It was this gentleman who gave to the church of the Holy Sepulchre the stone ultar which occasioned so much litigation."

Mr. Yates of PARKS IN LIVERPOOL. -Liverpool has given 50,000% for the establish-ment of public parks in that town. When he appeared at the recent Anti-Corn-Law meet-ing, he was received with vollies of cheers.

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bus elstiption boost THE CATHEDRAL COTHIC DETAILS FROM THE CATHEDRAL bus ; vidence of YORK. blue In the first part of the present volume,

a selection of details and ornaments from York Minsterie given: (The anexed engravings, of gepatts from the same building, will complete the selection, and afford useful studies for the young b-draughtsman, and modeller. ota: Figures 16, 17, 18, and 19, are all from the

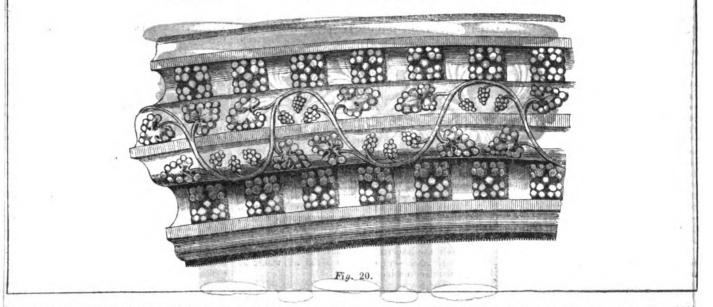
massouth transcept, wand belong, as may easily be

* See pp. 90, 115, 139, 163, 175, and 258.

Figures 17 and 18 represent: two bosses but they are all composed of the same of a the sprandril of the arches, on the west side f south transept. These bosses are of differ-of figure 29, on the next page tepresents some inches to 1 feot, with a projection of 5 in-has. They are the bosses of the new doors recently so the arch of the princi-figure 19 is a bracket 3 feet 7 inches high: in the sprandril of the arches, on the west side of south transept. These busses are of different dimensions, being in diameter from h foot 5 inches to 1 feot, with a projection of 5 inches.

seen, to the first part of the 13th century. The the diameter at the top is 2 feet 4 inches, and crisp and flowing foliage of this period is particularly beautiful. The capital (fig. 16) is 1 foot 3 inches high: the projection is 7 in thes. In the south transet, there are four brackets of this size, with so real of a smaller dimension in the side as its two bosses but they are all composed of the same orns-in the surrandril of the arches, on the west side i mentary top apole of



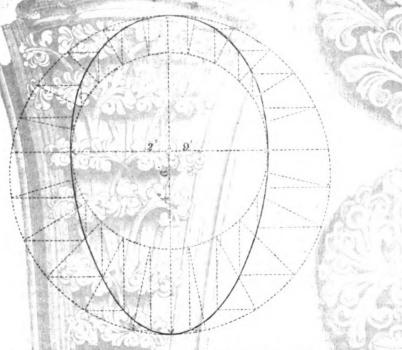


MODE OF OBTAINING EGG FORM FOR SEWERS.

SIR,—As it is a subject of some little professional interest, I have spoilt a pennyworth of time in making a few inquiries, and have found that "A. B. C." is wrong in calling the Walbrook sewer egg-shaped. It is not so, but only approximates to that form, as may be seen by any one who may choose to crawl into the mouth. Its dimensions are 6 feet 6 inches high, 4 feet 6 inches wide at the top, and 4 feet wide at the bottom. The arch and the invert are both as nearly semicircular as they can in such a section be made, but the sides are straight lines (?)

Neither is Mr. Roe's section, nor is that proposed by Mr. Phillips, egg.shaped. They are only nearer approximations than those used in the city, for they are specially directed to be struck with compasses from defined centres; and you well know, Sir, that forms so described are necessarily untrue; such lines do not, and cannot flow smoothly into each other.

Herewith is sent an egg-shaped section, adapted to a height of 4 feet 6 inches, and main width of 2 feet 9 inches, struck upon that true principle, which at once manifests itself to the eye. The bounding line cuts through ordinates obtainable at as many points as judgment or caprice may determine.



Upon the same principle, any kind of eggshape (for the eggs of different birds differ much in form) or any ellipsis may be traced. But although none of your numerous correspondents have stumbled upon it, this is no new discovery; it was pointed out by Serlio, a few days before yesterday. Anent the best form of sewer. Is it not upon record, is it not notorious, that in all the metropolitan commissions, excepting that of Westminster, who are old fashioned Car. 2. Act of Parliamentsewer builders, and who have not, until lately, dared to depart from the legislative wisdom of their country, that, beyond the memory of most men now living, semicircular bottoms have been used? Does not every bricklayer's labourer know it as a grandfather's story? Has it not heen put upon record that such things appear to have been used by the architect of "the Horse guards?" And, after all,

in what amount of perfection does the eggshaped sewer exceed the oblong ?

The same kind of reasoning which assumes the one to be better than the other, would prove, not only that a parabolic or hyperbolic curve is preferable to the oviform, but that a lancet arched, or even an acutely triangular invert, is better than either. If we, on the contrary, take the plea of the Westminster folk, "that segment bottoms are more convenient for walking in," to be of very great importance, that will, if carried a little farther, demonstrate the good old Roman flat bottom to be still more perfect.

Truth to say, each form has its advantages, and I am only surprised that one convenience of a segment bottom, long since remarked by an engineer of no mean more, when advocating its superiority over the semicircle, has not been publicly paraded. "If the bottom should detent the standard set of superior

be washed out, you can more readily and at less cost put in another, for your walls would not need support, two-thirds of them resting upon the earth," and, considerately reflecting upon the erosive power of running water, who is to say that a semicircular bottom will not in process of time be cut through? Are not some of the oldest semicircular inverts beginning to yield to the internal enemy? Doubtless this will sound like a very heterodox notion now-a-days; but I do happen

Doubtless this will sound like a very heterodox notion now-a-days; but I do happen to know from an ear witness, that before a Committee of Inquiry of the House of Commons into the subject of sewage, one of the most eminent and largely experienced inquirers of the present day, himself well-pracused in sewage, and knowing well that segment bottoms and upright walls were used in the district, said deliberately; "I consider the Westminster Commission to be headquarters for all information with respect to sewers;" we, therefore, must not be much surprised at little doctors differing from little doctors, when such big-wigs have their odd fancies.

I cannot but think, Sir, that if you were to obtain all the reports of the respective metropolitan commissions in reply to the sweeping condemnation of the poor-law secretary, you would find something in them wherewith to refresh the public memory.

It is all very well to cry quack, quack, quack, and then to fancy that the wealth of heaven is to pour down at one's screaming; but I dare say that your correspondents E. E. and A. B. C. will be somewhat edified by reading at least Mr. Gwilt's sad confession, that once, and once only, when he was a much younger man, he did perpetrate an eggshaped sewer, of which he was ever afterwards most heartily ashamed; and his experience and his opinions are not those of an every-day man, albeit he does not uub himself " civil engineer."

man, albeit he does not une hinsen that engineer." What are the sections of the Roman cloaca maxima, and of the emissarium of the Alban Lake? Did they not answer their purpose? What are the sections of Sir Christopher Wren's sewers under St. Paul's? Was he no mathematician? Did he know nothing of the laws obeyed by running water? Who made streamlets and mighty rivers? Are their channels portions of an egg shape?

Again, Sir, we are told that egg-shaped sewers are stronger than any others. Your professional readers well know that form alone will not give strength—good materials and good workmanship we the main requisites of any structure which aims at durability; and had these been more attended to, we should have heard more tess of mere form of being s The world does talk of the necessity of all

The world does talk of the necessity of all seven builders being civit emgineers, and being certificated as such will you allow an old man to tell you a little story, once punched into his napper case, and now brought into recollection by poor old Dowley and his man THE BUILDER.

Doull, not answering some crabbed questions, to much a *leur dise* as might have been done by men of more brass, and, mayhap, fess experience.

The Bristol merchants once established a board for the examination of merchant' captains. Well, that all looked very nite and as it ought to be; but mark the result—a vessel needed a captain; a man offered'himself, and, after a few puzzlers, was rejected as unqualified for taking charge of a vessel. But this poor ignorant chap had a friend, possessing a good memory slong with some modest assurance. He crammed well; presented himself, swallowed all the puzzlers in a jiffy, passed a most splendid examination; and was duly dubbed captain. When all was done, he said: "Now, gentlemen, am I to consider myself master of this ship?" "Certainly." He rejoinded, "And a pretty set of fellows you are. I am a tailor. I never set my foot in sait-water in my life; I never saw sait-water but from the pier-head, and you have passed me as fit to be a captain, but have rejected my brother, who is a thorough old mariner,—has been to the South Seas and every part of the globe, and never once ran his ship upon a rock."

never once ran his ship upon a rock.' So ended the Bristol merchants' board of examination: I am, Mr. Editor, with my most Numble daty. "Of the Market States of K. Y. IZZARD.

Marybeld a the state spinetic and an and the second

FOREIGN ARCHITECTURAL AND COL-

Ruins of an Ancient Town in the Caroline Mands, Por the sake of better understanding the importance of this (albeit not yet averred) discovery, a few words on the systems or gan-glia of civilization --- as appearing in architec-tecture and other radii of social life, may be premieed. Amongst the most extended systems of sivilization is the Baddah-Indian; the Buddah-Ohinese; the Greek-Egyptian, Tolteque, &c.; all of which are also mightily and strongly typified in their respective styles of architec-ture. But it must be borne in mind, that if ruins drist in the Caroline (or other South-See) Islands, they would belong to none of the hitkerto known systems of civilization-thenas following from some Sydney periodicals which have come to hand. "Among the Caroline islands is Asconsto, about 11° north lat., disislands' is Ascensed, about 11° north lat, dis-covered some years ago by H. M. S. Raven, and not yet properly laid down in maps. A gentleman who subsequently "attid there for several months---reports the following :--- 'On this island, perhaps on others of the same group, the language of the aborigines is more harmonious than in other islands of the Pacific, a great many works while with yours. a great many words ending with vowels.----There are at, a place called *Tamen*, ruins of a town, now only accessible by boats, the water town, now only accessible by boats, the water reaching up to the staps, of the houses. The huge walls are overgrown with bread, cocoa-nut, and other, ancient trees, and the ruins occupy a space of several miles. The stones of these edifices are laid bed and quoin, exhi-biting a considerable degree of art. Some of the hewn stones are 20 feet long, by 3 feet 5 inches, and no cement or mortar uniting them was observed. The walls have door and window places, and the material seemed to be different from the rock in the immediate neigh-bourhood, "There is a mountain in the island, the rock of which is covered with symbolic figures; and more extensive ruins than the above are shift to trist in the interior. The babits of these islanders exhibit traces of a different social system, water being carried about after meals for washing hands, &c. When about after meals for washing hands, &c. When asked about the origin of these buildings, they say, that ' they were boilt by men now above.'" -Nothing more has been, of late, ascertained about this curfous discovery, or rather asser-tion, than that drawings of them are now on their way to England. 'A few concluding re-marks on philosophical drachilecture may find here a place. "The first relates to the observahere a place. "Phe first relates to the observa-tion, that "the wayes teach up to the steps of the houses."" With 'our present geological knowledge, 'It is by not means required to sup-pose (for the sake of explaining the fact), that a general flood of the Pacific has taken place since these structures were treated. It is the columns of the Temple of Berapis, near Puoz-soli, which will the do it to the plain explana-tion of this fact in shother way. It has em-barrasied archeologists and others for a long

time to explain, whence these lithadomi and other marine shells came, which had fastened on the surface of these columns, at a height of 46 feet above the level of the Mediterra-nean-of course, since they were erected. It has been, however, since ascertained, not only by geological induction, but by written documents — that the Temple of Serapis (and the surrounding terrain), has been first sub-merged under, and, after centuries, sgain up-heaved above the level of the sea; a fact men-tioned also in Prof. Lyell's "Geology." In how far this has also been the case with the South Sea Island ruins, we are, of course, not able to know. A second observation of the kind may conclude our remarks. If men have existed before our historical times—as it seems they have in the present instance, and if they possessed arts and civilization, architectural ruins may yet come within our reach; but merely by excavations, or by the geological upheaving of terrains, submerged under the level of the sea.-- [In recommending this notice to our distant readers, and those connected with the South Sea Islands, we beg to remind them, that if these ruins exist, there is a fame to be obtained by their accurate elucidation. But even the ascertaining that they are merely basalt rocks—or do not exist at all, would be a service to science.] The German Antiquarian Societies.-There

The German Antiquarian Societies.— There is scarcely a German state (some of them very small), where one of the above societies has not been established of late; many receiving even a fixed yearly income from the state, which—to say it by the by, pays and supports all or most public establishments, as hospitals, polytechnic drawing schools, &c. These societies, moreover, have a wider scope than the English hitherto had, calling themselves mostly, "Society for antiquarian and historical knowledge—Gesellschaft für vater ländicshe Geschichts und Alter thums Kunde. As such, every thing relating to the art, history, and the social condition of antiquity or the middle ages comes within their reach; as may be gathered from the following beads, copied from their transactions: "On the proportion of artisans' wages in the thirteenthand fourteenth centuries; on the origin, the regulations, and revenue of the alms-house or hospitals of ——; the mines and meltinghouses of Bohemia in the reign of Charles IV; on the life of the foresters and miners in the middle ages."—It will then appear, that the German antiquarians do not limit their exertions to mere stone, or brick and mortar—but extend them also to the *moral agencies*, which move and shape these things.

Bouch, — Peter Caspar William, Privy Councillor of his Majesty the King of Prussia; Director of the Board of Commerce, Trade, and Architecture; Member of the Council of State—was born at Cleve in 1782, the son of a burging the component of the studies physician. He soon became fond of the studies in which his father was engaged, who, besides his profession, occupied himself with natural and artistical science. Having completed his minor studies at Berlin, he went to the Uni-versity of Halle, where he studied law and polytechnics, and entered, in 1801, the service of the state in the department of commercial and manufactural affairs. Prince Hardenberg first distinguished the talents and business-tact young Beuth, and employed him in his nisterial department. When the minister of ministerial department. When the minister received, subsequently, the orders to arrange the financial affairs of Prussia, and to frame, for that purpose, a new code of taxes and trades' regulations, he made Beuth a member of the commission, which enacted the famous Regeneration Laws of 1810. During the war of 1813, the ministerial *employé* did not stand aloof, and enrolled as a volunteer. After the peace, he was made Councillor of Finances in After the the department of commerce and trade. In 1821 he became a member of the council of state, and director of the board of these departments, as well as that of architecture. During his whole career, Benth stood forth for the freedom of commerce and trade; contending for the principle, that the state had no right of interfering with trade and commerce, except if a general inconvenience was to be apprehended from misapplied egotism and the adulteration of articles of food, &c.-Beuth was amongst those, who considered it wrong to

• We copy from the extensive German work : "Konversations Lexicon der Gegenwark. Leipzig, Brochhmas, 1839-1843, pp. 484.

protect any trade or occupation in preference to an other, be it by taxation or other infringement, by which, after all, only the great built of consumers is injured. He proclaimed, that it was the bounden duty of the state—to direct and lead the numerous class of tradespeople by improving, by all means possible, their tech-nical, artistic, and acientific culture, and thereby enable them to compete with other nations in those articles, which lay most within their grasp (landesthümlich). The Prussian government encouraged and assisted him in every shape possible—and commissioned him with the execution of his plans, the list of which is really stupendous:—the foundation of the Trades' Institute at Berlin, and the provincial trades' schools; travels of distinguished pupils of the former to foreign parts, at the expense of the state; the publishing of costly and other useful works (hand-books)—especially pat-terns for tradespeople and manufacturers examples for mechanics, masons, and carpenthe execution of the great state buildings ters; and other structures in the Prussian empire; the introduction of manufactural improvement from the United States, England, and France, which Beuth had become acquainted with during his several travels to these countries; the distribution of costly, novel, approved in struments and implements, in numerous specimens, as patterns and prizes amongst thế tradesinen of the provinces; the establishment of industrial exhibitions; the total reconstruc-tion of the Berlin Academy of Building isto a general building school of the empire. For the sake of stimulating school of the empire. For artisans to self-siction (1), he founded, in 1821, the Association of Industry of Prassis (*Pereis für Gewerbsfleiss in Preussen*), of which he acted as chairman. When King Friderle William IV, ascended the throne, his majesty if endeavours to elevate the social condition of th nation by every possible means, found an adequate instrument in Bouth, who was subsequently knighted by the king, and con-tinued his useful exertions until a late period. His merits were acknowledged by diplomas and other distinctions at home and abroadto which the vote of their medal by the Royal Institute of British Architects has been the last, but not the least honourable token bestowed on a really practical and metal minisen

would, rather than expatiate on dinner-party anecdotes and the like, tell us the comparative unatomy of *public works*, and regulations re-lating thereto, abroad—the public would have, perhaps, less to read, but they would know more. Every inhabitant of this metropolis must have been shocked, more or less, by the must have been shocked, more or less, by the great bustle and confusion which very often take place on our *free* bridges, like the London and Westminster—the more so, as persons carrying more or less bulky loads, beams, &c., are often obstructing the passage, tossing and *reflecting* at each other to the, at times, bodily lesion of children and others. The good folks of Dresden and Prague, where the two finest bridges in Europe have existed for the last 400 years, have rather cleverly guarded against such inconvenience so far, at least, as it is possible. Either by regulations enacted to that effect, or a silent understanding amongst the bridge goers -- both, however, beyond the memory of present generation, it has been achieved, that persons passing in the same direction, keep the same side of the bridge. Thus, the flood moves on; still the bridge. same flood, but there is no tossing, no reflecting at each other-there is a circulation. đ moving elements, but no chaos. As this journal has, one amongst the first, taken ap the huge matter of metropolitan improvements, we may be permitted, briefly, to state how this could be effected here, without even seemingly encroaching on ideas of private liberty. a set of boards be put up, stating that such an arrangement is *requested* to take place from a certain date. At that period, a few bradles might be stationed at the four approaches to the bridges- to direct people the way they have to go. Thus, the next morning, the thing would be in a fair train, and as soon as we (the swinish multitude) be once ked that way-why, we should follow up the thing as ıl. usu

The verbiage of "modernity." -A strange incongruity begins to dawn oh our mind-if bigitized by **穿鱼虎」时间上到星界**。



we consider how much toe have talked, and how little doug. Our mountains of paper destined for eternity—tally but badly with our alructures, which tumble down, even before they have been completed. We have hundreds of books on the elevation of mankind—but the dwellings of our humbler classes resemble rather, styes than any thing else. We have miontely analyzed effluris and every sort of waste, and offsl—still they are accumulated beneats and around our cities, to make expe-riments, as it were, in anima vili. Our legisriments, as it were, in anima vili. Our legis-latures have debated most profusely every po-sition and principle of public and private law, in the abstract and concrete—save one, how to In the abstract and concrete—save one, how to make mankind live and exist in the way of human beings. Well may one be inclined to repeat to all of them: "Be gone—make room for practical men." [Isis of Oken.] "The "Journal of Public Instruction" of Paris contains the following remarks on the late regulation of the "university" system in France: "One of the main objects for which free how combined into societu—is education:

nfen have combined into society — is education; pay, these terms may be considered, after all, a synonymous; as an imperfect system of public Instruction implies a defect in the social condifiup, of the nation, and, therefore, in the government. Aside the greatest freedom of private instruction, the duty of the state to afford one, normal and most extensive to the mass of citizens, stands paramount. Nay, most of the highest walks of science, literature, and of the highest walks of science, literature, and art cannot be taught but in establishments be-lighting to the mation—the state. The surest control, however, as well as the surest cor-rective for any abuses or deficiences in the public schools (of any kind), are private insti-tutions, as well primary as of a higher stamp; as a people wall instructed even elementarily, will pever allow that error should remain en-thropied in the sanctuary of knowledge, or its public establishments perverted and made use of for sordid and private purposes. The Council of for sordid and private purposes. The Council of University, now called into renewed ex-istence, as one taken from amongst the number of teachers of every grade, will be the surest constitutional check on the abuses or the faults of the whole educational system of France." J.L noon and exponentions, deco

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595 THE BRITISH ARCH & OLOGICAL ASSOCIATION.

DEC. 17. The treasurer in the chair. Nearly Wenty thembers were elected, among whom were: Monsicar Gaizot, the Viscout San-tarem; Messicurs Ch. Lénormant, Letronne, Vietor Hügti, Baron Taylor, &c.

or Belgie Weapons in bronze, discovered in levelling a huge barrow on the estate of the Hon. Col. G. D. Damer, at Carne, Dorset, and Major Sheppard a stone celt picked up near Gissbury, Sassex! Mr. Syer Cuming commu-Giesbury, Sossex: Mr. Syer Cuming commu-niteated an account illustrated by enlarged drawingsofrumerous pilgrims' signs, medalets add tokens in lead, collected during excava-tions for the foundations of new London bridge. Mr. Planché read a letter from Mr. bridge. Mr. Planché read a letter from Mr. Mirk Anthony Lower, relative to further dis-coveriés at Lewes, which will be described in detail at the hext public meeting of the asso-ciation. Mr. Burkitt exhibited some ancient deeds recently brought to light, relating to

Mr. W. H. Brooke, of Hastings, who had been engaged on behalf of the association to prepare drawings of mural paintings lately discevered in Battel church, communicated his report thereon, and exhibited his coloured sketches, thirteen in number. The report give an elaborate account of the discovery, which, but for the prompt exertions of the cen-trial committee would have been fruitless to the antiquarian world, as the remains were quickly re-plastered and re-whitewashed, and no efforts were made by local authorities to preserve a record of them. They comprise many subjects, such as the trial and condem-nation of our Saviour, Michael conquering Satan, shints, martyrs, &c., executed in a good style of art, and so closely resembling in many is those discovered in Preston church, near Brighton (See Archaologia), that Mr. Brooke is findlined to ascribe them to the same artist.

1Mir. Crofton Croker, the secretary, informed the meeting that he had received a polite and kind reply to his application to Lord Lincoln,

of the association, at the suggestion of Sir Samuel Meyrick, relative to the abstraction of the sword from the statue of Charles I., at Charing cross. This lordship had ordered an investigation to be set on foot, and at the same time stated, that any representations made by the association, relative to the better conserva-tion of ancient national monuments, would at all times meet his attention. Mr. Jewitt exhibited drawings in illustration

of a paper on the history and architectural peculiarities of St. Giles's church, Shrewsbury, which, by reason of its length, was postponed to the next meeting. Mr. Price inquired whether the committee

had received any intelligence of the threatened distruction of Bittorn manor-house and grounds, the site of the Roman Clausentum, near South-

ampton, by a proposed line of railway from London, Guildford, and Petersfield. Mr. Roach Smith congratulated the associa-tion upon the great activity of its members, in anticipating the disastrous effects of the spirt of destructiveness, and in sounding an alarm in time. The committee had already received information respecting the subject of Mr. Price's inquiry, and were prepared to adopt measures which he had no doubt, would preserve the interesting and classic spot (the property of Mrs. Stuart Hall, an associate of

the association), from violation. The meetings were then adjourned to the 14th of January.

COMPLAINT AGAINST THE DISTRICT SURVEYOR OF LEWISHAM.

THE following communication has been ad-dressed to us by Mr. Badger. SIR,—Having had my attention directed to the leading article of the last number of your publication (13th inst), containing strictures upon several of the metropolitan district surveyors, and in which also is inserted a letter with the signature of Nicholas Metherell, in with the signature of Nicholas Metherell, in reference to a certain transaction concerning myself, who therein gives a palpably incorrect and unfounded statement of particulars, I have to request that you will, as an act of justice, disabuse the public mind by finding a place in your columns for this communication and the your columns for this communication, and the subjoined letter of Mr. Whitmarsh, of the Green Man Hotel, Blackheath, who has kindly fur-nished the facts to which he alone was privy as regards myself, and who also disclaims the honour of Mr. Metherell's acquaintance. Mr. Whitmarsh's letter is in my possession, and may be seen by any party desirous of fur-ther satisfaction on that point. I shall only ibstance, in proof of the accuracy of the facts particularized with such exemplary minuteness particularized with such exemplary minuteness of detail by your correspondent, and upon whom you seem to have placed full reliance, Mr. M. gives the dimensions of the sign-board 5 feet by 3 feet; it setually is found to be 11 feet 8 inches by 3 feet 6 inches, and is fixed with bight budgets and not four as teted. eight holdfasts, and not four, as stated. These matters, however unimportant in themselves, yet I deem worthy of notice, as shewing the value of the testimony upon which the attempt has been made to affix a stigma upon my conduct.—I am, Sir, &c., CHARLES ROBERT BADGER.

Holwell-place, Blackheath-road, 17th Dec., 1845.

Blackheath, Dec. 16th, 1845. DEAR SIE,-I beg to state that you did not desire to exact thirty shillings for the fixing of the sign-board against the stable wall which Mr. Tomlinson rents of me, but stated, that he was liable for that amount, not having given notice. You also stated, that you had to make up your monthly account, and that your charge was tan shillings, which I paid you for Mr. Tamlinson. — I remain, yours truly, Thos. Whitmansh.

To C. Budger, Eeq., &c.

Wefeel it accessary first to remark, that preions to: the secting of these letters, we were ignorant of the hantep of the district survey complained (of)not being aware that Mr. Badger's district included Blackheath.

We immediately seat to sur informant re-quing that the should we statiste his statement, or retract, it, and the following is his replyment to barrie

SIR,-On the 3rd of December Mr. Tomlineon selicited my opinion, after shewing me

the sign board, saying the district surveyer has made me pay los, or fixing it; be wanted 30s., and if I can I will trounce him for it (meaning prosecute). I told Mr. Tomliason that I could not sufficiently inform him sy as that I could not sufficiently inform bin by as to guide him in any ulterior, proceeding, but that THE BUILDER would perhaps give an opinion if asked. He then requested me to write, and be repeated that he had paidl 05, and that the district surveyor wanted 30a., and he shewed me the receipt for 10s. On the appearance of my statement in THE BUILDEE on the 13th imitant, I went, to him, and he again said what I had written was correct. On my receiving an intimation from THE BUILDER that Mr. Badger had denied the truth of my statement in ZHE

the truth of my statement, I again went to see Mr. Tomlinson, who wished me to go with him and see Mr. Whitmarsh on the subject (till now I was not awars Mr. Whitmarsh had any thing to do in the matter), Mr. Whitmarsh then told me that Mr. Badger had called, and in a very humble manner, supplicated him to enable him (Mr. Badger) to clear himself be-fore his brother district surveyors, who were disposed to cansure him for what soppared in THE BUILDER. Mr. Whitmarsh said he did then write a statement for him, in some degree altering the appearance of the complaint and the same under the same under the same under the same under the same under the same under the same under the same under the same the wrote for her. Badger

was a mere act of kindness 10 AA MOITS OF On Friday last, I received from Mar Badger a letter threatening legal proceedings, unless I woold insert in Tum Bustone ademist of the truth of my statements and mediaght M. Mr. Whitmarch and Mr. Toulisson shay ap-peared surprised. Mr. Toulisson soid, Mr. Badger did demand 30s, and Mr. Whitmarch assured me that whatever he spight have writ-ten on babil of Mr. Badger was from the ten on behalf of Mr. Badger was from the peculiar manner in which he was soligited, and on account of his situation as a public officer! Mr. Whitmarsh adds more, " if I am in give evidence in this matter in a count of justice and on oathy I shall be obliged to may that the demand was tantamount to a demand of 30m and if what I wrote on his babalf, he hald an

6, Bath-terrase, Horsemonger-lane, We do not publish this letter Willingly? If we have no desire to infure any wife, fift Mr. Badger Baving called on us to insert his denial, we feel bound to allow our correspond ent to speak for himself. "We trust side Fally and the star allowing will induid hat this and other circumstances will induc Mr. Badger to take a different view of his position, and administer the divises confided to him with more moderation and a less exact. ing spirit, than he has heretofore exhibited. and

TO TAKE PAINT OFF OAK PANELLING.

ment to an add to

SIR,—I beg to inform "F. R. Lu," that the best and only method, of removing paint from, oak panelling, carving, security as follows and make a strong solution of American points (which can be bought at any colour shep, and, make a strong solution of American potential (which can be bought at any colour shep, and, resembles burnt brick in aungerance); musi-this with sawdust, and make a sort of pests, and spread it. all over, the paint, which will become softened after a few hours, and is cashy removed by washing with cold water. If, alters the panelling, &c., is dry, it becomes, cmokedes apply a solution of hot, size, with a prush, which will bind it well, together, and make it better for varnishing, as well as destroy, the better for varnishing, as well as destroy, the is erroneously called the units, all if f, it, it, wishes to make old dark oak pate in colour, and judiciously if he requires it to be dark, let him stain it with dregs, of sheek ink and hurs, umber mixed. As it can say that they answer most successfully, as my speciment of old oaks furniture and carvings shew in both of any star-furniture and carvings shew in both of a she wer under a tirst try these plans on oak not do much value, as to make all spece in old oak care, practice, and attention. The any Sing Security London, Dec. 20th, 1845.

627 REPORCHING SALES OF WOOD

NOTES IN THE PROVINCES. Dilation i han and and the province of the providence of the second state of the Didatatatoneli , vila and and the PROVINCES. Trom the transpts. its was is the three full-Bixed figures; in the centre is a figure of Christ, aurnounded by a halo of glory; on each side of our Lord are seen the figures of St. Peter and St. Cuthhert, the patron taints, to Peter and St. Cuthhert, the patron taints, to to whom the church is dedicated. The gardes the papeoite the west end of the church at Edy, has the parchased as a site for a new museum; which is also to be the library of the literary or the parchased of the heiding is to be 01.1 the presential d. North stars to the present and the inter-sound (inter-m-quay for loading bad westerister This plan , will have bad while the start of a start of the start

and improving the existing market-place at Hall, of transferring the same to a niore eli-gible site outside the docks. L. " « An Old Builder,

Diskip Han REN & Ann OALSON ON THE Convin Sands"21 The Delt correspondent of the Shipping Sazene, "In" Hener dated the Oth Inst., says that Mr. Bush's lighthouse has

completely disappened; and further that "from ...dhe girsunatinge of their being a large fleet ...dhe sirsunatinge of their being a large fleet ...dhe sirsunating the flowman together, with a thick atmosphere, I have use here alle force it since Friday last, and therefore cannot exactly pay when it fell." a anofoyeee

THE BUILDER.

COLOURED DECORATIONS TUINO

Ar a meeting of the Decorative Art Stictety, on Dec. 10th, a continuitation of the paper " On Chromatic Decorations 'a England," Teported p. 588, aug., was read by Mr. E. Cooper. "He commenced by noticing the profitesive regard for coloured decorational "schildfull further the Norman and Cothic goodies," sittifuing to the simple effect produced by the political birble the rich grandeur of the earlier "schildd-grass windows at York and classibler," with the at-tendant painted decorations, on "ceilings" and walls, and the pavements of encaustic Hies. He attempted to elucidate the principles which predominate in the latter examples, by explain-ing the general application of the three pri-mary colours, and the more usual construction of the designs. He then noticed the stainedglass windows at King's College Chapel, Cam-bridge, where the whole of the subject and detail are designed with a feeling of the re-naissance (it is supposed by Guillo Romano). He said, from personal observation, that nearly all the coloured glass is what is technically termed pot-metal, and that where it is not so, as probably in the finest colours, it is enam-elled glass, and he observed that drawing and abadim ware allowed unart that an identificant elled glass, and he observed that drawing and ahading were placed, upon these, as is evident from their disappearance in unany cases, leav-ing the pot-metal only. A disconsinance was aljuded to, arising from the colours of back-ground and foreground in pictorial subjects being of the same intensity, and a method of producing light and distance by removing more or less from the thickness of the enamel, whe suggested as applicable to windows, and a specimen was exhibited. The lecturer then commented on the agreeable effect of stainedglass windows where the walls are of a simple or uniform colour, but urged careful consider or neutorm colour, but urged careful consider-stion when the walls are decorated with pic-tures; he observed that the altar-piece by Raphael, at King's College Chapel, is entirely neutralized in effect by the overwhelming coloured rays of light entering in every direc-tion urgers is the available of Cochition upon it; the earlier examples of Gothic windows were said to allow the transmission windows were said to allow the transmission of a greater proportion of pure light. The incient coloured glass had no superiority over that now producible, and the prevalent opi-pion of interiority had arisen from the greater use of painted glass instead of pot-metal, or enamelled glass. After some remarks on encaustic tiles (from specimens from Reading Abbey), and the peculiarities of Gothic drawing, colouring, and sculpture, he described some examples of transition or mixed Gothic and Italian characters, in the ceiling of the Chapel Royal, St. James's, and the chapel of Bishop West, in Ely Cathedral; and sho the fine specimen of baronial decorations fately, restored at Hampton Court. He then took occasion to censure the manner in which some of the coloured decorations in the spandrila below the windows of the aisles in Westminestmin ster Abbey have been destroyed or concealed by the misplaced and absurd mythological moby the misplaced and absurd mythological mo-numental tablets, and he noticed some fine and well-known examples of "high tombs," richly ornamented with marbles, colour, and gilding. The decorations of the Elizabethan period, were noticed, and a fine specimen of embossed silvered and coloured leather hangings from

the manor house, Billingshurst, was exhibited. The introduction of Italian architecture by The introduction of Italian architecture by Charles, led to the consideration of the ceiling of the Banqueting House, Whitehall, painted by Rubens; also of the works by Thornhill, Verrio, Sanguerre, and Charles de la Fosse, at Greenwich Hospital; St. Paul's, Chatsworth, and Montague House, now the British Museum. At present, he remarked, there appears to be a struggie for supremacy between the Gothic and struggle for supremacy between the Gothic and Italian styles; and 'in his criticism' on some Italiaa styles; and in his criticism of "some recent decorations, expressed an opision that the imitations have been unwetcoessfully ap-plied; instancing those in the Temple Church as partaking too freely of yellow orbroogs tint; the Ruyal Exchange its being too paise for their purpose return for the transferrer of the ornament; develd of any supportion of stating or design, and matchiel with the base state any effect that the archite is determined as grant plated. After some is determined by grant of is views on domestic decorations of the pred-sent day, Mr. Cooper submitted at the some to the applicability of Gothic decorations to the applicability of Gothic decorations to

"modern partitad; with more possible activates to the The Palace of Westminster "IN The mitted this factor was been been been at the witted this factor was been been been at the witted this factor was been been been at the with the style; and sober with the the the factor at the style; and sober with the the the factor at the style; and sober with the the factor at the style; and sober with the factor at the style; and sober with the factor at the style of the safet of the manner share to be the style was a style to more the present day at the the share we we the the the style of the style the safet of the to the of the present day at the the share the the the style of the style share the sober style of the the style of the style share the sober style. The constrated by asserting was the termate, the the design is at the dist the sober style. at found in the deing mi of P steading Semme Sensoving, and others, what uses f stheater Sinteofine, and others, datafitetes interations degree "of" Wellsteinent, Better is men i piner and partiting, and attorde dipertitable instation in partiting, and attorde dipertitable instation of lowed - its which a possible a distribution to and it was observed this; is descally some apon regard "was observed this; is descally some apon regard to the descerve of the some apon the to the well-lided whip advistig the some grates and "owed the start about the some apon found in Gothie served a start about the made against Gothie bar bart is gring a disting the second the domestice in a disting the second the domestice in a disting the second the start about the second the second the second against Bothie bar bart is gring a disting tine's recently published formation in defined glass, contending thes is is resplited of other of high art, we're questions high a spirited to spin-dows, which have a variety of descriptible to spin-at which have a variety of descriptible of the will " and," indelover, have vogitio to strand or "divide the attention with the indi-copie with By shather up agains in of spinary as "at "Totk?" We'd' in the up and the indis-copie with By shather up agains in of spinary as "at the considerable of the table of the the indis-tion of the state of the table of the the indis-tion of the state of the table of the the indis-tion of the state of the table of the table of the definite would be form the boot in the boot of the and that considerable in the indiate. tine's recently published boustriss ion di and that considerable salary winkel be. feind between Parsian carpets and Delhi shawls, and the best arrangements of coloured decoration from the elewath philips for teenth centuries. The meeting adjourned to the 14th January

Alound Hand Hand next. ARCHITECHURE IN TINCHOW

ARCHITECHUR Parts of TANKAN AND ARCHITECHUR Parts of TANKAN AND IN a letter from Parts of Martin (Martin A) In a letter from Parts of Martin (Martin A) ublished in a recent pumper of the second the following remarks open and the first difficult "Among the three fine art, Thinkin, with p-ture, and architecture, perhaps Urret difficult can less compete with France, if the second than either of the observe of the second than ender may well be set of article for the secondary pictorial merit, we can produce better works by its means than our borners compliabment. I call to part at the second a secondary pictorial merit, we can produce better works the second the second to be art, which nevertheless them for the restrict compliabment. I call to part at the bolt of the sect, which nevertheless them for the restrict the section of the of the second the balance certainly bargs core to be the second setter works the second the difference of the second second out them in the second the second section of the second the second second out the first of the second the second second out the first of the second second could be the second the second second the convert, appear to me the second second second the of the second the second second the second the second and the edition second the second the second second the second the second second second the inter and beingethe do support and the weight supported. The second second the difference second the bill the second proportion between the immense spin second the second shall conced the exterior of the Madeleine more immaculate them its present and the fead placed upon the bille of the Madeleine more immaculate them its present and the weight supported. The weight and therefore shall concede the exterior of the Madeleine more immaculate them its present and the weight supported. therefore thall concede the exterior to the Madeleine more immisculate than its presiding saint; though its pediment forms is very barsh outline, and the whole temple surflet for the third bary out of the dark list like joints of the third bary —that bizarre taste which our heighboure have for variegation preside out of the third bars of the third bars is their dispertion of the third bars of the the substance of the third bars of the third bars of the third bars of the third bars of the third bars of the third bars of the third bars of the third bars of the the substance of the third bars of the the substance of the the the substance of the the substance of the the substance of the the substance of the the substance of the the substance of the task of the task of the "deenter as one stomparet we became an initiality, "deepite-the profinsion of anyelighmends it has preserved et stortes dayer of egilderys i convers, painters; ad glasite of gasicif an inceiffalar styles licenterically appared to the stort day and ordonnance outside. A far worse discard

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.J.O.A LARGEST FASTORY BULLDING IN THE WORLD.-The central part of the Portsmouth (American) steam factory, which is 204 feet

LARGEST FAGTORY BULLDING IN THE WORLD-The central part of the Portsmouth (American) steam factory; which is 204 feet loos, is now, two thirds up, and, should the weather configue favourable, will be covered be-fore Christmas. The eastern wing, of 150 feet, will be built in the spring; and the western wing, of the feet will probably be built in the course of next year. The centre part is to be six stories high, the wings five stories; heighs of the lower story '13 feet, of the other stories 12 feet the length of the front will be about four acres of flooring in the "Portshouth factory". Number of spindles, "60,000 i number of operatives 1,200 to 1,500. In the rear two parallel buildings, two stories high, will be extended 100 feet hack from the main structure, the boiler house is to be erected. The foundation of the chimes, which is to be 140 feet high, is laid, and is in progress of free-tion. A gentleman who has been travelling the main structure, the boiler house is to be erected. The foundation of the chimney, which is to be 140 feet high, is laid, and is in progress of free-tion. A gentleman who has been travelling the main structure, the boiler house is to be are the for is all Manchester in this state, which is 440 feet in length. There is nothing in England to "to compare with it.— Portsmouth Journal. "A genose place of an at house and factories, informs in that the largest building the has seen or heard of is all Manchester in this state, which is 440 feet in length. There is nothing in England to "to compare with it.— Portsmouth Journal. "A genose place of structure, is nothing in england to "to compare with it.— Portsmouth Journal. "A genose place are party lately given by the anoname blat as a chime and samest house is a bound with the writehed state of St. Michael's church main the city, was incidentally mentioned; when, in the writehed state of St. Michael's church is few minutes, the multicent sum of about of 150L was subscribed towards its restoration. We, trust that this class in this courty.

bin Wentrust that this good beginning will be out warmaly seconded. If the work be judiciously, uniquidartaken, St. Michael's church may be dergendered an edifice of considerable beauty and the judernst. Its tower is now one of the finest un different. Its tower is now one of the finest un different. Its tower is now one of the finest un different. Its class in this county. - *Gbut* To the Meridan and the off of the finest uniquidartaken, *Chronicle*. To the Meridan and the off of the finest and difference of the finest and the seatthe seatth off towns is being made application at the off of the Builder, '' & York-the Meridantistic of the finest and the seatthe seatth off towns is being made application at the off of the Builder, '' & York-and difference of the finest of the finest of the finest of the finest of the seatthe seatth off towns is being a dished to all application at the off of the Builder, '' & York-and difference of the finest of the finest of the finest of the proposed branch rail-and difference of the finest of the finest of the finest of the proposed branch rail-and difference of the seatth off towns is being made application at the off of the finest of the seatth off towns is being a dished town down and seatthe of seatthe and abatter of seatthe se

Tomte PATHO century pone of the great cities of the presen day were paved, except Rome and Cordova day were paved, coopt Rohe and Cordova Pariacid and any this advantage, according the Rigord, physicias and historias to Philippe Auguste, who, relates that the king, being at the window of his palace, which comminded a view of the Step, perceived that the cer-riages manuffing the palace, which comminded a view of the step, perceived that the cer-riages manuffing the bire diffused a most offensive addur, which induced him to issue an order for the paring of the streets, not with standing the expense, of it, the dread of incurring which, he was aware, had hitherto defarred his predecessors. Since that period the city took the name of Paris, instead of its aloughs. Even London was not paved at that time, many of its principal streets were not thus improved till the 15th century. Holborn was done in 1417. Dajon commenced the paving of the streets in 1391. In 1285 an order from Philippe-le-Hardi commauded the citizens of Paris to pave and sweep the streets before their houses at their own expense; but before their houses at their own expense; but this mandate was so badly executed that in 1309 the city was swept at the public cost, under the inspection of the police. Till the fourteenth century, the inhabitants of Paris were suffered to throw, every nuisance from the windows, provided they cried out three times "Take care "This license was Inter-dicted in 1377, and still, more strictly in 1395. An order was also issued to prevent pigs run-ing through the skeets, in consequence of the accident which happened to the young Kings Philippe. That prince, returning from Rheims where he went to be crowned, while passing Saint Gervais, a pig sashed between his horse's, legs, and threw him down. The king fells backwards, and, in a few days, died of their injuries he had sustained in the fall.—Shorpe a London Magazine. before their houses at their own expense; but London Magazine.

BUILDER.

CHURCH ARCHITECTUBE.—A work of sement value, illustrating the various styles of wood-1 work in church architecture is at present in progress. The author, Mr. Bury, proposes to give perspective views and measured depi-tails of ancient pulpits, lecterns, stalls, screens... roofs, and other wooden fittings, engraved-by himself from his own sketches and meas-surements. A good work on this subject have long been called for, and it is to be hopedy that Mr. Bury will be encouraged to perse-vere in his undertaking; and that one new suit may be the preservation of drawings offi-many valuable relics, which, in spite of all efforts, are from time to time disappearing... The first part is now very nearly completed. CHUNOM ARCHITECTUBE.- A work of se The first part is now very nearly completed, and we are able to say, that the execution of the work will be in accordance with the im-portance of the subject. The book will be \$104. and each part will contain about 21 plates.

ARCHITECTURAL ANTIQUITIES OF SCOT-LAND. — We learn with much gratification, that the illustration of Scottish antiquities, with both pen and pencil, is at last about to be undertaken in a manner worthy of the subject. undertaken in a manner worthy of the subject. Fifteen years ago, Mr. Burn, the architect, mouted the subject, prompted solely by desire to see the antiquities of his country efficiently pourtrayed, but was unable to bring his project to bear. It is now, however, to be undertaken with his assistance by Mr. Billings, and pro-mises to be a most important work. A limited edition will be issued, with copious details for the professional man. Messrs. Blackwood are the publishers. Bourn. Mr. Burford's panorama of this

are the publishers. ROUKN.-Mr. Burford's panorama of this interesting city gives a faithful and wonder-fully effective representation of it, and as a work of art, merits great commendation. These who have not seen Rouen, and those who have, will alike derive pleasure from a visit to the gallery in Leicester-square.

NOTICES OF CONTRACTS.

APPROACHING SALES OF WOOD, &c.

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TO CORRESPONDENTS. F YouT

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Books. Received, "I." " An Old Builder," "Car-bon," "J.S.," "G. Brummitt," 'Surveyor," "Q." "The cost Congress of the start of the cost errite and the second second

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Just publiched, a Merr Edition for 1845, price 4s. A XTON'S BUILDERS'PRICE (500K, containing 11,000 Prices and Memoranda con-d with Building, and the wheat and the Tottopolitan BOOK, con with Build ling Act. WEALE. nildi

J. WEALE, High Holbers ; SIMPKIN, MARCHAL, and Co., GROOMBRIDGE and SONS, and SHERWARD and Co., Pitcmoster-row.

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SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cot-ton, Woollen, &c., from Decay.

TESTIMONIALS,

ton, Woollen, Rc., from Leczy. TESTIMONIALS, From THOMAS GRAMAN, ESQ., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London. "After making several experiments on wood prepared by the solution of chloride of sinc for the purpose of preserva-tion, and given the subject my best consideration. I have come to the following conclusions. "The wood appears to be fully and deeply penetrated by the metallic salt: I have found it in the centre of a large prepared paving block. "The atl, although very soluble, does not leave the wood y easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by effor-essence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood is ex-pased to the attacks of insects, such as the whiteant in India, which I believe would be repelled by the poisonous metallic salt. "I deer being long macerated in cold water, or even boiled

posed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt. "After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of sinc; which I confirmed by Mr. Toplie's test, and observing that the wood can be permanently dyed from being clarged with a metallic mordant. "I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and woold refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently re-tained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the rises of wood, and destroy the solubility, and prevent the tendency to decomposition of the asotised principles it contains, by entering into chemical combination with them. (Signed) "THOMAS GRAHAM." "University College, 25th October, 1845. From Professors BEANDE and COOPER. "Ista,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date. "We are now enabled satisfactorily to corroborate the

of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date. "We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The ennyas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber. "We have also lately compared the atrength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained ne injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question. "In regard to the several samples of different apecies of wood above adverted to, cach of which was cut into two, one half being imbude according to the directions of your speci-fication with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinian of the effleacy of your process as a preventive of dry ret, and similar sources of decay; the unprepared specimens tre manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.--(Signed) "WILLIAM THOMAS BRANDE. "JOHN THOMAS BCOPER.'' "To Sir William Burnett, R.C.H., F.R.S., Ac. &cc.'' "To sir William Burnett, R.C.H., F.R.S., Ac. &cc.'' "To sir William Burnett, R.C.H., F.R.S., Ac. &cc.'' "To sir William Burnett, S.C.H., S. Ac. &cc.'' "To sir William Burnett, S.C.H., S. Ac. &cc.'' "To sir William Burnett, S.C.H., S. Ac. &cc.'' "To sir William Burnett, S.C.H., S. Ac. &cc.'' "To sir William Burnett, S.C.H., S. Ac. &cc.'' "To si

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