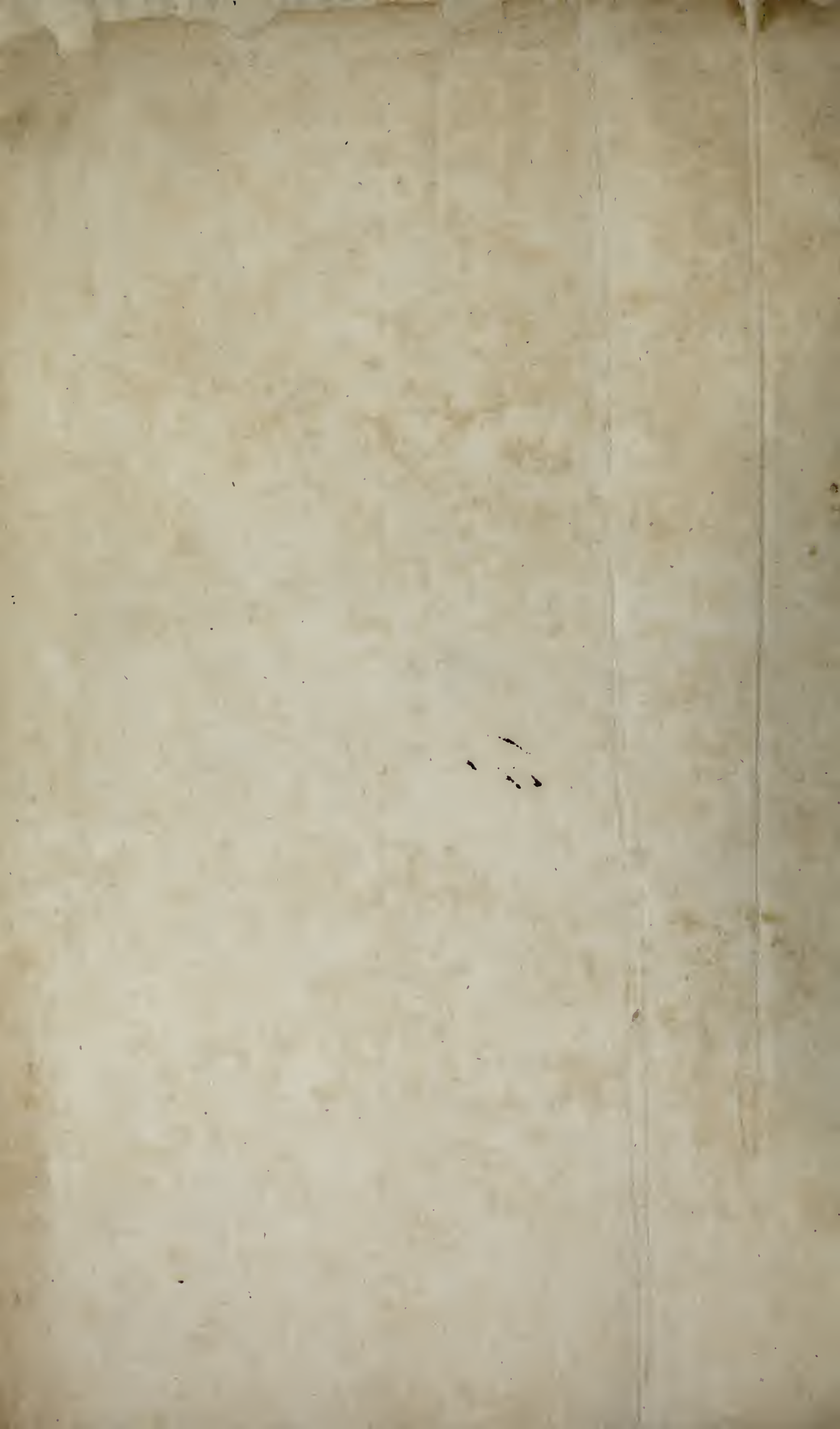


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1827









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To the most Noble Lord

Richard Boyle

Earl of

BURLINGTON and CORK. &c. &c.

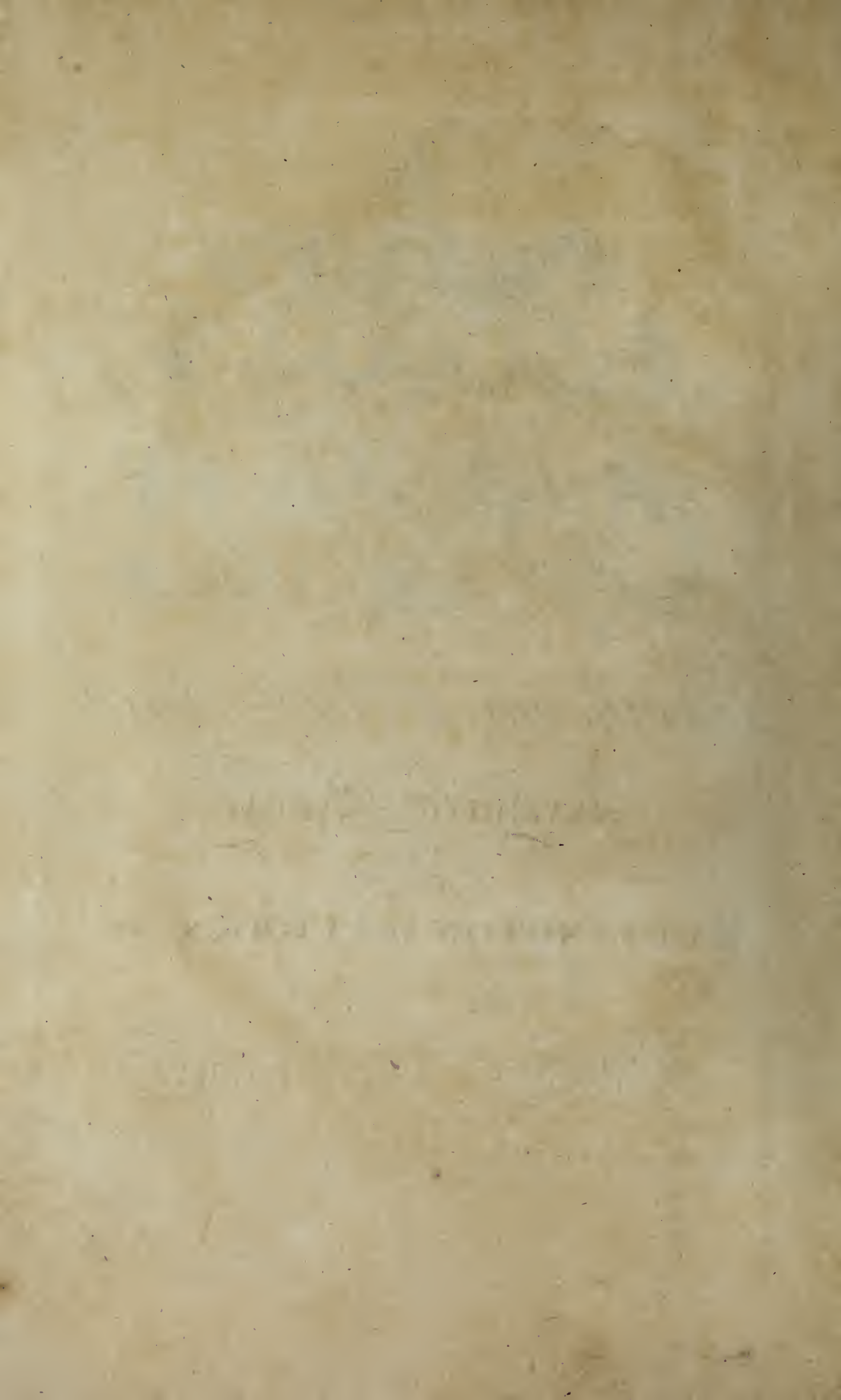
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Design'd by Palladio



B. C. Sulp.

T H E
A U T H O R
T O T H E
R E A D E R.



S my Genius prompted me to pry into the Beauties of Architecture, so I followed, from my Youth, the Dictates of Nature, and made that Science my favourite Study; and having always entertained the Opinion that the antient Romans had by far excelled all those who came after them, not only in various Arts, but particularly in Building, I took Vitruvius for my Guide and Instructor, he being the only antient Writer whose Works have been preserved upon this useful Subject. I afterwards sought out for all such Ruins of antient Edifices, as have resisted the Waste of Time, and the wild Havock of Barbarians; and having found them much more amusing and worthy my Attention than I at first imagined, I began to measure their various Members with

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ii The AUTHOR to the READER.

the utmost Accuracy and Application. And discerning afterwards that even their most minute Parts were performed with all the Regularity imaginable, and in a most beautiful Proportion, the Inclination I had to pursue my Enquiries was so much increased thereby, that I travelled divers Times to various Parts of Italy, and other foreign Parts, on purpose to find, by the Remains of some antient Erections, what the Whole must once have been, and to give the Designs of them. When I perceiv'd how much the common Method of Building vary'd from the Remarks I had made upon the abovementioned Structures, and what I had read in Leo Alberti, Vitruvius, and some other excellent Writers since his Time, as well as those I myself have lately practis'd, with the Applause and Approbation of such as were pleas'd to employ me, I thought it an Undertaking suitable to the Nature of Man, who is not born merely for himself, but likewise for that of his Fellow-Creatures, to publish the Designs of those Structures, in the Collection of which I have employed so many Years, and expos'd myself to such various Dangers; and to set down as compendiously as possible what ever I thought most worthy of Observation; as also those Precepts which I myself have always follow'd, and still do in all my Erections. And herein my principal Aim was that all my Readers might be fully instructed how to make use of such Things as should be justly laid down in them, and supply, as Occasion required, whatever should be either deficient or wholly omitted. Thus Men by degrees will learn to lay aside the extravagant Abuses, the barbarous Inventions, and needless Expence, and what is of greater Importance, to prevent the various and frequent Ruin to which many Fabricks have been expos'd.

pos'd. And what induc'd me the more to this Undertaking, was, the great Number of Persons who at this Time apply themselves to the Study of this Science; many of whom have been mentioned with Honour in the Works of Georgio Vafari Aretino, that excellent Painter as well as Architect; whence we may justly hope, that the Art of Building will soon be so far improv'd as may be of general Advantage, and also in Time be carried to that Pitch of Perfection, which in all Arts is principally sought after. We seem to have made considerable Advances towards it in this Part of Italy, since not only in Venice, (where all the liberal Arts flourish, and which City is the only Exemplar, as it were, now existing of the Roman Grandeur and Magnificence,) some Fabricks are now Built in a good Taste, from the Time that James Sansovino, a celebrated Architect and Carver, first introduced the beautiful Manner, as is manifest from the Palace nella nuova Procuratia, (not to mention several other of his justly admir'd Performances,) which is perhaps the most costly and magnificent Edifice that has ever been erected by any of the Moderns; but also in several other Cities of less Note, and particularly in that of Vicenza, which, though not very extensive, is notwithstanding sufficiently rich, and full of Inhabitants of the brightest Capacities. Here it was that I first had an Opportunity to put in Practice what I now publish to the World for general Advantage. In this Place are a great Number of beautiful Edifices, as well as Gentlemen, Admirers of this Art; who, for their high Birth and extraordinary Talents, may justly be ranked among the most Illustrious; such as John George Trifflino, the Glory of our Age; the Counts Mark Anthony, and
Adrian

iv The AUTHOR to the READER.

Adrian de Thieni, Brothers, Sig. Antenore Pagello, and several others, who have acquired immortal Fame, by the beautiful and magnificent Fabricks which they have left behind them. There are now living in the same City Fabio Monza, a Gentleman of universal Knowledge; Elio de Belli, Son of Valerio, celebrated for Painting in * Brooch, and cutting of Chrystal; Anthony Francis Oliviera, who, besides his Proficiency in several other Sciences, is an excellent Architect and a Poet; his Poem entitled *Alemana*, written in Heroick Verse, and his House at Boschi di Nanto, in the Territory of Vicenza, are Proofs of his Qualifications in both; and lastly, to name no more, Valerio Barbarano, a curious Enquirer into the several Branches of Architecture.

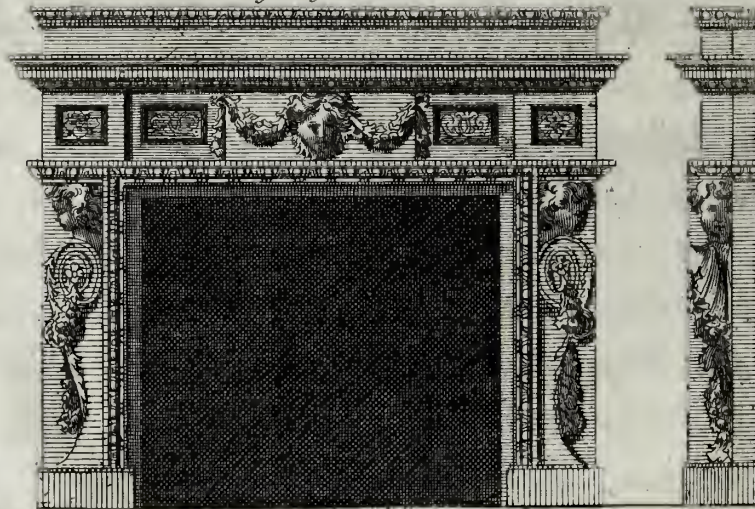
But to return to my Subject; as I fully intend to communicate to the Publick the Fruits of my Study and Labours, in which I have been employed from my Youth upwards, in searching out, and measuring with the utmost Exactness, all such antient Fabricks as came to my Knowledge, and being desirous upon this Occasion to write a Concise Treatise of Architecture, in as distinct and methodical a Manner as possible, I think it proper to begin with Private Houses, it being reasonable to suppose that these first gave Rise to more spacious and ornamental Buildings. Besides it is very probable that Men lived at first seperate, and after a solitary Manner; but soon finding themselves at a great Loss for want of proper Assistance, in order to obtain true Happiness (if such a thing is to be obtain'd in this World).

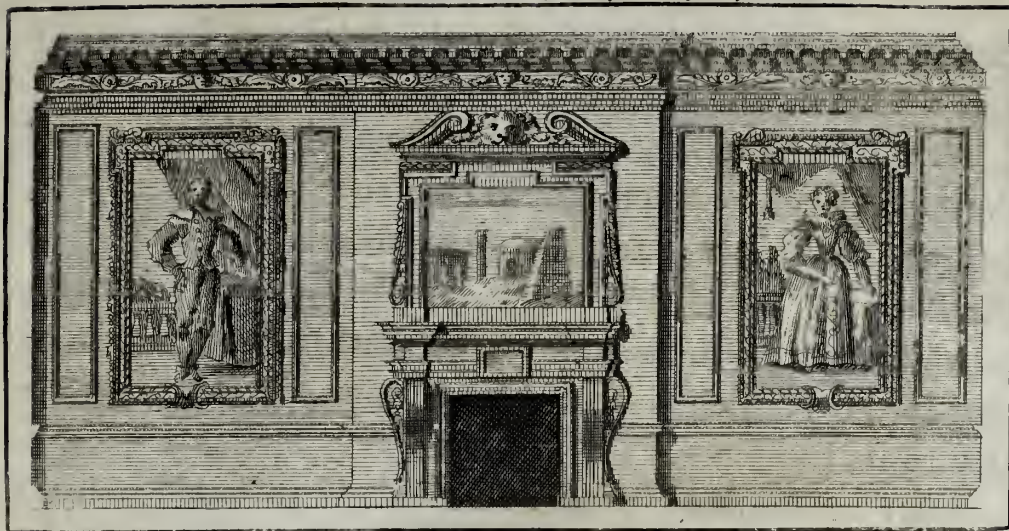
* Designs wherein one Colour only is employed, and the Lights and Shades disposed on a Gold or Azure Ground, and is generally an Imitation of *Basso Relievo*.

they naturally sought after, and loved the Society of other Men: Thus, from a few scatter'd Houses, Villages were made, and Villages, in Process of Time, became Cities; and in these they erected Squares and Publick Structures. And since, of all the various Branches of Architecture, none is more useful, or more universally practised, than this, I shall first treat of Private Houses, and afterwards of Publick Buildings. I shall likewise cursorily touch upon Streets, Bridges, Squares, Prisons, Basilica's or Courts of Justice, Xisti and Palæstra's, or Publick Places for the Performance of bodily Exercises; on Temples, Theatres, and Amphitheatres, Arches, Baths, Aqueducts; and, in short, on the Method of fortifying Cities and Sea-Ports. In discoursing on all these, I shall study Brevity, and shall only give such Instructions as shall appear to me most necessary, and employ those Terms of Art only as are now in Practice among the most able Architects. And as I myself have little to boast of but the extraordinary Diligence and Pains I have bestowed, and the Affection and strong Inclination with which I have pursued both the Theory and Practice of what I now make publick, if my Labours have not been in vain, I desire not only to be thankful to the Almighty for his Goodness to me, but gratefully to acknowledge, at the same Time, my Obligations to those who, by their beautiful Inventions and Experiments, have left us the Rules of this Art; since they have thereby opened a more easy, as well as expeditious, Way to the making of new Discoveries, and that by their Assistance we have attained to the Knowledge of many Things which perhaps had otherwise been for ever concealed.

This first Part I shall divide into two Books. In the first I shall discourse on the several Materials which are requisite, and when provided, how and in what Manner they are to be made use of, from the Foundation to the Roof; for all which I shall lay down general Precepts, which will serve both for publick and private Erections. In the second I shall treat of the Qualities of Buildings, suitable to the various Stations and Conditions of Men; and in the first Place of those of Cities, and afterwards of such Situations as are proper and convenient for those of Villa's or Gentlemen's Country-Seats, and the Manner in which they are to be dispos'd. And as we have but very few ancient Originals of this Nature to copy after, I shall insert the Plans and Uprights of several Noblemen's Houses erected by me in severall Places, together with the Designs of those of the Antients, and of the principle Parts in them, after Vitruvius's Manner, and after which they themselves built them.

By Inigo Jones





C H A P. I.

Of the several Particulars which are to be observed, and the Preparations to be made, before a Builder begins to work.



VERY Builder, before he begins to work, ought carefully to examine all the Parts of the Plan, and Uprights of the whole Structure. *Vitruvius* tells us, that in every Fabrick three Things are requisite, *viz.* *Conveniency, Strength, and Beauty*; for, without them, no Building can merit our Esteem and Approbation.

First, That Edifice which is defective in Strength, though made never so commodious, or which is never so strong and commodious, if it wants Beauty, cannot justly be called perfect. It will be commodious if every Member or Part of it stands in its proper Place, a due Regard being had to Dignity and Use; as for Example, when the Galleries, Halls, Chambers, Cellars, and Garrets, are artfully disposed.

Secondly, A just Regard will be had to *Strength*, when the Walls shall be all carried up directly regular, thicker below than above, and their Foundations firm and solid. Exact Care must likewise be taken to fix the upper Columns directly perpendicular over those below, and to make all the Openings, as Doors and Windows, exactly

exactly over one another; so that the Solid may be directly over the Solid, and the Void over the Void.

Thirdly, The *Beauty* will arise from the Harmony and Correspondence between the Whole and its various Parts, and of the various Parts between themselves; for then the Building will appear one complete and perfect Body, in which one Member answers to another, and all together to the Whole; so that it may seem absolutely necessary to its Existence.

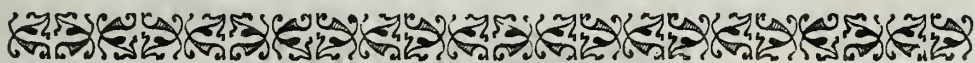
After a due Examination of all these Particulars, upon the Model or Draught, an exact Computation must be made of the whole Charge, and a timely Provision made of the respective Materials which are requisite, in order that the Building may be carried on with Vigour: For if Materials are got in due Time, the Building will deserve Commendation, and his Care will likewise be of the utmost Service to the whole Structure; and if the Walls are worked up equally, they will settle in the like Proportion; and this will prevent those Crannies, in a great Measure, which are found in Buildings that were built only by Fits and Starts.

In the next Place, when you have made choice of the most able Artists, in order that the Work may be well pursu'd under their Direction, you must then get a sufficient Quantity of Timber, Stones, Sand, Lime, and Metals; on all which it may not be improper to make some cursory Remarks.

First, For the Framing of the Floors of Halls and Chambers, so many Joists must be prepar'd, that the whole Frame being laid, the Space between the Joists may be the Breadth of one Joist and an half; then as to Stones, the Jaumbs of the Doors and Windows must be no larger than a Fifth, and no less than a sixth Part of the Vacuity or Opening. If the Building is to be ornamented with Columns or Pilasters, the Bases, Capitals, and Architraves may be of Stone, and the other Parts may consist of Brick. With regard to the Walls, Care must be taken that as they rise they may diminish proportionably in Thickness; which Remarks will be of singular Service, as they will enable
you

you to make an exact Estimate of the Quantity of Materials to be provided. But as I shall treat of these several Particulars more at large under their respective Heads, these general Hints, which I have here given, will be sufficient for the present, and serve, as it were, for a kind of Sketch of the whole Building.

But as an equal Regard is to be had to the Quality and Goodness of the Materials, as to the Quantity, the Experience of such as have built before us will be of great Service upon this Topick. And though *Vitruvius*, *Alberti*, and some other judicious Writers, have laid down very useful Rules for the Choice of Materials, I shall take Notice however of such as are most essential, that nothing may be deficient in the following Treatise.



C H A P. II.

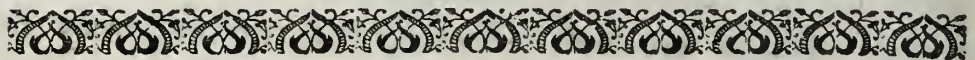
Concerning TIMBER.

VITRUVIUS tells us, in the Ninth Chapter of his Second Book, that Timber ought to be felled in *Autumn*, and during all the *Winter* Season; for then the Trees have a Strength and Vigour conveyed to them from the Roots, which, in *Spring* and *Summer*, was dispersed among the Leaves and Fruits; they must likewise be felled in the Moon's Decrease, for then a certain Moisture, which is very apt to engender Worms, and rot Timber, is spent and dried up. Timber ought at first to be cut no further than the Pith, when it must be left till it be perfectly dry; for then the Moisture will all sweat away which engenders Putrefaction. When it is cut down, it must be stor'd up in some Place where it may not be exposed to the Heats of the Sun, or to the Injuries of the Weather; particularly such Trees as rise out of the Ground without being planted; and it must be dawb'd over with Cow-Dung, to prevent its splitting. It must never be drawn in the Morning whilst the Dew falls, but in the Af-

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ternoon;

ternoon; neither must it be work'd if 'tis very wet or very dry; for in one Case it will be liable to rot, and, in the other, will make but very awkward Work; neither will it be dry enough to be wrought into Planks, Doors, and Windows, in less than three Years. Such Persons as propose to build, ought to advise with such as are well skilled in Timber, and enquire into the Nature thereof, and what kind of it is fit for such and such particular Uses. *Vitruvius*, in the Chapter above cited, lays down very useful Instructions upon this Head, not to mention several others who have written very largely on the same Subject.



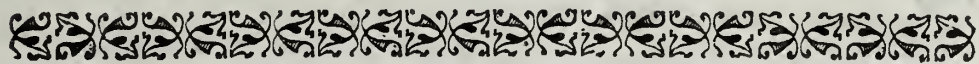
C H A P. III.

Concerning STONES.

WITH respect to Stones, some are natural, and others artificial; the former are dug out of the Quarry, and are used either in making Lime, or in raising Walls; we shall take Notice of the former hereafter. Those Stones which are most proper for Walls, are either very hard, as Marble and Live Stone, or soft, as Free Stone. The former must be wrought as soon as they are dug up, which are then more malleable, and done with less Trouble; for all Stones grow harder by being expos'd to the open Air. But for those of a soft Nature, particularly if their Qualities are unknown; as when Stones are raised out of a Quarry which was never opened, they should be dug in Summer, and be shelter'd from the Weather, whereby they will harden by degrees, and afterwards be able to stand the Shock of the most violent Tempests. Another Reason for keeping them so long is, that you may collect such as you find damaged, and dispose them in the Foundations, and employ those which are not so in such Parts of the Building as are in View; for these will last a long Time.

Artificial

Artificial Stones are generally called, from their Form, *Quadrelli*, or *Bricks*, and are made of a chalky, whitish, and soft Earth, which must be clear'd from Clay and Sand. The Earth must be open'd in *Autumn*, and be temper'd in the *Winter*, and be made into Bricks the *Summer* following. But if Necessity obliges you to mould them in *Winter*, you must cover them with dry Sand, and with Straw, if you mould them in *Summer*. When they are made, they must be set to dry a considerable Time: A shady Place is therefore best; for then the Outside and Inside will be equally dried, and this will require full two Years. According to the Quality of the Building, and the Uses to which they are to be employ'd, they are to be made larger or smaller; and this was the Practice of the Antients. Those which are thicker than ordinary should have Holes bored in them in several Places; for then they will both burn and dry the better.



C H A P. IV.

Concerning SAND.

THERE are three Sorts of *Sand*, viz. *Pit-Sand*, *River-Sand*, and *Sea-Sand*. The first is the best, and is either of a Black, White, Red, or Ash-Colour; which last is a sort of Earth burnt by Fire, enclosed in the Cavities of Mountains, and is found in *Tuscany*. In *Terra di Lavoro*, in the Territories of *Baia* and *Cuma*, there is likewise a kind of Sand which *Vitruvius* calls *Pozzolana*, which being thrown into Water, cements immediately, and makes excellent Mortar. Among the various kinds of *Pit-Sand*, the White is found by Experience to be the worst; and of *River-Sand* the best is that which is found in rapid Streams, and under Water-falls, because it is most purged. *Sea-Sand* is the worst; but if us'd, it must be that which is of a blackish Colour, and shines like Glass; but

but that whose Particles are biggest, and lies nearest the Shore, is better than any other Sort. Pit-Sand, as it is of a fatter Substance than the rest, makes a more tenacious Cement, and, tho' it is apt to crack, is frequently made use of in building long Vaults, or raising Walls. River-Sand is proper enough for rough-casting of Walls. Sea-Sand, being soon wet and soon dry, and of a saline Quality, which soon melts away, is very improper to sustain any considerable Weight. That Sand is best in its Nature, which, when bruised between the Fingers, makes a crackling Noise, or if, when laid upon any white Substance, neither fouls nor stains. That Sand, on the other Hand, which, mixed with Water, makes it thick and muddy, or that which has been a long Time exposed to the Weather, is very bad, because it will retain a considerable Quantity of Earth and rotten Moisture, which is very apt to bring forth Shrubs and other spontaneous Plants, which are of great Prejudice to a Building.



C H A P. V.

Concerning LIME, and the Method of working it.

STONES, of which we make Lime, are either dug out of Hills, or extracted from Rivers. Those Stones of the Hills which are dry, free from Wet, brittle, and which have no Mixture of any Substance in them, are good, and which, being wasted away in the Fire, lessen the Bulk of the Stone; the best Lime is made of the hardest, soundest, and whitest Stone, and which remains a third Part lighter than the Stones of which it was made, after it is burnt. There are likewise others of a spongy Nature, which make very good Lime for rough-casting of Walls. Certain scaly Stones are also dug out of the Hills of *Padua*, which make a kind of Lime that is of very
great

great Service to fuch Buildings as are expofed to the Weather, or in the Water; for it foon grows hard, and is very ftrong and durable. Such Stones as are collected up and down, and have been expofed a long Time to the Injuries of the Weather are not fo proper to make Lime with as thofe which are newly dug out of the Quarry. Such likewise as are taken from a dry Pit are not fo good as thofe from a moift and fhady one; and the Brown are to be rejected before the White. Such Pebbles as are found in Rivers and rapid Streams are excellent for Lime, and make very white, neat, and fmooth Work; on which Account it is principally ufed in the rough-casting of Walls. All Stones, whether thofe taken from the Hills or from the Rivers, burn fafter or flower, in Proportion to the Fire which is given them, but for the Generality they are burnt in threefcore Hours. After they are burnt and converted into Lime, in order to flack it, you muft wet it, but not pour the Water on all at once, but by flow Degrees, to prevent its burning before it be duly tempered. Afterwards you muft lay it in a moift and fhady Place, and take care not to mix any thing with it, but to cover it lightly with Sand; and the more it is bruifed and mixed with Sand, the better it will cement, except that which is made of a fcaly Stone like that of *Padua*, becaufe it muft be worked as foon as ever it is kiln'd, to prevent its burning and confuming away, for then its cementing Quality is loft, and is good for nothing.

If you make your Mortar with Pit-Sand, you muft take three Parts of it, and mix it with one of Lime; but if you make ufe of River or Sea-Sand, your Proportion muft be two Parts of Sand only, and one of Lime.



C H A P. VI.

Concerning METALS.

IRON, Lead, and Copper are the Metals employ'd in Building. Of the first are made Cramps, Nails, Hinges, Bolts, Gates, Bars, and such-like Works. 'Tis never found perfectly pure ; but when the Oar is dug up, it must be rarified by Fire, when it lignifies, so that it may be easily cleansed from its Foulness before it cools : After it is purified and cool, it shines, and is soft and malleable. It is difficult however to melt it a second Time, unless you throw it into a very hot Furnace made for that Purpose ; and it must be beat whilst it is red-hot ; for otherwise it will consume and waste away. One distinguishing Mark of the Goodness of Iron is, when its Veins are found to run strait and unbroken, after 'tis worked into Bars, and when the two Extremes of the Bars are clean and without Foulness ; for these Veins are an Indication that the Iron is free from Knots and Flaws ; and by the Extremes we may judge of the Goodness of the Middle : If its Sides are found to be strait, after it is wrought into square Plates, or into any other Form whatever, we may pronounce it equally good in all its Parts, as it has endured the Hammer in equal Proportion.

Lead is made use of in covering magnificent Palaces, Churches, Towers, and other publick Builings ; as also for Pipes and Gutters to convey Water ; it is also us'd in fastening all kinds of Iron-work in Stone. There are three kinds of Lead, *viz.* White, Black, and of a Colour between both, generally call'd Ash-Colour. The Black, though so call'd, is not in reality of that Colour, but has only a few black Spots in it ; for which Reason the Antients, by way of Distinction, and properly enough, gave it the Name of Black. The White is more perfect, and more valuable,
than

than the Black, and the Ash-Colour likewise, though not so good as the White. Lead is either dug up in great natural Lumps, or in lesser Pieces, which shine with a blackish Hue, or is found in very thin Leaves, which cleave to Stones, Marbles, and Flints. Every kind of Lead is melted with Ease, because the Heat of the Fire lignifies it before it is red-hot ; but if it be thrown into an excessive hot Furnace, it loses its Substance, one Part of it turning to Litharge, and the other to Dross. Of these Three sorts of Lead the Black is soft, and therefore easily beat, and is heavy too ; the White is both harder and lighter ; the Ash-Colour is much harder than the White, and is of a middle Weight between both.

Copper is sometimes made use of in covering publick Edifices, and the Antients used to make a kind of Cramps or Hooks with it, which being fixed in the Stones, binds them fast, so that they never loosen : By means of these Cramps, a Building, which must necessarily consist of a great Number of Stones, is so joined and fixed together, that it appears to be but one entire Piece, and therefore is much stronger, and more lasting. These Cramps or Hooks are now made of Iron ; but the Antients chose rather to make them for the most part of Copper, because, as that Metal is not apt to rust, it is therefore more durable. This Metal likewise was us'd in making Letters for Inscriptions that were placed in the Freezes of Buildings ; and Historians assure us, that the hundred Gates of *Babylon*, so much taken Notice of, were all Copper ; as also the two Pillars of *Hercules*, which were eight Cubits high, in the Island of *Gades*. That Copper is look'd upon as the best which, when drawn out of the Mine, and purified by Fire, is of a reddish Colour, but somewhat inclining to a Yellow, and full of little Holes or Pores ; for this is an Indication that it is thoroughly purified, and has left no Dross behind it. Copper may be heated like Iron, and lignified, and therefore capable of being cast ; but if it be thrown into too hot a Furnace, it submits to the

the Force of the Fire, and is utterly consumed in it. This Metal, though hard, may yet be render'd so soft and pliant as to be wrought into very thin Leaves. The best Way for the Preservation of it is to lay it in Tar; and tho' it does not rust like Iron, it nevertheless contracts a Rust peculiar to itself, which is called Verdigrease, especially if any thing that is either sharp or moist happens to touch it. This Metal, when mixed with Tin, Lead, or Latten, which last is another Sort of Copper, but colour'd with *Lapis Calaminaris*, makes a Metal called Brass, which is often made use of by Architects in making of Bases, Columns, Capitals, Statues, and such-like Decorations. There are, in the Church of *San Giovanni Lateranno* in *Rome*, four Brass Columns, one of which only has its Capital: These were made by Order of the Emperor *Augustus*, of the Metal that was found in the Prows of those Ships he took from *Mark Anthony* in *Epirus*. There are four antient Gates of this Metal still to be seen at *Rome*, viz. that of the *Rotunda*, formerly called the *Pantheon*; that of *St. Adrian*, heretofore the Temple of *Saturn*; that of *S. Cosmo* and *S. Damian*, once the Temple of *Castor* and *Pollux*, or perhaps that of *Romulus* and *Remus*; and that of *S. Agnes* without the Gate *Viminalis*, now called *St. Agnes su la Numentana*. But the most beautiful is that of *Santa Maria Rotunda*, wherein the Antients imitated by Art that Species of the *Corinthian* Metal wherein the Colour of Gold was most prevailing: For we read that when *Corinth* was burnt and destroyed, all the Gold, Silver, and Copper that were in the City being melted down, and mixed together in various Lumps, Chance temper'd all those Metals different Ways, and compos'd these three sorts of Copper, which were afterwards called *Corinthian*. That in which Silver prevailed, retained its Whiteness; where Gold, it had a yellow Cast; and the third was that in which all the three Metals were pretty equally mixed; and Workmen have since attempted to imitate variously all these three Metals.

Having

Having thus taken Notice of such Particulars as are first to be consider'd, and the various Materials that are to be provided before we begin to build, I shall, in the next Place, treat of the Foundations, since these must first be laid before the Building can begin.



C H A P. VII.

Of the Quality of the Ground in which the Foundations are to be laid.

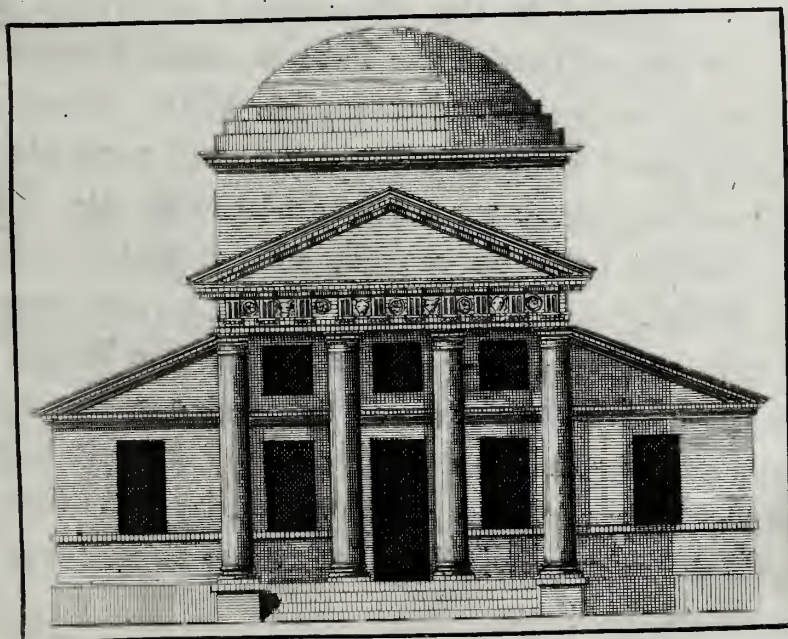
THE Foundation, *i. e.* that Part which is under Ground, and sustains the whole Edifice, is properly called its Basis. Of all the Errors in Building, those are the most fatal that are committed in the Foundation, because they at once endanger the whole Structure, nor can they be rectified but with the utmost Difficulty; the Architect therefore must take great care to make choice of a good Foundation, since, in some Places, 'tis naturally strong and solid, and in others Art must be us'd to make it so. A natural Foundation is when the Soil is rocky, or consists of a soft sandy Stone or Gravel, which is a sort of Earth inclining to be rocky; for, without digging, or any other Assistance from Art, these Foundations are strong of themselves, and capable of sustaining the most cumbrous Structure, either on Land or Water. But when a Foundation is not natural, Art must be exerted; and here the Place for building on is either a solid Earth or Clay, a sandy, soft and damp Ground, or a marshy Land. If the Earth be solid and substantial, the Foundation may be made of such a Depth as, to an artful Architect, may appear necessary for the Bulk of the Building, and the Strength of the Soil; and if there are to be no Cellars, nor other Offices, under Ground, it will be sufficient to dig a sixth Part of the Height of the Building. The Firmness and Solidity of the

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Earth

Earth may, with Ease, be known by digging of Wells, Cisterns, and the like; and also by the Herbs that grow upon it, if they are such as spring up only in a firm and solid Soil. Another Indication of the Strength and Solidity of the Earth is, when any thing pondrous is thrown upon it, it neither shakes nor resounds, which may easily be observed by the Assistance of a Drum, if when 'tis set upon the Ground, and gently touch'd, it does not resound, nor shake the Water in a Vessel that stands hard by it. The Firmness and Strength of the Ground may likewise be known by the Solidity of the Earth in the Places adjacent. But if it be a sandy or gravelly Spot, particular Care is to be taken, whether it be on Land or in the Water; for if it be on Land, the Observation of what has been already mention'd concerning firm Ground will be sufficient. If we build in the Water, the Sand and Gravel will be of no manner of Service, for the Water, by reason of its continual Current and Flood, is ever varying its Bed; we must therefore dig till we find a firm and solid Bottom; or if this cannot with Ease be affected, we must then dig a little into the Sand and the Gravel, and drive in Piles of Oak, till their Ends reach the good Ground, and on these we may build. But if we are obliged to build upon mossy and loose Earth, we must then dig till we find solid Ground, and that in Proportion to the Thickness of the Walls, and the Bulk of the Structure. This firm and solid Earth, fit to support a Building, is of various kinds; for, as *Alberti* justly observes, in some Places it is so hard that Iron can hardly penetrate it, and sometimes harder than Iron itself; in some Places it is of a blackish, and in others of a whitish Cast, (which is deem'd the weakest;) in some it is like Chalk, and in others soft and sandy. Of these various kinds, that is the best which is cut with most Toil and Difficulty, or when wet, does not dissolve away in Mud and Dirt. An old Foundation must never be built upon before we know its Depth, and are well assur'd that it is able to sustain the Fabrick. But if the Earth you build upon be very soft, as
in

in marshy Grounds, you must strengthen it with Piles, whose Length must be the eighth Part of the Height of the Walls, and their Diameter the twelfth Part of their Length. These Piles must be drove in so contiguous to one another, that no others can be set between them; and particular Care must be taken to ram them in with gentle Blows often repeated, rather than with Violence; for the Earth will consolidate better the one Way than the other. Piles must be drove not only under the Walls, but also under the Inner or Partition Walls: For if the Foundations of the Inner Walls are weaker than those of the Outer Walls, when you come to lay the Girders and Joists, you will find experimentally, that the Inward Walls will sink, while those on the Outside will stand firm, because they were raised on Piles; then all the Walls will crack, and destroy the whole Structure; besides, these Crevasses strike the Eye very disagreeably. As therefore the Expence for Piles will be of less Importance than the endangering of the whole Fabrick, you must not be too saving, but distribute them according to the Proportion of the Walls, and take care that those within are placed somewhat thinner than those on the Outside of the Building.





Of FOUNDATIONS.

C H A P. VIII.

THE Foundation must be as thick again as the Wall intended to be raised upon it; and here you must take particular Notice of the Quality or Goodness of the Ground, and the Weight of the Building; as also to make the Foundation wider in soft and loose Ground, and on which a very spacious Fabrick is to be erected. The Plan of the Trench must be exactly level, that the Weight may press equally in all Parts, and not lean more to one Side than the other, which occasions the cracking and dividing of the Walls. The Antients therefore used to pave the Plan with Tivertine, but we lay Planks or Beams when we build. The Foundations must always slope, that is to say, they must diminish in Proportion as they rise, yet so as that there may be as much left on one Side as the other, and so as the Middle Wall above may be directly perpendicular over the Middle of that below, which must be also particularly regarded in the diminishing of Walls above Ground; for this will make the Fabrick much stronger than if the Diminutions were made any other Way. Sometimes, in order to prevent a too large Expence, and particularly in marshy Grounds, where we are forc'd to make use of Piles, the Foundations must be arched, and on this the Edifice must be raised. In large Buildings it is very proper to make Vents, or Holes, through the Body of the Walls, from the very Foundations to the Roof, in order to let out the Winds and Vapours, which are very prejudicial to the Fabrick, diminish the Expence, and will likewise be found extremely convenient, in case winding Stairs are to be made from the Bottom to the Top.



C H A P. IX.

Concerning the various Kinds of WALLS.

THE Foundations being thus laid, we are next to discourse of the Walls that are to be erected above Ground. The Antients made six kinds of Walls: The first were called *Reticolata* or *Net-Work*; the second were composed of Quadrels or Bricks; the third of Cement, consisting of Flints or Pebbles; the fourth of irregular and various Stones, and called *Rustick*; the fifth of Free-Stone; and the sixth, or last, of *Riempiuta* or *Coffer-Work*. The Moderns do not practise the Checquer or Net-Work; but, as *Vitruvius* says it was very customary in his Time, I thought proper to insert a Design thereof. They generally made the Angles or Corners of the Building of Bricks, and laid, between every two Feet and a half, three Courses of Bricks, which served as a kind of Band to the whole Work.

2. Brick-Walls which surround Cities, or which are intended for any great Building, ought to be faced on both Sides with Brick, and the Middle should be filled with Cement, rammed close together with Brickbats; and to every three Feet in Height there ought to be three Courses of Bricks, of a larger Size than the others, to bind the whole Breadth of the Wall. The first Course must be laid so that the lesser Side of the Brick may be outward; the second length-ways, that is to say, with its largest Side on the Outside; and the third as the first. The Walls of the *Rotunda* at *Rome*, those of *Dioclesian's* Baths, and of the other antient Buildings there, are all after this Manner.

3. Cement-Walls must be made so as there may be three Courses of Brick, and disposed as above, to every two Feet at the least. The Walls of *Turin* in *Piedmont* which are made of large River Pebbles split in two, and set in the Wall with the split Side outwards, which makes very neat Work, and strikes the Eye very agreeably, is of this kind. The Walls of the Amphitheatre of *Verona* are also made of Cement, and have three Courses of Brick to every three Feet, as in several other antient Edifices, which I have illustrated in my Book of *Antiquities*.

4. The Walls made of irregular Stones were called *Rustick*; and in the erecting of these they used a Leaden Rule, which being bent according to the Place where the Stone was to be set, demonstrated how it was to be squared; so that when it was once cut, they immediately fixed it in its Place. The Walls of *Preneste* are of this kind, and the Antients used to pave their Streets after the same Manner.

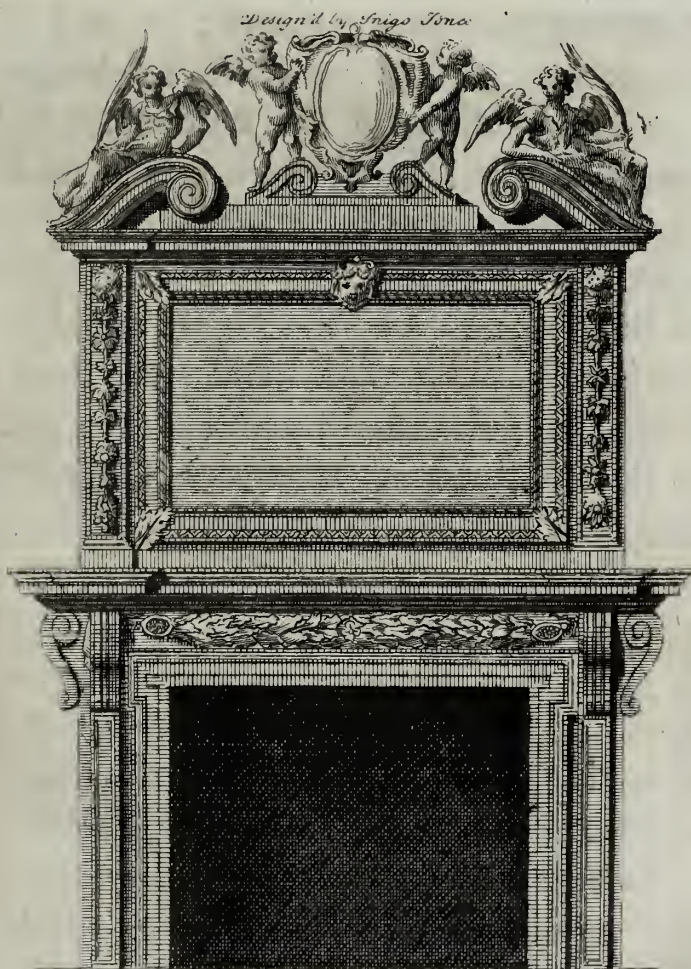
5. At *Rome* there are now standing Walls of Free Stone, where the Piazza and Temple of *Augustus* were formerly to be seen; and here some Courses of larger Stones inclosed the lesser.

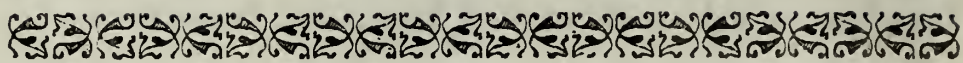
6. Walls, called *Riempita* or *Coffer-Work*, were made by the Antients by taking Planks laid Edge-way, according to the Thickness of the Walls, filling the Void with Cement and all sorts of Stones mingled together, and continued after this Manner from Course to Course. There are Walls now at *Sirmion*, upon the *Lake di Garda*, built after this kind.

7. The antient Walls of *Naples* may likewise be said to be of this sort; for they have two Walls of Free-Stone four Feet thick, and six Feet asunder from one another. These Walls are bound together with Crossing Rows, or others that run cross them; and the Coffers that are between

tween these Crossing Rows and outward Walls, are six Feet square, and are filled with Stones and Gravel.

In short, these are the various Sorts of Walls which the Antients made ; Footsteps whereof are still remaining to this Day, whereby we find that all kinds of Walls must have some bounding Courses, as so many Sinews, to fasten all the other Parts together : And this must be particularly observed in Brick Walls, that if the Middle of the Wall, through Length of Time, should happen to sink, the rest may not be subject to Ruin, as we see in many Walls, particularly on that Side that looks towards the North.





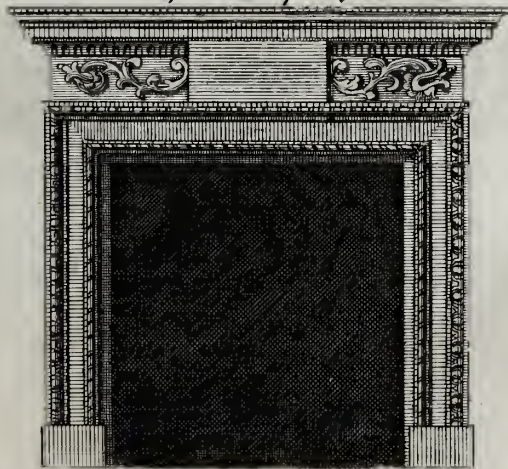
C H A P. X.

The Antient Method of erecting STONE
BUILDINGS.

SINCE it often happens that a Building is to be erected entirely, or a considerable Part of it at least, of Marble, or other large Stones, it may not be amiss to relate in this Place some Observations of the Antients on this Head, since we find they were so very curious and exact in joining the Stones together, that 'tis difficult to discern the Joints in a great many Places; which I think of very great Importance, as it contributes to the Beauty, as well as Strength and Solidity of the Building. And as far as I could perceive, they squared and wrought those Sides of the Stones first which were to be laid one above another, leaving the other Sides rough, after which they were made use of in the Building; so that the Angles or Edges of the Stones not being so sharp, they could move them up and down better till they joined well, and were in no Danger of breaking, than if all the Sides had been squared; for the Angles being then too thin, are apter to break. In this manner they made all their Stone Buildings rough, and *Rustick*, as it were; and when these were completed, they continued to polish those Sides of the Stones that were exposed to View. It must be acknowledged, that as the Roses between the Modillions, or other Decorations of the Cornice could not be commodiously worked after the Stones were fixed, they made them while they lay on the Ground. This is evident by many antient Buildings, in which several Stones are found that were left unwrought and unpolished. The Arch near the old Castle in *Verona*, and all the other Arches and antient Edifices in that Place, were made after the same Manner: This we easily discover by the Marks
of

of the Tools, which shew in what Manner the Stones were wrought. The Columns of *Trajan* and *Antoninus* at *Rome* were thus wrought ; for it would have been impossible otherwise to have fix'd the Stones, so as that the Joints should meet so close together cross the Heads, and other Parts of the Figures. The same may be said of those Triumphal Arches that are found there ; for when they had any very large Edifice to erect, as the Amphitheatre of *Verona*, that of *Pola*, and the like, to save Time and Charge, they only wrought the Imposts of the Arches, the Capitals and Cornices, leaving the rest Rustick, regarding only the Beauty of the whole Fabrick. But in Temples, and other magnificent Edifices that require great Delicacy, they spar'd no Labour in working them, but glazed and polished them, even to the very Flutes of the Columns, with the utmost Accuracy and Application. In my Opinion, therefore, Brick Walls should never be made Rustick, much less the Mantle-Trees of Chimnies, which ought to be very neat and curious ; for besides its Misapplication in that Place, it would follow, that a Work which should naturally be one entire Piece, would appear to be divided into various Parts. But it may be made either Rustick or in an elegant Taste, according to the Largeness and Quality of the Structure ; for what the Antients judiciously practis'd, being, as it were, forced to it by the Greatness of their Fabricks, must not be copy'd by us in Edifices wherein Neatness is principally required.

Chimney Piece by Inigo Jones.





C H A P. XI.

*Concerning the DIMINUTION of WALLS,
and their various Parts.*

WALLS, as they advance, must diminish proportionably in their Thickness, and such as appear above Ground must be half as thick as those in the Foundations; those of the second Story must be half a Brick thinner than those of the first, and in like manner to the Top of the Fabrick: Due Care however must be taken not to make the upper Part too weak. The Middle of the Walls above must be exactly perpendicular over the Middle of those below, which will give the whole Wall a Pyramidical Form. Moreover, when you are forc'd to make the Superficies of the upper Wall exactly over that beneath, it must be done inwardly; for the Floors, the Beams, the Vaults, and other Supports of the Edifice, will keep the Walls from falling inward. The Set-off, or discharged Parts on the Outside, must be cover'd with a Fascia and a Cornice, which surrounding the whole Fabrick, will bind as well as beautify it. As the Angles of an Edifice are common to two Sides or Faces, to keep them upright and fast together, you must take care to make them very strong and substantial, and to hold them with long and hard Stones, as it were with Arms. The Windows therefore, and other Openings, ought to be as far distant from the Angles as possible; or at least so much Space ought to be left as is the Breadth of the said Opening. Having thus treated of plain Walls, we shall next consider their Decorations, among which, none are more considerable than Columns, when they are artfully placed, and in a just Proportion to the whole Building.



C H A P. XII.

Concerning the FIVE ORDERS of ARCHITECTURE made use of by the Antients.

THE Antients made use of five various Kinds or Orders of Architecture, *viz.* The *Tuscan*, *Dorick*, *Ionick*, *Corinthian*, and *Composite*; which must be so disposed that the strongest and most substantial may be always undermost; for then it will be the better capable of sustaining the whole Weight, and the Building will stand on a firmer Foundation; the *Dorick* therefore must always be under the *Ionick*, the *Ionick* under the *Corinthian*, and the *Corinthian* under the *Composite*. As the *Tuscan* is a very plain and simple Order, it is for that Reason very seldom used above Ground, except in those Fabricks where one Order only is employed; such as rural Structures, or very large Fabricks, as Amphitheatres, &c. in which, as several Orders are employed, this may be under the *Ionick*, in the room of the *Dorick*. And if the Architect thinks proper to leave out one of these, as for Example, to set the *Corinthian* directly over the *Dorick*, he may do so, provided he takes care that the strongest and most substantial Part be undermost, for the Reasons above-mentioned. I shall set down the Measures of each of these Orders distinctly, according to the Remarks which I myself have made on antient Fabricks, and not so much pursuant to the Rules prescrib'd by *Vitruvius*; but I shall first mention those Particulars which relate to all of them in general.



C H A P. XIII.

Concerning the Swelling and Diminution of Columns; as also concerning the Intercolumniations and Pilasters.

THE Columns in each of the five Orders before mention'd are to be made so as that the Diameter of the upper Part of the Column may be less than at the Base, and have a little Swelling in the Middle. In the Diminution of these, due Care must be taken, that the longer the Columns are, the less they must diminish, because the Height, by reason of the Distance, has the Effect of Diminution. For which Reason, if the Column be fifteen Feet high, the Diameter at the Bottom must be divided into six Parts and a half, and five and a half must be the Thickness at Top; if from fifteen to twenty Feet, the Diameter at the Bottom must be divided into seven Parts, and six and a half will be the Diameter at Top. The same Observation must be made in those that are from twenty to thirty Feet high, where the Diameter at the Bottom must be divided into eight Parts, seven of which will be the Diameter at Top; and thus such Columns as are of a greater Height will diminish in the Manner above-mention'd, as *Vitruvius* informs us in the second Chapter of his third Book. But with respect to the Swelling in the Middle, he has only promis'd to direct us how it is to be made; for which Reason the Opinions of Writers upon that Head are widely distant, and we are left in the dark as to that Particular. My Method in making the Profil of the above-mentioned Swelling is this; I divide the Fust of the Column into three equal Parts, and leave the lower Part exactly perpendicular; to the Extremity whereof, I apply a thin Rule of the exact Length, or sometimes a little longer than the Column, and bend that Part of the Rule

Rule which comes forward, till the End thereof touches the Point of Diminution, of the upper Part of the Column under the Collarino ; then I mark as that Curve directs ; thus I have the Column swelling a little in the Middle, and projecting forward, which strikes the Eye very agreeably. And tho' I could not find out a more compendious and more ready Method than this, yet what gave me a better Opinion of it was, Signior *Pietro Cattaneo's* approving thereof, and inserting it in his *Treatise of Architecture*, a Work which is justly admired, and which greatly illustrates our Profession.

A B. *The third Part of the Column, which is exactly perpendicular.*

B C. *The two Thirds that diminish.*

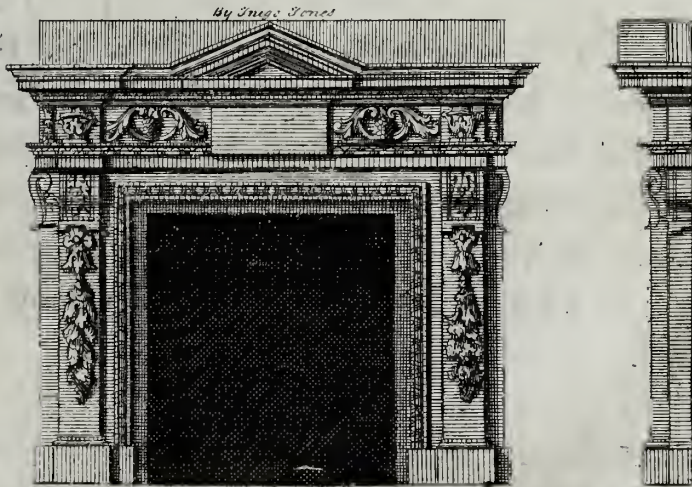
C. *The Point of the Diminution under the Collarino.*

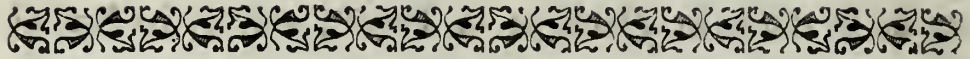
The Distances between the Columns, or the Intercolumniations, may be of one Diameter and a half of the Column, the Diameter being always taken at the lowest Part of the Column ; or of two Diameters, of two and a Quarter, of three, and sometimes more ; but the Antients never exceeded three, except in the *Tuscan* Order, where the Architraves being of Timber, they made the Intercolumniations very large ; but then they never made them less than a Diameter and a half, which Distance or Space they particularly observed, when the Columns were very lofty. But they principally approved of those Intercolumniations which were of two Diameters and a Quarter, and esteem'd them as most elegant and beautiful. Great Care must be taken to keep a due Proportion and Harmony between the Intercolumniations or Distances and the Columns, because if small Columns are made with large Intercolumniations, it will very much diminish the Beauty of the former ; for the too great Quantity of Air in the void Spaces, will lessen their Thickness very much : And, on the contrary, if we make large Columns, and little Intercolumniations, the too small

Vacuity will make them appear heavy, thick, and disagreeable: If the Distances therefore be more than three Diameters, the Thickness of the Column must be a seventh Part of its Height, as I shall observe hereafter in the *Tuscan* Order. But if the Distances are three Diameters, then the Length of the Columns must be seven Diameters and a half, or eight, as they are in the *Dorick* Order; if two and a Quarter, the Columns must be nine Diameters in Length; as in the *Ionick*; if no more than two, the Columns must be nine Diameters and a half in Length, as in the *Corinthian*; and if one Diameter and a half only, the Length of the Columns must then be ten, as in the *Composite*. I have been thus curious in making my Remarks upon these several Orders, that they may serve for Examples for that Variety of Intercolumniations which *Vitruvius* makes mention of in the above-cited Chapter. In the Front of any Edifice the Columns must be even with respect to their Number, that there may be an Opening in the Middle, which should be larger than the other Intercolumniations, for the better Reception of the Doors and Entries; and thus much for single Pillars or Collonades. But if Galleries are to be made with Pilasters, they must be disposed so as that the Thickness of the Pilasters or Piers be not less than one Third of the Void from Pier to Pier, and to those in the Angles two Thirds; which will make the Angles of the Building more solid and substantial. And when these Piers are to support a cumbrous Load, as in large Structures, then they must have half the Thickness of the Vacancy, like those of the Theatre of *Vicenza*, and of the Amphitheatre of *Capua*; or otherwise two Thirds, like those of the Theatre of *Marcellus* in *Rome*, and that of *Ogubius*, which is now in the Possession of Signior *Ludovico de Gabrielli*, a Gentleman of that City. The Antients indeed would sometimes make them as thick as the whole Vacancy, as in that Part of the Theatre of *Verona* which is not upon the Hill. But in private Edifices they must be as thick at least as the third Part of the Opening, but not thicker than two Thirds,

and

and ought to be square ; but to save Charges, and make it more commodious, and the Passage more open, they need not be so thick in Flank as in Front ; and for its Embellishment, Half-Columns or Pilasters may be placed in the Middle, to support the Cornices over the Arches of the Gallery, whose Thickness must be in Proportion to their Height, according to each Order, as I shall demonstrate in the following Chapters and Designs : For the understanding of which, and to prevent Tautologies, the Reader is to take Notice, that in the Division and Mensuration of the above-mention'd Orders, I have not us'd any fix'd and determinate Measure peculiar to any Place, as a Cubit, a Foot, or a Span, the various Measures being as various as the Countries ; but, in Imitation of *Vitruvius*, who divides the *Dorick* Order with a Measure taken from the Diameter of the Column, common to all, and which he calls a *Module*, I shall likewise use the same Measure in all the Orders. This Module is the Diameter of the Column at Bottom, and is divided into sixty Minutes, except in the *Dorick*, in which the Module is half the Diameter of the Column, and is divided into thirty Minutes, this being more commodious in the Divisions of that Order. One may therefore divide the Module into more or less Parts, according to the Quality of the Edifice, and use the Designs of the Proportions and Profiles suitable to each Order.





C H A P. XIV.

Concerning the TUSCAN ORDER.

THE *Tuscan* Order is indeed in Effect, as well as in the Opinion of *Vitruvius*, the plainest and most simple of all the Orders, as it retains more of the old Simplicity, and is free from all those Decorations which give so great a Grace and Beauty to the others. It was first invented in *Tuscany*, a considerable Part of *Italy*, and from thence it takes its Name. The Column, together with its Base and Capital, must be seven Modules in Length, and its Diminution a fourth Part of its Bigness. If a Work is to be compos'd of this plain Order, the Intercoluminations may be very wide, because the Architraves are made of Timber, which will be very commodious, therefore, for Country Buildings, on account of the easy Passage for Carts, and other Country Conveniencies; besides, it will not be near so expensive.

But if there are to be Gates, or Galleries with Arches, then they must use the Measures which I have marked in the Design; wherein we see the Stones disposed and joined together so as I thought best, when the whole Building is to be of Stone. I have already observed the same in the Designs of the four other Orders, and have borrowed this Manner of disposing and joining the Stones, from divers antient Arches, as will be seen in my *Treatise of Arches*, in the Designs of which I have employed the utmost Care and Application.

A. *The Architrave of Timber.*

B. *The Joists which supply the Place of the Guttae.*

The Pedestals which are under the Columns of this Order must be very plain and simple, and the Height of a Module. That of the Base of the Column must be half its Diameter. This Height must be divided into two proportional Parts, one whereof is to go to the Plinth, which is round; and the other is subdivided into four Parts, one whereof is appropriated to the *Listella* or *Fillet*, which is sometimes made a little less. In this Order only the *Listella* makes a Part of the Base, but 'tis a Part of the Column in all the others; the other three Parts are appropriated to the *Torus*. This Base ought always to project a sixth Part of the Diameter of the Column. The Height of the Capital is half the Diameter of the lower Part of the Column, and is divided into three proportional Parts; the first is apply'd to the *Abacus*, which, from its Form, is generally called *Dado*, or a *Dye*; the second to the *Ovolo*, and the third is subdivided into seven Parts. The *Listella* under the *Ovolo* is one of these, and the other six are for the *Collarino* or Neck of the Column. The *Astragal* is twice the Height of that of the *Listella* under the *Ovolo*; and its Center is made on the Line, which falls perpendicular from the *Listella*; the Projecture of the *Cincture*, which is as thick as the *Listella*, falls directly upon it. The Projecture of this Capital corresponds with the Shaft of the Column below. Its Architrave is compos'd of Timber, the Height whereof must be equal to its Breadth, and its Breadth must never be greater than the Shaft of the Column at Top: The Joists which are instead of the *Guttæ*, or *Drip*, project a fourth Part of the Length of the Column. I shall here give you the Mensurations of the *Tuscan* Order, according to *Vitruvius*.

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|--|--|
| <p>A. <i>Abacus</i>.</p> <p>B. <i>Ovolo</i>.</p> <p>C. <i>Collarino</i>.</p> <p>D. <i>Astragal</i>.</p> <p>E. <i>The Shaft of the Column at Top</i>.</p> | <p>F. <i>The Shaft of the Column below</i>.</p> <p>G. <i>Cincture</i>.</p> <p>H. <i>Torus</i>.</p> <p>I. <i>Orlo</i>.</p> <p>K. <i>Pedestal</i>.</p> |
|--|--|

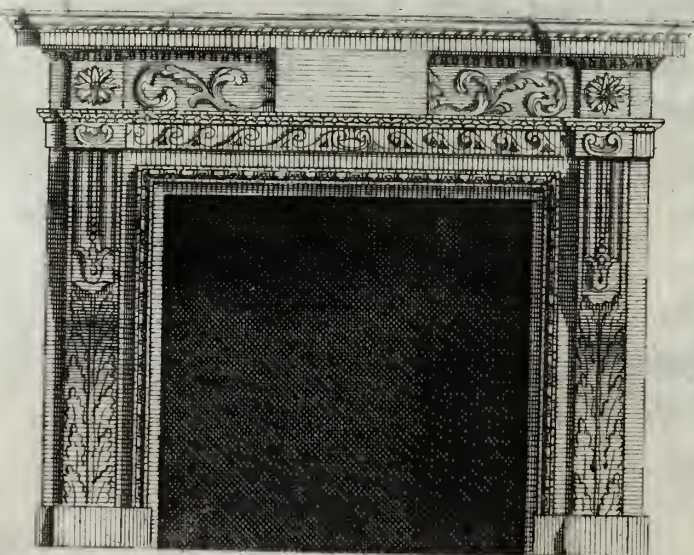
The Profils on the Side of the Plan of the Base and Capital, are the Imposts of the Arches.

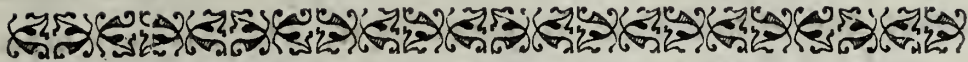
But if the Architraves are composed of Stone, you must observe what I have already mentioned, with respect to the Intercolumniations. There are still some antient Buildings, which, as they retain in part the same Mensurations, may properly enough be said to have been of this Order; such as the *Arena* of *Verona*, the *Arena* and Theatre of *Pola*, &c. from which I have taken the Profils of the Base, Capital, Architrave, Freeze, and Cornice, as you may see in the last Plate of this Chapter; as also those of the Imposts of the Arches.

The several Designs of all these Buildings shall be inserted in my Book of *Antiquities*.

- | | |
|-----------------------------------|--|
| A. <i>Cima recta.</i> | K. <i>Collarino.</i> |
| B. <i>Corona.</i> | L. <i>Astragal.</i> |
| C. <i>Guttæ & Cima recta.</i> | M. <i>Shaft of the Column under the Capital.</i> |
| D. <i>Cavetto.</i> | N. <i>Shaft of the Column at Bottom.</i> |
| E. <i>Freeze.</i> | O. <i>Listella of the Column.</i> |
| F. <i>Architrave.</i> | P. <i>Torus,</i> } of the Base. |
| G. <i>Cymatium,</i> } | Q. <i>Orlo,</i> } |
| H. <i>Abacus,</i> } | |
| I. <i>Cima recta.</i> } | |

On the Right Hand of the Profil of the Architrave, marked F. the Reader will find the Profil of another, performed with greater Care and Exactness.





C H A P. XV.

Concerning the DORICK ORDER.

THE *Dorick* Order is indebted to the *Dorians*, (a *Grecian* People who inhabit *Asia*) both for its Name and its Original. If these Columns are insular without Pires, they must be eight Diameters in Length, or seven and a half at least. The Intercolumniations are a little less than three Diameters of the Column, which Manner *Vitruvius* calls *Diastylas*. But if they are joined to Pires, their Height must be seventeen Modules and a third, including the Base and Capital; and, as I observed before in the thirteenth Chapter, you must take Notice, that in this Order the Module is but half the Diameter of the Column, divided into thirty Minutes; and that, in all the other, it is the whole Diameter divided into sixty.

The Antients did not make, as I can find, any Pedestal to this Order, in which the Moderns have not thought proper to copy after them. When a Pedestal therefore is to be joined to them, the *Dado*, or *Dye*, must be square, from whence the Measure of its Decorations must be taken; for it must first be divided into three proportional Parts, two whereof must be for the Base with its Plinth, and the third for the *Cymatium*, whereto the Plinth of the Base of the Column must be joined. There are some of these Pedestals likewise to be found in the *Corinthian* Order, as in the Arch in *Verona*, called the Arch *de Leoni*. I have given you several sorts of Profils, which may be fitted to the Pedestals of this Order, all beautiful, taken from the Antients, and measured with the utmost Accuracy. There is no peculiar Base to this Order; for which Reason these Columns are found without Bases in several Buildings, as
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the Theatre of *Marcellus* in *Rome*, the Temple *de la Pietà*, adjacent to it, the Theatre of *Vicenza*, &c. But sometimes the *Attick* Base is joined to it, which is very ornamental. I shall now give you the exact Measures thereof: Its Height must be half the Diameter of the Column, and is divided into three proportional Parts; one goes to the Plinth, the other two are subdivided into four proportional Parts, one of which is for the upper *Torus*; the other three are again subdivided into two proportional Parts; one whereof is the lower *Torus*, and the other the *Cavetto* with its *Listellas*; these have also their particular Measures, and must be divided into six Parts; the first is for the upper *Listella*, the second for the lower, and the four others for the *Cavetto*. The whole Projecture is the sixth Part of the Diameter of the Column; the *Cincture* is half the upper *Torus*. In case it is divided from the Base, the Projecture thereof must be a third of that of the Base; but in case the Base, and part of the Column, make one perfect Piece, the *Cincture* must then be made small, according to the third Design of this Order, wherein I have likewise drawn two different sorts of Imposts of Arches.

A. <i>Fust of the Column.</i>		F. <i>Plinth.</i>	} of the Pe- destal.
B. <i>Listella.</i>		G. <i>Cymatium,</i>	
C. <i>Upper Torus.</i>		H. <i>Dado, or Dye,</i>	
D. <i>Cavetto, with its Listella.</i>		I. <i>Base,</i>	
E. <i>Lower Torus.</i>		K. <i>Imposts of Arches.</i>	

The Capital must be half the Diameter of the Column, and be divided into three Parts; the first is divided into five Parts, of which three are for the *Abacus*, and the other two for the *Cymatium*, which being subdivided into three Parts, the first goes to the *Listella*, and the two last to the *Cymatium*. The second principal Part is subdivided into three proportional Parts; one is for the Annulets, or Squares, which are all proportional; the other two are for the *Ovolo*, the Projecture whereof
is

is two Thirds of its Height ; the third principal Part is for the *Collarino*. The entire Projecture is the fifth Part of the Diameter of the Column. The Height of the *Astragal* is proportional to the three *Listellas*, and projects to the lower Part of the Shaft of the Column. The *Cincture* is half the Height of the *Astragal*, and its Projecture is direct with its Center. The Architrave, whose Height must be half the Diameter of the Column, and is divided into seven Parts, is rais'd upon the Capital ; one is for the *Tenia*, or Fillet, whose Projecture is proportional to its Height. The whole is afterwards divided into six Parts ; one is for the *Guttæ*, of which there must be six, and the *Listella* under the *Tenia*, which is a third Part of the *Guttæ*. The Remainder from the *Tenia* downwards is subdivided into seven Parts ; three of them are for the first *Fascia*, and the other four for the second. The Freeze is a Module and a half high ; the Breadth of the *Triglyph* is a Module, and its Capital the sixth Part. The *Triglyph* is divided into six Parts ; two whereof are for the two Channels in the Middle, one for the two half Channels at the Ends, and three for the Spaces between the said Channels. The *Metope*, that is, the Space between the *Triglyphs*, must be a perfect Square. The Cornice ought to be a Module and a sixth in Height, and is divided into five Parts and a half ; two whereof are for the *Cavetto* and *Ovolo*. The *Cavetto* is less than the *Ovolo*, exactly as much as its *Listella* is ; the other three and a half are for the *Corona*, and both the *Cimas*, the *Recta*, and the *Reversa*. The Projecture of the *Corona* ought to be two Thirds of a Module ; and in the Face thereof which looks downward, and projects along the *Triglyphs*, six *Guttæ* in Length, and three in Breadth, with their *Listellas*, and some *Roses* over the *Metope*. The *Guttæ* are round, in the Form of Bells, and answer to those under the *Tenia*. The Body of the *Cymatium* must be one eighth larger than the *Corona*, and is divided into eight Parts ; two of which are for the Plinth, and six for the *Cymatium*, the Projecture whereof is seven and an half : So

that the Altitude of the Architrave, the Freeze and Cornice, are a fourth Part of the Height of the Column. Thus *Vitruvius* measures the Cornice; but herein I have deviated from him, by making an Alteration in some of its Members, and making likewise the whole somewhat larger.

Parts of the Capital.

A. <i>Cima recta.</i>	O. <i>Abacus.</i>
B. <i>Cima reversa.</i>	P. <i>Ovolo.</i>
C. <i>Corona.</i>	Q. <i>Listellas, or little Mouldings.</i>
D. <i>Ovolo.</i>	R. <i>Collarino.</i>
E. <i>Cavetto.</i>	S. <i>Astragal.</i>
F. <i>Capital of the Triglyph.</i>	T. <i>Cincture.</i>
G. <i>Triglyph.</i>	U. <i>Fust of the Column.</i>
H. <i>Metope.</i>	X. <i>Plan of the Capital; and the Module divided into thirty Parts or Minutes.</i>
I. <i>Tenia, or Fillet.</i>	Y. <i>Soffit of the Cornice.</i>
K. <i>Guttæ.</i>	
L. <i>First Fascia.</i>	
M. <i>Second Fascia.</i>	
N. <i>Cymatium.</i>	



CHAP. XVI.

Concerning the IONICK ORDER.

THE *Ionick* Order owes its Original to *Ionia*, an *Asiatick* Province; and History acquaints us that the famous Temple of *Diana* at *Ephesus* was compos'd of this Order. The Column, with its Capital and Base, must be nine Modules high; a Module is the Diameter of the Column below, as has already been observed. The Architrave, Freeze, and Cornice, are a fifth Part of the Height of the Column; the Intercolumniations in the Design of single Columns, are two Diameters and a Quarter, which are

are the most commodious, and strike the Eye most agreeably, and which *Vitruvius* calls *Eustylos*. In the Design of the Arches, the Piers are a third Part of the empty Space, and the Arches have two Diameters in Height.

If the *Ionick* Columns are to have Pedestals, as in the Designs of the Arches, their Height must be equal to half the Breadth of the Opening of the Arch, and divided into seven Parts and a half; two of them are for the Base, one for the *Cymatium*, and the other four and a half for the *Dado*. The Base of the *Ionick* Order must be half a Module thick, and is divided into three Parts, one is for the Plinth, the Projecture whereof is the fourth, and an eighth Part of the Module; the other two are divided into seven Parts, three whereof are given to the *Torus*, the other four are subdivided into two Parts; the upper *Cavetto* is made of the one, and the lower, which ought to have the greatest Projecture, of the other. The *Astragals* must be the eighth of the *Cavetto*; the *Cincture* of the Column is the third Part of the *Torus* of the Base; but in case the Base is joined to the Column, the *Cincture*, as I observed before in the *Dorick* Order, must be smaller. The Projecture of the *Cincture* is half of that above-mentioned. These are *Vitruvius's* various Measures of the *Ionick* Base.

But as the *Attick* Base is often placed under this Order in several antient Buildings, which Practice I much approve of, I have therefore drawn the said Base over the Pedestal, with a small *Torus* under the *Cincture*, but have not omitted at the same Time *Vitruvius's* Designs. The Designs marked L, are two several Profils for making the Imposts of the Arches, and the Measures are set down in Numbers on each of them, denoting the Minutes of the Module, as I have observed in all my other Designs. These Imposts are half as high again as the Thickness of the Pilaster which supports the Arch.

A. Shaft of the Column.	} of the Pedestal.
B. Astragal with its Cincture, which are Members of the Column.	
C. Upper Torus.	
D. Cavetto.	
E. Lower Torus.	
F. Plinth joined to the Cymatium of the Pedestal.	
G. Cymatium in two different Forms.	
H. Dado.	
I. Base in two different Forms.	
K. Plinth of the Base.	
L. Imposts of the Arches.	

To make the Capital, the Diameter at the Base of the Column is divided into eighteen Parts, and nineteen of such Parts make the Length and Breadth of the *Abacus*; one half whereof is the Height of the Capital with its Volutes, whence its Height will be nine Parts and a half; one and a half whereof is for the *Abacus* with its *Cymatium*, and the other eight for the Volute, which is made after this Manner: One of the nineteen Parts is taken from the End of the *Cymatium* inward, and from the Point made, a Plum-Line is let down to divide the Volute in the Middle, which is call'd *Catheto*. Where the Point falls upon this Line, which separates the four Parts and a half above, from the three and a half below, the Center of the Eye of the Volute is made, whose Diameter is one of the eight Parts; and from the aforesaid Point is drawn a Line, which, as it cuts the *Catheto* at Right-Angles, divides the Volute into four Parts. Then a Square is made in the Eye of the Volute, about the same Bigness as the Semi-Diameter of the same Eye; and Diagonal Lines being drawn, the Points are marked upon them, where the fixed Foot of the Compass must stand, to make the Volute; which Points or Centers are thirteen in Number, the Eye inclusive; and how these are to be performed, plainly appears by the Numbers marked in the Design. The *Astragal* of the Column is in a direct Line with the Eye of the Volute. The Thickness of the Volutes in the Middle must be in proportion to the

the Projecture of the *Ovolo*, which must project beyond the *Abacus*, just as much as is the Eye of the Volute. The Channel of the Volute is even with the Shaft of the Column. The Astragal of the Column goes under the Volute, and is always seen, as appears by the Plan; and it is natural indeed that the Volute, which is supposed to be a thin, weak Member, should give way to a stronger, such as the Astragal, from which it must be equally distant. We usually make Capitals in the Angles of Colonnades or Porticos of the *Ionick* Order, with Volutes not only in the Front, but also in that Part which would have been the Flank, in case the Capital was to be made as generally it is; by which means they have the Front on two Sides, and are called *Angular Capitals*. In my Book of *Temples*, which is the Fourth of this Work, I shall shew how these are made.

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|---|--|-------------------------------------|
| A. <i>Abacus</i> . | | D. <i>Astragal under the Ovolo</i> |
| B. <i>Channel or Hollow of the Volute</i> . | | E. <i>Cincture</i> . |
| C. <i>Ovolo</i> . | | F. <i>Shaft of the Column</i> . |
| | | G. <i>The Line called Catheto</i> . |

Pl: 15

In the Plan of the Capital, the said Members are marked with the same Letters.

S. *Eye of the Volute on a large Scale.*

Members of the Base according to *Vitruvius*.

- | | | |
|--------------------------------|--|----------------------------|
| K. <i>Fust of the Column</i> . | | O. <i>Astragal</i> . |
| L. <i>Cincture</i> . | | P. <i>Second Cavetto</i> . |
| M. <i>Torus</i> . | | Q. <i>Plinth</i> . |
| N. <i>First Cavetto</i> . | | R. <i>Projecture</i> . |

The Architrave, Freeze, and Cornice, as I have hinted before, must be a fifth Part of the Altitude of the Column, and is divided into twelve Parts; three of which are for the first *Fascia* and its *Astragal*, four for the second, and five

L for

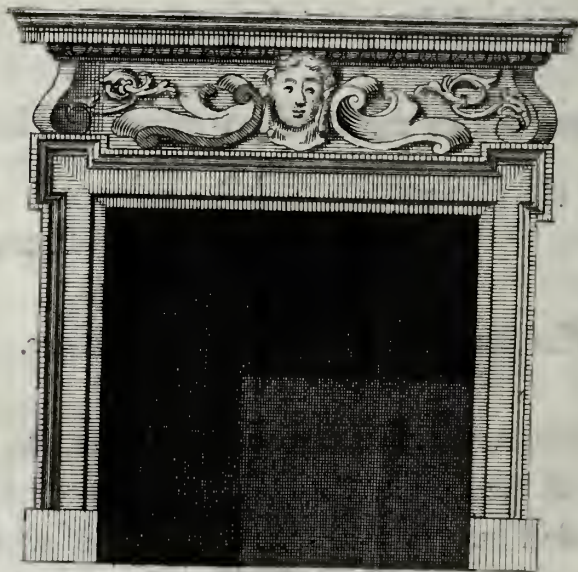
for the third. The Cornice is divided into seven Parts and three fourths; two are for the *Cavetto* and *Ovolo*; two for the *Modilion*, and three and three fourths for the *Corona* and the *Cymatium*; the Projecture or jutting out of the whole Cornice is in proportion to its Altitude. I have designed the Front, Flank, and Plan of the Capital, together with the Architrave, Freeze, and Cornice, with their proper Decorations.

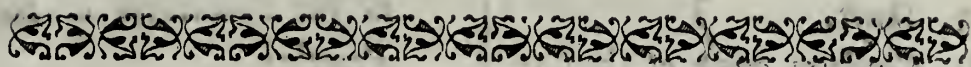
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|---------------------------------|----------------------------------|
| A. <i>Gima recta.</i> | G. <i>Cavetto.</i> |
| B. <i>Gima reversa.</i> | H. <i>Freeze.</i> |
| C. <i>Corona.</i> | I. <i>Cymatium of the Archi-</i> |
| D. <i>Cymatium of the Modi-</i> | trave. |
| lions. | K. <i>First Fascia.</i> |
| E. <i>Modillions.</i> | L. <i>Second Fascia.</i> |
| F. <i>Ovolo.</i> | M. <i>Third Fascia.</i> |

Members of the Capital.

- | | |
|---------------------------------|-----------------------------------|
| N. <i>Abacus.</i> | Q. <i>Astragal of the Column.</i> |
| O. <i>Hollow of the Volute.</i> | R. <i>Fust of the Column.</i> |
| P. <i>Ovolo.</i> | |

The Plan marked S, wherein we see the Roses represents the Soffit of the Cornice between each *Modilion*.





C H A P. XVII.

Concerning the CORINTHIAN ORDER.

THE *Corinthian* Order was invented in *Corinth*, a famous City of *Peleponnesus*, and is more elegant, and strikes the Eye more agreeably than any other before mentioned. The Columns thereof are like those of the *Ionick*, and are nine Modules and a half in Height, including both their Base and Capital. In case they are to be fluted, then they must be made with twenty four Flutes or Hollows, whose Depth is in proportion to half their Breadth. The Plans or Intervals between two Flutes must be one third Part of the Breadth of those Flutes. The Architrave, Freeze, and Cornice, are a fifth Part of the Height of the Column. In the Design of a Colonnade, the Intercolumniations are two Diameters, as in the Portico of *Santa Maria Rotunda* in *Rome*. *Vitruvius* calls this Manner of distancing the Columns *Systilos*. And in that of the Arches, the Piers are two fifth Parts of the Opening of the Arch, whose Opening is two Squares and a half in Height, including the Thickness of the said Arch. Pl. 7818

In this Order the Altitude of the Pedestal must be one fourth Part of the Height of the Column, and is divided into eight Parts; one is for the *Cymatium*, two for the *Base*, and the other five for the *Dado*. When the Base is divided into three Parts, two of them go to the Plinth, and one to the Mouldings. The *Attick* Base is set under this Column, but varies from that which is plac'd under the *Dorick* Order, the Projecture thereof being one fifth Part of the Diameter of the Column. Some other trivial Alterations may be made, as may be seen in the Designs, in which the Imposts of the Arches are likewise profil'd, whose Altitude is half as much again as the Thickness of the *Alett* or *Pire* which supports the Arch.

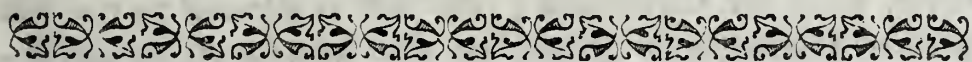
A. Shaft

A. Shaft,	} of the Co- lumn.		to the Cymatium of the Pedestal.	
B. Cincture and Astragal,			G. Cymatium,	} of the Pe- destal.
C. Upper Torus.			H. Dado,	
D. Cavetto with its Astragals.			I. Cornice of the Base,	
E. Lower Torus.			K. Plinth of the Base.	
F. Plinth of the Base joined				

The Imposts of the Arches is by the Side of the Column.

The Height of the *Corinthian* Capital is the Diameter of the Column below, and a sixth, which is allowed to the *Abacus*; the Residue is divided into three proportional Parts; the first is for the first Row of Leaves, the second for the Middle Row, and the third is subdivided into two Parts; the *Caulicoli*, or Stalks, together with their Leaves, which are, as it were, supported by them, and out of which they grow, are made of that Part which is nearest the *Abacus*; the Stalk therefore, or Fust from whence they spring, should be thick, and gradually decrease in their Foldings, like Plants, which are thicker at the Bottom than at the Ends of their Branches. The *Campana*, or Bell, which is the Stalk of the Column under the Leaves, must be perpendicular to the Bottom of the Flutes of the Columns. You must make a perfect Square, the Side whereof is a Module and a half, in order to give the *Abacus* a proper Projecture; and Diagonal Lines being drawn in the said Square, the Point of their Intersection will be in the Center; the fixed Foot of the Compass must be placed here, and a Module marked towards each Angle; and Lines are drawn that cut the said Diagonals at Right Angles, where these Points meet, and so as to touch the Sides of the Square, and these shall be the Limits of the Projecture, whose Length gives the Breadth of the Horns of the *Abacus*. To make its Curvature or Diminution, you must draw a circular Line from one Horn to the other, and in marking the Point; whereby an Equilateral Triangle is made,

made, the Base whereof is the Diminution. Afterwards a Right Line is drawn from the Ends of the before-mentioned Horns to the End of the Astragal of the Column, which must be made so as to be touched by the Tips or Ends of the Leaves, or else come a little forwarder, and this will be their Projecture. The Rose must be a fourth Part as broad as the Diameter of the Column at the Foot. The Architrave, Freeze, and Cornice, as I have before hinted, are a fifth Part of the Altitude of the Column, and the whole is divided into twelve Parts, as in the *Ionick*, but varies from it in this, *viz.* that the Cornice of the *Corinthian* is divided into eight Parts and a half; the first is given to the *Cima Reversa*, the second to the Denticles, the third to the *Ovolo*, and the fourth and fifth to the Modillion, and the other three and a half to the *Corona* and the *Cymatium*. The Projecture of the Cornice is in proportion to its Height. The Pannels of the Roses between the Modillions must be square, and the Modillions half as broad as the Plan of the said Roses. The Members of this Order are not marked by Letters; as those which go before, because these may be easily known by them.



C H A P. XVIII.

Concerning the COMPOSITE ORDER.

THE *Composite* Order, which is likewise named *Roman*, because the antient *Romans* invented it, is so called on account of its partaking of two of the preceding Orders. The most regular and ornamental is that which is a Compound of the *Ionick* and *Corinthian*. It is made more slender and disengaged than the latter; and (the Capital only excepted) may resemble it in all its Parts. The Columns must be ten Modules long. In the Designs of Colonnades, the Intercolumniation, which *Vitruvius* calls *Pycnostyle*, is one Diameter and a half; and in those of the Arches the Piers are half the Void of the Arch, and the Altitude

P. 21
22. 23
24

of the Arches under the Key-stone is two Squares and a half.

And this Order, as I before observed, must be more slender and disengaged than the *Corinthian*; its Pedestal is one third of the Altitude of the Column, and must be divided into eight Parts and a half. The *Cymatium* of that Base is made of the first, and five and a half remain for the *Dado*. The Base of the Pedestal is subdivided into three Parts; two are allowed for the Plinth, and one for the *Torus's* with its *Cymatium*.

The Base of this Column may be *Attick*, as in the *Corinthian*, and also be a Compound of the *Attick* and *Ionick*, as by the Designs more fully appears.

The Profiles of the Imposts of the Arches are by the Side of the Plan of the Pedestal, and its Altitude is in proportion to the Thickness of the *Membretto*.

The *Composite* Capital has the same Measures as the *Corinthian*, but varies from it in the *Volute*, the *Ovolo*, and *Astragal* cut into Beads, which Members are borrowed from the *Ionick*; the Method of making which is as follows: From the *Abacus* downward the Capital is divided into three Parts, as in the *Corinthian*; the first is allowed to the first Row of Leaves, the second to the Middle Row, and the third to the *Volute*, which is made the same Way, and with the same Points as the *Ionick*, and takes up so much of the *Abacus* that it seems to go out of the *Ovolo*, near the Flower which is placed in the Middle of the Curvature of the *Abacus*, and is as thick in Front as the Breadth of its Horns, or a little more. The Thickness of the *Ovolo* is three fifths of the *Abacus*; its lower Part begins parallel to the Eye of the *Volute*; its Projecture is three fourths of its Altitude, and with its Projecture is perpendicular to the Curvature of the *Abacus*, or a little more outwards. The *Astragal* is one third Part of the Altitude of the *Ovolo*, and its Projecture a little more than half its Thickness, and winds about the Capital under the *Volute*, and is always visible. The *Gradetto* or *Listella* which is under the *Astragal*, and forms the

the Plinth of the *Campana*, or Bell of the Capital, is half the *Astragal*. The Body of the *Campana* must be perpendicular to the Bottom of the Flutes of the Column. Having seen one of this Sort in *Rome*, and thinking it exceeding beautiful, and executed with more than ordinary Judgment and Exactness, I borrowed all the Measures above-mentioned from it. There are Capitals likewise which are made in a different Mode, and may with Propriety be called *Composite*; but I shall take Notice of these hereafter, and insert the Designs of them in my Book of *Antiquities*. The Architrave; Freeze, and Cornice, are together a fifth of the Altitude of the Column; and by the Observation of what was before-mentioned, with respect to the other Orders, and the Numbers marked in the Design, you may easily know both their Proportions and Divisions.

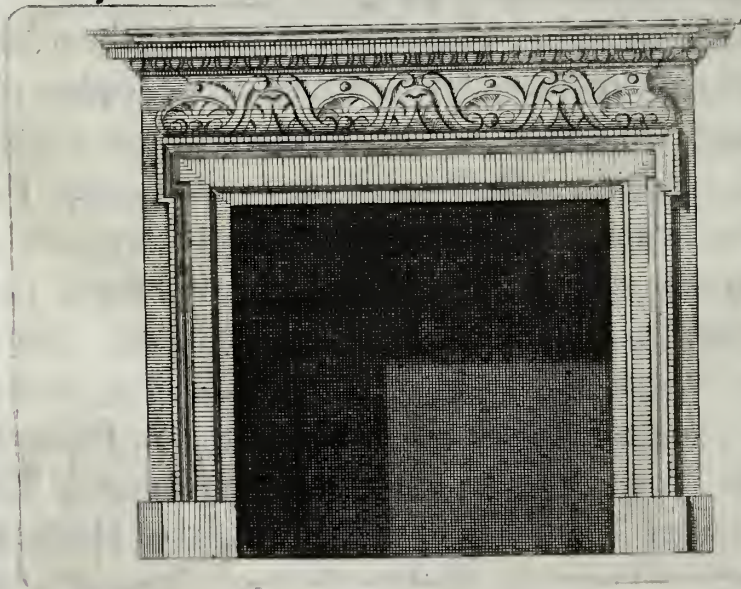


C H A P. XIX.

Concerning PEDESTALS.

I HAVE taken Notice all along of whatever I thought essential, with respect to plain Walls and their Decorations, and have made my particular Remarks upon the several Pedestals that may be given to each Order. But since the Antients had no regard to the making them larger or smaller in the different Orders, altho' this Member gives such a Beauty and Grace to the whole, when it is judiciously made, and in a just Proportion to the other Parts, that Architects may have a perfect Idea thereof, and use them as Occasion offers, I think it proper to inform them, that the Antients made them sometimes square, that is, their Altitude equal to their Breadth, as in the Arch *de Leoni* in *Verona*; and I have given these to the *Dorick* Order, because it requires Solidity and Substance. Their Proportions were sometimes regulated by the Measure of the Openings or Voids, as in the Arch of *Titus* at *Santa Maria*

Maria Nova in *Rome*, and that of *Trajan* over the Gate of *Ancona*, where the Altitude of the Pedestal is half of the Void of the Arch, which sort of Pedestals I myself have made use of in the *Ionick* Order. Their Measures likewise were sometimes taken from the Altitude of the Column, as is visible in the City of *Suza*, situated below the Mountains which divide *Italy* from *France*, in an Arch erected in Commemoration of *Augustus Cæsar*; in the Arch of *Pola*, a City of *Dalmatia*, and in the Amphitheatre in *Rome*, in the *Ionick* and *Corinthian* Order, in all which Buildings the Pedestal is one fourth of the Altitude of the Column, as I observed in the *Corinthian* Order. In the beautiful Arch called *di Castel Vecchio*, at *Verona*, the Pedestal is one third of the Altitude of the Column, as I have made it in the *Composite*. All these different Sorts of Pedestals are very ornamental, and bear the most exact Proportion to the other Parts. By the Word *Poggio*, which *Vitruvius* takes Notice of in his sixth Book, where he talks of Theatres, he means Pedestal, which he makes one third Part of the Height of the Columns made to beautify the Theatre. But of these Pedestals, which exceed one third of the Columns, there is an Instance in the Arch of *Constantine* in *Rome*, the Pedestals being of two Parts and a half the Altitude of the Column. The Antients made the Base of almost all their Pedestals twice as thick as the *Cymatium*, which I shall shew in my Book of *Arches*.





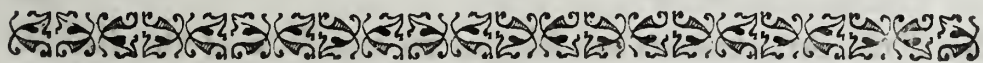
C H A P. XX.

Concerning the ERRORS and ABUSES in
ARCHITECTURE.

HAVING thus far shewn the various Decorations of Architecture, *viz.* of the five Orders thereof; laid down the Manner of making them, and given the Profils of their several Members, as the Antients used to make them, I think it necessary, in this Place, to take notice of several Errors which were first introduced by the Barbarians, and are still in Practice, that the studious Architect may avoid them in his Works, and be able to know these Abuses when he sees them. Architecture therefore being, as all other Arts are, an Imitation of Nature, will never admit of any thing, either repugnant to, or inconsistent with, that Order and Harmony which Nature observes in all her Works; whence the antient Architects, who first began to make their Edifices of Stone, which, 'till then, had been made of Timber, laid it down for an infallible Rule, that Columns should be thicker at the Bottom than the Top; in which they borrowed an Instance from Trees, which are bigger at the Trunk, and near the Roots, than at the Top. In like manner, as it is natural for those Things to sink down, on which any great Burden is laid, they put Bases under their Columns, which, with their *Torus's* and *Cavettos*, appear to be the Swellings occasioned by the Weight they sustain. They likewise added *Trygliphs*, Modillions, and Dentels to the Cornices, to represent the Extremities of those Joists that sustain the Cielings and Roofs. If we duly examine, we shall find that the same was observed in all the other Parts; upon which Account one cannot but dislike those Forms of Building, which swerving from those Rules that Nature herself dictates, and that Simplicity which is conspicuous in all her Productions, form to themselves another kind of Nature, by deviating from whatever

is good, just and beautiful in Architecture: Wherefore we must not, instead of Pilasters or Columns which are to sustain any Weight, place Cartouches, which are certain Scrolls that strike the Eyes of Judges very disagreeably; and are so far from being in the least satisfactory or pleasant to those who are not, that they give them only an imperfect Idea of Architecture, and only put the Builder to an unnecessary Expence: For which Reason none of these Cartouches should come out of the Cornice; for it being necessary that each Part thereof should be made to some End, and demonstrate, as it were, what it would be if the whole Building had been composed of Timber; and, as it is also natural that a great Burden should be supported by something solid and substantial enough to sustain it, these Cartouches would doubtless be altogether superfluous, since neither Joists, nor any Timber whatever, can perform the Effect the Cartouches represent; and as they are supposed to be slender and weak, I cannot imagine how they can be put under any thing gross and weighty, with the least Shew of Reason. But the greatest Abuse of all is, in my Opinion, the making of Frontispieces of Gates, Windows, and Galleries, divided and open in the Middle, since these Frontispieces were first made to defend these Parts of the Edifice from Rain, &c. Necessity having instructed the antient Architects to cover them, and to give them the Shape of a Roof. Nothing can therefore be more ridiculous than to open that Part which was invented for no other Purpose than to shelter the Inhabitants, and such as go into it, from Rain, Snow, Hail, and other Injuries of the Weather. And though Variety and Novelty naturally please all Mankind, yet they are not to be introduced in direct Opposition to the Rules of Art, and the Dictates of Reason; and it must be acknowledg'd, that the Antients never departed from any general and necessary Precepts of Art in their various Inventions, as I shall shew in my Book of *Antiquities*. As for the Projectures of the Cornice and other Decorations, it is no small Error to make them very large; because when they exceed reasonable and due Proportion, especially if

if they are in a close Place, they make it still closer, and more disagreeable to the Eye, and frighten those who stand under them, who imagine they are every Moment going to fall upon their Heads. We ought to be equally careful to make the Cornices in a due Proportion to the Columns; for if great Cornices are put over little Columns, or little Cornices upon great Columns, the whole must needs be disagreeable to the Eye. Moreover, the supposing of the Columns to be composed of various Pieces, and jointed together by certain Annulets and Garlands round them, which appears to keep them close together, ought so much the more to be avoided, because the more solid and whole the Columns seem to the Eye, the better they answer the End for which they were rais'd, which is to make the whole Building more strong and secure. There are several other Abuses of the like Nature which might here be taken notice of; as of some Members in the Cornice which are made unequal to the rest; but these Things are easily discern'd by what I before observed and here mentioned. In the next Place I shall take the Disposal of the particular and most material Parts of an Edifice into my Consideration.



C H A P. XXI.

Concerning GALLERIES, ENTRIES, HALLS, ROOMS, and the Manner how to contrive them.

GALLERIES were usually made in the Fore or Back Front of an Edifice, and are also placed in the Middle of it if there is to be but one; if two, in the Wings. These Galleries are commodious upon divers Accounts; for Walking, Eating, &c. and are either large or small, as Conveniency and Quality of the Building may require; but they should never be above twenty Feet broad, or less than ten. Besides, every House that is artfully built, should have some certain Places in the Middle, and the principal
Parts

Parts of it, with which all the others have a Communication. These in the lower Part of the House are generally called Entries, and Halls in the upper, and are like so many publick Places. In these Entries Persons wait till the Master of the House appears, to transact Business with, or pay their Compliments to them, and, after the Galleries, are the first Places that present themselves to such as enter into the House. Halls are proper for the Solemnization of Weddings, Balls, Banquets, Plays, and such other innocent Amusements; for which Reason they must be made much larger than any of the other Apartments, and be so contrived, that a numerous Company may, without Inconvenience, be entertained in them, and be Spectators of all that passes. The Length of Halls should never exceed twice their Breadth; but the nearer they are to a Square, the more uniform and commodious they will be.

The Rooms must be distributed equally on each Side of the Entry and the Hall; and Care must be taken that those on the Right Hand answer to, and be of equal Largeness with those on the Left, whereby there will be a just Harmony and Proportion in the several Parts of the Edifice, and the Walls will be in equal Proportion pressed by the Roof: For if the Apartments are bigger on one Side of the Edifice than on the other, in the former Case they will resist the Weight with Ease, because of the Solidity and Thicknes of the Walls; but in the latter they will be too weak, which will create great Inconveniencies, and at last destroy the whole Structure. In the designing of Rooms there are seven beautiful Proportions; for either they are made round or square, but the former is now neglected and laid aside; or their Length is the Diagonal of their Square; or of one Square and a third; or a Square and a half; or a Square and two thirds; or lastly, of two Squares.



C H A P. XXII.

Concerning FLOORS or PAVEMENTS, and
CIELINGS.

HAVING thus shewn you the Form and Construction of Galleries, Halls and Rooms, I shall next proceed to their Floors and Cielings: Floors are made either of *Terazzo* or *Mortar*, as at *Venice*, or of Bricks, or of natural Stones. Those made of Mortar are extraordinary good, which is composed of Brickbats, fine Sand, Lime made of River-Pebbles, or of *Paduan* Stone, the whole well mingled together. These Floors must be made either in the *Spring* or in the *Summer*, because it is necessary that they should be very dry. Brick Pavements are very ornamental, and strike the Eye agreeably, as well on account of the Variety of Colours, which they borrow from the various Sorts of Earth of which they are composed, as from the various Forms which may be given them. The Floors of Chambers are but seldom made of natural Stones, since they are too cold in *Winter*; but they are agreeable enough in Galleries and Apartments for publick Entertainments. It must here be observed that such Chambers as are upon the same Story must have their Pavement level, and so as that the Thresholds of the Doors may be no higher than the rest of the Plan of the Rooms; and if any little Room or Closet should not arise to that Height, the Remainder must be supplied with a *Mezonin* or false Cieling. There are also divers Methods of making Cielings, for some People are very desirous to have them of beautiful and well-wrought Joists; in which Case particular Care must be taken that the Distance between the Joists be once the Thickness and a half of the said Joists; for that Distribution will make the Cieling very agreeable, and so much of the Wall will be left between the Ends of the Joists as will suffice to support

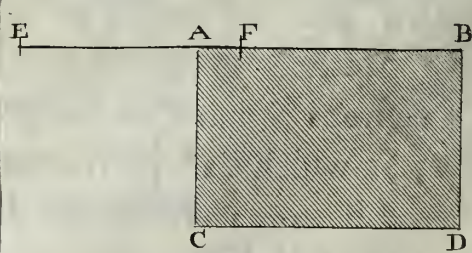
the Weight over it ; but in case they are made at a greater Distance, they will look very unhandfome ; and if at a lesser, they will divide, as it were, the upper Wall from the lower ; and if the Joists should prove rotten, or by any Casualty be set on Fire, the upper Wall must fall of course. Others are fond of Compartments made of *Stucco-Work*, or of Timber ; these they fill with Pictures, so that they may be variously decorated, and therefore no fixed and positive Precepts can be prescribed upon this Topick.



C H A P. XXIII.

Concerning the ALTITUDE of ROOMS.

ROOMS are built either with an arched or a flat Cieling ; if with the latter, the Altitude from the Floor to the Joists must be in equal Proportion to their Breadth, and the Rooms over them must be a sixth Part lower than those beneath. If with the former, as they usually are in the first Story, for this gives them a Grace and Beauty, and renders them less liable to Fire, their Altitude in square Rooms is a third Part more than the Breadth of the Room. But in those where the Length exceeds the Breadth, an Altitude must be sought equal to their Length and Breadth, which is found with Ease, by joining the two Lines of the Length and Breadth, and dividing the whole into two equal Parts, one of which will be the exact Altitude of the Arch ; as for Instance : Let BC be the Place to be arched ; add the Breadth AC to the Length AB , and we have the Line EB ; which being divided into two equal Parts in the Point F , gives FB the Altitude sought for.



Or if the Chamber to be arched be twelve Feet in Length, and six in Breadth, add the two Numbers together, and the

Sum

Sum is eighteen, which divided by two, gives nine ; and this is the Altitude of the Arch required.

In Plate XXV. Prob. I. another Altitude equal to the Length and Breadth of a Room is thus found ; BC being the Room to be arched, you must join the Length to the Breadth, and it gives the Line BF ; this you must afterwards divide into two equal Parts at the Point E , which making a Center, you must describe thereon the Semicircle BGF ; then continuing the Line AC , till it touches the Circumference of the Point G , AC will be the Altitude of the Arch BC . The Method of finding it in Numbers is thus ; The Length and Breadth of the Room being given, a Number must be found that bears the same Proportion to the Breadth as the Length does to it, which is performed by multiplying the lesser Extreme by the greater, and the square Root of the Product will be the Height. As for Instance ; suppose the Place to be arched be nine Feet long, and four Feet broad, the Altitude of the Arch will be six Feet ; and the same Proportion that nine has to six, six has to four ; that is, the *Sesquialtera* Proportion : But you must observe that you cannot always find this Altitude by Numbers.

In Plate XXV. Prob. II. another Altitude may also be taken, which, though it be less, will still be in proportion to the Room, and is done in this Manner : Having drawn the Lines AB , AC , CD , and BD , which represent the Length and Breadth of the Room, and found the Altitude thereof according to the first Way, which will be CE , join it to AC ; then draw the Line EDF , and prolonging AB , till it touches EDF in the Point F , the Line BF will be the Altitude of the Arch. But to find it in Numbers, the Rule is as follows : Having by the Length and Breadth of the Chamber found its Altitude, according to the first Rule, which in the foregoing Instance was nine, first add the Length, Breadth, and Altitude together, as in the Figure ; then multiplying the nine by twelve, and afterwards by six, set the Product made by twelve under twelve, and the Product made by six under six ; when this

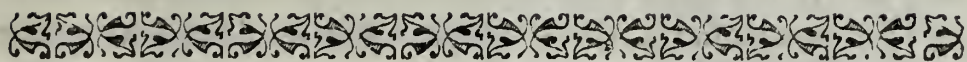
is performed, multiply six by twelve, and set the Product thereof, which is seventy-two, under nine; lastly, having found a Number that, multiplied by nine, produces seventy-two, which in this Instance would be eight, I say that eight Feet is the Altitude of the Arch. These several Altitudes have this Relation between themselves, *viz.* that the first exceeds the second in the same *Ratio* or Proportion as the second exceeds the third. Each of these Altitudes may then be us'd, according to the Conveniency which they give for Contrivance; that various Rooms of several Dimensions may be so made as to have all their Arches of an equal Altitude, and be at the same Time exactly proportionate. By this means the Chamber will look agreeable, and be very convenient for the Floor above, which will be upon a Level. There are other Proportions for the Altitude of Arches, which do not come under any particular Precepts, and are therefore left to the Architect to use them as Necessity requires.

C H A P. XXIV.

Concerning the various Sorts of ARCHES.

IN Plate XXV. Prob. III. there are six kinds of Arches, *viz.* Crossed, Fasciated, Flat, (for so those Arches which are only the Segment of a Circle, and less than a Semi-circle are called,) Circular, Grinded, and Shell-like; all which are in Altitude one third of the Breadth of the Room. The four first were made use of by the Antients, but the two last are the Invention of the Moderns. We make round Arches in square Chambers, and the Method of raising them is this: In the Angles of the Room we leave certain Mutules, or Modillions, which sustain the Semi-circle of the Arch, which is flat in the Middle, but more circular the nearer it approaches the Angles. We have an Instance of one of this Sort in the Baths of *Titus* in *Rome*, one Part whereof, at the Time I view'd it, was moulder'd away. I have here given the Designs of all these several Manners of arching, appropriated to the different Figures of the Rooms.

C H A P.



C H A P. XXV.

*Concerning the Dimentions, or Proportions of
GATES, DOORS, and WINDOWS.*

NO settled and determinate Directions can possibly be given for the Altitude and Breadth of the Gates of spacious Edifices, nor for the Doors and Windows of Rooms ; the Reason of which is this : When an Architect makes any Gates, he is forced to adapt them to the Largeness of the Fabrick ; to the Dignity of the Person who employs him ; and the Conveniency of whatever is to go backwards and forwards, either to or from the same. The Method which I like best is this ; divide the Space from the Ground, to the Superficies of the Joists, into three Parts and a half, according to *Vitruvius* in Book IV. Chap. VI. two whereof allow to the Altitude of the Void or Opening, and one to the Breadth, less the twelfth of the Altitude. It was a Custom amongst the Antients, to make their Gates wider at the Bottom than at Top, like those, for Instance, in the Temple at *Tivoli* ; and *Vitruvius* has laid down the same Precept in all Probability for this Reason, because it would give a greater Solidity. The Gates and principal Doors must be order'd in such a Position, that an easy Access from all Parts of the House may be had to them. The Doors of Rooms must not exceed three Feet wide, and six and a half high ; nor be less than two Feet wide, and five Feet high. The Openings for Windows must be always made in such a Proportion, as that the Room may not glare with too much Light, nor be too dark and gloomy ; and likewise the Windows themselves must never be made too close, nor too far distant one from the other. In this case therefore a particular Observation must be made of the Dimensions of the Chamber, since it is but natural, that a spacious Room should require much more Light than a small one ; and in

case the Windows are made either less in Number, or smaller than is necessary, the Chambers will be dark ; as on the other Hand, if they are too spacious, or too numerous, they will be very incommodious, on Account of the too great Quantity of Air which they let in ; for that will make them either too hot in *Summer*, or too cold in *Winter*, unless they face that Side of the Heavens which is soft and temperate. The Breadth of the Windows therefore must not be above a fourth Part of that of the Room, nor be under a fifth Part ; they must have two Squares in Height, and a sixth Part of their Breadth ; and as in a House, altho' it consists of various Apartments (some large, some small, and others neither one nor the other) we are notwithstanding obliged to make the several Windows in the same Story equal. In the Mensuration of the said Windows, I am govern'd by the Dimensions of such Rooms, as their Length is two thirds more than their Breadth ; that is, if the Breadth be eighteen Feet, the Length must be thirty, and the Breadth is divided into four Parts and a half, one of which is allowed to the Opening of the Window, and two to the Height, with a sixth Part of the Breadth, observing the same Proportion in all those of other Rooms. The Windows of the second Story must be a sixth Part less than the Length of the Opening of those of the first ; and in case there be more Stories, they must lessen in the same Proportion. The Windows on the Right Hand must correspond with those on the Left, and those above be directly perpendicular over those below ; so likewise the Doors must be exactly over each other, that the Void may be over the Void, and the Solid over the Solid ; and lastly, they must all be upon the same Level, whereby we may see quite through the House at once, which is very graceful, and very cool in *Summer*, besides several other Conveniencies, which would be needless to mention. It is customary, on Account of Strength, and in order that the Lintels or Architraves of the Doors and Windows may not be pressed by too cumbrous a Weight, to raise certain Arches ; commonly called Flat Arches, which contribute very much to the Duration of the Building. The Windows,

dows, as I have already observed, must be as distant from the Angles, or Corners of the Fabrick, as possibly they can; for since that Part was made to fasten and bind all the rest of the Edifice together, it must not be open and weak. The Pilasters, or Jambs of the Doors and Windows, are to be no thicker than a fifth Part of the Breadth of the Opening, nor less than a sixth. I come now in the next Place to treat of their proper Decorations.



C H A P. XXVI.

Concerning the DECORATIONS of DOORS and WINDOWS.

THE Reader may easily know how to adorn and beautify the Gates of an Edifice, from the Rules laid down by *Vitruvius* in the sixth Chapter of his fourth Book; from the Illustrations and Designs which the Reverend *Barbaro* has given to explain that Chapter; and from the Observations which I have already made, and the Designs I have given upon all the five Orders; but to wave these Matters, I shall only present the Reader with some Profils of the Decorations of the Doors and Windows of Rooms, as they may be varied; and shew how to design each Member with Beauty, and to give it its proper Projecture. The Decorations of Doors and Windows are the Architrave, the Freeze, and Cornice. The Architrave turns about the Door, and must be as thick as the Jambs or Pilasters, which must not be less, as I have before observed, than a sixth Part of the Breadth of the Opening, nor more than a fifth; and the Thickness of the Freeze and Cornice are taken from the same Opening. Of the two Inventions which follow, the first, or uppermost, has these Dimensions. The Architrave is divided into four Parts, three of which are for the Altitude of the Freeze, and five for that of the Cornice. The Architrave is again divided into
 ten

ten Parts; three whereof go to the first Fascia, four to the second, and the other three are subdivided into five Parts; two whereof are for the *Regolo* or *Orlo*, and the other three for the *Cima Reversa*, which is also called *Cymatium*; its Projecture is equal to its Altitude. The Fillet projects less than half its Thickness. To design the *Cymatium*, you must draw a right Line from below the Fillet, to the upper Part of the second Fascia; this Line you must divide into two equal Parts, each whereof is made the Base of an *Isocetes Triangle*, or which has two Sides equal; then place the fixed Foot of your Compass in the Angle over-against the Base, and draw the Curve Lines, which gives the *Cymatium*.

The Freeze is three fourths of the Architrave, and is formed by the Segment of a Circle less than a Semi-Circle, and with its Convexity or Swelling is perpendicular to the *Cymatium* of the Architrave. The five Parts which are given to the Cornice, are thus distributed to its Members; one is for the *Cavetto* with its *Listella*, which is the fifth Part of the *Cavetto*, the Projecture whereof is two thirds of its Altitude; and an *Isocetes Triangle*, whose Angle *G* is the Center, is drawn to design it, so that the *Cavetto* will be the Base of the Triangle. Another of the said five Parts is allowed to the *Ovolo*, the Projecture whereof is two thirds of its Altitude, and is formed by drawing an *Isocetes Triangle*, the Point *H* being its Center. The other three are subdivided into seventeen Parts; eight whereof are allowed to the *Corona* with its *Listellas*, of which that above takes one of the said eight Parts, and that below, which makes the Hollow of the *Corona*, has but a sixth Part of the *Ovolo*. The other nine are given to the *Cima Recta* and its *Fillet*, which is one third of the said *Cima*. To form it with Grace and Exactness, the right Line *AB* is drawn, which is divided into two equal Parts in the Point *C*; one whereof is subdivided into seven Parts, six of which being taken in the Point *D*, we afterwards

wards describe the two Triangles AEC and CBF ; then having set the fixed Foot of the Compass in the Points E and F , we describe the Segments of Circles AC and CB , and they form the said *Cima Recta*.

The Architrave of the second Invention is likewise divided into four Parts, three whereof are for the Altitude of the Freeze, and five for that of the Cornice. The Architrave is again divided into three Parts, two whereof being subdivided into seven, three go to the first *Fascia*, and four to the second. The third Part is subdivided into nine Parts; two are allowed to the *Astragal*, and the other seven being again subdivided into five, three are given to the *Cymatium* or *Ogee*, and two to the Fillet. The Altitude of the Cornice is divided into five Parts and three fourths, one whereof being subdivided into six, five are for the Bed-moulding over the Freeze, and the other for the *Listella*. The Projecture of the Bed-moulding is equal to its Altitude, as is that of the *Listella*. One is for the *Ovolo*, whose Projecture is three fourths of its Altitude. The *Gradetto* or Fillet over the *Ovolo* is the sixth Part of the *Ovolo*, and projects just as much. The other three Parts are subdivided into seventeen; eight are allowed to the *Corona*, whose Projecture is one third more than its Altitude, the other nine being subdivided into four; three are for the *Cymatium*, and one for the Fillet: The three others are subdivided into five Parts and a half; of one of which the *Gradetto* or Fillet is made, and of the other four and a half the *Cymatium* over the *Corona*. The Projecture of this Cornice is equal to its Altitude.

Members of the Cornice of the first Invention.

I. Cavetto.
K. *Ovolo*.
L. *Corona*.

N. <i>Cymatium</i>
O. <i>Fillet</i> .

Q

Members

Members of the Architrave.

P. Ogee or <i>Cima Reversa</i> .	S. Convexity or Swelling of the Freeze.	
Q. First <i>Fascia</i> .		
V. Second <i>Fascia</i> .		T. Part of the Freeze that goes into the Wall.
R. <i>Orlo</i> or <i>Fillet</i> .		

The Members of the second Invention may be easily known by those which are here set down.

In the two following Inventions, the Architrave of the first marked *F* is likewise divided into four Parts, three whereof, and a fourth, go to the Altitude of the Freeze, and five to that of the Cornice. The Architrave is again divided into eight Parts; five of which are allowed to the *Fascia*, and three to the *Cymatium*, which is again subdivided into eight Parts; three whereof are for the Ogee, three for the *Cavetto*, and two for the *Fillet*. The Altitude of the Cornice is divided into six Parts; two whereof are for the *Cima Recta* and its *Fillet*, and one for the Ogee. This *Cima* is again subdivided into nine Parts, eight whereof are allowed to the *Corona* and its *Gradetti* or *Listellas*. The *Astragal* over the Freeze has but a third of one of the said six Parts, and that which is left between the *Corona* and the *Astragal* is for the *Cavetto*.

In the other Invention the Architrave marked *H* is divided into four Parts; three and a half whereof are allowed to the Altitude of the Freeze, and five for that of the Cornice. The Architrave is divided into eight Parts, of which five are for the *Fascia*, and three for the *Cymatium*. The *Cymatium* is divided into seven Parts; one whereof is given to the *Astragal*, and the rest are again subdivided into eight Parts; three whereof are for the *Cima Reversa*, three for the *Cavetto*, and two for the *Fillet*. The Altitude of the Cornice is divided into six Parts and three fourths; three are allowed to the Ogee, the *Dentile*, and the *Ovolo*. The Ogee projects just as much as its Thickness; the *Dentile* have two thirds of its Altitude, and the *Ovolo* three fourths;

fourths ; of the three fourths, the *Ogee* between the *Cymatium* and the *Corona* is form'd, and the other three Parts are subdivided into seventeen ; nine are allowed to the *Cymatium* and the *Fillet*, and eight to the *Corona*. The Projection of this Cornice, as those above, is equal to its Thickness.

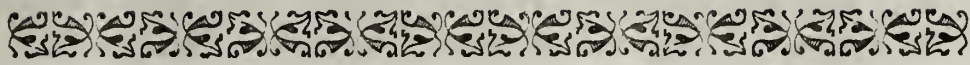


C H A P. XXVII.

Concerning CHIMNIES.

THE Antients, in order to heat their Apartments, built the Chimnies in the Middle with Columns or Consoles to uphold the Architraves, over which they fixed the Pyramidal Funnel, through which the Smoke was conveyed. A Chimney of this kind was to be seen at *Baia*, near *Nero's Fish-Pond*, and another not far distant from *Civita Vecchia*. But in case there were to be no Chimnies, they then made certain Tubes or Pipes in the Thickness of the Wall, through which the Heat of the Fires which were made under those Chambers ascended, and issued out thro' certain Vents or Mouths, at the Top of the said Tubes or Funnels. The *Trenti* (a *Vicentine* Family) cooled the Apartments of their *Villa* at *Costozza* much after the same Manner, during the *Summer* Season : For there are in the Hills whereon that *Villa* is erected, several deep Caverns, called *Covalli* by the Inhabitants, which were formerly Quarries. *Vitruvius*, I presume, means these Caverns in his Second Book, where discoursing of Stones, he tells us, that there is a kind of Stone dug in *Marca Trevigiana*, which may be sawed like Timber. In these Caverns are generated certain very refreshing Winds, which are conveyed to those Gentlemen's Houses through certain subterraneous Passages called *Ventidotti*, or Wind-Pipes ; and by Funnels like those above-mentioned, these cool Winds are let into every Room of the House : These Passages are opened and shut whenever these Gentlemen please, and take more or less Air, according

ording to the Seasons. And notwithstanding this Place is very remarkable, on account of this singular Conveniency, yet what makes it still more so, and worth our Observation, is another Place called *il Carcere de Venti*, that is to say, the *Prison of the Winds*, which is a subterraneous Chamber contrived by the justly admired Sig. *Francesco Trento*, and by him called *EOLIO* (or the Palace of *Æolus*) where several of these *Ventidotti* or Wind-pipes discharge themselves; and to adorn it, and make it answer to its Title, he has taken abundance of Pains, and been at a vast Expence. But to return to the Chimnies, the Moderns make them in the Thickness of the Walls, and raise their Funnels above the Roof, to carry off the Smoke quite away into the Air. But the Tubes must never be made too wide or too narrow; for in the former Case the Wind having too much Room, will drive the Smoke downward, and not let it ascend, or go freely out; and in the latter Case, the Smoke, for want of a free Vent, will fly back again: In the Chimnies of Rooms therefore, the Funnels must not be narrower than half a Foot, nor wider than nine Inches, nor above two Feet and a half in Length. The Mouth of the Pyramid where it joins to the Funnel must be made somewhat narrower, that the Smoke driving downward, it may keep it from going into the Room. Some make the Funnels crooked, that by their Winding, and the Strength of the Fire which forces it upward, they may prevent the Smoke from flying back into the Room. The Funnels, or Opening at Top, through which the Smoke should be conveyed, ought to be wide, and set at a Distance from any Substance that is apt to take Fire. The Mantle-Tree, over which the Pyramid of the Chimney is placed, must be curiously wrought, and not the least *Rustick*; this being, for the Reasons already mentioned, proper only for spacious Buildings.



C H A P. XXVIII.

Concerning STAIR-CASES, and the various Methods of erecting them; and also concerning the Number and Dimensions of the STAIRS or STEPS.

ALL the Care imaginable must be taken in placing your Stair-Cases, because 'tis very difficult to find a convenient Place for them, which at the same Time will no ways damage the rest of the Fabrick. A proper Situation therefore must be assign'd them, that they may not interfere with any other Parts of the House, nor receive any Inconveniency from them. Stair-Cases must have three Openings; the first of which is the Door by which we go up to them, which the less is concealed from such as enter the House, the more ornamental it will appear; and in my Opinion it should be placed in such a Manner, that before we come at it we may have a Sight of the best Part of the House; for then the Edifice, though little in reality, will appear large; for which Reason it must be obvious, and easy to be found. The second Opening is the Windows, requisite to light the Stair-Case; these must be situate in the Middle, and be made high, by which means they will diffuse the Light in equal Proportion. The third Opening is the Landing-place, through which we enter into the Rooms of the first Story, and must lead into the most handsome, spacious, and best-furnished Rooms of the House. Stair-Cases are not compleat unless they be light, large, and easy to ascend, and invite People as it were to go up them. In order to make them lightsome, they must receive a strong Light, which, as I have already observed, must be equally diffused upon all Parts of them. They will be spacious enough, in case they be not made too narrow in proportion to the Bigness and Quality of the Building; but they must

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never

never be narrower than four Feet, that when two Persons meet they may have Room enough to pass. They will be commodious with respect to the whole Fabrick, if Arches large enough to hold Goods, &c. are made under the Steps; and if they are made wide, and of an easy Ascent, it will be more commodious to those who go up and down; their Thread therefore must be double their Height. The Steps must be no more than six Inches steep, and if they should be less, especially if the Stair-Cases are long, and have no Landing-places, it will make them still more convenient and less tiresome, by not obliging People to lift their Feet so high: but then they must be four Inches steep at least. The Breadth of the Steps must not be more than one Foot and a half, nor less than a Foot. The Antients in the Steps of their Stair-Cases took particular Care to make their Number odd, that when they begun to go up with the Right Foot, the same might be uppermost when they came to the Top, which they imagined was a propitious Omen, and a Testimony of more religious Awe and Reverence when they entered their Temples. Eleven or thirteen Steps, however, at most will be enough for a Flight; and in case when we are got so high, we must still go farther, than a Landing-Place ought to be made, that such Persons as may be ever weary or tired, may rest themselves; and that when any thing happens to fall from above, it may thereby be stopped, and prevented from rolling any lower. Stair-Cases are sometimes made strait, and sometimes winding. The former may be divided into Passages, or else made square, which turn in four. For the making of these, the whole Space must be divided into four Parts; two whereof must be allowed to the Steps, and the other two to the Void in the Middle, whence the Stair-Case, in case it were left open, would receive the Light. They may be made with the Wall inward, and then the Wall itself is enclosed in the two Parts which are allowed to the Steps, but there is no absolute Occasion for this. *S. Lewis Cornaro*, a Nobleman of an extraordinary Genius, as is evident from

from the artful Designs which he drew of a fine Gallery, and a magnificent Palace which he built at *Padua* for his own Residence, was the Inventer of these two kinds of Stair-Cases. Whinding-Stairs, which some call *Cockle-Stairs*, are made sometimes Circular, sometimes Elliptical, and sometimes with a Column or Newel in the Middle, or open, particularly if there be but little Room, because they take up less Compass than the strait; but they are not quite so commodious to ascend. Such as are open in the Middle are found to be ornamental and pleasant, not only because they receive the Light from above, but because any one that is at the Top may see and be seen by all such as go up and down them.

When a Stair-Case winds round a Column, it is made in the Manner following: The Diameter being divided into three Parts, two are for the Steps, and one for the Column; as in the Design marked *A*; or the Diameter shall be divided into seven Parts, three of which must be allowed to the Column in the Middle, and the four others to the Steps, which has been accurately observed in the Stair-Case of the Pillar of *Trajan*: And in case the Stair Cases be made Circular, as in the Design *B*, they will appear very ornamental, and be longer than if they had been made strait. But in open Stair-Cases, the Diameter is divided into four Parts, two of which are given to the Steps, and two to the Void in the Middle.

Besides the various kinds of Stair-Cases generally made, the celebrated *Mark Anthony Barbaro*, a Gentleman of *Venice*, hath invented another kind of winding Stair-Case, which is very well adapted to such Places as are narrow. This has no Column in the Middle, and the Stairs being circular, become long by that Means.

Its Division is the same with that before mentioned.

Elliptical and Circular Stair Cases are divided after one and the same Manner, and are very handsome and agreeable; all the Windows and Doors being at the Head, and in the Middle of the Ellipsis; and these likewise are very commodious.

dious. I have made one of this kind myself, which is open in the Middle, in the Convent *della Carita*, in *Venice*, which was very much approved of.

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230
- A. *Winding Stair-Case*, with a Newel in the Middle.
 - B. _____ with a Newel and Circular Steps.
 - C. _____ open in the Middle.
 - D. _____ open in the Middle, and with Circular Steps.
 - E. *Eliptical Stair-Case*, with a Newel in the Middle.
 - F. _____ without a Newel.
 - G. *Strait Stair-Case*, with the Wall on inside.
 - H. _____ without a Wall.

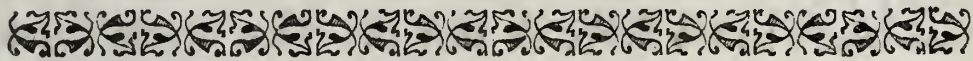
Another handsome sort of *Winding Stair-Case*, was made by the Direction of the puissant Monarch, *Frances the First*, King of *Fance* at *Chambor*, in a Palace erected in a Wood, which *Stair-Case* is made in the following Manner. There are four *Stair-Cases*, with an Entrance to each of them, which go up one over the other, so as, that being made in the middle of the Fabrick, they may serve for four distinct Apartments; the Inhabitants of one *Stair-Case*, being under no Obligation to go down those of the other; and as they are open in the Middle, they all see one another ascend and descend, without incommoding one another. As this Invention is noval and ornamental, I have inserted a *Design* of it, and marked the *Stair-Cases* with Letters in the *Plan* and *Profil*, to shew the Reader where each of them begins, and how they ascend.

There are also in the *Porticos* of *Pompey* at *Rome*, in the Way that leads to the *Jews Quarter*, three *Winding Stair-Cases* of a very pretty and artfull Invention; for being placed in the Middle of the *Building*, whence they could receive no Light but from above, they were set upon *Columns*; to the End that the Light might be equally diffused. In Imitation whereof *Bramante*, a celebrated Architect in his Time, made one in the *Belvidera*, but without Steps, and composed it of the four Orders following, that is, the *Do,*
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rick, Ionick, Corinthian, and Composite. This kind of Stair-Cafe is made by dividing the whole Space into four Parts; two of which are given to the Void in the Middle, and one to each Side of the Steps and Columns.

Several other Sorts of Stair-Cafes are to be seen in antient Fabricks, as Triangular, of which sort are those whereby we ascend the Cupola of *Santa Maria Rotunda*, which are open in the Middle, and admit the Light from above. Those of the Church of *Santo Apostolo*, near *Monte Cavallo*, are also very pompous and magnificent. These double Stair-Cafes have been imitated by divers Architects; they led to a Temple which stood on the Top of the Mountain, as in my Book of *Temples* is fully shewn; and this is the last Design of this sort of Stair-Cafes.

Pl. 31



C H A P. XXIX.

Concerning R O O F S.

WHEN we have carried the Walls as high as we are determined they shall go, when we have made the Vaults, laid the Joists of the Floors, brought up the Stair-Cafes, and, in short, done every Thing which we have already taken Notice of, in the next Place we must raise the Roof, which, as it embraces all the Parts of the Fabrick, and presses the Walls thereof equally with its Weight, is by that Means a kind of Bandage to the whole, and serves not only to shelter such as live in the House from Rain, Snow, the *Sun's* burning Rays, and the Vapours which arise in the Night, but is also of great Service to the whole Edifice, as it carries off the Rain from the Walls, which, altho' it be imagined of but small Detriment to the Fabrick, will, notwithstanding, in Process of Time, be found to be very prejudicial to it. *Vitruvius* tells us, that when the

World was young, Men made the Roofs of their Houses flat, but afterwards finding that this did not protect and defend them from the Injuries of the Weather, Necessity compelled them to raise them in the Middle, and make them slope. These Roofs must be made more or less shelving, according as the Climate is either hot or cold: For which Reason, in *Germany*, where the Snow falls in great Quantities, the Roofs are made very sharp, and are covered with Shingles, or little thin Pieces of Wood, or else with very thin Tiles; for otherwise the Weight of the Snow would crush them. But those who live in gentle and moderate Climates, should raise their Roofs with Grace and Politeness, and to such an Altitude as that the Rain may easily roll off. The Breadth of the Place to be roofed therefore must be divided into nine Parts, two whereof shall be the Pitch; for if it were made of one fourth of the Breadth, the Roof would be too sharp, so that the Tiles would scarce cleave; and if they were made but of a fifth Part, the Roof would be too flat, whereby the super-incumbent Weight of the Tiles, Shingles, and Snows, would press too much upon it. Gutters are usually made all round the House, into which the Water that falls from the Tiles is conveyed away by Spouts at a considerable Distance from the Walls. The Gutters must have a Foot and a half of Wall over them, which will not only keep them in much stronger, but likewise preserve the Timber in the Roof from any Damage which the Rains might otherwise occasion. There are divers Methods of framing the Timber in the Roof; but when the Middle Walls uphold the Joists, they are raised with Ease; which Method I very much approve of, because the exterior Walls are very little pressed thereby, and because the Roof would be in no manner of Danger, altho' the End of some of the Joists should happen to decay

F I N I S.

T H E
S E C O N D B O O K
O F
P A L L A D I O ' S
A R C H I T E C T U R E .

In which are contained,

The D E S I G N S of several Houses erected by
himself either in Town or Country.

W I T H

Divers other Designs of the Manner of Building formerly
practised amongst the *Greeks* and *Romans*.

Translated from the ITALIAN; and the D E S I G N S carefully
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SECOND BOOK

PHYSICAL

SCIENCE

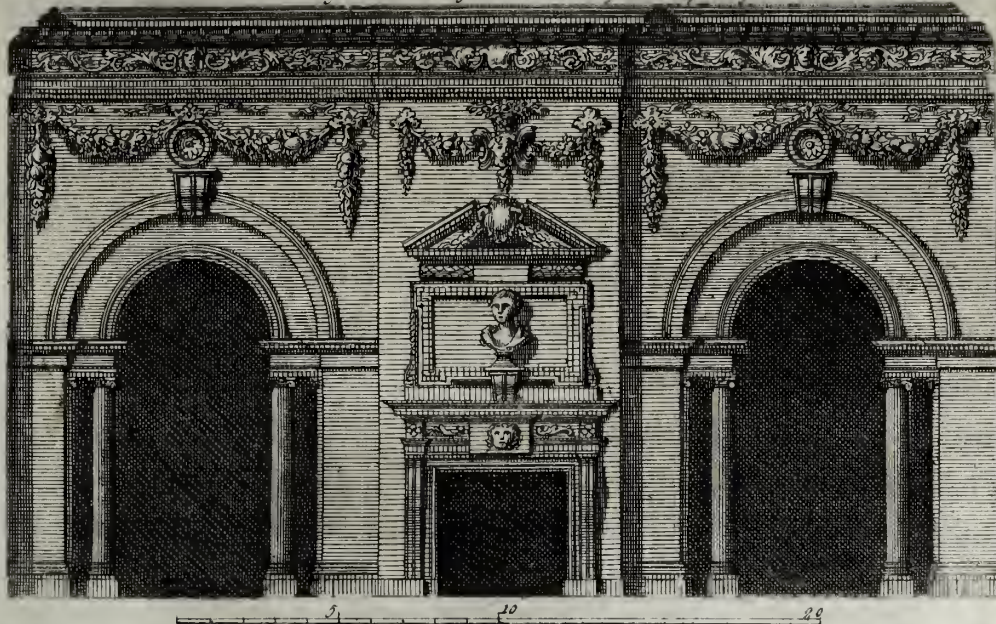
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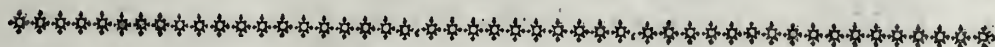
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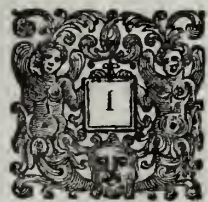


T H E
S E C O N D B O O K.



C H A P. I.

Concerning the Beauty, Conformableness, Symmetry, and Proportion which ought to be observed in all private Edifices.



HAVE already treated of all such Things as I thought most requisite to be practised in the Erection of publick and private Edifices, in order to make them ornamental, commodious, and lasting. I have also said something relating to the Conveniencies of private Gentlemen's Seats; of which I intend to speak more fully, and at large, in this Second Book.

And forasmuch as we generally call a House commodious when it is adapted and made suitable to the Dignity of its Master, and not only all the Parts are proportioned to the Whole, but each Part has an exact Symmetry with one another; an Architect must principally observe therefore, what

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Vitruvius

Vitruvius has recommended to him in his First and Sixth Book, *viz.* that when he builds for a Person of Distinction, and particularly for one who is in publick Employ, he must build his Palace with Portico's, Galleries, and spacious magnificent Halls richly adorned; that such as attend about Business, or to pay their Compliments to the Owner may be commodiously received, and be pleased and amused whilst they wait for him. But when he builds for one of a meaner Station, a Medium must be observed, as well in the Extent and Form of the Edifice as in the Decorations and Expence. The Houses of Judges, Counsellors, &c. must also have commodious Places to walk in, and where their Clients may wait without being restless and impatient. Merchants Houses must have Warehouses, and other Apartments exposed to the North, wherein their Goods and other Commodities may be commodiously kept; and those Places must be so ordered, that the Masters may have no Occasion to apprehend any Danger from the Idsults of Robbers. Such a Proportion must also be observed, that every Member of the Edifice may agree with the Whole; so that either in great, small, or moderate Edifices, the Parts may be discerned to be great, small, or moderate, suitable to their various Extents: For, doubtless, it would be no small Fault, and a Thing very disagreeable, if in a large Building all the Halls and Rooms were small; or if in a small Edifice two or three spacious Apartments should take up the Whole. A due Regard therefore (as I said before) must be had to the Dignity and Distinction of the Person who builds, more than to his Fortune, and his House must be made suitable to his Rank and Degree, which being agreed upon, the Parts of the Edifice must be so disposed that they all may agree with the Whole, and each with one another, with such Decorations as are suitable to them: But it very often happens that the Architect is under an Obligation to follow the Fancy of the Person who employs him, and not the Dictates of his own Genius or Inclination.



C H A P. II.

*Concerning the Compartition, or Distribution of
CHAMBERS and other Apartments.*

TO make Buildings commodious for Families, (without which no body can approve of them) great Care must be taken not only with respect to the principal Parts of them, *viz.* the Entries, Halls, Courts, great Rooms, and light Stair-Cases, which must be made spacious and easy to go up and down, but also that the meanest and least graceful of them may be situated advantageously to serve the other more spacious and considerable Apartments: For as we see in the human Body some curious and beautiful Members, and others again as disagreeable and deformed, which last however are very advantageous and serviceable to the first, and without which they could not subsist; so some Parts of an Edifice must make a beautiful and pompous Appearance, and others be incurious and inelegant, without which the principal ones could not be so conspicuous as they ought, but would rather lose some Part of their Grandeur and Perfection. But as our all-wise Creator has ordered and disposed the Members of the human Body so, as to make the most beautiful of them to be the most exposed to View, and concealing those which are less agreeable; so we must order and dispose an Edifice in such a Manner as that the most noble and beautiful Parts of it be the most exposed to all Spectators, and the less agreeable thrown into By-places, and removed as much as possible from publick View; because the Refuge of the House, and whatever may produce any ill Effect or Incumbrance, ought to be carried thither. And for this Reason the Cellars, Wood-houses, Pantries, Kitchen, Servant's Halls, Landries, Ovens, and other Offices, which are for ever in Use, should, in my Opinion, be placed in the lower Part of the Edifice, and
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which, for the Generality, should be ordered a little under Ground. There are two Advantages that attend this Distribution : the first is, that the Apartment above is altogether free from the Embarrassments or Incumbrances before-mentioned ; and the second, which is of equal Importance with the former, is, that the said Apartment is thereby much more wholesom, the Floor thereof being free from the Moisture of the Ground, besides that its being high renders it more beautiful, and contributes towards a more agreeable Prospect. Care must be taken in the next Place, that in the rest of the Edifice there be large, moderate, or middle-siz'd, and small Rooms, and that they be all contiguous one to another, for the better Communication between them. Convenient Partitions must likewise be contrived for Closets, Libraries, Horse-Furniture, and other Things which are in daily Use, and which would appear very indecent in a Bed-Chamber, Dining-Room, or other Place set apart for the Reception of Strangers. It is also requisite that the *Summer*-Rooms be spacious, and open to the *North* ; and the *Winter* ones small, and exposed to the *South* and *West*, because in *Summer* the Air and Shade is very agreeable, and in *Winter* the *Sun* ; besides, little Rooms are easier warmed than large ones. But the Rooms intended for *Spring* and *Autumn* ought to look towards the *East*, and have their Prospect towards Greens and Gardens. Studies and Closets should likewise have the same Prospect, because the Morning is the best Time for Amusement in such Places. All the Rooms in general, either large, moderate, or small, ought to be so disposed or contrived, that (as I have already observed) every Part of the Edifice may answer one to the other, and the whole Contexture shew such a Convenience and Proportion between all its Parts, as may render it graceful and agreeable. But because it generally happens that in Cities either the Party-Walls, the Streets, or publick Places confine and restrain an Architect within certain Limits, beyond which he has no Power to go ; Necessity therefore obliges

obliges him to suit himself according to the Situation of the Place : And on those Occasions, one may receive some Benefit, I humbly conceive, from the Plans and Elevations which I am now going about to give ; and which may likewise serve as Examples for the Illustration of what I have already said in my First Book.

* This Plate represents half a *Vicentine* Foot, half a *French* Foot, and half an *English* Foot.

All the following Draughts have been made and measured according to the *Vicentine* Foot, which is here divided into twelve Inches, and every Inch into twelve Parts, as are also the *French* and *English* Foot.

N. B. That the *French* Foot, generally called *Pie de Roy*, is equal to eleven Inches of the *Vicentine* Foot, and the *English* one makes only ten Inches and a quarter of the same.



CHAP. III.

Concerning the ERECTION of HOUSES in TOWNS.

I Do not question, but such as shall look upon the Edifices of which I am going to give the Draughts in this Book, and such as know how difficult it is to introduce a new Mode, especially into the Art of Architecture (wherein almost every one thinks himself a Master) will allow me to be very happy, that I have met with such Persons as were generous, judicious, and ready, and willing enough to hearken to and approve my Reasons ; and afterwards to relinquish that old Mode of Building, which is neither uniform nor graceful : And indeed I desire to be very thankful to Providence for all his Mercies, and peculiarly for giving me an Opportunity of putting divers Things in Practice, which I had learnt by a very industrious Enquiry, and a long and laborious Study. And notwithstanding some of those Buildings have remained unfinished, yet it is very easy to

* Plate I.

form a Judgment of what the Whole would have been, by what is actually compleated, I have fet down the Names of the Proprietors, and the Places where the Edifices stand, to their respective Draughts ; that such as are desirous, may see how they have succeeded in the Operation. After this it is very proper, in my Opinion, to acquaint the Reader, that in the Order of my Draughts I have had no Regard to the Rank or Quality of the Persons, every one of them being Noble and Illustrious, and I ranged them only as they came first to my Remembrance.

But it is now Time to proceed to our Buildings, the first whereof is at * *Udena*, the Metropolis of *Friuli*. It was erected from the Foundations by Signior *Floriano Antonini*, a Gentleman of the same Town. The Ground-floor Wall of the Fore-front is Rustick ; and the Columns of the Vestibule and Gallery backwards are *Ionick*. The first Chambers are arched ; and the Arches of the largest are made after the first Manner I spoke of, relating to the Arches or Vaults which are in such Places as are longer than broad. The Chambers of the second Story are ceiled, and are somewhat broader than the lower ones, because of the Decrease of the Walls ; the Altitude of the Ceilings being proportionate to their Breadth. There are other Apartments higher, which may serve as Garrets. The Hall is so lofty that it reaches to the very Roof. The Kitchen is distinct from the Body of the House ; but it is very convenient notwithstanding. Near the great Stairs is the Necessary House, which does not give any Offence, tho' in the Body of the House, being in a Place where the *Sun* never enters, and having Vents made in the Thickness of the Wall from the Bottom of the Pit to the very Top of the House, thro' which the noisom Fumes evaporate.

At *Vicenza*, on the Place commonly called the *Iffe*, Count *Valerio Chiericato*, an honourable Knight of the same Town, caused the following Design † to be executed. This Edifice has a great Portico or Gallery in the lower Part, which takes up the whole Fore-front of it. The Base of the

* Plate II. † Plate III.

first Order is five Foot above the Ground, which is so ordered that the Cellars may be underneath it, as also all the other Offices designed for the Convenience of the House ; which had they been quite under Ground, had not succeeded so well, because of the adjacent River, and that thereby the upper Stories should be more airy, and have a more agreeable Prospect. The Vaults or Arches of the great Rooms are raised after our first Method, or first Rate of Arches ; the lesser are arched shell-like, and are as high as those of the largest Sort : The Closets are also arched, and have Mezzanino's or half Stories above them. Every Arch is embellished with Compartitions of Fret-work accurately wrought by *Bartolomeo Ridolfi*, a Sculptor of *Verona*, with divers valuable Pieces of Painting done by *Domenico Rizzo*, and *Battista Venetiano*, two celebrated Artists. The Hall stands in the Middle of the Fore-front above, and takes up the Middle of the Gallery beneath. Its Altitude reaches to the Roof of the House ; and forasmuch as it projects a little outwards, its Angles are supported by double Pillars. On each Side of this Hall are Galleries, the Cielings of which are embellished with Pictures that are very curious, and make a pompous Shew. The first Order of the Fore-front is *Dorick*, and the second *Ionick*. The following Design * represents Part of the Fore-front enlarged.

The next Draughts § are of Count *Isseppo de Porti's* House, a noble Family in the same City. This Edifice fronts two large Streets, and for that Reason has two Entries or Vestibules with four Pillars each, which bear an Arch to secure the pondrous Weight that's laid upon them. The Rooms of the first Story are arched ; the Altitude of those on the Sides of the Vestibule are according to our second Mode of Arches. The Rooms of the second Order, as well as those of the first Story, are all cieled and painted, and adorned with very rich Fret-work, made by those celebrated Artists before-mentioned ; and the Pictures are

* Plate IV. § Plate V.

made by that famous Painter *Paul Veronese*. From each of these Entries there is a Passage which leads into a Court that is to be surrounded with a Portico ; the Pillars whereof are thirty six Feet and a half high, which is the whole of the first and second Stories.

Behind are Pilasters that are one Foot and nine Inches Diameter, and they project outwards two thirds, and support the Pavement of the upper Gallery. By this Court the whole House is divided into two Parts. The Fore-part is for the Master and his Women, and the Back-part is intended for the Accommodation of Strangers ; that the one and the other may pass too and fro without any Embarrassment ; a Circumstance which the Antients, and more especially the *Grecians*, had a peculiar Regard to. Besides, this Division of a House may be also very commodious, if at any Time the Children, or any of the Family, should, through Sickness, or any other Emergency, require private Apartments. I placed the principal Stair-cases under the Portico, which is directly opposite to the Middle of the Court ; that such as go up and down must have a Prospect of the most graceful Part of the House, and that being in the Middle, they may serve the two separate Parts of the Building. The Cellars and other Offices are under Ground. The Stables distinct from the Body of the House, and their Entries are made under the Stair-cases.

* The first of the two large Draughts represents a Part of the Fore-front ; and the second, that Side that fronts the Court.

§ The following Edifice is at *Verona*, which was begun by Count *Gianni Battista della Torre*, a Gentleman of that City, whose Death prevented its being compleated, tho' it was very far advanced. The Entries are by the Sides of it, where there are Passages ten Feet broad, which lead to the Courts fifty Feet long, and from thence to an open Hall, embellished with four Pillars, which serve also to support and secure the upper Hall. This same Hall leads to the Stair-

* Plate VI. and VII. § Plate VIII.

case, which is of an elliptic Form, and open in the Middle. The said Courts are invironed with Ballustrades, that are even with the second Floor. The other private Stairs serve for a greater Conveniency throughout the whole House. This Compartition succeeds very well in its Situation, which is long and narrow, and one of the Wings fronts the principal Street of the City.

* The following is the Draught of an Edifice at *Vicenza*, which belongs to Count *Octaviano de Thieni*, and was begun by Count *Marc Antonio*. This House being situated in the Middle of the Town, near the Market-place, I thought it was very convenient to leave Room for Shops on that Side which fronts the Market; for the Architect should always have an Eye to the Advantage of those who employ him, and are at the Expence of the Edifice; when the Extent of the Ground will commodiously admit of it: Every Shop has a Half-story over it, for the Use of the Shop-keeper, and the Master's Apartments are over them. This House stands in a sort of an Island, as it were, being surrounded by four Streets: The chief Entry, or Master-Gate (if we may be allowed the Expression) has a Gallery before it, and fronts the chief Street of the Town. The great Hall is to be above it, and will project as far out as the Piazza underneath. In the two Wings are the two Entries with Pillars in the Middle, which serve not only as a Decoration, but to strengthen the upper Part, and render its Breadth proportionable to its Height. By these Entries we pass to a Court surrounded with a Piazza, of which the first Row of Pilasters are Rustick, and the second of the Composite Order. The Rooms are octangular at the four Corners, and have a very good Effect, and are both beautiful and convenient. The Chambers that are now compleated have been embellished with curious Stuccatures made by *Alessandro Vittoria*, and *Bartolomeo Ridolfi*,

* Plate IX.

and painted by *Anselmo Canera* and *Bernardino India*, both of *Verona*, celebrated Masters in their Profession. The Cellars and such other Places of the like Nature are under Ground, because the Edifice is situated in the highest Part of the Town, where there is no great Danger of Water.

* The first of the two large Draughts which follow, represents a Part of the Fore-front of the House, the second that Side which fronts the Court.

The Counts *Valmarana*, of an illustrious Family of that Place, have also built after the following Designs, † not only for their own Credit and Convenience, but also for the Honour and Glory of their Country. They have omitted nothing which might be desired to enrich such an Edifice, either for Stuccature or Painting. There is a Court in the Middle, about which there is a Corridor with Ballusters, leading from the Fore-part to that which is behind the Court, which divides the House into two Parts. The Chambers of the first Floor are arched, and the upper ones are cieled, of which the Altitude is proportionable to their Breadth. The Garden before the Stables is 120 Feet long by 60 Feet wide. This Description is sufficient, in my Opinion, for what relates to this House, all the rest being with Ease discerned in the Plan of it, where I have set down the Measure and Size of each Part, in the same Manner as in those which precede.

§ The following Draught is one half of the Fore-front on a large Scale.

Amongst several worthy Gentlemen of *Vicenza*, there is Signior *Paolo Armerico*, who was Referendary to the Popes *Pius* the Fourth and Fifth, and justly deserved to be made a Citizen of *Rome*; and so did all his Family for his sake. This Gentleman, after having travelled a long Time for his Improvement, determining to settle at last in his own Country, after the Decease of all his Relations, chose to reside

* Plate X. and XI † Plate XII. § Plate XIII.

at a Country-house, which was situate on a Hill, within less than half a Mile of the Town, where he since has erected the following Edifice *, which I have not ranged among the Country-houses, as it is adjacent to the Town, and, indeed, properly belongs to it. Its Situation is as advantageous and pleasant as can be desired, being situated on a Hillock of a very gradual Ascent; at the Foot whereof runs the *Bacchilione*, a navigable River. On the other Side it is surrounded by several Hills, which seem to form a great Theatre, are all of them well cultivated, very fertile, and abounding with excellent Fruits and Vineyards; so that having the Advantage of agreeable Prospects on all Sides, some indeed confined, some more remote, and some farther than the Eye can reach, I have made Portico's to all the Fore-fronts; under which, and also the Hall, I have contrived Rooms for the Service and Convenience of those of the Family. The Hall, which is circular, and placed in the Middle of the Edifice, receives its Light from the Top. The Closets have *Mezzanino's*. Above the great Rooms surrounding the Hall (the Arches of which are according to our first Scheme) there is a Plat-form to walk on fifteen Feet and a half broad. On the Pedestals, which support the Steps of the four Portico's, are Images made by *Lorenzo Vicentino*, an excellent Statuary.

Signior *Guioglio Capra*, an eminent Inhabitant of the same Town, for the Glory of his Country more than his own Convenience, has made all the necessary Preparations, and even begun to build the following Design †, which is commodiously situated, in the principal Street of all the Town. This Edifice is to have Courts, Galleries, Halls, and Apartments of all sorts, some large, some little, and others middle-siz'd. Its Form is very agreeable and artfully diversified, so that it will be pompous and magnificent, suitable to the Dignity and Generosity of its Master.

* Plate XIV. and XV. † Plate XVI.

- C. *A little open Court.*
- D. *Another little Court.*
- L. *The great Court.*
- S. *A Hall which is supported with Pillars underneath ;
but as it has none above, it appears much lighter.*

Count *Montano Barbarano* having a commodious Spot of Ground to build on in *Vicenza*, I gave him, at his Request, the following Design *, which, as it did not suit the Place well at first, I was forced to make some Alterations in it ; but that Gentleman having since purchased the Ground that was then wanting, the first Design has been entirely executed. The Stables and Servants Rooms on the one Side, are answerable to the Women's Apartment, to the Kitchen, and other Offices for their particular Purpose on the other Side, as in the Draught very plainly appears. This Edifice is so forward, that they are now raising the Fore-front, which is made according to the following Design in Great †. I could not furnish the Printer Time enough with the Plan of the last Draught, according to which it was at last absolutely determined to build it, and that the Foundations of it are already laid. The Entry has some Pillars, which support an Arch for the Reasons already given. On each Side there are two Apartments, which are one Square and a half in Length ; at the End whereof are two square ones, and after them two Closets. Over-against the Entry is a Passage that leads to a Portico towards the Court. On each Side of this Passage is a Closet with a *Mezzanino* above it, to which they go by the principal Stair-case. Each Arch is twenty one Feet and a half high. The Hall above, and all the other Chambers, except the Closets, are cieled, which are arched as high as the Cielings of the Chambers. The Pillars of the Fore-front have their Pedestals, and support a Corridor, to which they enter by the Soffit. The Front is not to be after this first Method, as I before observed, but as it is in the next Design § drawn upon a larger Scale.

* Plate XVII. † Plate XVIII. § Ibid.



C H A P. IV.

Concerning the TUSCAN ATRIUM or HALL.

HAVING given you the Designs of some Edifices which I have erected in Cities, I think myself obliged to discharge my Promise, and describe some of the chief Places whereof the Buildings of the Antients were composed. I shall begin with the *Atrium*, or grand Hall, which is one of the principal Parts, and come afterwards to the other adjacent Parts of the said Edifices, and, lastly, to their common Halls. *Vitruvius*, in his Sixth Book, observes, that the Antients had five sorts of these *Atriums*, viz. the *Tuscan*, that which has four Pillars, the *Corinthian*, the *Tetastudinated*, and that which is open, of which I intend to take Notice. The Designs * which follow are for the *Tuscan Atrium*. The Breadth of this is proportional to the two Thirds of its Length. The Breadth of the Record-Room is no more than two fifths of that of the *Atrium*, which is square. From this they pass into the *Peristylos*, which is a Court encompassed with Columns, a Third longer than its Breadth. The Breadth of the Piazza or Portico (that is, the Space from the Walls to the Columns) answers to the Altitude of the Pillars. Over-against the Wings of the *Atrium* some little Halls might be contrived, as they have a Prospect over the Gardens; and if they are made according to the Representation in the Draught, their Pillars should be *Ionick*, about twenty Feet high, and then the Piazza's would be as broad as the Distance between each Pillar. There should be some other Pillars above of the *Corinthian* Order, less by a fourth than those below; between which there ought to be Windows to give Light, in Imitation of the *Corinthian* Halls, as may be seen hereafter in Plate XXX. The Opening above should be without any Cover, and en-

* Plate XIX.

compassed with a Ballustrade. More or less Lodging than I have here drawn may be made, in case the Ground will admit of it, and it will be more commodious for the Owner.

The following Draught * upon a larger Scale represents this *Atrium*.

- A. Atrium.
- B. Door to the Record-Room.
- C. Record-Room.
- D. Portico of the Peristylos.
- E. Portico, or Gallery before the Atrium, which may be called the Vestibule.
- F. Freeze and Cornice on the Brest-Summer, supporting the Top of the Atrium.



C H A P. V.

Concerning the ATRIUM, which has FOUR PILLARS.

THE following Design † represents the *Atrium* which has four Pillars, the Length whereof being divided into five equal Parts, the Breadth takes up three. The Wings (that is, the Space between the Wall and the Pillars, which is not included in the Breadth of the *Atrium*) have in Breadth a fifth Part of the Altitude of the Pillars. The Pillars are *Corinthian*, and their Diameter is equal to the Breadth of one half of the Wings. The Opening above is one third Part of the Breadth of the said *Atrium*, and the Breadth of the *Charter-Room* is half the Breadth of the same *Atrium*, and has the same Length: From which *Atrium* you may pass through the *Charter-Room* into the *Peristylos*, which is a Square and a half in Length. The Pillars of the first Order are *Dorick*, and the Breadth of the Portico is proportional to the Altitude of those Pillars. Those of the

* Plate XX. † Plate XXI.

second Order are *Ionick*, and a fourth Part less than the first, under which there is a Pedestal, two Feet and three Quarters high.

- | | |
|--|--|
| <p>A. Atrium.</p> <p>B. Door to the Charter-room.</p> <p>C. Charter-Room.</p> <p>D. Portico of the Peristylos.</p> <p>E. Chambers near the Atrium.</p> <p>F. Portico through which one enters into the Atrium.</p> | <p>G. Wings of the Atrium.</p> <p>H. Freeze under the Cornice of the Atrium.</p> <p>I. Opening on the Top of the Atrium, with a Balustrade round it.</p> <p>K. Solid above the Columns.</p> <p>L. Scale of ten Feet.</p> |
|--|--|



C H A P. VI.

Concerning an ATRIUM that is made after the CORINTHIAN Fashion.

THE Building which I shall here give you a Description of *, is at *Venice*, in the Convent called the *Charity*, which belongs to the regular Cannons. I have endeavoured to make this Edifice in some measure like those of the Antients, and for that Purpose I have erected a *Corinthian Atrium* in it, the Length whereof is the Diagonal of its Square. The Wings (*that is, the Spaces between the Wall and the Pillars*) have in Breadth two Sevenths of the Length of the *Atrium*, that is, one for every Wing. The Pillars are *Composite*, and are three Feet and a half in Diameter, and thirty five Feet high. The Opening in the Middle is one third of the Breadth of the *Atrium*, taken between the Pillars. There is a Terrass above the *Atrium*, which is level to the third Order of the Convent, where the Cells or Apartments of the Cannons are. The Vestry is, on one Side, contiguous to the *Atrium*, round about which there is a *Dorick* Cornice, which bears up an arched Ciel-

* Plate XXII.

ing. The Pillars which are there, support that Side of the Convent's Wall, which, in the upper Part, divides the Apartments or Cells from the Galleries. The Vestry stands in the Place where the Antients kept the Statues of their Ancestors, and which was known by the Name of the *Record-Room*; tho', to comply with the Convenience of the Place, I have made the Wings of the *Atrium* serve for that purpose, over-against the Vestry in the *Chapter-Hall* answerable to one another. On the Side contiguous to the Church, there is an *Eliptical*, or oval Stair-Cafe, which is open in the Middle, and very commodious and agreeable. From the *Atrium* you may enter into the Convent, where there are three Orders of Pillars one over the other. The First is *Dorick*, and its Pillars project more than one half from the Pilasters. The Second is *Ionick*, and the Pillars are one fifth Part less in their Altitude than the former. The Third is *Corinthian*, and decreases likewise a fifth in the Altitude of the Second. In this last Range, there is a contiguous Wall instead of Pilasters; and over the Center of the Arches of the two first Orders, there are Windows which give Light to the Entries of the Cells, whose arched Cielings are made of Cane, to discharge the Walls. Over-against the *Atrium* and the Convent, beyond the Stair-Cafe, is the Refectory, or large Dining-Room, which is two Squares in Length, and raised to the third Story of the Convent. It has a Gallery on each Side, and under it a Cellar made in the Shape of a Cistern, that no Water may come into it. At one End are the Kitchen, the Ovens, the Poultry-Yard, the Wood-house, the Laundry, and a pretty fine Garden; at the other End are other Conveniencies. This Building has forty four Rooms, and forty six Cellars, including the Apartments for Strangers, and other Places for several Uses.

The first * of the following Draughts is a Part of the *Atrium* drawn at large, and the second † is a Part of the Cloister.

* Plate XXIII.

† Plate XXIV.



C H A P. VII.

Concerning the TESTITUDINATED ATRIUM,
and the private Houses of the antient Romans.

BESIDES the different Forms of *Atriums* we have before spoken of, there was one very much in use among the Antients which they called *Testitudinated*, that is, after the Form of a Tortoise ; and as what *Vitruvius* says of it is very difficult and obscure, and consequently requires a particular Observation, I shall therefore inform you with what I think on that Subject, adding also the Situation and Disposition of the *OEques*, or great Halls of the Chanceries, Refectories, Baths, &c. so that the following Cut * shall represent all the Parts of a private House, every one in its Place, according to *Vitruvius*.

The Length of the *Atrium* is equal to the Diagonal of its Square, and has its full Breadth in Height, which reaches as far as the Summer or Architrave of the Roof. The Rooms on the Sides are six Feet less in Height, and above the Walls which separate them from the *Atrium*, there are Pilasters which bear the Roof of the said *Atrium*. Between these Pilasters there are some Apertures or Windows which give Light to the said *Atrium* ; for the Chambers have an open Plat-form or Terrass above them. The Record-Room is opposite to the Entry, and is two Fifths of the Breadth of the *Atrium*. This Place served, as I observed before, to put in the Images, or Titles of their Ancestors. A little further one finds the *Peristylos*, about which are Piazza's that are the Height of the Columns. The Chambers are of the same Breadth, and their

* Plate XXV.

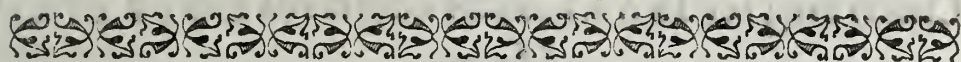
Height to the Imposts of the Arches is equal to their Breadth, as the Arches have in Height the third Part of their Diameter. *Vitruvius* has described several sorts of *OEquès*, which were great Halls or Saltons, for Feasting and other Recreations, and wherein also the Women did their Work. Some of these were called *Tetrastyli*, because they had in them four Pillars. Others were called *Corinthian*, which were surrounded with Semi-columns. The *Egyptian* ones had over and above the first Rows of Columns, a Wall, which enclosed them with Half-columns placed directly above the lower ones, and a fourth Part less: Between these Pillars were the Windows that gave Light to the Hall. The Height of the Galleries that surrounded it did not exceed the Columns of the first Order; and above all there was a Plat-form with a Corridor, and an Elbow-rail round the Whole. I shall give a Design of each of these kinds of Halls separately. The square Halls were to take the Cool in during the *Summer*, and had commonly the Prospect of Gardens, or other Verdures. They had also another kind of Halls that were called *Cixicenis*, and which were also designed for the above-said Uses. The Chanceries and Libraries were generally on the *East* Side, as also the *Triclinia* or Eating-rooms. There were likewise Bagnio's for Men and Women, which I have represented in the further Part of the House.

- | | | |
|---|--|---------------------------------------|
| A. Atrium. | | F. <i>Basilica</i> . |
| B. <i>Record-room</i> . | | G. <i>Apartments for the Summer</i> . |
| C. Peristylos. | | H. <i>Chambers</i> . |
| D. <i>Halls after the Corinthian Manner</i> . | | I. <i>Libraries</i> . |
| E. <i>A Hall with four Columns</i> . | | |

The following Design * is for the *Atrium*, from a larger Scale.

* Plate XXVI.

- | | |
|---|--|
| A. Atrium. | H. <i>Piazza before the Atrium.</i> |
| B. <i>Record-room.</i> | I. <i>Chamber about the Atrium.</i> |
| C. <i>Piazza about the inner Court.</i> | K. <i>Summers making the Freeze of the Entablature within.</i> |
| D. <i>The inner Court.</i> | L. <i>Windows which give Light to the Atrium.</i> |
| E. <i>Door-way to the Record-room.</i> | M. <i>The Flat above the Walls of the Atrium.</i> |
| F. <i>Part of the Corinthian Hall.</i> | |
| G. <i>Galleries or Piazza's.</i> | |



C H A P. VIII.

Concerning the HALLS with FOUR COLUMNS.

THE Design * following is of that sort of Hall called *Tetrastylos*, because it had four Columns. It was made square, and the Column served not only to proportion the Breadth to the Height, but also to make the upper Place still the firmer, which is what I have practised in most of my Edifices, as appears both in the Designs which I have already given and those that are to follow.



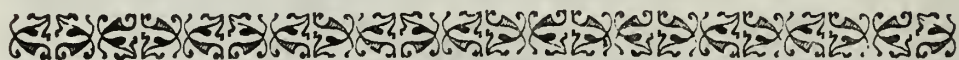
C H A P. IX.

Concerning the CORINTHIAN HALLS.

THE *Corinthian* Halls were of two kinds : The first had their Columns only laid on the Floor, as appears by the first Design † ; and the last were laid on Pedestals, as in the second § : But the Columns in both were near the Wall, and the Architrave, Freeze, and Cornice were composed of Stuc, or else Wood, and there was but one Row of Pillars. The Cielings were either Semi-circular, or so flat as

* Plate XXVII. † Plate XXVIII. § Plate XXIX.

to have in Height only one third of the Breadth of the Room. They were for the most part advanced with Compartments made with Stuc and Painting. The Length of these Halls would be of a beautiful Proportion, were it of a Square and two thirds of their Breadth.



CHAP. X.

Concerning the HALL, according to the EGYPTIAN Manner.

THE following Design * is for Halls according to the *Egyptian* Manner, which are very much like *Basilica's*, or Courts of Justice (of which I shall also speak when I treat of publick Edifices) because these kinds of Halls had a Portico, in which the Columns were distant from the Wall just as in the *Basilica's*; and upon these Pillars were placed the *Architrave*, *Freeze*, and *Cornice*; the Space or Distance between the Pillars and the Wall was covered with a Platform, surrounded by a Corridor with Rails and Bullusters. Above the said Pillars there was a continued Wall with half Pillars on the Inside of it, one fourth Part less than the lower ones. The Windows which gave Light to the Hall, and through which, when laid open, such as were on the Plat-form could look into it, were placed between the said half Pillars. This sort of Halls must needs have been very magnificent, as well on account of the Decorations of its Pillars, as its Height; because the *Soffite* reached above the Cornice of the second Order, and one may judge how commodious they were, for the Reception of great Companies, for elegant Entertainments, and for all manner of Diversions.

* Plate XXX.



C H A P. XI.

Concerning the private Buildings of the Greeks.

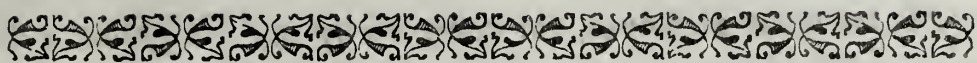
THE *Greeks* varied from the *Romans* in their Way of Building ; for, according to *Vitruvius*, they made the Entry to their Houses very narrow *, instead of making Portico's or Galleries and Halls, placing the Stables on one Side, and the Porter's-lodges on the other. From this first Entry there was a Passage into a Court, which had Piazza's on three Sides, and they made *Anti*, or Butments of Pilasters towards that of the *South*, which supported the Joists of the Cieling more inwards: For leaving some Space between the one and the other, they had very large Places, which were appropriated for the Mistress's Lodgings, and those of the Men and Maid Servants. On the same Floor with these *Anti* were some Apartments which we call Antichambers, Chambers, and Drawing-rooms, one behind the other. About the Piazza's were proper Places for Eating, Sleeping, and the like Family Occasions. Another Building, greater and better adorned, with larger Courts, was joined to this, wherein they made four Portico's, or Piazza's, of equal Height, in case they did not make one of a larger Size towards the *South*; and then the Piazza on that Side was called *Rhodian*, in all probability because the *Rhodians* first practised this manner of Building. In these Courts there were very magnificent Galleries to the Front: They had their own Gates, and were inhabited only by Men. On the right and left Side of this Structure they made others, which had their own particular Gates; with all the Conveniencies necessary for a Habitation, as well as the foregoing. There

* Plate XXXI.

they lodged their Strangers ; for it was a Custom among them, when they had a foreign Guest, to entertain him the first Day at their own Table ; but afterwards an Apartment in this sort of House was assigned him, which was furnished with every Thing necessary for his Accommodation : So that a Stranger was by that Means confin'd to no Ceremony, and had the same Liberty as if he had been all the while at his own private Habitation. And thus I have sufficiently, I presume, explained the antient *Greek* Manner of Building, as well as that we practise ourselves at present in the Towns.

The various Parts of a private House erected after the *Grecian* Manner.

- | | |
|---|---|
| A. <i>Passage at the Entry.</i> | O. <i>Passage leading from the little Court to the greater.</i> |
| B. <i>Stables.</i> | P. <i>Three Piazza's, the Pillars whereof are small.</i> |
| C. <i>Porter's Lodge.</i> | Q. <i>Cizicene Refractories, and Chanceries, or Places that were generally painted.</i> |
| D. <i>First Court.</i> | R. <i>Hall.</i> |
| E. <i>Lobby thro' which People pass into the Rooms.</i> | S. <i>Library.</i> |
| F. <i>Places where the Women did their Work.</i> | T. <i>Square Hall where they used to eat.</i> |
| G. <i>First great Chamber, which may be called an Antichamber.</i> | V. <i>Apartments for Strangers.</i> |
| H. <i>A lesser Room.</i> | X. <i>Small Passages which separated the Strangers Apartments from those of the Master.</i> |
| I. <i>A Closet.</i> | Y. <i>Small open Courts.</i> |
| K. <i>Great Dining-room.</i> | Z. <i>The principal Street.</i> |
| L. <i>Common Chambers.</i> | |
| M. <i>Second Court, larger than the first.</i> | |
| N. <i>Piazza larger than the three others, the Court whereof is called Rhodian.</i> | |



C H A P. XII.

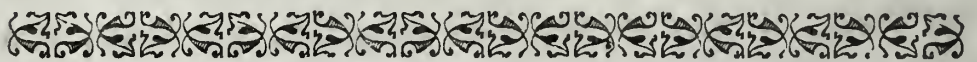
Concerning the most commodious Situations for
COUNTRY HOUSES.

AS doubtless 'tis very reputable and commodious for a Gentleman to have a House in the City, where his Affairs sometimes oblige him to reside, either as being possessed of some publick Post in the Government, or for the Management of his own private Concerns ; so, in all probability, he may receive equal Pleasure and Advantage from a Seat in the Country, where he passes the Remainder of his Time in surveying and improving his own Possessions, in encreasing his Substance by Diligence and Husbandry ; where, by Exercise either on Foot, or on Horseback (which are only proper for the Country) he preserves his Body strong and healthy, and where, in short, the Mind being over-burthened by the Fatigues of the City, will be singularly refreshed and recreated : So that then he may apply himself sedately, and without Interruption, either to the Study of Books or the Contemplation of Nature, in Imitation of some antient Philosophers, who, on the like Occasions, frequently retired to the like Places ; where, by receiving the Visits of their virtuous Friends and Relations, and possessing Pleasure-houses, Gardens, Fountains, and such like Objects of Diversion, but more particularly their own Virtue, they could with ease attain that highest Pitch of a happy Life, that can be possibly enjoyed here upon Earth. Now having already, by the divine Assistance, compleated all I had to say with respect to Houses in the City, 'tis but rational that I should proceed to those in the Country, where private Affairs and Family-busines are principally transacted. But before I come to give the Designs and Draughts of them, it seems very requisite to treat a little about the most proper and commodious Situations for such Buildings, and the Compartment or Distribution of their
Parts :

Parts : Because, not being, for the generality (as in Towns) at a Loss for want of Room, nor confined by our Neighbours to certain determinate Limits, it is the Duty of a skilful Architect to find out, with the utmost Diligence and Precaution, the most commodious and healthful Places ; since People reside in the Country for the greatest Part of the *Summer*, during which Season, our Bodies are apt to grow weak and sickly, by reason of the Heats even in the most healthy Region. For which Reason, in the first Place, let the Seat determined upon be the most convenient for the Proprietor's Estate, as possibly it can be ; that is towards the Center of it ; in order that, with but a moderate Fatigue, he may himself view the Whole whenever he thinks proper, and make Improvements round about it ; as also that the Tenants and Labourers may bring the Growth of it to his own House with the greater Facility. If the House can be built near a River, it will conduce greatly to its Beauty and Convenience ; because by that Means not only the Products of the Land can be the more easily conveyed at all times by Water to the City, and that the Water itself will serve the Purposes of the House and Cattle ; but it will render the Prospect much more agreeable, mightily refresh the Air in *Summer*, and, with great Advantage, as well as Ornament, water the Fields, Gardens, and Stalls, which are the very Life and Soul of a Country Seat. But in case the Situation cannot be near a navigable River, yet let it be near some Brook, or other running Water, and as distant as conveniently can be from dead or stagnant Waters ; because these impregnate the very worst of Air, which, by building in elevated and agreeable Places, may with ease be avoided : I mean where the Air, being free, is in a perpetual Motion, and the Earth, thro' its Declivity, purged from all damp and noxious Vapours ; where the Inhabitants are healthful, gay, and very well complexioned ; and where there is no Disturbance from the Noise of Gnats, and other little perplexing Animals, which breed in noisom and marshy Waters. Since Water however is absolutely requisite for the Support of Man, and since Waters of various Qualities produce in

us various Effects (some occasioning the Spleen, others the Gout, some the Stone, and others innumerable Distempers) due Care ought to be taken that the House may be situated near such Water as has no particular or offensive Taste, and no particular Tincture: But, on the contrary, that it be clear, light, and, when sprinkled on white Linnen, will not stain, all these being evident Tokens of its Goodness. *Vitruvius* has recommended to us many Ways of trying the Goodness of the Water; and that Water is accounted the best which makes the best Bread, in which Greens are most expeditiously boiled, and which leaves no Sediment in the Bottom of the Vessel. It is an excellent Sign of the Goodness of Water, if neither Moss nor Rushes grow in its Passage; and if its Bed be clean and fine without Mud or Slime, and with Sand or Gravel at the Bottom. The very bruis'd Beasts, that generally drink of such Waters, will give evident Tokens of their Goodness, if they are Active, Strong, and in good Case, and neither Lean nor Feeble. As for the Wholsomeness of the Air, a Mark of it, besides those already mentioned, may be taken from old Buildings, if they are neither decayed nor consumed; from the Trees, if they thrive, look beautiful, are strait, and none of those which naturally grow in fenny Places; from the Rocks and Stones of the Place, if they shew no Indications of Rottenness in that Part which is above the Surface of the Earth; nay, from the Complexion of the Inhabitants, if it be natural, and shews a vigorous Constitution. It is not adviseable for any one to build in Vallies which are enclosed by Mountains; because Houses which lie concealed in such Places, besides the Disadvantage of their having no distant Prospects, and not being conspicuous to the Eyes of others; by which Means they lose all their Beauty and Esteem; they are likewise in all Respects prejudicial to Health, because the Earth being impregnated with the Rains which settle there, send forth contagious Vapours, and affect not only the Bodies, but also the Minds of Men; the Spirits being thereby weakened, the Joints enervated, the Nerves loosened, and the Provisions carried into such

Magazines and Graneries as are corrupted with Moisture. If, on the other Hand, the *Sun* can penetrate into those Vallies, the Reflection of its Rays will create excessive Heats ; or if not, then a perpetual Shade will render the Inhabitants dull and indolent, and spoil their Complexion. When the Winds blow into them they are too boisterous, on account of the narrow Chops through which they must pass ; and when the Winds cease to blow there, the Air will become gross and sickly through its Stagnation. For which Reason, when you are determined to build upon an Eminence, chuse such a Situation as faces the temperate Region of the Air, and is neither always overshadowed by higher Hills, nor scorched up, as it were, with two *Suns*, by the Reflection of the real one from some adjacent Rock : For in either of these Cases, it becomes an incommodious Habitation. To conclude, in the Choice of a Situation for the erecting of a Country-house, all those Considerations are necessary, which are used in the Choice of the Situation of a City-house : For as the City is but one great House, or Family ; so every Family, or private House, is a little City.



C H A P. XIII.

Concerning the COMPARTMENTS of COUNTRY-HOUSES.

AFTER you have found and determined on an airy, delightful, commodious and healthful Situation, you must think next on the Compartment of the Edifice, or the Distribution of its Parts, and to make it both neat and advantageous. Two sorts of Houses are requisite in the Country ; one for the Habitation of the Master and his Family ; the other for the Farmer, who improves his Lands, and gathers his Rents, as well as for lodging his Cattle and his Fruits. It will be necessary therefore to dispose the Situation of both

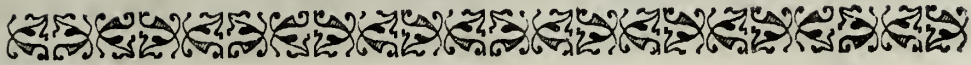
both the Houses so, as that the one may be no Inconvenience to the other. The Master's Building must be adapted to his Quality, and proportioned to the Number of his Domesticks, in such manner as the City-houses, of which we have before treated. There must be proper Sheds made for all Things which belong to the Country-House, in proportion to the Produce of the Ground and Number of the Cattle; and these must be contiguous to the principal House, that the Master may with ease go every where sheltered, without being incommoded in the pursuit of his Business by either Snow or Rain, or the intense Heat of the *Sun*. This will serve likewise to shelter the Wood, and a large Variety of other Country Provisions, which too much Moisture of the Air, or the Heat, will damage; besides, such Piazza's will make the House look much more spacious and magnificent. Regard must likewise be had to the Provisions, with all the Country Tools and Luggage, and sufficient Room must be allowed them. The Apartments of the Steward, the Farmer, and the Labourers, must be in a Place commodious for them, and near the Gates, for the greater Security of the other Places. The Stalls and Stables appropriated to the labouring Cattle, such as Oxen and Horses, must be distant from the main House, because of the noisom Smell of their Dung; but they must however be in a warm and airy Situation. All breeding Creatures, such as Hogs, Sheep, Pigeons, &c. require distant Places, and such as are proper to their Kind; and in this Particular we must be directed by the different Customs of Countries. The Cellars ought to be under Ground, very close, and very dry, distant from all Noise, Moisture, or any offensive Smell. They must receive their Light from the *East* to the *North*: Because the *Sun* coming on them from the other Sides, would heat, weaken and spoil the Wine or other Liquors. They should have a Declivity in the Middle, upon a cement Pavement, or else made with square Stones so well closed together, that, should the Wine happen to spill, it may be taken up again. The Vessels in which the Wine is working, must be under Covert near the Cellars; and be elevated so, that
the

the Props may be somewhat higher than the Bung-hole of the Pipes, in order that the Wine may be with ease carried thro' leathern or wooden Channels into the said Pipes.

The Granaries ought to receive their Light from the *North*, because on that Side they won't be exposed to the Heat, but be rather refreshed by the Wind; and the Corn will thereby be better preserved, without being infested by the Mice, and such other Vermin as do it a deal of Damage. These Granaries must be floor'd with excellent Earth; but when such is not to be procured, Deals must be made use of, because Lime is a great Enemy to Corn.

The other Store-houses, for the same Reason, must have their Lights to the same Side. The Hay-lofts may receive their Lights from the *South* or *West*; because when it is thus well dried by the *Sun*, there will be no Danger of its corrupting and taking fire. The Implements belonging to Agriculture, are best under Coverts turned to the *South*. The Barns where the Corn is threshed ought to be exposed to the *Sun*, to be spacious, on a firm Ground, and a little elevated in the Middle; as round it, or at least on one Side of it, there must be a Piazza, for the immediate Security of the Corn, in case of a sudden and impetuous Rain. 'Tis not proper it should be too near the Master's House, because of its Dust; but it must not however be so far from it, as to be out of his View.

This in general is sufficient, I presume, relating to the Choice of the Situation and Compartment of Villa's or Country-houses: In order therefore to acquit myself of my Promise, I shall hereto annex the Draughts of several Houses, which, according to several Inventions, I have erected in the Country.



C H A P. XIV.

*The DRAUGHTS of divers COUNTRY HOUSES
erected by some noble Venetians.*

THE following House * is situate at *Bagnolo*, within two Miles of *Lonigo*, a Castle in the *Vicentine*, and belongs to the three Brothers, the noble Counts *Victor*, *Marco*, and *Daniel Pisani*. On both Sides of the Court are the Stables, Cellars, Granaries, and such other commodious Places for the Service of the House. The Columns of the Portico's are of the *Dorick* Order. The Lord's Apartment is in the Villa. The Floor of the first Chamber is raised seven Feet above the Ground, under which is the Kitchen, and other Places which belong to the Servants. The Hall is arched, its Altitude being equal to its Breadth, and one half more. The Arches of the Galleries have also the same Proportion. The Chambers are cieled, and as high as they are broad; the largest are a Square and two thirds long; the others are but a Square and a half. There was not such particular Care taken in placing the two Back-stairs, for the Reception of a clearer Light (as we have directed in the first Book) because these Stairs serving only for the Offices underneath, or for the Granaries and other like Places above, the principal Care was to finish the middle Apartment where the Master, as well as Strangers, lodged; and the Stairs which lead to this Story are very commodiously placed, as may be seen in the Draught. Let this serve for a general Advertisement to the prudent Reader, with Regard to all the other Houses which have but one Story; because in those which have two fine ones, and beautifully adorned, I have taken Care to manage it so, that the Stair-cases are very lightsome and in convenient Places: I say two Stories, because as neither what is under Ground for Cellars and such like Uses,

* Plate XXXII.

nor what is above for Granaries and Garrets, serve not to lodge Gentlemen, they are not reckoned among the principal Stories.

The House following * belongs to the illustrious Lord *Francisco Badoero* in the *Polesine*, in a Place called *la Frata*. 'Tis situated upon an Eminence, at the Foot whereof passes a Branch of the *Adige*, where antiently stood the Castle of *Salinguera de Este*, Brother-in-law to *Ezzelino Romano*. This whole Fabrick has a Pedestal five Feet high for its Basis; at the Level whereof is the Floor of the Chambers, which are all of them cieled and painted in Grottesque, of a curious Invention, by *Giallo Florentino*. The Granaries are above; the Kitchen, Cellars, and other Conveniencies below. The Columns of the Galleries in the Body of the House are *Ionick*. The Cornice goes round the whole House, in the Form of a Crown. The Pediment over the Portico makes a pompous Shew, raising the Middle of the House higher than the Wings. Afterwards, as you go downwards, there are the Farmer's and Steward's Apartments, the Stables, and other Out-houses proper for a Country-house.

The noble Lord *Marco Zeno* has erected a beautiful Seat after the following Invention † at *Casalto*, which is a Place near the Castle of *la Motta*, in the *Trivigian*. It stands upon a Basement, which surrounds the whole Edifice, equal with the Floor of the Rooms, which are all arched. The Altitude of the largest is according to our second Manner. The Arches of the square Rooms are grinded in the Angles about the Windows: Those of the Closets, or Rooms near the Galleries, as well as those of the Hall, are *fasciated*. The Hall and Galleries are arched of an equal Altitude, and are likewise both of them higher than the Rooms. This Edifice has Gardens, a Court-yard, a Dove-house, and every Thing that is requisite and convenient for a Country Seat.

Near to *Gambarare*, on the *Brenta*, stands the following Edifice §, which belongs to those illustrious Lords *Nicolo* and *Luigi de Foscarei*. The House is elevated eleven Feet

* Plate XXXIII.

† Plate XXXIV.

§ Plate XXXV.

from the Level of the Ground, and below are the Kitchens, Pantries, and the like Offices. Every Thing is arched both above and below. The Arches of the great Chambers are made according to our first Manner. Those of the Squares are arched round like a Cupola. On the Closets are *Mezanini*. The Hall is arched half round grinded: Its Impost is as high from the Floor as the Breadth of the Hall, which is excellently painted by Messer *Battista Venetiano*. Messer *Battista Franco*, one of the best Modern Artists, began likewise to paint one of the great Chambers, but he died before he could accomplish it. The Portico is *Ionick*. The Cornice goes round the whole House, and makes a Pediment above, as well as on the opposite Part of the Portico. Under the Eaves of the Roof there is another Cornice, which passes above the Pediments. The upper Rooms are like *Mezani-nos*, because they are but eight Feet high.

At *Masera*, near the Castle of *Afola*, in the *Trivigian*, is the following * Building, which is the House of the most Reverend *Daniel Barbaro*, Patriarch elect of *Aquileia*, and of his Brother the Lord *Marco Antonio Barbaro*. That Side of the Edifice which advances a little outwards, has two Stories of Rooms. The Floor of the upper ones is level with a Court that lies behind, where there is a Fountain wrought in the Mount directly opposite to the Front of the House, with an infinite Number of Decorations, both of Stuc and Painting. This Fountain forms a little Lake, which serves as a Pond; from whence the Water, as it overflows, runs into the Kitchen, and afterwards thro' the Gardens, which are on the Right and Left of the high Road which leads by Degrees to the House: There it forms two little Ponds, which serve also for Watering-places upon the Highway, and running still further, it waters the Orchard, which is very spacious, and full of fine Fruit-trees, and all kind of Pulse.

The Front of the Master's Apartment has four *Ionick* Columns. The Capitals of these on the Angles shew alike on both Sides. I shall teach the Manner of making

* Plate XXXVI.

these Capitals in the Book of Temples. There are Galleries on both Sides of the House, at the End of which are two Dove-houses; and below them are the Presses for the Vintage (*at the Place marked A in the Plan*) with the Stable, and other Out-houses convenient for Husbandry.

The following House * stands near the Gate of *Montagnana*, a Castle in the Territory of *Padua*, and was in Part erected by the Lord *Francisco Pisano*, who died before it was finished. The great Chambers are a Square and three quarters long; the Arches are schemed, and after our second Manner. The second-size Rooms are square, and their Arches round, or in the Form of Ovens. The Closets, and the Passage between, are of the same Breadth: Their Arches are two Squares high. The Entry has four Columns, less than those which are without by one fifth; and they support the Floor of the Hall: Besides that the Altitude of the Arch is much more beautiful and secure with them. The four Niches, in each of which stands a Statue, representing one of the four Seasons of the Year, done by *Alessandro Vittoria*, a celebrated Sculptor. The first Order of Columns is *Dorick*, and the second *Ionick*. The upper Rooms are cieled. The Altitude of the Hall extends as far as the Roof. On the Flanks of this House there are two Wings, contiguous to the Building by two Entries, which lead into the Kitchen and to some other Offices; in the Middle of each of them there are two arched Gates opening into the Street.

The following Draught † is the Edifice of the most illustrious Lord *George Carnario* in *Piombino*, a Place of *Castle-franco*. The first Order of the Portico is *Ionick*. The Stair-case is as far as conveniently may be into the House, that it may be less exposed to the Weather. The Wings of the Hall, in which are the Niches, have the third Part of their own Length in Breadth; and the Pillars range exactly with the last but one of the Portico's, and are as distant from each other as they are high. The great Rooms are a Square and three quarters

* Plate XXXVII.

† Plate XXXVIII.

long; the Altitude of the Arches is after our first Method of the Altitude of Arches. the second-size Rooms are square, and a third not so broad as they are high. The Arches are cross-grinded. Over the Closets are *Mezaninos*, or Half-stories. The upper Portico is of the *Corinthian* Order: Its Pillars are less than the lower ones by one fifth. The Chambers are cieled, and above them are some *Mezaninos*. The Kitchen, and other Offices belonging thereunto, are on one Side; and on the other are proper Places for the Servants.

The following Draught * is the Building of the most illustrious Knight *Leonardo Mocenico*, in a Place called *Morocco*, on the Road from *Venice* to *Trivigi*. The Cellars are even with the Ground, and above them are the Granaries on the one Side, and the Servants Apartments on the other. Over these are the Master's Rooms, forming four distinct Lodgings. The Arches of the largest are one and twenty Feet high, and are made of Canes, that they may be the lighter. Those of the lesser ones are as high as those of the biggest; but those of the Closets are crossed, and only seventeen Feet high. The Gallery of the first Story is *Ionick*. There are four Columns in the lower Hall, which make the Height and Breadth to be equal. The second Order of the Portico is *Corinthian*, and its *Poggio*, or Pedestal, is two Feet and three Quarters high. The Stair-Cases are in the Middle, and separate the Hall from the Vestibule. Both Stairs are opposite to one another, in order that People may go up and come down both Ways, which makes them very handsome and commodious, besides that they are not very heavy. On the Wings of this Edifice are the Wine-presses (marked on the Plan A) with the Stables, Galleries, and such like Conveniencies for a Country Family.

At *Fanzolo* in the *Trivigian*, within three Miles of *Castel-franco*, stands the House of the most noble Lord *Leonardo Emo*, erected after the following Draught †. The

* Plate XXXIX.

† Plate XL.

Cellars, Granaries, Stables, and other Places for a Country House, are on each Side of the Master's House ; at each End whereof there is a Dove-House, which, besides being ornamental to the Place, is profitable to the Owner. People may go all about this House under Shelter, which, as we have already observed, is one of the greatest Conveniences that can be desired in a Country House. On the Back of this Edifice there is a square Garden, containing about fourscore *Trivigian* Acres ; in the midst whereof runs a Rivulet, which renders the Situation very agreeable and pleasant. This House is embellished with several Pieces of Painting performed by *Battista Venetiano*.



CHAP. XV.

The Draughts of several Noblemen's Seats on the Terra Firma

IN a Place of the *Vicentine*, called *Final*, is the following Edifice *, belonging to the Lord *Biagio Sarraceno*. The Floor of the Rooms is elevated five Feet from the Ground. The great Chambers are a Square and five Eights long, their Altitude being equal to their Breadth, and are all cieled. This Altitude is also continued in the Hall. The Closets near the Galleries are arched: The Altitude of the Arches is in Proportion to that of the Rooms. The Cellars are below, and the Granaries above, being of the same Extent with the whole Building. The Kitchens are without, but so near that they are commodious enough: All the other Places, necessary to a Country House, are on the two Sides of the Building.

* Plate XLI.

The Draughts that follow * are of the Building which belongs to Signior *Girolamo Rogona*, a *Vicentine* Gentleman, who erected it at one of his Lordships called *le Ghizzole*. This Edifice has the Convenience before-mentioned, *viz.* That one can walk every where under Shelter. The Floor of the Master's Apartments is raised twelve Feet above the Ground. Under these are all the Conveniencies for the Domesticks. There are other Chambers above, which may not only serve for Granaries, but for Lodgings, if Occasion require. The principal Stairs are in the Fore-front, and answer directly to the Porticos of the Court.

At *Pogliana*, a Place in the *Vicentine*, stands the following House § which belongs to the Cavalier *Pogliana*. The Rooms have been decorated with Paintings and very fine Stuccatures by *Messer Bernardino India* and *Messer Anselmo Canera*, Painters of *Verona*, and by *Messer Bartholomeo Rodolfi*, Sculptor of the same Place. The great Rooms are a Square and two Thirds long, and arched. Over the Closets are *Mezaninos*. The Altitude of the Hall is one half more than its Breadth, and in Proportion to the Altitude of the Gallery. The Hall is arched with a *Fascia*, and the Portico with an Arch which is cross-grinded. The Granaries are above all these Apartments, as the Cellars and Kitchen are below them; because the Floor of the first Story is raised five Feet above the Ground. The lower Yard, and other Offices for the Use of a Villa, are on one Side of it, and a Garden, answering to the Yard, on the other Side. Behind the Building is an Orchard and a Fishpond: So that this magnanimous Gentleman has spared nothing which he thought might be either ornamental or convenient, in order to make it as pleasant and compleat as possible.

At *Liziera*, a Place near *Vicenza*, Signior *Gio. Francesco Valmarana*, of immortal Memory, erected the following House ||. The Galleries or Porticos are *Ionick*; the Columns are upon a square Base, which surrounds the whole

* Plate XLII.

§ Plate XLIII.

|| Plate XLIV.

House. To the Level of this Base is the Floor of the Gallery and Rooms, which are all ceiled. At the Angles of this Edifice there are four arched Towers; the Hall is also arched with a *Fascia*. There are two Court-Yards, the one forwards for the Master's Use, and the other backwards for the Servants to thresh the Corn. About this Court are Sheds, and all other Places requisite for a Country House.

The Counts *Francesco* and *Ludovico de Trissini*, Brothers, began the Building of the following * Draught at *Meledo*, a Place in the *Vicentine*. Its Situation is very agreeable, being on a Hill that's washed by a Rivulet, in the midst of a spacious Plain, and on a well-frequented Road. On the Top of the Hill a Hall is to be erected surrounded with Rooms; but raised so high that it may receive its Light above them. This Hall has some half Pillars, which support a Corridor, to which People enter by the upper Chambers, which serve but for the *Mezaninos*, being no more than seven Feet high. Under the Floor of the first Chambers are the Kitchens, Pantries, &c. And because every Front of the House has a beautiful Prospect, there are made four Porticos or Galleries to them, of the *Corinthian* Order; above the Pediments whereof the Cupolo of the Hall is seen. The Galleries that come round it look very well. The Hay-Lofts, Cellars, Stables, Granaries, the Farmer's Apartment, and other Family Conveniencies are lower. The Columns of the Porticos are of the *Tuscan* Order; and at the Corners of the Court near the River are two Pidgeon-houses.

This Edifice † is at *Campiglia*, a Place of the *Vicentine*, and belongs to Signior *Marfo Repeta*, who completed it according to the Design of the late Signior *Francesco* his illustrious Father. The Pillars of the Porticos are of the *Doric* Order; the Intercolumniation is four Diameters of a Column. In the two farthest Corners of the Roof, where the Galleries are without the main Body of the House,

* Plate XLV.

† Plate XLVI.

are two Dove-houfes and Galleries. On the Side towards the Stables are feveral Chambers, every one devoted to fome peculiar Virtue, as one to Juftice, another to Chafte-ty, and fo on, with Elogiums and Pictures fuitable to the Subject. Part of thefe were executed by *Battifta Maganza*, a *Vincentine* Painter, who is alfo a celebrated Poet, and who has done all this with defign, that as the Gentleman receives his Vifiters with abundance of Courteoufy and good Nature; fo he may lodge each of his Guests in the Apartment of that Virtue to which he thinks them moft addicted. In this Edifice one may go every where under Piazzas: And as the Farm-houfe is of the fame Order with that of the Mafter's itfelf, all that this laft wants in Greatnefs by not being more coftly than the other, is fufficiently recompenced by being equal both in Ornament and Proportion.

The following Edifice * belongs to the two Brothers, the Counts *Ednard* and *Theodore de Thieni*. It ftands in a Place called *Cigogna*, where Count *Francis* their Father began to erect it. The Hall ftands in the middle of the Houfe, and round it are fome *Ionick* Pillars, which fupport a Corridor which is even with the Floor of the upper Rooms. The Arch of this Hall extends to the Roof. The great Rooms are arched with a *Fafcia*, the fquare ones Oven-wife, and are fo raifed, that they form four little Turrets on the Angles of the Fabrick. The Clofets have *Mezaninos* above them, the Doors whereof are over-againft the middle of the Stairs, which have no Wall in their Middle: And as the Hall is very lightfome by receiving its Light from above, thefe *Mezaninos* are light enough likewise; and the more fo, fince they receive their Light from the Top being open in the Middle. The Cellars and Granaries are in one of the covered Sides, or Arches of the Yard; and the Stables in the other, with the other Places proper for Country Ufes. The two Galleries, which make, as it were, the two Arms of the main Edifice, ferve to unite the Farmer's Houfe and the Mafter's together. There are two Yards with Porticos,

* Plate XLVII.

the one is set apart for laying up the Crop, the other for lodging the Husbandmen and their Servants.

The following Edifice * is Count *Giacomo Angarano's*, who erected it in his Lordship of *Angarano*, a Place in the *Vicentine*. The Cellars, the Granaries, the Wine-presses, the Farmer's House, the Stables, and the Dove-house are on both Sides the Court ; and beyond, on one Side, there is a Court or Yard for the Country Uses, and a Garden on the other. The Master's House is in the Middle. All the first Story of it is arched, and the second cieled. the Closets have *Mezaninos* both above and below. The *Brenta*, a River which abounds with very fine Fish, runs near this House. The Place is celebrated for its delicious Wines and Fruits, but more especially for the Hospitality and Benevolence of its Lord and Master.

The following are Draughts § of Count *Ottavo Thieni's* Seat, in a Place called *Quino*. This Edifice was begun by Count *Marc Antonio*, his most illustrious and most worthy Father, and by Count *Adriano* his Uncle. This House is finely situated, having the *Tessina* on one Side, and a considerable Branch of the same River on the other. There is a Gallery before the Gate thereof of the *Dorick* Order, thro' which there is a Passage into another ; and from that into the Court, which has likewise two Galleries in its Wings, at the End whereof are all the Rooms and Apartments ; some of which have been painted by *Giovanni Indemio*, a *Vicentine*, and a very celebrated Artist. Over-against the Portico of the Entry there is another Gallery exactly like it, which brings you to an *Atrium* with four Pillars, and strait forwards to a Court, the Porticos are of the *Dorick* Order. It serves for all the Necessities of the *Villa*. There is no principal Stair-case that has any Proportion to the rest of the House ; because the upper Part of this Building serves only for Wardrobes, Stores, and Apartments for the Servants.

The followinw House ||, belonging to Signior *Girolamo de Godi*, is at *Lonedo*, a Place in the *Vicentine* : It is situa-

* Plate XLVIII.

§ Plate XLIX.

|| Plate L.

ted on a little Hill which has a very fine Prospect, near a River that supplies it with Fish. To render this Situation proper for Country Uses, they have made Yards and Passages which are supported by Arches; the Expence whereof must needs be very considerable. The Apartment for the Master and the Family is in the Middle of the Building. The Floor of the Chambers, which are cieled, are raised thirteen Feet from the Level of the Ground. The Granaries are above; and the Cellars, Kitchens, Places to make Wine, and other necessary Conveniencies, are below, under the Raising of the thirteen Feet. The Hall has two Rows of Windows, and its Height is the very Roof. At each Side of the House there are great Yards with Coverts, serving for Country Purposes. The House is painted very accurately by Messer *Gualterio Padoano*, Messer *Battista del Moro* of *Verona*, and Messer *Battista Venetiano*: For this Gentleman being ambitious to make his House as complete as possible, and being himself an excellent Judge, spared no Cost to procure the most celebrated Workmen and Artists of our Time.

The following House *, which belongs to Count *Marc Antonio Sarego*, is at *Santa Sophia*, a Place within five Miles of *Verona*. Its Situation is on a fine Hill, of a very easy Ascent, between two Vallies, from whence there is a curious Prospect of a great Part of the City. There are several other Hills very agreeable to the Eye, all round about which abound with excellent Waters, by which Means the House and Garden are adorned with several curious Fountains. This Place was formerly the Delight of the Lords *de la Scala*, on Account of its Agreeableness; and we may also judge, that it was in great Esteem in the Time of the antient *Romans*, by some old Ruins that are still found there. That Part of this House, which serves for the Master's Apartment and his Family, has a Court perfectly surrounded with Porticos. The Pillars are of the *Ionick* Order, and but coarsly wrought, which seem to become a Country House; nice and finished Works not bearing so true a Re-

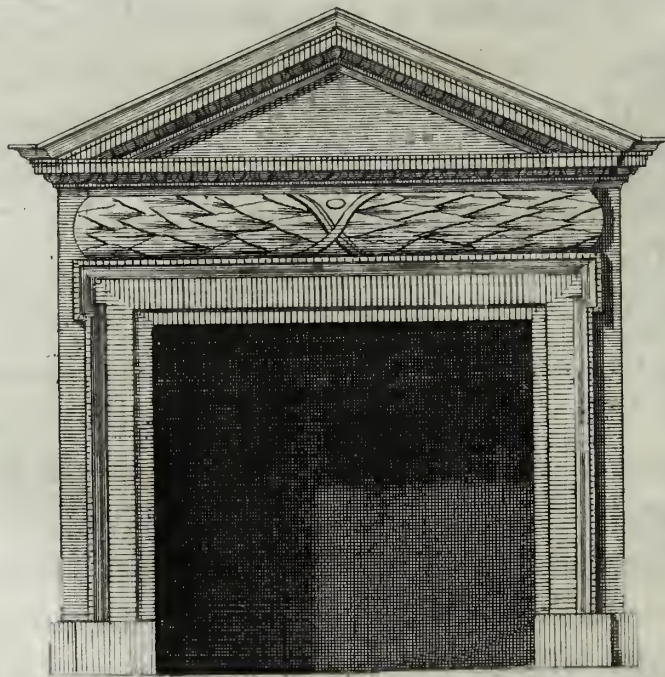
* Plate LI.

semblance as plain and natural ones. These Pillars support the Cornice, which forms the Gutters that receive the Rain falling from the Top of the House; and behind are some Pilasters under the Porticos, that support the Floors of the second Story. In this second Story are two Halls one over-against another, the Largeness whereof may be seen in the Draught * by the Lines that go cross each other, and are carried on from the further Walls to the Pillars. Near this Court is the Farmer's Yard, where all the Coverts requisite for Country Purposes are on both Sides.

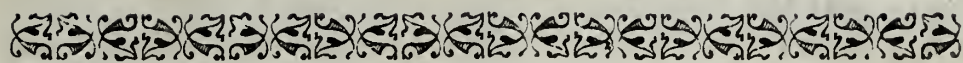
The following § is the House belonging to Count *Anni-bal Serego*, in a Place of the *Collognese* called *la Miga*. The whole Edifice is raised on a Pedestal or Base, four Feet and a half high; and the Floor of the first Chamber is level to it; the Cellars, Kitchens, and other Places for the Apartments or other Services of the Family, are under those Chambers. The first Chambers are arched, and the second cieled. The Farmer's Yard, and all the Country Conveniencies thereunto belonging, is contiguous to the House.

* Plate LI.

§ Plate LII.



C H A P.



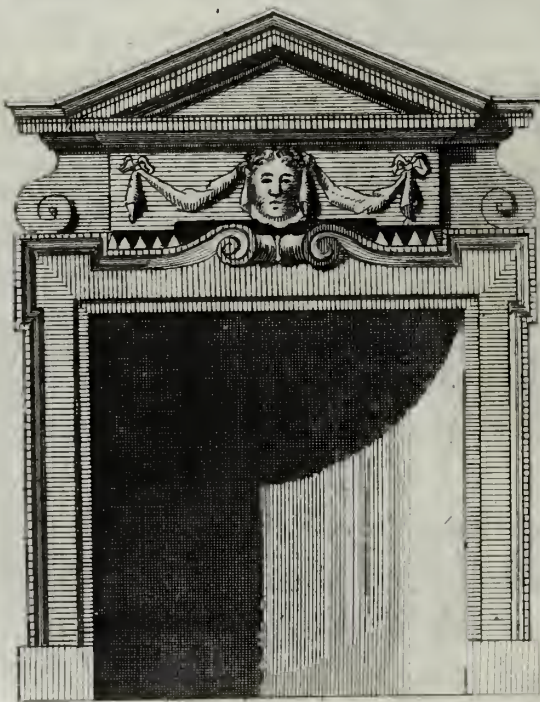
C H A P. XVI.

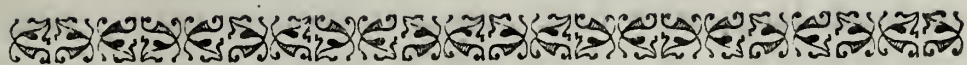
Of the COUNTRY-HOUSES of the Antients.

Hitherto I have given you the Draughts of several Country Seats performed by my own Direction: I shall now give you some others * after the Manner of the Antients, according to *Vitruvius*; for in these all the Places belonging to the Lodgings, and the Conveniencies of the Country, are turned to the Regions of the Heaven that are most proper. I shall not here insist upon what *Pliny* says on this Topick; my Intention, at present, being only to explain what *Vitruvius* says of it. The principal Front of the Building is turned to the *South*, and has a Gallery, from which there is a Passage into the Kitchen, which receives its Light above the Places adjacent, it being requisite to have the Chimney in the Middle. The Stalls for the Oxen, the Manger whereof must be turned to the *East*, are on the Left-hand. The Bagnios must likewise be on the same Side, and at equal Distance from the Kitchen as from the Gallery, on Account of the Room they require. The Oil-presses, and other Places for the Oil, which answers the Places of the Bagnios, and are turned to the *East*, *South*, and *West*, are on the Right-hand. The Cellars are backwards, far from all Noise, and open to the *North*, that it may not be exposed to the *Sun*. The Granaries are above, and receive the same Light, the same Way as the Cellars do. On the the right and left Sides of the Court are Stalls for the Oxen, Stables for the Horses, Conveniencies for Sheep and other Animals; Hay-lofts and Barns to put the Straw in, and Bake-houses; all which must be as far from any Fire as conveniently may be. The Master's Apartment is backwards, the principal Front whereof is opposite to the Farmer's House; so that

* Plate LIII.

the Halls are always in the back Part of the Country Buildings. All the same Things were observed in these, whereof we have spoken above, when we gave the Draughts of the private Houses of the Antients, for which Reason I have had, at present, no Regard but to what purely relates to the Country. In all the Houses which I have built in the Country, and also in some of those which I have made in Towns, I have always placed the Pediments before, where the principal Gates are ; because they make the principal Entry to the House more conspicuous, and contribute very much to the Magnificence and Grandeur of the Building. This gives the Fore-part a great Advantage over the others, and for that Reason must be made higher ; besides, it is much more proper to put the Arms of the Owner there, which are generally placed in the Middle of them. The Antients employed them also in their Works, as is visible in the old Remains of Temples and other publick Buildings ; from which it is, in all Probability, as in the Preface to my First Book I have before observed, that they borrowed the Contrivance and Proportions of private Houses. *Vitruvius* teaches us how to make them, in the last Chapter of his Third Book.





CHAP. XVII.

Of some INVENTIONS adapted to various SITUATIONS.

WHEN I first began to write, I intended to speak only of such Buildings as were brought to Perfection, or at least were so far advanced, as that it might reasonably be expected they would soon be finished: But having observed, that it is frequently requisite to confine one's self to the Situations, and that sometimes one has not free Room to build, I have thought proper to add to those Draughts, which I formerly made, some new Inventions of my own (which were requested of me by several Persons of Distinction, notwithstanding some Alterations in their Affairs have hindered the Execution) because the Irregularity and Difficulty of their Situation, and the Method I have observed to dispose the Chambers and other Places, so as to be correspondent and proportionable to each other, in my Opinion, may prove of no little Use and Advantage.

The Situation of this first Draught * is in the Form of a Pyramid: The Basis of a Pyramid makes the principal Front of the House, which has three Orders of Pillars, *Dorick*, *Ionick* and *Corinthian*. The *Vestibule* is square, and the Arch thereof, whose Height and Breadth is equal, is supported by four Pillars. On each Side are two Chambers, the Length whereof is a Square and two thirds, and they are arched after our first Manner. Each of them has a Closet, and a small Stair-case to go up to the *Mezaninos*. I had placed two Chambers, a Square and a half long, at the End of the Entry, with two Closets contiguous to them of the same Proportion, which would also have had their Stairs to the

* Plate LIV.

Mezaninos : And moreover, I contrived a Hall, a Square and two thirds long, with Pillars equal to those of the *Vestibule*. Next to this there had been a Gallery, on both Sides whereof I would have placed two Out-stairs, and at some Distance a Yard, in one Side of which should be the Kitchen. The Chambers in the second Story were to be twenty Feet high, and those in the third eighteen: But each of the Halls was to be as high as the Roof, and level with the Chambers of the second Story ; the Halls would have had some Balconies, or Corridors, for the Accommodation of Persons of Distinction at the Time of Festivals, Banquetings, or such like publick Amusements.

The following Draught * was designed for a Situation in *Venice*. The principal Front has three Orders of Pillars, the *Ionick*, the *Corinthian*, and the *Composite*. The *Vestibule* projects a little outwards, and is adorned with four Pillars, equal to, and like those of the Front. The Chambers, which are on the Wings, are arched after our first Manner. Besides these, there are other smaller Chambers, and Closets with Stairs to go up to the *Mezaninos*. At the End of the Entry there is a Passage into a second Hall, which has a little Court on one Side, by which it receives its Light, and the principal Stair-case of an *Elliptical* Form on the other, and open in the Middle, with Pillars all round, that support the Steps. At some Distance there is another Passage for an Entrance into a Gallery, the Pillars whereof are *Ionick*, and equal to those of the *Vestibule*. There is an Apartment like those at the Entry on each Side of this Gallery, but that Apartment which is on the Left-hand is in a Place which contracts it a little more. There is likewise a Court hard by adorned quite round with Pillars, forming a Corridor, which serves for the Apartment of the Women, in which they cook, and which, for that Reason, ought to be backwards. The upper Part is like the lower one, the Hall excepted, which is above the Entry, has no Pillars, and is raised to the Roof,

* Plate LV.

having a Corridor that is level to the Chambers in the third Story, and might likewise serve the upper Windows, this Hall having two Rows of them. The Floor of the lesser Hall will be of the same Height with the Arches of the second Chambers, these being twenty-three Feet high. The Chambers in the third Story are cieled, and are eighteen Feet high. All the Doors and Windows would be directly perpendicular over one another, and each Wall would bear its Proportion of the Weight, were the Design executed. The Cellars, Laundries, and other Offices, would have been under Ground.

I made the following Draught * some considerable Time since, at the Request of the two Brothers Count *Francisco* and Count *Lodoico de Trissini*, for a Place they were possessed of in the City of *Vicenza*; according to which the House would have had a square *Vestibule*, divided into three Spaces by Rows of *Corinthian* Pillars, to give more Strength and Proportion to its Arch. On the Wings would have been two Apartments, with seven Chambers in each, and three *Mezaninos*; for which the Stairs would have served, which are next the Closets. The Height of the great Rooms was to be twenty-seven Feet; and the Height of the lesser, and the least of all, but eighteen. Farther in there was a Court, surrounded with Galleries of the *Ionick* Order. The Pillars of the first Floor of the Fore-front were likewise to be *Ionick*, and equal to those of the Court; those of the second Floor were to be *Corinthian*. The Hall would have been entirely free, of the same Size with the *Vestibule*, and raised up to the Roof; and there would have been a Corridor level to the Floor of its *Soffita*. The great Rooms would have been all cieled, but the lesser and smallest arched. The Women's Apartment, the Kitchen, and other Offices of the like kind, were to be on one Side of the Court; the Cellars, a Place for Firing, and the rest of the Implements of the Household under Ground.

The following Invention † was for Count *Giacomo Angaran*, who had likewise a Spot of Ground in the same City.

* Plate LVI. † Plate LVII.

The Pillars of the Front are of the *Composite* Order. The Rooms on the Side of the Entry are a Square and two thirds long. There is a Closet, with a *Mezanino* above it to close them. After this, there is a Court surrounded with Portico's, the Pillars whereof are thirty Feet, with Pilasters behind them (which *Vitruvius* calls *Parastates*) to support the Floor of the second Gallery, upon which there is still another open one, level with the highest Floor in the House, and railed all round. Farther in, is another Court, surrounded likewise with Portico's; the Pillars of the first Order whereof are *Dorick*, and of the second *Ionick*. The Stairs are in the Court, and there are Stables over-against them, where the Kitchen and the Servants Lodgings might also be placed. As to the upper Part, the Hall should have been without Pillars, and its Cieling must have reached to the Roof of the House. The Rooms would have been all of an equal Height and Breadth, having Closets and *Mezaninos* like the lower ones. One could make a Corridor upon the Pillars of the Fore-front of the House, which might be very commodious on several Occasions.

On a very fine Situation, called *Gli Portoni della Bra*, in *Verona*, Count *Gio. Battista della Torre* had an Inclination to build according to the following Draught*. The House was to be improved with Gardens, and all manner of Decorations that can make a Place agreeable and convenient. The first Rooms were to be arched, and there would have been *Mezaninos*, with small Stairs to go up to them above all the little ones. The Rooms in the second Story were to be cieled. The Height of the Hall was to extend as far as the Roof, and there would have been a Corridor or Balcony level with the Floor of the *Soffit*. Its Light was to have proceeded from the Gallery, and the Windows on the Wings.

The following Draught † was given to Signior *Gio. Battista Garzadore*, a *Vicentine* Gentleman, in which there are two Galleries, the one before, and the other behind, after

* Plate LVIII. † Plate LIX.

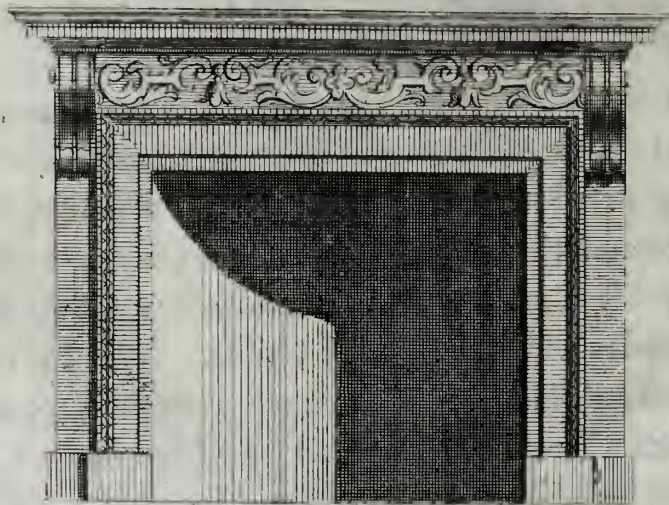
the *Corinthian* Order. These Galleries have their *Soffits*, and so likewise has the lower Hall, which is in the inner Part of the House, that they may be cool there in *Summer*; and it has farther two Rows of Windows. Its *Soffit* is supported by four Pillars that support the Floor of another square Hall which is above it, but has no Pillars. It is almost as high as it is broad, and only higher as the Cornice is in Thickness. The Arches of the great Chambers are raised according to our third Manner, and those of the Closets are sixteen Feet. The upper Chambers are cieled. The Pillars of the second Galleries are *Composite*, and a fifth Part less than the lower ones. Upon these Galleries are *Frontons*, which, as I have already said, give a great Air and Grandeur to a Building, making it appear higher in the Middle than on the Wings; and besides, they serve likewise to contain the Arms of the Family.

The following Draught * was made at the Request of the illustrious Signior *Leonardo Mocenigo*, for a Spot of Ground which he had on the *Brenta*. Four Galleries, containing a Quarter of a Circle each, like the Arms of the House, seem to accost and embrace those that come towards it. The Stables are on the Sides of these Galleries, in the Fore-part, which looks to the River; and on the Back-part, taking up also the Sides, are the Kitchen, and the Farmer's, and the Husbandmen's Apartments. The Gallery, which is in the Middle of the Fore-front, is after the *Pycnostyle* Method; that is to say, the Pillars are very thick, and near one another; and forasmuch as these Pillars are forty Feet high, they have some Pilasters behind them, which are two Feet broad, and a Foot and three Inches thick, and support the Floor of the upper Gallery. There is likewise a Court surrounded with Galleries after the *Ionick* Order. The Portico's are as broad as the Pillars are high, excepting only one Diameter of a Pillar. The Galleries and the Chambers which front the Gardens are likewise of the same Breadth, that the Walls, which make the Separation of all the Apartments, may be

* Plate LX.

directly in the Middle, to support the Weight of the Roof. The first Chambers would be very commodious Dining-Rooms, in case there should happen to be more Company than usual in the House. They are of a double Proportion. The Rooms on the Angles are square, and are arched with a *Fascia*. The Impost is as high as the Diameter of the Room, and the Arches are a third Part of their Breadth in Height. The Hall is two Squares and a half long : Pillars are placed in, that they may make the Length and Breadth equal to their Height ; and these Pillars should have been only in the lower Hall, that the upper one might be perfectly free and agreeable. The Pillars of the Galleries above the Court are *Corinthian*, and a fifth less than the lower ones. The upper Chambers are as high as they are broad. The Stairs are at the End of the Court, and each goes up a contrary Way to the other.

With this Draught I shall conclude these two Books, in which I have used my utmost Endeavours briefly to put together, and to teach in the clearest Manner, as well by Words as by Draughts, all such Things as I have thought most requisite and important in the Art of Building well ; and particularly with Regard to private Houses, which are and beautiful and magnificent, commodious for the Owner, to be credible for the Builder.

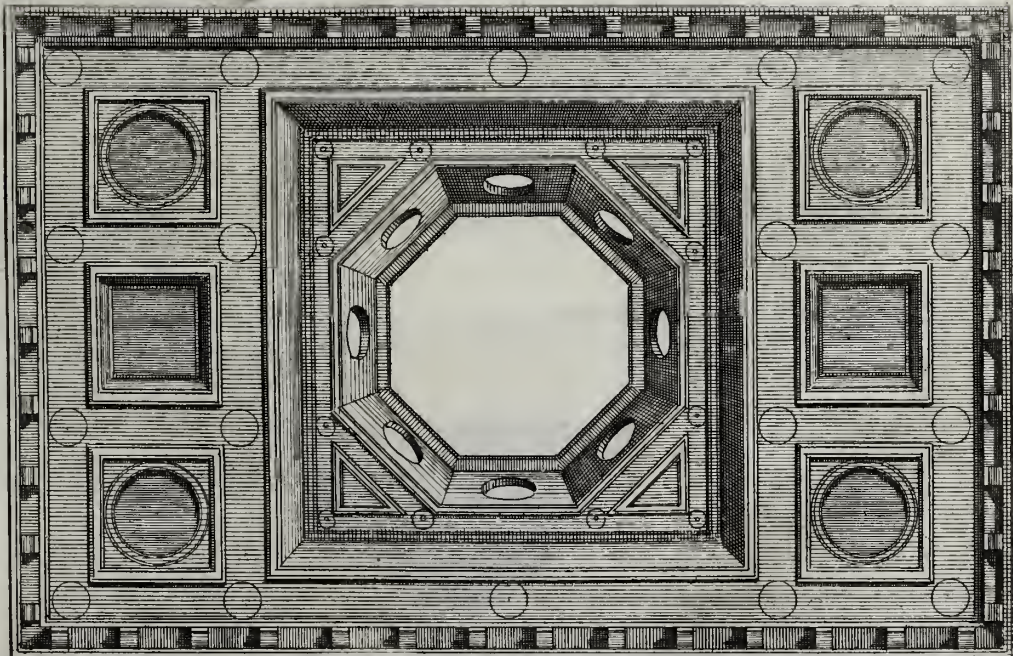


R E M A R K.

REMARK.

I Cannot conceive why this Plate* was not inserted by Palladio, in some Part of his Book, among other Draughts of private Houses, since it plainly appears that it came from the same Hand with all the rest, and was not, in all Probability, designed for any other Purpose, unless, perhaps, the Graver had not finished it time enough for the Printer, as we have seen above, Page 79, that the like Accident has happened once before. But, however, the Draught merits a Place here. Yet, that it may be known for a posthumous Piece of this our Author, I have particularized by a different Character, and given it the last Place, to avoid breaking in upon the Order of the Book: And moreover this Plate, with two others of the same Author (which are the Plan and Elevation of the Dorick Temple, and which I reserve for the Conclusion of this Work) were found among the rest, which were sent from Venice to Mr. de Chambray at Paris, who first inserted them in his French Translation, from whence I extracted it.

* Plate LXI.



Plan of the Temple of Minerva at Vicenza.

THE
THIRD BOOK
OF
PALLADIO'S
ARCHITECTURE.

Treating particularly on

HIGH-WAYS,
STREETS,
BRIDGES,
SQUARES,
PALACES,

BASILICAS, or
Courts of *Judicature*.
XISTES, or Places
of *Exercise*, &c.

Translated from the *ITALIAN*,

AND

The *Designs* carefully copied by B. COLE, Engraver.



L O N D O N :

Printed in the Year of our Lord M.DCC.XXXVI.

THE

THIRD BOOK

OF

PALLADIUS

ARCHITECTURE

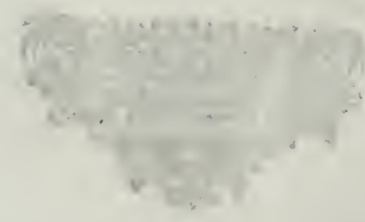
Translated from the Italian

PAVILIONS	HIGHWAYS
Seats of Nobility	STREETS
CHURCHES or Temples	BRIDGES
of various Orders	BOULEVARDES
	PALACES

London from the Year 1715

1727

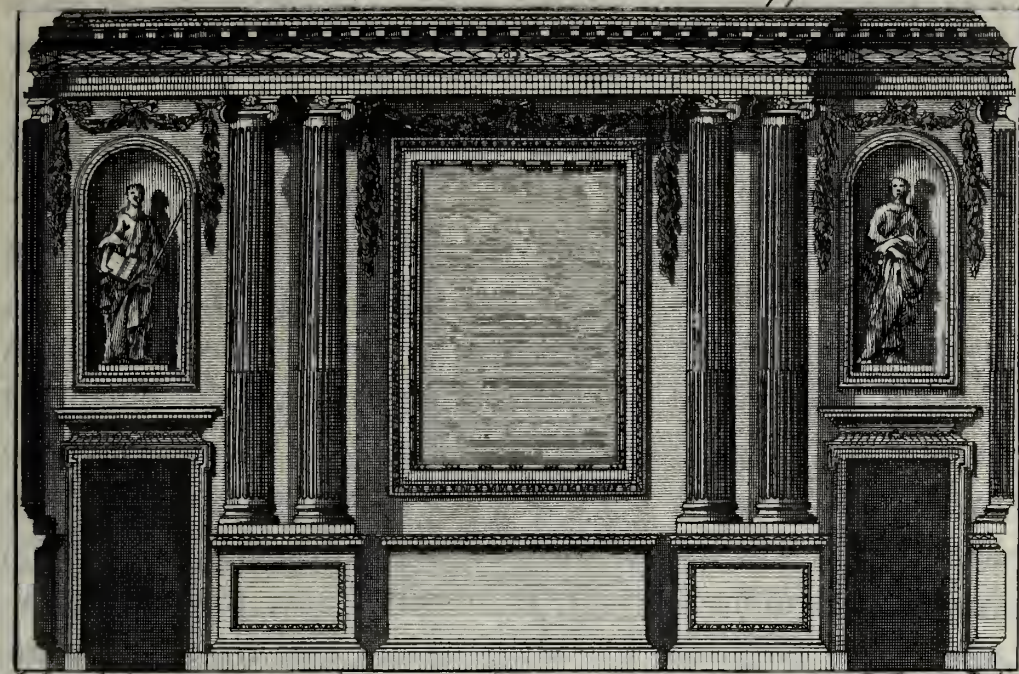
The Author's Name is JOHN BROWN



LONDON

Printed by J. B. at the Sign of the Sun

Alter Piece at Somerset-House Chappel.



T H E

INTRODUCTION.

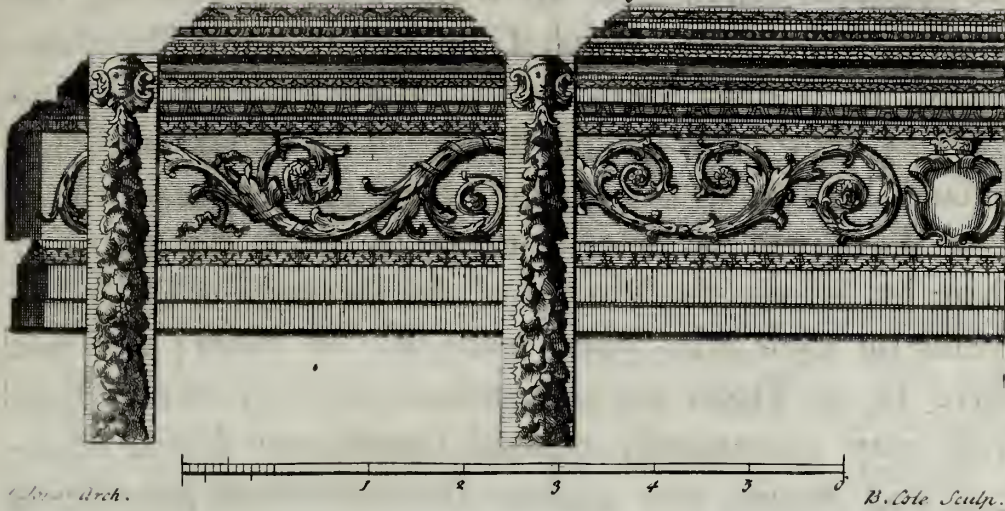


HAVING already treated as fully as I thought proper of PRIVATE EDIFICES (or the Houses, and other Apartments, which belong to particular Persons) and having mentioned all the Directions which are most necessary, and ought to be observed about the same; and having moreover given the Designs of several Edifices which I have built myself, whether within or without the City, and also of those erected by the Ancients, according to *Vitruvius*; 'tis highly requisite that, turning my Treatise to more excellent and magnificent Buildings, I should now proceed to discourse of PUBLIC FABRICKS; wherein (because they consist of larger Dimensions, and are beautified with more curious Decorations than Private ones, as being for the Service and Convenience of every-body) Princes have a very large Field to demonstrate to the World the Greatness of their Souls; and

Architects have likewise the fairest Opportunity to shew their own Abilities in artful and excellent Inventions. For which Reason, it is my Desire, as well in this Book, wherein I begin my *Antiquities*, as in those others, which (God willing) are to follow, that by so much the greater Diligence may be used in weighing well, and reflecting on, the little I shall say, and the Designs I shall give; by how much greater Trouble, and more tedious Watchings, I have been reducing those Fragments, which remain of ancient Buildings, into such a Form, that, I hope, the Admirers of Antiquity may reap Pleasure therefrom, and the Lovers of Architecture receive much Advantage; especially, since much more is learnt, in a short Time, from good Examples, or Originals by Mensuration, and by seeing complete Buildings, with all their Parts, described on a small piece of Paper, than can be learnt from Words in a long Time, whereby the Reader becomes able, in Idea only, and with great Difficulty, to attain to a firm and certain Knowledge of what he reads, and to reduce it afterwards into Practice with great Fatigue. Every Person, who knows any thing, may very plainly perceive how excellent the Manner was which the Ancients used in their Buildings; since, after so long a Space of Time, after so many Destructions and Changes of Empires, there still continue in *Italy*, and out of it, the Footsteps, or Ruins, of so great a Number of their magnificent Edifices; by which Means we come to a certain Knowledge of the *Roman* Virtue and Greatness, which otherwise, in all Probability, had never been believed. In this Third Book, therefore, I shall observe the following Method in ranging the Designs which will be therein contained. First I shall give those of Highways, Streets, and Bridges, being that Branch of Architecture which belongs to the Ornament of Cities and Provinces, and which serves for the Convenience of all People in general: For, as in the other Edifices erected by the Ancients, it may with Ease be discovered that they spared no Pains or Expences to bring them to that Pitch of Perfection, which is allowed them even by our Imperfection; so they took
great

great Care in the Management of their Ways, finishing them so as that, even now, their Greatness and Magnanimity may be learnt thereby; since, in order to render them more convenient and short, they penetrated Mountains, drained Fens, and erected Bridges, by which Means they made those Passages easy and plain, which were interrupted by uneven Vallies, or rapid Rivers. In the next Place I shall treat of *Forums*, or publick Places (according as the *Greeks* and *Romans* made them) and also of those Fabricks which ought to be built about such Squares: And since that Place, among the rest, well deserves some Consideration, where the Judges administer Justice, which the Ancients called a *Basilica*, I shall give the particular Designs thereof. But forasmuch as it is not sufficient that Countries and Cities be divided ever so well into their several Districts, and regulated by wholesome Laws; nor that we have Magistrates, who, as Executors of the Laws, keep the Citizens in Awe; if Men be not likewise rendered wise by the Assistance of Learning, and strong and healthy by the Exercise of their Bodies (to become thereby capable both to govern others and themselves, and to make good Defence against such as would oppress them) this is the principal Reason why the Inhabitants of any Country, being at first divided into many little Cantons, united afterwards and founded Cities. And for this Reason also (according to *Vitruvius*) the ancient *Grecians* made certain Fabricks in their Cities, which they called *Pelestras*, and *Xystes*, to which the Philosophers resorted to dispute and discourse about the Sciences, and the Youth exercised themselves every Day: As also the whole People flocked thither at certain Times, to see the *Athletes* (or Fencers and Wrestlers) play their Prizes. I shall therefore conclude this third Book with the Designs of these Buildings, which shall be followed by those of *Temples* for the Exercise of Religion, without which no civil Policy can possibly be preserved.

*Section of the Mouldings
belonging to a Ceiling.*



THE
THIRD BOOK.

CHAP. I.

Of High-ways and Streets.

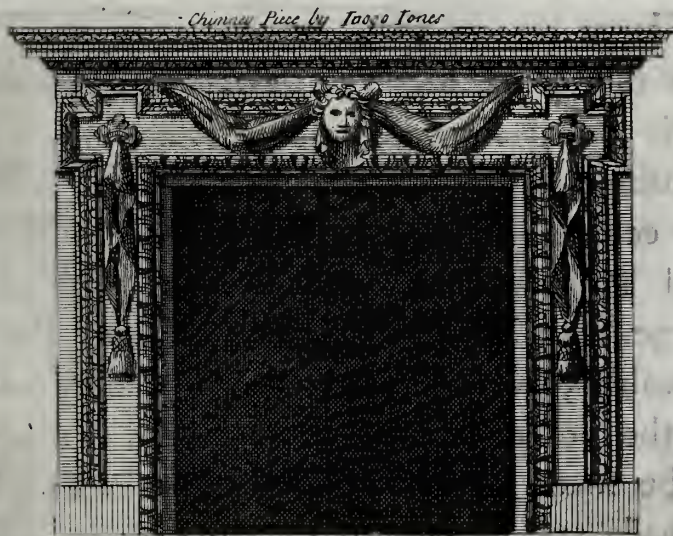


THE High-ways ought to be short, commodious, safe, pleasant, and beautiful. They will be short and commodious, if made in a direct Line; and so large, that neither Carriages nor Horses hinder each other as they meet: For which Reason there was a Law among the Ancients, that where the Ways were strait, they should be eight Foot broad at least; and where they were crooked or winding, at least sixteen. The Ways will be further commodious, if they are made every where equal; that is, that there are no Places in them but where Armies may easily march, and that there is no Difficulty of Passage, either from Waters or Rivers: Whence we read, that the Emperor *Trajan*, having a particular Regard to these two Circumstances (which are

are absolutely requisite in all Ways) when he repaired the famous *Appian* Way, which Time had in many Places impaired, he drained Bogs, levelled Mountains, and filled up Vallies; and, as he made Bridges where they were necessary, he rendered Travelling there easy and expeditious. The Ways will be safe, if made on high Places; or if there be, as was the Manner of the Ancients, a Ditch and Banks on each Side, when made in the Plain; and that there be no Places too near, where Highway-men or Enemies may conveniently conceal themselves: so that Strangers and Armies may preserve themselves from Surprize in such open Ways, and readily discover any Ambuscades which might be laid for them. Such Ways then, as have the three Qualifications aforesaid, must of Necessity be beautiful, and very agreeable to Passengers; for in the Country, their strait Direction, and their Conveniencies, besides the various and distant Prospects they afford, must very much lessen the Fatigue, and fill the Mind with Satisfaction, presenting always new Landscapes to the Eye. Nothing can be a more agreeable Sight in a City, than a strait, even, and large Street, which has magnificent Houses on each Side, and is built with such Ornaments as are mentioned in the preceding Books. Now as the Streets are beautified by Buildings in Towns, so are the Ways adorned by Trees in the Country; which Trees, if planted on both Sides, not only delight our Minds by their Verdure, but highly refresh us with their Shade. Of such Kinds of Ways out of the City, there are several in the *Vicentine*: And, among the rest, those are most celebrated which are at *Cicogna*, the *Villa* of Count *Edward Thiene*, and at *Quinto*, the *Villa* of Count *Ostavio* of the same Family, and which, after I had directed them, were beautified and adorned by the Diligence and Industry of those curious Gentlemen. The Ways so made, afford numberless Conveniencies, because, being strait, and somewhat more elevated than the rest of the Ground, always speaking of those in the Country, the Enemy may be discovered at a Distance, as I said before, in Time of War, whereby a

General

General is at Liberty to take such Resolution as he thinks best: Moreover, at other Times, great Advantage arises from their Shortness and Easiness, by Reason of the Trade and Commerce that is carried on by them: But since all Ways are either within or without the City, I shall first mention the particular Qualifications which are requisite in those within the City, and then describe how those should be made which are without. Yet, forasmuch as military Ways are one Thing, and non-military are another, the first being such as pass through the Middle of the City, lead from one City to another, and serve for the common Use of all Passengers, for Carriages to drive, or Armies to march; and the second being such as issue out of the other, leading from one military Way to another, or are made for the Service and Convenience of some particular *Villa*: I shall treat of the military Ways only in the following Chapters, quite omitting the non-military ones, because these should be regulated by those; and because the more like they are, the more commendable they will be.



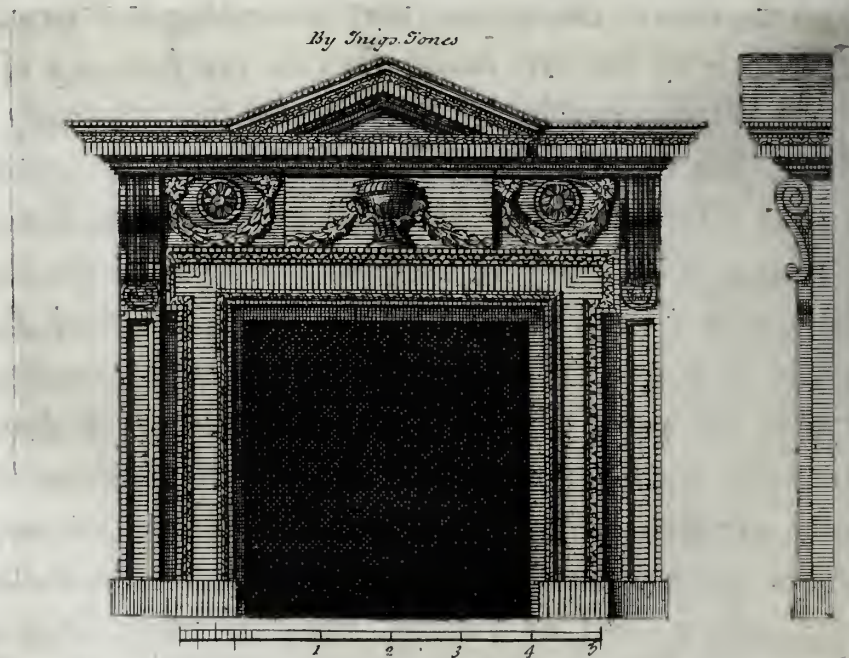
C H A P. II.

*Of the Distribution of the Ways, or Streets,
within the City.*

IN the Distribution or Compartment of the Ways in a City, or a Town, particular Care must be always taken with respect to the Temperament of the Air, and the Climate of the Country ; because in such Places, where the Air is cold or temperate, the Streets should be made large and noble, since by that Means the City will become more wholesome, commodious, and beautiful ; for the freer and less piercing the Air is, the less, doubtless, will it offend the Head ; and therefore, if a Town is situated in a cold Place, or in a keen Air, and the Houses thereof are high, the Streets should be made the larger, that the Sun may visit them in every Part. As for what relates to Convenience, since there is more Room for Men, Cattle, and Carriages in large Streets than narrow ones, there is no Doubt but the former are much more commodious than the latter : And it being likewise evident, that broad Streets are more lightsome, and that one Side of such a Street is therefore less eclipsed by the opposite Side, the Beauty of Churches and Palaces must needs be seen to greater Advantage in large than in narrow Streets, whence the Mind is more agreeably entertain'd, and the City more adorn'd : But in case the Town is situated in a hot Climate, the Streets must be made narrow, and the Houses built high ; that by the Shade and Narrowness of the Passage, the Heat of the Air may be tempered, and by Consequence may become more healthy : As this is well known by the Instance of *Rome*, which, according to *Cornelius Tacitus*, grew more hot, and less healthy, after *Nero* had enlarged its Streets, in order to make it more beautiful.

In this Case, however, the Street that is fullest of the principal Trades, and the most frequented by Strangers, ought to be made large, and adorn'd with magnificent and pompous Fabricks, for the greater Ornament and Convenience of the City; because such Strangers as pass thro' it, will readily conclude, that the other Streets of the City bear a Proportion to the Largeness and Beauty of this. The principal Streets, which we have term'd *military*, ought to be so comparted, as to be narrow, and to lead in a strait Line from the Gates to the principal Place or Square of the City; and likewise, if the Situation will permit it, sometimes from one Gate directly to the other on the opposite Side; and it ought to be remembered, that according to the Compass of the City, there should be made one or more such Squares a little less than the principal one, in the same Street, and on the same Line, or in any other such Street, and leading from which of the Gates you please. The other Streets, at least the most beautiful of them, ought not only to lead to the chief Square, or open Place, but also to the most noted Churches, Palaces, Porticos, and other publick Edifices: But above all, particular Care must be taken in this Distribution of the Streets, that (according to *Vitruvius's* sixth Chapter of his first Book) they do not face any of the principal Winds directly, lest they should blow violently into the same, but that they may come broken, gentle, purified, and spent; for otherwise you will fall into the same Inconvenience with those of old, who comparted the Streets of *Metelinum*; from which City the whole Island of *Lesbes* has taken its Name. The Ways, or Streets, of a Town ought always to be pav'd; and, in the Consulship of *Emilius*, we are told, they begun to pave the Streets of *Rome*, some whereof are seen at this Day, and are all even, consisting of Stones unequal in their Size and Angles: The Performance of which Sort of Paving, shall be taken Notice of in its proper Place. But if you would have the Place for the Passage of Men divided from that for the Use of Carriages and Beasts, *Porticos*, in my Opinion, should be
made

made on each Side of the Street, under the Cover whereof, the Citizens may transact their Affairs, without being injured by the Sun, the Rain, or the Snow; and almost all the Streets of *Padua*, which is a very ancient City, and famous for its Univerſity, are in this Manner. Or if there be no *Porticos*, in which Caſe the Streets will be larger, and more pleaſant, a Border ought to be pav'd on each Side with broad Stones, or ſquare Tiles, which are a kind of Bricks ſomewhat larger than *Quadrels*; becauſe in walking they never hurt the Feet: So that the Middle of the Street will be left for Carriages and Beaſts, and may be paved with any hard Stone whatſoever. There ought to be a Kennel in the Middle of the Street, towards which each Side is gently to ſlope, that the Rain-water, which falls off the Houſes, may run all into one Channel, and have a free and eaſy Courſe; by which Means the Streets will be left clean, and no bad Air will be produced; which will happen when ſuch Waters are collected into one Place, and ſtagnate there.



C H A P. III.

Of the High-Ways, or Roads without the City.

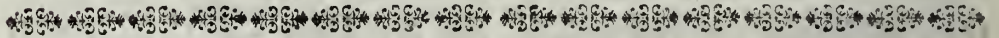
THE Ways without the City must be made large, convenient on both Sides, and be planted with Trees, by whose Shade the Passengers will be secured from the Heat of the Sun in Summer, and their Eyes agreeably refresh'd by their Verdure. The Ancients were very careful and laborious about such Ways; and created Prefects, Overseers, or Curators thereof, that they might continue in good Repair. They made several of those Ways, which, tho' spoil'd by Time, yet still preserve in some Places the Memory of their Beauty and Convenience: But the *Flaminian* and *Appian* Ways are the most famous. The first was made by the Consul *Flaminius*, after his Conquest over the *Ligurians* (or *Genoese*.) It took its Beginning from the Gate *Flamentana* (now called *Porto del Popolo*) and passing thro' *Tuscany* and *Umbria*, led to *Ariminum*; from whence it was afterwards continued by *Marcus Lepidus* his Collegue to *Bononia* (now *Bologna*) and winding round the Marshes, near the Foot of the *Alps*, ended at *Aquileia*. The *Appian* Way owed its Name to *Appius Claudius*, who made it with great Labour and Expence; whence, on Account of its wondrous Magnificence and Art, it was called, *The Queen of Roads*. This Way began from the *Coliseo* (or *Pompey's Amphitheatre*) and leading thro' the *Porta Capena* (a Gate of *Rome* so called) it extended as far as *Brundisium*. It was carried no farther than *Capua* by *Appius*; and who was the Author of it beyond, is uncertain, tho' by some it is imagin'd to be *Cesar*, because *Plutarch* says, that the Care of this Way was committed to *Cesar*, and he laid out a large Sum of Money upon it. It was last of all repaired by the Emperor *Trajan*, who, as I before observed, by draining of Marshes, levelling of Mountains, filling up of Vallies, and making Bridges where it was

requisite, made it both expeditious and agreeable to Passengers. The *Aurelian Way* is also very famous; so called from *Aurelius*, a Citizen of *Rome*, who made it. It took its Beginning from the *Aurelian Gate*, now called, *The Gate of St. Pancrace*; and extending itself along the maritime Places of *Tuscany*, ended at *Pisa*. The *Numentan*, the *Preneftin*, and the *Labican Ways*, were all equally celebrated. The first began from the Gate *Viminalis*, now called, *The Gate of St. Agnes*, and extended to the City of *Numentum*: The second at the Gate *Esquilina*, now called that of *St. Laurence*: The third from the Gate *Nevia* (which is now the *Porta-maggiore*) and both led to the City of *Prenefte*, now called *Pellestrino*, and to the celebrated City of *Labicana*. There were several other Ways, such as the *Via Salaria*, the *Collatina*, the *Latina*, and others, which Authors have mentioned and made famous, every one of which took its Name either from the Man who made it, or from the Gate where it begun, or from the Place where it ended: But the *Portuensian Way*, which reached from *Rome* to *Ostia*, surpassed them all, no doubt, for Beauty and Convenience; because, as *Alberti* affirms, it was divided into two Ways, between each of which there was a Course of Stones a Foot higher than the rest of the Way, and which served for a Division; so that People went one Way, and returned the other, whereby they avoided all Hindrance or Jostling of each other; and it was indeed a very commodious Invention, considering the vast Concourse of People that flock'd then to *Rome* from all Parts of the World. The Ancients made two Kinds of those military Roads; that is, one was paved with Stones, and the other covered all over with Gravel and Sand. The Ways of the former kind were divided into three Spaces, as far as by some Remains of them we have been able to conjecture. On the middlemost, which was higher than the other two, and which rose a little in the Middle, that no Water might rest upon it, but run off immediately, went the People who travelled on Foot. It was paved with irregular Stones; that is, such as had unequal

equal Sides and Angles; in which Kind of Paving, as is elsewhere observed, they made use of a square Rule of Lead, which they opened and shut according to the Figure of the Stones; by which Means they joined them perfectly well together, and with great Dispatch. The other two Spaces on each Side of this, were made a little lower, and covered with Sand and fine Gravel, being appropriated for the Passage of Horses and other Cattle. Each of these Spaces were but half as large as that in the Middle, from which they were divided by a Range of Stones pitch'd Edge-ways; and there were other Stones somewhat higher, at certain Distances, on which they got up when they mounted on Horseback, the Ancients not having had the Use of Stirrups. Besides the Stones for this Purpose, there were others a considerable deal higher, set at an equal Distance, on which were engraved the Miles of the whole Journey. These were set up, and the Ways measured, by *Cneus Gracchus*. The military Ways after the second Manner; that is, those made of Sand and Gravel, were raised by the Ancients a little in the Middle; for which Reason, no Water being able to rest upon them, and consisting of Matter very apt to become dry in a short Time, they were always even and smooth, without either Dust or Dirt. Of this Sort there is one to be seen in *Friuli*, which leads into *Hungary*, by the Inhabitants it is called the *Posthumous* Way. There is another of them in the Country of *Padua*, which beginning from the said City, at the Place called *Argere*, passes thro' the midst of *Cicogna*, the *Villa* of the two Brothers, the Counts *Edward* and *Theodore de Thieni*, and leads to those *Alps* which divide *Italy* from *Germany*. The following Draught.* is of the first Manner of Ways, by which you may understand how the *Ostian* Way was made; but I have made no Design of the second Manner of Ways, because it is, in itself, very easy; neither is there any Difficulty to make them swelling towards the Middle, in order to make the Waters run off.

* Plate I.

- A. *The middle Space for the Passage of People on Foot.*
- B. *The Ways on each Side for the Passage of Carriages and Cattle.*
- C. *The Stones, by the Help of which People got on Horseback.*
- D. *The military Stones, to mark the Distances to and from Rome.*
- E. *A Section of the three Ways, shewing their different Levels.*



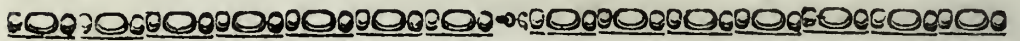
C H A P. IV.

Concerning the building of Bridges, and the best Manner of their Situation.

THE Convenience of Bridges was first contrived, because many Rivers, by Reason of their Largeness, Depth, and Rapidity, are not fordable; on which Account, it may be properly enough said, that Bridges are a principal Part of the Way, and a Street, or Way continued over the Water: For which Reason Bridges ought to have the self-same Qualifications, that we judged necessary in all other Buildings; which are, that they should be commodious, beautiful, and lasting. They will be commodious, when they are not raised above the Level of the rest of the Way; or, if they are raised, when they are of easy Ascent and Descent; and likewise when such a Place is chosen for Building them, as shall be most convenient for the whole Province, or the whole City, according as they are built within or without the Walls; and for that Reason that Place is to be made Choice of, to which there is a commodious Passage from all other Parts; I mean, that it be towards the Middle of the Province, or the City (as *Nicotris,*

cotris, Queen of *Babylon*, did in the Bridge which she erected over the *Euphrates*) and not in a Corner, where it can be only advantageous to a few. Bridges will be fine and lasting, if they are made after the Manner, and according to the Proportions which shall be particularly specified in this Book: But in the Choice of a Situation for erecting them, Care must be taken to fix on such a Place, as shall give good Grounds to expect that the Bridge may be perpetual, and where it may be erected with less expence, if possible, than any where else. That Place therefore must be chosen where the River is most shallow, and where its Bed or Bottom is even and uniform, that is, either of Stone, or of Gravel-stone; because (as I observed in my first Book, where I treated of Places for laying Foundations) Stone and Gravel are excellent Foundations in Waters. Moreover, Swallows and Whirl-pools, and that Part of the River's Bed which is sandy, or has much Clay in it, must be avoided; because, being constantly moved by the Water-Floods, they frequently alter the Bed; and the Foundations being thus undermined, the Work must of Necessity fall to Ruin. But in Case the Bed of the River be altogether of Gravel or Sand, then the Foundations must be made according to the Directions I shall lay down hereafter, when I treat of Stone-Bridges. Due Care ought likewise to be taken in the Choice of a Bridge's Situation, that it be in that Part of a River where its Course is narrowest; since the winding and uneven Parts of the Banks are liable to be washed away by the Waters, whence the Bridge would become destitute of Land-tyes, in such a Case, and remain an Island: Moreover, in Time of Land-Floods, the Water draws into those Turnings and Windings all the Matter that it washes from the Banks and the Fields; which being unable to move directly forwards, and resting there, it stops other Things, and turning towards the Piles, fills up the Arches, by which Means the Work suffers so very much, that it falls to Ruin, in Time, by the Weight of the Water. Make Choice therefore of such a Place for erecting a Bridge, as may be in the Middle of a Province or City,

and by Consequence commodious for all the Inhabitants: As also where the Current of the River is direct, and its Bed shallow, even, and uniform. But since Bridges are made either of Timber or Stone, I shall treat of both Methods; and, at the same Time, give you the Draughts of several Bridges, both ancient and modern.



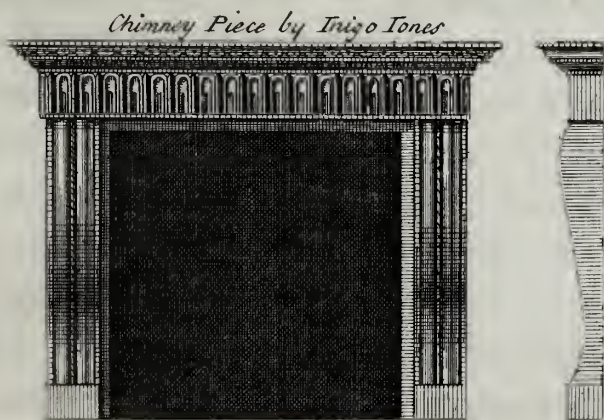
C H A P. V.

Of Wooden Bridges, and what Observations are to be made in the Erecting of them.

BRIDGES are built of Wood, either for some one particular Occasion, as for all such Accidents as usually happened in War (of which Kind the most noted is that which *Cesar* erected over the *Rhine*) or that they may be of universal Service. Thus we are informed that *Hercules*, after he had killed *Geryon*, victoriously drove his Herd thro' *Italy*, and built the first Bridge that ever was upon the *Tyber*, in that Place where *Rome* was afterwards founded; for which Reason it was called the *Holy Bridge*. It was situated on that Part of the River where *Ancus Martius* had afterwards built the *Sublician Bridge*, which was likewise made all of Timber, and the several Pieces of it were so artificially joined together, that it could be taken up, and carried to any Place where Necessity should require it; neither were there any Nails or Iron in it, for any Use. It is still a Secret how it was contrived, only Authors tell us, that it was laid over large Pieces of Timber, which supported others, and from thence was called *Sublician*, because, in the *Volscian* Language, such Pieces were called *Sublices*. This was the Bridge that *Horatius Cocles* defended so advantageously for his Country,

and

and so gloriously for himself. It was built near *Ripa*, where some Remains of it are to be seen at this Day in the midst of the River; for it was afterwards made of Stone by *Emilius Lepidus*, at the Time when he was *Prætor*, and repaired by the Emperors *Tiberius* and *Antoninus Pius*. Such wooden Bridges ought to be built very strong and substantial, and of large Pieces of Timber strongly joined together, so as that there be no Danger of their breaking, either by the vast Number of Men and Beasts that pass over them, or by the Weight of Carriages and Artillery; and that they be not ruined by Floods or Inundations. For which Reason, such as are made at the Gates of Cities (which are called Draw-Bridges, because they can be drawn up or let down) are, instead of being paved, generally overlaid with Rods and Plates of Iron, lest they should be broken, or worn, by the Wheels of Carriages, or the Feet of Cattle. The Pieces of Timber (as well such as are fixed in the Water, as those which make the Length and Breadth of the Bridge) ought to be long and thick, in Proportion to what the Depth, the Breadth, and what the rapid Current of the River shall require: But since the Particulars are innumerable, no certain or determinate Rule can be given about them; and therefore I shall present you with some Draughts, and particularize their several Proportions, by which every one, as he has an Opportunity, or as his Genius is happy, may take his Measures, and perform what shall be praise-worthy.



C H A P. VI.

Concerning the Bridge which Cæsar ordered to be laid over the Rhine.

JULIUS CÆSAR having determined to pass the *Rhine* (as he himself informs us in the fourth Book of his Commentaries) that the *Germans* might be apprehensive of the *Roman* Power; and concluding that it would neither be safe in itself, nor a Thing becoming him, or the People of *Rome*, to pass in Boats, he forthwith ordered a Bridge, which was a most curious and difficult Piece of Workmanship, on Account of the Largeness, Depth, and rapid Stream of the River. But after what Manner this Bridge was contrived, altho' he expressly mentions it, is yet very difficult to determine, because we have not an adequate Idea of the Force of some Terms in his Description; and various Draughts have, for that Reason, been made of it according to Mens various Conceptions. I having made mention of it likewise a little higher, I would not lose this Opportunity of setting down the * Design which I formed of it in my Youth, when I first read those *Commentaries*: because it agrees very much, as I take it, with the Words of *Cæsar*; and also because it succeeded to Admiration, as Experience has shewn, in a Bridge which I built immediately over the *Bachiglione* without *Vicenza*. I do not, however, intend hereby to confute the Opinion of others, who were all of them very valuable Persons, and highly praise-worthy, for leaving the Designs of this Bridge in their Books, according to their Idea of it; thus by their Labour and Ingenuity making it very easy to our Understandings. But before I give my Design, I shall quote the Words of *Cæsar*, which are as

* Plate II.

follows.

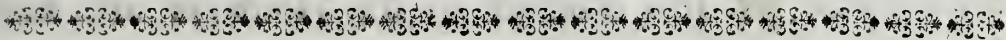
follows. *Rationem igitur Pontis hanc instituit. Tigna bina sequipedalia, paululum ab imo præacuta, dimensa ad altitudinem fluminis, intervallo pedum duorum inter se jungebat. Hæc cum machinationibus immissa in flumen defixerat, festucisque adegerat; non sublicæ modo directæ ad perpendiculum, sed prona ac fastigiata, ut secundum naturam fluminis procumberent. His item contraria duo, ad eundem modum junctæ, intervallo pedum quadragenum, ab inferiore parte contra vim atque impetum fluminis conversa, statuebat. Hæc utraque, insuper bipedalibus immissis, quantum eorum tignorum junctura trabibus, distabat, binis utrinque fibulis ab extrema parte distinebantur: Quibus disclusis, atque in contrariam partem revinctis, tanta erat operis firmitudo, atque ea rerum natura, ut quo major vis aquæ sese incitavisset, hoc arctius illigata tenerentur. Hæc directæ injectæ materia contexebantur, ac longuriis cratibusque consternebantur; ac nihilsecius, sublicæ, ad inferiorem partem fluminis oblique adjungebantur, quæ pro ariete subjectæ & cum omni opere conjunctæ, vim fluminis exciperent: & aliæ item supra pontem mediocri spacio, ut si arborum trunci sive naves, dejiciendi operis causa, essent a barbaris missæ, his defensoribus earum rerum vis minueretur, neu ponti nocerent.*

The true Sense and Meaning whereof is, that he ordered a Bridge to be made after this Manner. He joined two Pieces of Timber together, each a Foot and a half thick, at two Foot Distance, pretty sharp towards the lower End, and as long as the Depth of the River required. Having stuck these Pieces in the Bottom of the River, by Engines, he directed them to be rammed down, not perpendicularly, but inclining according to the Course of the River. Over-against these, in the lower Part of the River, and at forty Foot Distance, he fixed two others, joined together after the same Manner, leaning these against the Stream, and Force of the River. They laid long Summers two Foot thick (according to their Distance from each other) between these two double Piles, which being held fast by two Braces at each End, and pressing contrary to each other, such was the Strength and Nature of the

Work, that as the Force of the Water was the greater, the faster was all linked together. These Summers were joined with others across them, and covered with long Poles and Hurdles. Over and above this, there were several River-Piles, or Posts, in the lower Part of the River, which sloping against the Bridge, served for Buttresses against the Force of the River. Others were added in the upper Part of the River, at some small Distance from the Bridge, that in Case the Trunks of great Trees or Ships should be let down by the *Barbarians* to demolish the Works, the Violence of such Things should be lessened by these Defences, so that the Bridge might not be damaged. Thus *Cæsar* describes the Bridge which he laid over the *Rhine*; and the following Draught seems to me very conformable to that Description. The principal Parts of it are marked by Letters.

- A. *The two Pieces of Timber joined together, each one Foot and a half thick, pretty sharp towards the lower End, not fixed perpendicularly in the River, but inclining according to the Stream, and at two Foot distance from each other.*
- B. *The other two Pieces of Timber fixed in the lower Part of the River, over-against the Pieces just mentioned, and forty Foot distant from them, but inclining against the Stream.*
- C. *The Figure of one of those Pieces by itself.*
- D. *The Pieces of Timber, every Way two Foot thick, making the Breadth of the Bridge, which was forty Foot.*
- E. *One of those Pieces by itself.*
- F. *The Braces, which being open, or divided one from the other, and bound contrariwise (that is, one in the inner, and the other in the outer Part; one above, and another under the Pieces two Foot thick, which made the Breadth of the Bridge) did so corroborate the whole Work, that the greater the Violence of the Water, or the more pondrous any Load was upon the Bridge, the more it united, and became the firmer.*

- G. *Is one of the Braces, or Ties, by itself.*
- H. *The Pieces of Timber which were laid the Length of the Bridge, and were covered with Poles and Hurdles.*
- I. *The Posts below the Bridge, which inclining against, and joining to the whole Work, resisted the Force of the Stream.*
- K. *The Posts above the Bridge for its Defence, in Case the Enemy should let down the River Trees or Vessels to destroy it.*
- L. *Two of those Pieces of Timber, which being joined together, stood in the River, not perpendicularly, but inclining.*
- M. *The Head of the Pieces which made the Breadth of the Bridge.*



C H A P. VII.

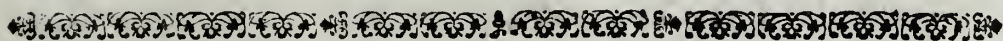
Concerning the Bridge on the Cismone.

THE *Cismone* is a River, which falling from the Mountains that divide *Italy* from *Germany*, enters into the *Brenta* a little above *Bassano*; and forasmuch as it is very rapid, and the Mountaneers send down great Quantities of Timber by it, a Resolution was taken to build a Bridge over it: Yet without fixing any Posts in the Water, because they were shaken and worn by the Force of the Stream, and by the Stones and Trees which it constantly rouled down; whence Count *Giacomo Angaranno*, who is Lord of the Bridge, was under the Necessity of repairing it every Year. * The Invention of this Bridge is well worth our Observation, in my Opinion, because it may be serviceable wherever those Difficulties occur; and further, because Bridges so built are substantial, beautiful, and commodious: Substantial, because all their Parts support each other mutually; beautiful, because the Carpenter's Work is very or-

* Plate III.

namental; and commodious, because they are plain, and in the same Line with the rest of the Way. The River, over which this Bridge stands, is a hundred Foot broad. This Breadth is divided into six equal Parts, and at the End of each Part (except at the Banks, which are strengthened with two solid Butments of Stone) are placed the Beams which constitute the Bed and Breadth of the Bridge; upon which, leaving a little Space at their Extremities, other Beams are laid longwise, which form the Sides of the Bridge. Over these, direct with the first, are disposed the *Collonelli*, or little Pillars on the one Side and the other; for so we generally call such Pieces, as, in Works of that Kind, are set up an end. These little Pillars are fastened to the Beams (which, as I before-hinted, make the Breadth of the Bridge) with Iron Cramps, contrived to pass thro' a Hole made for that Purpose in the Heads of the said Beams, in that Part which advances beyond those Pieces which constitute the Sides. These Cramps being in the upper Part along the said strait and plain Pillars perforated in divers Places, and in the under Part, near to those thick Beams which we before mentioned, and with one Hole moderately big, went into the Pillars, and fastened again below with little Bars, or Pins of Iron, made for that Purpose. Hence the whole Work becomes, as it were, united, so that the Beams, which make the Breadth of the Bridge, and those of the Sides, are, in a manner, one Piece with the Pillars; which thus come to support the Beams which make the Breadth, as these are again supported by the Arms which extend from one Pillar to another. Thus all the Parts mutually support each other, and their Nature is such, that the greater Weight there is on the Bridge, so much the faster do they close together, and corroborate the Work. All the said Arms, and other Pieces of Timber, which make up the Body of the Bridge, are but a Foot in Breadth, and three Fourths in Thickness: But those Pieces which make the Bed of the Bridge, that is to say, those which are laid long-wise, are considerably smaller.

- A. *The Elevation of the Flank of the Bridge.*
- B. *The solid Stone-work against each Bank.*
- C. *The Heads of the Beams which go across, or make the Breadth of the Bridge.*
- D. *The Beams which make the Sides.*
- E. *The Collonelli or Pillars, which make the Rails of the Bridge.*
- F. *The Heads of the Cramps, with the Pins of Iron.*
- G. *The Braces, which bearing contrary to each other, support the whole Work.*
- H. *The bottom of the River.*
- I. *The Plan of the Bridge.*
- K. *The Beams which go across, and advance beyond the Sides, near which are the Holes for the Cramps.*
- L. *The small Beams which cover the Bed of the Bridge.*



C H A P. VIII.

Concerning Three other Inventions, by which wooden Bridges may be built without fixing any Posts in the Water.

WOODEN Bridges may be made without any Posts in the Water, like that on the *Cismone*, after three other Inventions, of which I would not omit to give the Designs, because they are of a very curious Contrivance; and the more so, because they will be understood with Ease by every one who has learnt the Terms made use of in the Bridge on the *Cismone*, since these Bridges consist likewise of Beams laid across, Pillars, Braces, Cramps, and Beams laid longwise, which make the Sides. Now Bridges, according to the first Invention *, are made after the following Manner:

* Plate IV.

Having fortified the Banks with solid Butments as far as is convenient, at a small Distance from them, one of the Beams which make the Breadth of the Bridge must be laid, and then the Beams which make the Sides must be disposed upon it, which, with one of their Heads, are to lie upon the Bank, and be fastened thereunto. Then upon these, direct with the Beam laid for the Breadth, the *Collonelli*, or Pillars must be plac'd, which are to be fasten'd into the said Beams with Iron Cramps, and supported by the Braces well fix'd in the Head of the Bridge; that is to say, In the Beams which make the Sides upon the Bank. Afterwards leaving as much Space as shall be left by the said Beam for the Breadth, to the Bank, the other Beam must be laid for the Breadth, which shall be in like manner fastened to the Beams, which are to be laid over it lengthwise, and to the Pillars likewise, as they will be supported by their Braces. And thus must it be done from one End to the other, or as far as it will be requisite, always observing in such Bridges, that in the Middle of the Breadth there be a Pillar, the Braces whereof shall meet over-against one another, and in the upper Part other Beams must be put, which extending from one Pillar to another, will keep them united, and (together with the Braces plac'd in the Head of the Bridge) they will make a Part or Portion of a Circle less than a Semicircle. Thus making every Brace support its Pillar, and every Pillar the cross Beam, and those that make the Sides, every Part supports its own Weight. Such Bridges are large at their Heads, and grow narrow near the Middle of their Length. There is none of this Kind in *Italy*; but *Alexander Picheroni* of *Mirandola*, in Conversation, told me that he saw one in *Germany*.

- A. *The Upright of the Flank of the Bridge.*
- B. *The Heads of the Beams, which make the Breadth of it.*
- C. *The Beams which are laid longwise.*
- D. *The Pillars.*

- E. *The Braces, which being fastened in the Beams of the Length, bear up the Pillars.*
- F. *The Beams which bind one Pillar to the other, reaching between them, and making a Part or Portion of a Circle.*
- G. *The Butments upon each Bank.*
- H. *The Heads of the Iron Pins.*
- I. *The Bottom of the River.*
- K. *The Plan of the Bridge.*
- L. *The first Beams, which are supported by the Bank at one Head, and by the first cross Beam at the other.*
- M. *The second Beams, which are supported by the first and second Beams of the Breadth.*
- N. *The third Beams, supported by the second and third Beams of the Breadth.*
- O. *Cross Beams, which make the Bed of the Bridge.*
- P. *After these follow the Beams which make the Breadth, supported (as I said) by the Pillars to which they are made fast, and the Pillars borne up by their Braces.*

The Invention of the following * Bridge has the upper Part, which bears up the whole Weight, made of a Part or Portion of a Circle less than a Semicircle; and has the Braces which go from one Pillar to another, made after such a manner, that they cross each other in the midst of the Space between the Pillars. The Beams which make the Ground or Bottom of the Bridge, are made fast by Cramps to the Pillars, as in the former Invention. For an additional Strength two Beams may be fastened at each End of the Bridge, which being so fastened in the Pilasters at one End of their Heads, incline with their other Head under the first Pillars, because such would help much to support the Weight of the Bridge.

A. *The Upright of the Bridge in Flank.*

B. *The Beams which make the Sides of the Bridge.*

* Plate V.

- C. *The Heads of the Beams which make the Breadth.*
- D. *The Heads of the Iron Pins.*
- E. *The Beams, which placed under the Bridge at each Head, help to support the Weight.*
- F. *The Braces which serve as Rails to the Bridge.*
- G. *The Pillars.*
- H. *The Butments against each Bank.*
- I. *The bottom of the River.*
- K. *The bed of the Bridge.*

Bridges of this * last Invention, may be built with a lesser or greater Arch than what is laid down by the Draught, according as the Quality of the Situation, and the Greatness of the River, shall require. The Height of the Bridge, wherein are the Rails or Braces which go from one Pillar to another, will be the eleventh Part of the Breadth of the River. All the *Radii* or Lines of the Pillars must answer to the Center, which will make the Work very substantial; and the Pillars will support the Beams laid a-cross and along the Bridge, as in the foregoing ones. The Bridges of these four Sorts, may be built as long as Occasion shall require, but all their Parts must be made greater in Proportion.

- A. *The Upright of the Bridge in Flank.*
- B. *Its bottom or bed.*
- C. *The Pillars.*
- D. *The Braces which bear up the Pillars.*
- E. *The Heads of the Beams, which make the Breadth of the Bridge.*
- F. *The Heads of the Iron Pins.*
- G. *The Buttresses against each Bank.*
- H. *The bottom of the River.*

* Plate VI.

CHAP. IX.

Concerning the Bridge of Bassano.

N E A R *Bassano*, a Place at the Foot of the *Alps*, which divide *Italy* from *Germany*, I have ordered the following wooden Bridge * over the *Brenta*, a very rapid River, which empties itself into the Sea near *Venice*, and which the Ancients called *Meduacus*; to which (according to *Livy* in his first *Decad*) *Cleonymus* the *Spartan* came with a Fleet before the *Trojan* War. This River, in the Place where the Bridge is erected, is One hundred and eighty Foot broad. This Breadth is divided into five equal Parts, because the two Banks being sufficiently fortified with Beams of Oak and Larix, there were four Rows of Piles fixed in the River thirty-four Foot and a half distant from each other. Every one of these Rows consisted of eight Piles thirty Foot long, a Foot and a half thick all Ways, and two Foot distant from each other: By which means the whole Length of the Bridge was divided into five Spaces, and its Breadth was twenty-six Foot. Over these Rows of Piles were placed Joysts, long in proportion to the said Breadth (those Joysts so placed are commonly call'd Cross-pieces) which being fastened into the Piles fixed in the River, keep them all joined and united together. Over these Cross-pieces, direct to the said Joysts, eight other Joysts were placed according to the Length of the Bridge, and extending from one Row to the other: And because the Distance between these Rows is very great, whence the Joysts laid longwise might with Difficulty bear any considerable Weight that should pass over them; certain Beams, which serve as shouldering Pieces to bear Part of the Weight, were placed between these and the Cross-pieces. There were other Beams besides, which being

* Plate VII.

made fast in those Piles which stood in the River, and inclining one towards the other, were joined to another Beam placed in the Middle of the said Distance, under each of the Beams of the Length. These inclining Beams so disposed, represent a Part or Portion of a Circle, rising the fourth of its Diameter. And thus the Work strikes the Eye agreeably as to its Form, and is also strong, because the Beams which make the Length of the Bridge are double in the midst. Other Beams are put over these and across them, which make the Bed or Bottom of the Bridge, and project their Heads a little beyond the rest of the Work, in Appearance like the Modillions of a Cornice. On the one and the other Side-beams of the Bridge, the Pillars which support the Roof, and make it serve for a Gallery, are placed; all which render the whole Work very commodious and ornamental.

- A. *The Upright of the Flank of the Bridge.*
- B. *The Rows of Piles which stand in the Water.*
- C. *The Heads of the Cross-pieces.*
- D. *The Beams which make the Length of the Bridge, over which the Heads of the Joists may be seen that make the Ground of it.*
- E. *The Beams, which inclining towards each other, unite themselves with other Beams plac'd in the Middle of the Distance between the Rows of Piles, by which means the Beams come to be double in that Place.*
- F. *The Pillars which support the Roof.*
- G. *The Elevation and Section of one End of the Bridge.*
- H. *The Plan of the Rows of Piles, with their Spurs, preserving the said Piles from being damaged by the Timber that floats down the River.*
- I. *The Scale of sixty Foot, whereby the whole Work is measured.*
- K. *The Surface of the Water.*

C H A P. X.

Concerning the Bridges, and what ought to be observed in the Erection of them.

MEN made wooden Bridges at first, having a Regard only to their present Occasions; but when they began to entertain Thoughts of immortalizing their Names, and their Minds were enlarged by Riches, and furnished with Conveniencies for more important Enterprizes, they began likewise to make Stone Bridges; which are more expensive and lasting, as well as more reputable for the Builders. In Bridges of this Kind, four Things are principally to be considered, *viz.* The Heads, which are made at the Banks; the Piles, or Pilasters, which are fix'd in the River; the Arches which these Pilasters support; and the Pavement which is made over the Arches. The Heads of these Bridges should be made as firm and substantial as they possibly can be; because they not only serve to support the Weight of the Arches, as the other Pilasters do, but they likewise keep the whole Bridge together, and the Arches from cracking or opening. They are made therefore where the Banks are of Stone, or at least of solid Earth: and no Banks of Earth being naturally solid enough for this Occasion, Art must be used to make them firm and strong, and other Arches or Buttresses must be added; that if the Water should happen to destroy the Bank, yet the Way to the Bridge might still be preserved. The Pilasters, which are to be made in Proportion to the Largeness of the River, should always be even in regard to their Number; not only because Nature, we see, has produced from this Number all such Things as, consisting of more than one Part, are to support any Weight, as the Feet of Men, and all other Animals, evidently demonstrate; but likewise, because such a Compartment strikes the Eye more agreeably, and renders

renders the Work more substantial, since the Current of the River in the Middle (where it is naturally most rapid, as it is most distant from the Banks) is thus free, and does not prejudice the Pilasters by perpetually shaking them. For this Reason the Pilasters ought to be so comparted, as to fall into that Part of the River where the Course is least rapid: The greatest Stream of the Water is where such Things meet together as swim upon it, which is most easily discerned at the rising of Floods. The Foundations of Bridges ought to be made at that Time of the Year when the Waters are lowest, which is in *Autumn*: And in Case the Bottom of the River be of Stone, or Gravel-Stone, or any soft Stone whatsoever, which (as I observed in the first Book) is a kind of Earth that is partly Stone, you have the Foundations already made, without any Trouble or Fatigue of digging, because these are naturally the best Foundations. But in case the Bottom of the River be of Sand or Gravel, you must dig therein till you come to solid Ground; or if that should prove too laborious or impracticable, you must dig moderately deep in the Sand or Gravel, and then you must thrust in oaken Piles, which will reach the solid and firm Ground, with the Iron by which their Points are to be armed. To lay the Foundation of the Pilasters, only one Part of the Bed of the River must be enclosed from the Water, and then to build there, that, the other Part being left open, the Water may have its free Current; and so to go on from Part to Part. The Pilasters must not be less in Dimension, than the sixth Part of the Breadth of the Arch; nor, generally speaking, larger than a fourth. They should be made of great Stones, which are to be joined together with Cramps and Bars of Iron, fastned with Lead, that they may be all of one Piece, as it were, by such Ligaments. The Fronts of the Pilasters, or that Side which faces the Stream, are ordinarily made angular; that is, that they end in a right Angle; and sometimes they are made semicircular, in order to divide or break the Water, and that those Things which are impetuously brought down
the

the River, when they strike against them, may be shov'd from the Pilasters, and pass thro' the Middle of the Arch. The Arches too should be made very strong and substantial, and with great Stones well united together, the better to resist the constant Passing of Carriages, or any other Weight that shall happen to come over them. Those Arches are the strongest which consist of a Semicircle, because they entirely rest upon the Pilasters, and never press upon each other: But if by the Nature of the Situation, and the Disposition of the Pilasters, a perfect Semicircle should not be commodious, as rendering the Ascent and Descent difficult, a lesser Section must then be made use of, and such Arches must be made as rise only the third Part of their Diameter; and, in this Case, the Foundations must be made extremely strong upon the Banks. The Pavement of these Bridges ought to be made exactly like those of Ways and Streets, whereof we have already treated. And thus, having seen what is to be considered in general relating to building Stone Bridges, we shall, in the next Place, proceed to particular Draughts and Designs.



C H A P. XI.

Concerning some certain celebrated Bridges erected by the Ancients, with the Draughts of that of Ariminum.

ABUNDANCE of Bridges were erected by the Ancients in several Places; but particularly in *Italy*, and on the *Tyber*; whereof some are at this Day intire, and others have some small Remains only left, to preserve their Memory. Those which are at present entire on the *Tyber*, are that of the Castle of *St. Angelo*, called, in former Times, the *Elian Bridge*, from the Emperor *Elius Adrianus*, who erected in this Place his own Monument:

The *Fabrician Bridge*, erected by *Fabricius*, now called the *Four-headed Bridge*, or *Ponto quattro capi*, from the four Heads of *Janus*, or of four *Termini*, which are placed on the left Hand of this Bridge, whereby the Island of the *Tyber* is joined to the City: The *Cestian Bridge*, now called *St. Bartholomew's Bridge*, which, from the other Side of the Island, passes to *Transtevere*, or over *Tyber*: The Bridge called *Senatorio* from the Senators, and *Palatino* from the adjacent Hill, made of rustick Work, and now called *St. Mary's Bridge*. But the Bridges, whereof the ancient Remains are only to be seen in the *Tyber*, are the *Sublician Bridge*, called likewise the *Lepidan Bridge*, from *Emilius Lepidus*, who made it of Stone, tho' it was first made of Wood, and was built near *Ripa*: The *Triumphal Bridge*, whose Pilasters are still to be seen over-against the Church of the *Holy Ghost*: The *Janiculan Bridge*, so named from its being adjacent to Mount *Janiculus*, which, because Pope *Sixtus IV.* repaired it, is now called *Ponte Sisto*: And the *Milvian Bridge*, now called *Ponte molle*, in the *Flaminian Way*, not two Miles distant from *Rome*, and retaining the Foundations only of its ancient Form. It is reported to have been erected in the Time of *Sylla*, by *Marcus Scaurus* the Censor. There are likewise the Remains of a Bridge to be seen, erected by *Augustus*, of rustick Work, upon the *Vera*, a most rapid River near *Narmi*: And another likewise of the same Work upon the *Metaurus*, at *Calgi* in *Umbria*, with particular Counterworks at each End of it upon the Banks, which make it exceeding strong, and support the Road. But among all the celebrated Bridges, that is recorded as a Miracle, which *Caligula* built from *Puteoli* to *Baia*, in the midst of the Sea, almost three Miles in Length; and 'tis said that he expended all the Revenues of the Empire upon it. Extraordinary great, and most deserving Admiration, was that Bridge built over the *Danube* in *Transylvania*, and on which were inscribed these Words; PROVIDENTIA AUGUSTI VERE PONTIFICIS VIRTUS ROMANA QUID NON DOMET? SUBJUGOR ECCE RAPIDUS DANUBIUS. This
 Bridge

Bridge was afterwards broke down and demolished by *Adrian*, to prevent the Barbarians from coming over it to plunder the *Roman* Provinces; and its Pilasters are still to be seen in the Middle of the River. But since, of all the Bridges that I have here mentioned, that appears to me to be the most beautiful, and the most worthy of Observation (not only for the Strength, but the Compartment of it) which was erected at *Ariminum*, a City of the *Flaminian* Tribe, and, I believe, by *Augustus Cæsar*, I have given the following * Draughts of it. It is divided into five Arches, the three middlemost whereof are equal, consisting of 25 Feet in Breadth; and the two next the Banks are less, consisting only of 20 Feet. All these Arches consist of a Semicircle, and the Depth of their *Archivolte* is a tenth Part of the Light or Void of the greater, and an eighth Part of a Light of the lesser ones. The Pilasters, as to their Thickness, are a little more than the Half of the Light of the greater Arches. The Angle of the Spurs, which cut the Water, is a right Angle: This, as I observe, the Ancients follow'd in building all their Bridges, as being stronger than the Acute Angle, and for that Reason the Acute Angle is less exposed to be thrown down and destroyed by Trees, or any other Matter, that rolls down with the Stream. On the Sides of the Bridge there are some Niches, wherein there must formerly have been some Statues, directly over the Pilasters. There is a Cornice over these Niches, the Length of the whole Bridge, which, altho' it is plain, adds nevertheless a most agreeable Decoration to the Work.

- A. *The Cornice, which is over the Niches, the whole Length of the Bridge.*
- B. *The Surface of the Water.*
- C. *The Bottom of the River.*
- D. *A Scale of thirty Feet, whereby the whole Work is measured.*

* Plate VIII.

C H A P. XII.

Concerning the Bridge of Vicenza, which is over the Bacchiglione.

TWO Rivers run thro' *Vicenza*, one whereof is called the *Bacchiglione*, and the other the *Rerone*. This last enters into the first just without the City, and so loses its Name immediately. There are two ancient Bridges built over these Rivers: The Pilasters and one Arch of that which is over the *Bacchiglione* are still entire, and to be seen near the Church of *St. Mary of the Angels*: The rest is all modern Work. This * Bridge is divided into three Arches; the middlemost whereof is thirty Feet broad, the other two are twenty two Feet and a half each; which were so ordered and disposed, that the River might enjoy its Current the freer in the Middle. The Pilasters, as to their Thickness, are the fifth Part of the Light of the lesser Arches, and the sixth of the greater. The Arches rise from their Impost, the third Part of the Diameter of the Void of the Arch. Their Archivolte has in Depth the ninth Part of the smaller Arches, and the twelfth Part of that in the Middle, and they are wrought after the manner of the Architrave. In the uppermost Part of the Pilasters, under the Impost of the Arches, certain Stones project, or jut forth, which, in the Erection of the Bridge, served to support the Beams, over which was the Centering of the Arches: And thus the Danger of any Flood's taking away the Posts (to the Destruction of the Work) which must have been otherwise fixed in the River for making the said Centering, was assuredly avoided.

* Plate IX.

- A. *The Parapet of the Bridge.*
 B. *The Stones which project from the Top of the Pilasters;
 and serve to support the Centers of the Arches.*
 C. *The Architrave round the Arches.*
 D. *The Heads of the Bridge.*
 E. *The Architrave round the Arches at large.*
 F. *Scale of thirty Feet, whereby this Work is measured.*

C H A P. XIII.

Concerning a Stone Bridge of my own Invention.

VERY beautiful; in my Opinion, is the following Design, and perfectly well suited to the Place where it was to be erected, which was in the midst of one of the largest and most famous Cities of *Italy*, the Metropolis of many others, and trading almost to all Parts of the habitable World. The River is very large, and the Bridge was to have been erected on the very Spot where the Merchants met to transact and treat of their Affairs: For which Reason, not only to preserve the Grandeur and Dignity of the said City, but very considerably to advance the Revenues of the same, I designed the Bridge so broad as to build three Streets upon it; that in the Middle, spacious and beautiful, and the other two on the Sides somewhat less. On both Sides of each of those Streets I contrived Shops, whereof thus there would have been six Rows. Moreover, there were Galleries intended to be made at each Head of the Bridge, and in the Middle, over the great Arch, in which the Merchants were to keep their Exchange, which would have been no less ornamental than conve-

* Plate X.

nient. The Access to the Galleries at the Heads should have been by some few Steps, and even with these would be the Ground, or Pavement of the rest of the Bridge. It ought not to be thought a new or surprizing Thing, that Galleries should be made over Bridges, since the *Eliau* Bridge at *Rome*, of which we have made mention in its proper Place, was heretofore all covered with Galleries, having Columns of Brass, with Statues, and other curious Decorations: Besides, upon this Occasion, it was almost necessary to make Galleries, for the Reasons already mentioned. The very same Order, and the same Rules, are observed in the Proportions of the Pilasters and the Arches, as have been observed in the other Bridges before-mentioned, and every one may readily find them himself;

The Parts of the Plan.

- A. *The beautiful and spacious Street made in the midst of the Breadth of the Bridge.*
- B. *The lesser Streets on the Sides.*
- C. *The Shops on the Outside over the River.*
- D. *The Galleries at each Head of the Bridge.*
- E. *The Steps which lead up to those Galleries.*
- F. *The Galleries in the middle, over the large Arch of the Bridge.*

The Parts of the Elevation answer to those of the Plan, and for that Reason are easily understood without any farther Illustration.

- G. *The Elevation of the Shops fronting all the three Ways A, B, B.*
- H. *The Lines of the Water's Surface.*
- I. *A Prospect of the Ways leading to the small Stairs of the Bridge.*

C H A P. XIV.

Concerning another Bridge of my own Invention.

HAVING been sollicitated by some Gentlemen to give them my Opinion about a Bridge which they had Thoughts of building with Stone, in order to oblige them I made the following Draught *. The River, where the Bridge was to be erected, is one hundred and eighty Feet broad. I divided this whole Breadth into three Arches, made that in the Middle sixty Feet broad, and the other two, forty-eight each. The Pilasters which support the Arches were twelve Feet thick, and by that means were a fifth Part of the middle Arch, and a fourth of the lesser ones. I somewhat varied from the common Measures of Pilasters, on this Occasion, making them very thick, and to project very far from the Body of the Bridge, in order that they might resist the Violence of the River, which is very impetuous, and also oppose the Stones and Trees which fall down with the Stream. The Arches were to have been a Part or Portion of a Circle less than a Semicircle, that the Ascent and Descent of the Bridge might be plain and easy. I made the Archivolt of the Arches a seventeenth Part of the Void of the middle Arch, and a fourteenth Part of the other two. This Bridge might have been embellished with Niches over the Pilasters, and with Statues; as there might have been a Cornice the whole Length of it on each Side, which the Ancients, 'tis well known, sometimes practised, as in the Bridge of *Ariminum* built by *Augustus Cæsar*, the Draughts whereof are given above.

* Plate XI.

- A. *The Superficies of the Water.*
- B. *The Bottom of the River.*
- C. *The Stones which project for the Uses above-mentioned.*
- D. *The Scale of Forty Feet, whereby the whole Work is measured.*



C H A P. XV.

Concerning the Bridge of Vicenza, which is over the Rerone.

THE other ancient * Bridge, which, as I have before observed, is in *Vicenza* over the *Rerone*, is by the common People called, *Il ponte belle Beccarie*, or the *Butcher's Bridge*, because it is adjacent to the greatest Shambles of the City. This Bridge is still entire, and varies but little from that on the *Bacchiglione*, being divided into three Arches, and the middlemost is larger than either of the other two. All these Arches are a Part or Portion of a Circle less than a Semicircle, and have no Decorations at all. The lesser ones rise above their *Impost* the third of their Breadth, and that which is in the Middle a little less. The Pilasters are the fifth Part of the Diameter of the lesser Arches in Thickness, and have, at their Extremes, under the *Imposts* of the Arches, the Stones which project for the Uses before-mentioned. Both the one and the other of these Bridges are composed of *Costoza* Stone, which is a soft Stone, and is sawed like Wood. There are four in *Padua* of the same Proportions with these two at *Vicenza*, three of which have only three Arches; and they are, the Bridge of *Altina*,

* Plate XII.

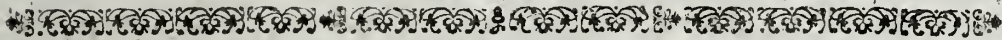
that of *St. Laurence*, and that called *Ponte-corvo*, or *Raven-Bridge*: The fourth, called *Ponte-molino*, or *Mill-Bridge*, has five Arches. It is to be observed, that in all these Bridges the greatest Care has been taken to join the Stones well, which, as I have frequently advised, is indispensibly requisite in all Erections.

A. *The Side of the Bridge.*

B. *Stones that project to support the Centers of the Arches.*

C. *Pilasters or Buttresses at each Bank.*

D. *Scale of forty Feet, whereby this Bridge was measured.*



C H A P. XVI.

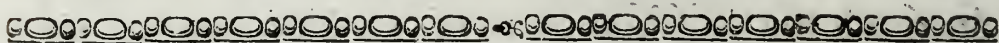
Concerning the Principal Squares, Markets, and open Places of a City, and the Structures or Buildings which ought to be made about them.

BESIDES the Streets, of which we have already treated, it is likewise necessary that there be greater or lesser Squares, or open Places, distributed in Cities in Proportion to their Extent, where People may meet together to transact and treat about their necessary Affairs: But as such Places may be set apart for various Purposes, so a proper and commodious Situation ought to be assigned them. These great and open Places in a City, besides the Conveniencies of walking, discoursing, and contracting Bargains, are very ornamental; as when there is a beautiful and spacious Place at the Head of a Street, from whence you have the Prospect of some curious Edifice, and particularly of some Church. As

it would be very advantageous to have several of these open Places in divers Parts of the City, so it is by far more requisite, and more honourable and magnificent, to have one principal Square, which may justly deserve the Title of a publick Place. These principal Squares ought to be proportioned to the Number of the People, that they may not be too small for their various Occasions, nor be too great, lest the Place may seem uninhabited. In Sea-port Towns, or Cities, they ought to be made as near the Haven as conveniently can be; and in Inland Cities, about the Middle, that the Citizens may, with Ease and Convenience, resort to them from all Parts. They ought to be designed according to the Manner of the Ancients. There should be large Porticos, or Piazzas, round these Squares, in Proportion to the Height of their Columns; the Use whereof is to shelter People from the Rain, Snow, and all other Injuries of the Weather: But all such Edifices as are built round them, ought not be (in the Opinion of *Alberti*) higher than the third Part of the Breadth of the Square, nor lower than the sixth. To the Porticos, or Piazzas, there must be an Ascent by Steps, which are to rise the fifth Part of the Height of the Columns. Squares receive an extraordinary Beauty by having Arches erected at the Entrance into them; that is, at the Head of those Streets which go out of them. How such Arches should be erected, on what Account the Ancients made them, and from whence they were called *Triumphal*, I shall shew at large in my *Book of Arches*, where the Draughts of many of them will be met with; and whereby great Light will be imparted to such as would at this time, or hereafter, build such Arches in Commemoration of Princes, Kings, and Emperors. But to return to the principal Squares: To these the Prince's Palace, or that for the Assembly of the States, according as the Country is either a Monarchy, or a Republick, ought always to be joined. The Exchequer, or the Publick Treasury, where the Money and other valuable Effects of the Publick are deposited, and the Prisons, ought to join them likewise. These latter

latter were heretofore of three Sorts; one for those who were dissolute and debauched, who were confined there till they were reformed, and which are now appropriated or assigned to Fools or Mad-men: Another was for Debtors, which is also used amongst us; and the third was for Rebels, and other abandoned Persons, either already condemned, or shortly to be so. These three Sorts are sufficient, since all the Misdemeanours of Mankind proceed either from Debauchery, Obstinacy, or Perverseness. The Exchequer and the Prisons ought to be situated in the most secure Places, surrounded with lofty Walls, and guarded against the Invasion or Treachery of the factious Inhabitants. The Prisons particularly ought to be built in the most healthy and convenient Places, because they are appointed for the safe Custody, and not for the Punishment or Execution of any Kind of Delinquents: For which Reason the Walls of them should be made in the Middle with great Stones, joined together with Cramps and Fastenings of Iron or Copper, and then be lined on both Sides with Bricks; for thereby the Moisture and Damp of the Stones will not render the Prison unhealthy, neither will the Walls lose any Part of their Strength. Passages ought to be made all round them, and the Keepers Apartments be near at Hand; that if the Prisoners form any Stratagem to make their Escape, it may be quickly discovered. The Senate and Council-House, where Affairs of State are transacted, as well as the Exchequer and the Prisons, should join the great Square. The Senate-House ought to be large in Proportion to the Dignity and Number of the Inhabitants: The Height must exceed the Breadth of it by near one half, in case it be square; but if it be oblong, it must be half as high to the Cieling, as the Length and the Breadth put together. There ought to be large Cornices made in the Middle of the Height, which should project from the Walls, in order that the Voice of such as debate may not be lost and diffus'd in the Height of the Room, but may the better reach the Ears of the Auditors, by being reflected back. On that Side of the Square which is towards the warmest Region of
Heaven,

Heaven, should be made the *Basilica*, or the Edifice for the Courts of Justice, to which a great Part of the People, particularly People of Business, daily resort: But I shall treat of the *Basilica's*, after I have shewn how the *Greeks* and the *Romans* made their Squares, and given the Draughts of each of them.



C H A P. XVII.

Concerning the Agora's, or Squares of the Greeks.

THE *Greeks* (as *Vitruvius* informs us in the first Chapter of his fifth Book) made the * open Places in their Cities of a square Form, furrounding them with spacious and double Porticos, and thick Columns, *viz.* distant from each other a Diameter and a half of a Column, or at most two Diameters. These Porticos or Piazzas were as broad as the Columns were long; so that by their being double, the Place for walking was as spacious as twice the Length of a Column, which made it very commodious. Over the first Columns (which in my Opinion, must have been *Corinthian*, as Regard was had to the Place where they stood) were other Columns, a fourth Part less than the first. These had under them a Corridor of such Height as was most convenient, because these upper Porticos were appointed likewise for walking and discoursing, and for Persons to stand commodiously therein to be Spectators of any Shews that might be exhibited in the Square, either out of Pleasure or Devotion. All these Porticos must of Course have been embellished with Niches and Statues, since the

* Plate XIII.

Greeks us'd to be highly delighted with such sort of Ornaments. Near to these Squares were the *Basilica*, the Senate-House, the Prisons, and all the other Places above-mentioned, tho' *Vitruvius*, when he instructs us in what Manner they ought to be built, does not nominate that Place for them. Moreover, because (as he tells us in the VIIth Chapter of his first Book) the Ancients us'd to build the Temples devoted to *Mercury* and *Isis*, as Gods who presided over Commerce and Merchandize; and that in *Pola*, a City of *Istria*, there are two Temples to be seen upon the great Square, exactly like one another in Form, Bulk, and Decorations: I have inserted them on each Side of the *Basilica*, in the following Draught. Here the Plan and the Elevation follow; of which, together with all their distinct Members, you'll have a more distinct Account in my Book of Temples.

- A. *The Agora, Square, or great Place.*
 - B. *The double Porticos.*
 - C. *The Basilica, where the Judges had their Tribunals.*
 - D. *The Temple of Isis.*
 - E. *The Temple of Mercury.*
 - F. *The Senate-House.*
 - G. *A Portico and small Court before the Treasury.*
 - H. *A Portico and small Court before the Prisons.*
 - I. *The Gate of the Hall leading into the Senate-House.*
 - K. *Passages round the Senate-House, from which People pass'd to the Porticos of the Square.*
 - L. *The Turnings or Corners of the Porticos of the Square.*
 - M. *The Turning of the Porticos on the Inside.*
 - N. *The Plan of the Walls of the little Courts of the Temple.*
 - O. *Passages round the Exchequer and the Senate-House.*
- The Elevation that is on the Back of the Plan *, is of one Part of the Square.
- Q. *Half of the Breadth of the Portico towards the Square.*

* Plate XIV.

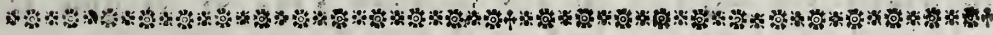
C H A P. XVIII.

Concerning the Forums, Squares, or Publick Market-Places of the Romans.

THE Romans, and the other *Italians* (as *Vitruvius* assures us in the Place above quoted) deviating from the Custom of the *Greeks*, made their * Squares somewhat longer than they were broad; so that dividing the Length into three Parts, two made the Breadth; because the Gladiators exerting their Skill publickly in these Places, this Form was more commodious for their purpose than a perfect Square: For which Reason likewise, the Inter-Columnation of the Porticos that went round the Square, was made of two Diameters and a quarter of a Column, or even of two Diameters, that the Sight of the People might not be intercepted by the Thickness of the Columns. The Porticos were as broad as the Columns were high, and under them were the Bankers and Goldsmiths Shops. The upper Columns were a fourth Part less than the under ones; because, as I have informed you in my first Book, all Pieces below, considering the Weight that they bear, should be stronger than those above. In the Part fronting the warmest Region of Heaven, were the *Basilica*, which I have mark'd in the Draughts of those Squares in the Length of two Squares, and the Porticos round the Inside are a third Part of the middle Space in Breadth. Their Columns are as long as the Porticos are large, and may be made of what Order you please. On that Side which fronts the *North*, stands the Senate-House, a Square and a half in Length. The Height of it is half its Breadth and Length put together. This *Curia* or Senate House (as I observed above) was the Place where the Senate assembled to consult about State Affairs.

* Plate XV.

- A. *Winding Stairs, open in the Middle, and leading to the upper Parts.*
 - B. *A Passage leading to the Porticos of the Square.*
 - C. *Porticos, and a little Court on one Side the Basilica.*
 - D. E. *Places for the Bankers, and the most reputable Tradesmen.*
 - F. *Places for the Secretaries, where the Deliberations and Resolutions of the Senate were repositd.*
 - G. *The Prisons.*
 - H. *The Turnings or Corners of the Porticos of the Square.*
 - I. *The Entrance into the Basilica, or Courts of Justice, by one Side.*
 - K. *The Turning of the Porticos of the little Courts on one Side of the Basilica.*
- The Elevation that follows §, on a larger Scale, is a Part of the Porticos of the Square.
- L. *Half of the Breadth of the Portico towards the Square.*



C H A P. XIX.

Concerning the ancient Basilicas, or Courts of Justice.

THESE Places * were heretofore called *Basilicas*, where the Judges attended to administer Justice under Shelter, and where sometimes Affairs of the last Importance were transacted: Whence we read, that the *Tribunes* of the People caus'd a Column, that interrupted their Benches, to be taken away from the *Basilica Portia* which was at *Rome*, near the Temple of *Romulus* and *Remus*, and is now the Church of *St. Cosmus* and

§ Plate XVI.

* Plate XVII.

Damianus. Of all the ancient *Basilicas*, that was the most famous, and looked upon as one of the Wonders of the City, which *Paulus Emilius* built between the Temples of *Saturn* and *Faustina*; and upon which he expended fifteen hundred Talents bestowed on him by *Cæsar*, which amount, according to the nearest Computation, to nine hundred thousand Crowns. *Basilicas* then ought to be joined to the Square, as I have observed in those already mentioned, both which stood in the *Roman Forum*, and fac'd the warmest Region of Heaven, in order that the Men of Business, and such as were at Law, might meet together in the Spring time, and continue there without any Inconvenience. In Breadth they ought to be no less than a third Part of their Length, nor more than the half; I mean, supposing the Situation of the Place will permit it, and that you are not obliged to alter the Measures of your Compartment. There is not the least Footsteps remaining of any such ancient Edifice; for which Reason, pursuing the Directions of *Vitruvius* about them in the Place before mentioned, I have made the following Draughts *, in which the *Basilica* in the middle Part of it, that is, within the Columns, is in Length two Squares. The Porticos which are on the Sides, and at the End of the Entrance, are a third Part of the middle Space in Breadth. The Columns are as high as the Porticos are large, and you may make them of what Order you think most proper. I have made no Portico in the End opposite to the Entry, because it would be better, in my Opinion, to have there a great Nich, made of a Part or Portion of a Circle less than a Semicircle, where might stand the *Prætor's* Tribunal, or that of the Judges, if there be a considerable Number; as there should be an Ascent likewise to it by Steps, in order to make it more grand and majestic. I do not deny, however, but that the Porticos might reach quite round, as I have made them in the Designs of such *Basilicas* as are in the Draughts of the Squares. You go

* Plate XVIII.

along the Porticos to the Stairs, which are on each Side of the said Nich, and lead you to the upper Porticos. The Columns of these upper ones are a fourth Part less than those below. The Corridor which is between the upper and the lower Columns, ought to be in Height a fourth Part less than the Length of the upper Columns; that such as are transacting their Affairs in the upper Porticos, may not be seen by those who are busy in the *Basilica* below. *Vitruvius* made a *Basilica* at *Fano*; with other Compartments, which, according to the Proportions which he gives of it in the Place above quoted, must, doubtless, have been a Fabrick of extraordinary Beauty and Magnificence. I had inserted the Draughts of it here, but since the most Reverend *Barbaro* has, with the greatest Industry and Exactness, done it in his *Vitruvius*, I thought it altogether needless.

- A. *The Entrance into the Basilica.*
- B. *The Nich for the Tribunal over against the Entry.*
- C. *The Porticos round the Basilica.*
- D. *The Stairs which lead to the upper Parts.*
- E. *Necessary Houses.*

Of the following * Designs at large, the eighteenth Plate represents the Inside of the Colonade towards the *Basilica*, and the nineteenth shews half of the Nich for the Tribunal over-against the Entrance of the *Basilica*.

* Plate XVIII. and XIX.

C H A P. XX.

*Concerning the Basilica's of our own Times, or
modern Courts of Justice.*

AS the Ancients * made their *Basilica's* so, as that in the Spring and Summer People might meet together there, to treat of and transact their Affairs, and to carry on their Law-Suits; so, in our Times, every City, as well in *Italy* as out of it, built certain spacious Publick Halls, which may be properly and justly term'd *Basilica's*, because the Residence of the Supreme Magistrates is near to them, whence they come to be Part thereof; and the proper etymological Sense of this Word *Basilica* is, a *Royal House*, not only for the Reason now given, but because the Judges attend there to administer Justice to the People. The *Basilica's* of our Times differ herein from the ancient *Basilica's*, that the latter were on the Ground, or even with the Surface of it, whereas the former are built over Arches, in which Shops are placed for several Arts, and the Reception of Merchants Wares; the Prisons being likewise there, and other Places for the Emolument of the Publick. Moreover, the ancient *Basilica's* had their Porticos on the Inside, as our Draughts sufficiently demonstrate; and the modern ones, on the contrary, have either no Porticos at all, or else they are on the Outside towards the Square, or open Place. Among these modern Halls, there is a very remarkable one in *Padua* (a City valued for its Antiquity, and famous all over the whole World for its Univerfity) in which the Gentlemen assemble daily, this Place serving them for a covered Square to walk in. The Citizens of *Brescia*, who are magnificent in all their

* Plate XX.

Undertakings, have lately erected one of those Halls, which is justly admired for its Grandeur and Decorations. There is another of them in *Vicenza*, of which only I have given you the Draughts, because the Porticos around it are of my own Invention: And, I don't question but that this Fabrick may be compared to the ancient Edifices, and be looked upon as one of the most noble and beautiful Buildings erected since the Time of the Ancients; as well on Account of its Largeness and Decorations, as of its Matter, which is all hewn Stone, hard to the last Degree, and joined and bound together with the utmost Care. There is no need I should mention particularly the Proportions of every Part here, since they are all marked in their Places on the Draughts.

*Part of the Plan * and of the Elevation of the Basilica at large.*



C H A P. XXI.

Concerning the Palestras and Xyfti, or Places of Publick Exercise, amongst the Greeks.

HAVING treated of Ways, Streets, Bridges, and Squares, I shall discourse of certain *Grecian* Edifices, to which Men resorted for the Exercise of their Bodies; and 'tis highly probable, that when the Cities of *Greece* were governed after a Republican Manner, there was one of these Buildings in each of those Cities; wherein the Youth, besides learning the Sciences, by exercising

* Plate XXI.

their

their Bodies in a military Form (as, in knowing their Ranks, throwing the Bar or Javelin, Wrestling, handling their Arms, swimming with Burdens on their Backs, and the like) became accustomed to the Toils and Accidents of War ; by means whereof, tho' but a small Body, they could afterwards, with their Valour and Military Discipline, rout numerous Armies. The *Romans*, in Imitation of the *Greeks*, had their *Campus Martius*, or Field of *Mars*, wherein their Youth exercised themselves in the like Military Atchievements, from whence proceeded very wonderful Effects, and many a glorious Conquest. *Cæsar*, in his *Commentaries*, assures us, that being attack'd on a sudden by the *Nervii*, and perceiving that the seventh and twelfth Legions were so crowded, that they were not able to fight, he commanded them to set themselves in Array at a greater Distance, and so as that the one should flank the other, that by that Means they might have Room to handle their Arms, and not be hemmed in by their Enemies ; which being with all imaginable Dexterity and Speed performed by the Soldiers, gained the Victory for their General, and purchased for themselves the immortal Reputation of being valiant and well-disciplined Men, since, in the Heat of the Engagement, when every thing was in the utmost Danger and Confusion, they executed that which many, in our Times, think very difficult to perform, even when no Enemy is near, and when there is Convenience both of Time and Place. The *Greek* and *Roman* Histories abound with such glorious Atchievements, whereof the principal Cause, no doubt, consisted in the constant Exercise of their Youth. From these Exercises those Places (which the *Greeks* erected, according to *Vitruvius's* Account in the eleventh Chapter of his fifth Book) were called *Palestræ* and *Xyfti*, and they were thus comparted. First, they traced or measured out a square Piece of Ground, of the Compass of two Stades, that is, of two hundred and fifty Paces ; and on three Sides thereof they made single Porticos, under which were fine spacious Rooms, wherein Philosophers

phers and other Men of Literature argued, and disputed one with another. On the fourth Side, which looked towards the South, the Porticos were made double, that the Rain driven by the Wind in the Spring might not beat into the inner Parts, and that the Sun in the Summer might be kept at further Distance. In the Middle of this Portico was a spacious Hall, a Square and a half long, where the Boys were instructed, on the Right-side whereof was the Place where the Girls were also educated; and behind it the Place where the Wrestlers covered themselves with Duft. Further on was the Room for washing in cold Water, which is now called a Cold-Bath, and happens to be in the Turning or Corner of the Portico. On the Left-side of the Hall for the Youth, was the Place where the Wrestlers anointed their Bodies to make them more active and vigorous; adjoining to which was a cold Room, where they stripp'd themselves naked; and further on, a moderate warm Room, with a Fire in it, from whence they entered into the hot Stove. This Room had the *Laconicum*, or Sweating-Place, on the one Side of it, and the Room for bathing in cold Water on the other: For thus People would imitate Nature, which gradually proceeds from extreme Cold to extreme Heat; and for that Reason they would not go at once from the cold Room into the hot, but by the Medium or Interval of the moderately warm one. On the Out-side of all these Places were three Porticos, one on the Side of the Entrance (which may either be made East or West) and the other two were on the Right and Left, the one towards the North, and the other towards the South. The Portico towards the North was double, and as large as its Columns were long: That towards the South was single, but considerably broader than any of those before mentioned, and was so divided, as that leaving ten Feet on the Side of the Columns and of the Wall (which Space is by *Vitruvius* called the *Margin* or *Border*) they descended by two Steps, six Feet broad, into a plain Place about twelve Feet, or rather more, wherein the

Wrestlers and others might exercise their Bodies under Cover in the Spring, without being hindered by such as were Spectators in the Porticos; who likewise saw better, on Account of the Largeness of the Place where the Wrestlers were. The Portico was properly called the *Xystus*. The *Xysti* were so ordered, that between the Porticos there should be Woods and Plantations, and the Ways between the Trees should be paved with *Mosaick* Work. Near the *Xystus* and the double Portico were traced the open Places for walking, which they called *Peridromides*, wherein the *Athletes* in the Spring Time, when the Weather was fair, might exercise themselves. The *Stadium* was on one Side of this Building, and was a very commodious Place, from whence the People might see the *Combatants* and other Performers. From these Sorts of Fabricks the Example was taken by the *Roman* Emperors, who built the *Thermæ*, or publick Baths, to amuse and divert the People; these being Places to which Persons resorted for their Pleasure, as well as to wash themselves clean, and which, with God's Assistance, I propose to treat of in the following Books.

- A. *The Place where the Boys were instructed.*
- B. *The Place where the Girls were instructed.*
- C. *The Place where the Wrestlers covered themselves with Dust.*
- D. *The Cold Bath.*
- E. *The Place in which the Wrestlers anointed themselves.*
- F. *The Cold Room.*
- G. *The moderately warm Room, from which they went into the Stove.*
- H. *The Hot Room.*
- I. *The Laconicum, or Sweating-Place.*
- K. *The Warm Bath.*
- L. *The Outer Portico before the Entrance.*
- M. *The Outer Portico towards the North.*

ARCHITECTURE. 177

N. *The Outer Portico towards the East, called the Xystus, where they exercised in the Spring.*

O. *The Woods between two Porticos.*

P. *Open Places for walking, called Peridromides.*

Q. *The Stadium, where the Spectators stood to see the Combatants.*

The other Places in the Draught are Exhedræ and Schools.

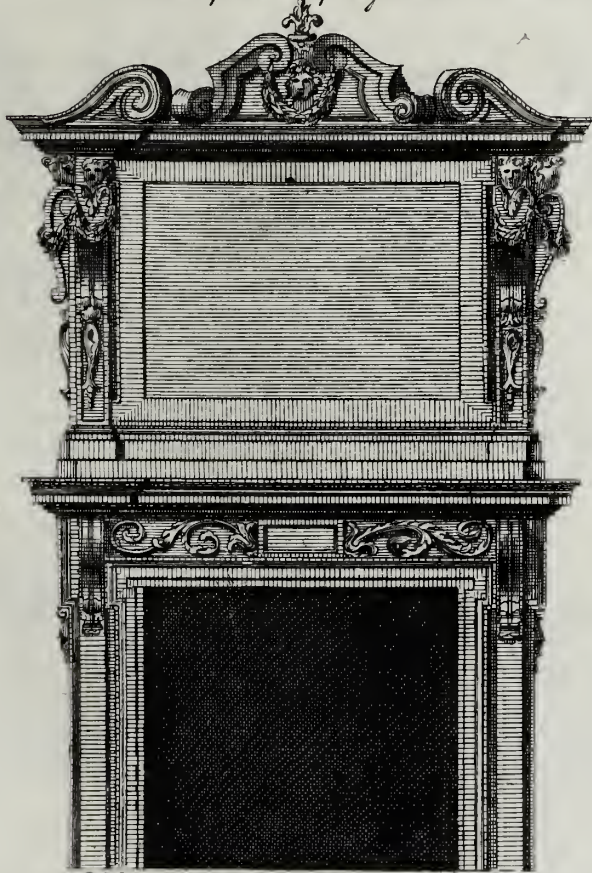
LL. *The East.*

OO. *The South.*

PP. *The West.*

TT. *The North.*

Chimney Piece by Inigo Jones



B. C. Kneller

THE
FOURTH BOOK
OF
PALLADIO'S
ARCHITECTURE.

Treating particularly on

The Ancient *Roman* TEMPLES,
and some CHURCHES which are now to
be seen in *Italy*, and divers other Parts of
Europe.

Translated from the *ITALIAN*,

AND

The *Designs* carefully copied by B. COLE, Engraver.

L O N D O N :

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THE GARDEN BOOK

OF

ARCHITECTURE

By James Fowler

The author of 'The Garden Book' and 'The Garden of the World'.

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1880

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J. Nodd Delin

A Sect at the End of a Walk

B. Cole Sculp.

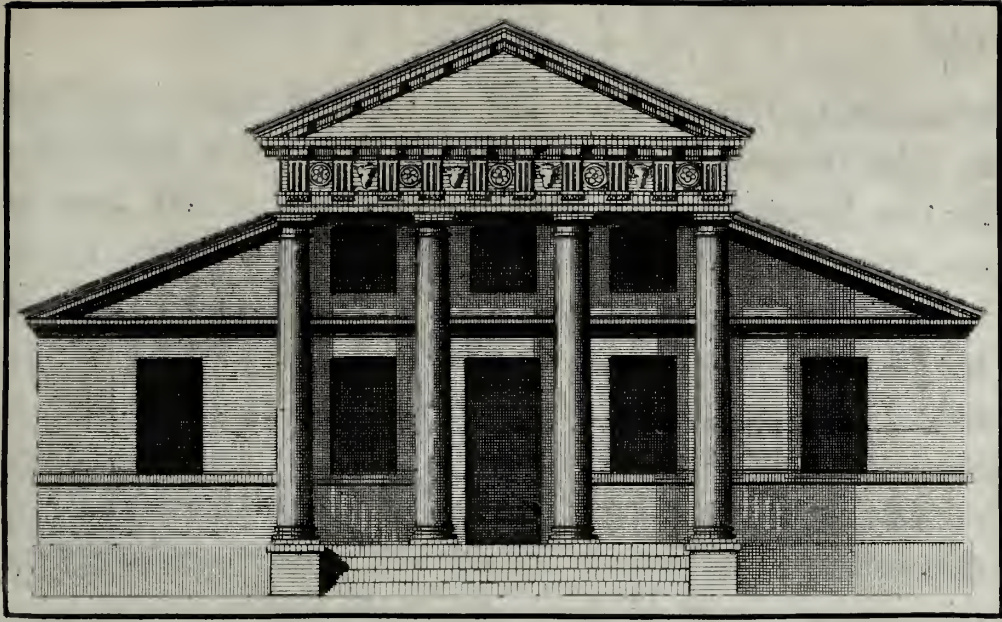
T H E
P R E F A C E.



IF Art and Industry are to be exerted in the Erection of any common Fabricks, in order that they should have the exactest Symmetry and Proportion in all their Parts, they, doubtless, ought to be display'd in the Contrivance of those Edifices which are set apart for the Service of GOD our great Creator, and bountiful Benefactor; and we, doubtless, ought to compleat them after the best Manner we are able, as a grateful Acknowledgment of all those manifold Favours which he is continually pleas'd to bestow upon us. For if Men, in the Erection of their own private Habitations, will use their utmost Endeavours to find out the most skilful and celebrated Architects, with other able Workmen, they are, most certainly, under greater Obligations to be industrious and careful in the Erection of their Churches: And, if in the former their chief End and principal Concern is Convenience, they ought, in the latter,

to have a Regard to the Dignity and Grandeur of him who is to be invoked and worshipped therein; and as he is the chiefest Good and Perfection in the Abstract, it is highly reasonable that all things devoted to his Service should be brought to the greatest Perfection human Art is capable of. And, indeed, when we reflect on this beautiful Fabrick of the World, with how many wonderful Decorations it is replenish'd; when we consider how the Heavens, by their constant Revolutions, change the Seasons according to the Necessities of Mankind, and preserve themselves by the exactest Harmony, and due Temperament of their Motion; we cannot doubt, but that as these little Temples which we erect, ought to bear some Affinity to that immense one of his infinite Goodness, which was perfectly compleated by his bare *Fiat*, or Almighty Word; so we are in Duty bound to adorn them with all the Embellishments we possibly can, and to build them in such a beautiful Manner, and with such just Proportions, that all the Parts together may strike the Eyes of the Beholders with the most pleasing Harmony, and that each of them distinctly may answer with Convenience the Use for which it was intended. For which Reason, altho' they are worthy of Applause, who, being animated by the best Spirit, have already erected Churches and Temples in Honour of the Almighty, and are still pursuing the like glorious Undertakings; nevertheless, they do not seem to be free from all Blame, if they have not likewise used their utmost Endeavours to make them in the most beautiful Form, and the noblest Manner they could possibly devise. Now, since the ancient *Greeks* and *Romans* were very diligent, and very ambitious of making Temples for their Gods, and that they built them according to the exactest Rules of Architecture, in order that they might have the greatest Decorations, and the most beautiful Proportions, that were agreeable to the Deity to whom they were devoted: I shall therefore shew you, in this Book, the Form and Ornaments of several ancient Temples, the Ruins whereof are yet to be seen, and I have
made

made the Designs of them, that every one may be rightly informed in what Figure, and with what Decorations, Churches ought to be erected. And tho' but very little of some of these Temples is to be seen above Ground, yet from this little, and from the due Consideration of the Foundations, which could likewise be seen, I have made, by Conjectures, what they must have been when they were whole and perfect: And, in this Affair, I own myself much indebted to *Vitruvius*, because, as what I saw was conformable to what he taught, it was no difficult Task for me to come to the Knowledge both of their Aspects and Forms. But as for what relates to the Decorations, that is, the Bases, Columns, Capitals, Cornishes, and the like, I have introduc'd nothing of my own; but I measur'd them with the utmost Care and Correctness. I was capable of from several Fragments which were found in the very Places where those Temples stood. Nor do I doubt, but that such as shall peruse this Book, and carefully consider the Designs of it, will come to understand many Passages in *Vitruvius*, which were reputed extremely dark and obscure; and that their Judgments will be directed to discover the most beautiful and best proportion'd Forms of Temples, and to draw several very noble Inventions from them; and by making Use of them in due Time and Place, they may shew in their Works, how judicious Architects may and ought to vary, without swerving from the Precepts of the Art, and how such Variations are frequently very commendable and very graceful. But, before I come to the Designs, I shall briefly lay down, according to my usual Manner, those Rules or Instructions which are to be observed in the Erection of Temples, I myself having drawn them from *Vitruvius*, and from other celebrated Authors that have treated on so noble an Art.



THE
FOURTH BOOK.

CHAP. I.

*Of the Situation to be chosen for the Erection
of Temples.*

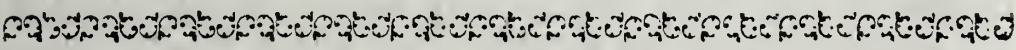


TUSCANY was not only the first *Italian* Country that received Architecture as a foreign Invention, from whence the *Tuscan* Order had its Dimensions; but with respect to the Things relating to those Gods, which were worshipp'd by the greatest Part of the World (groveling in the Darkness of Error and Superstition) she was the Mistress of all the neighbouring Nations, and shew'd them what kind of Temples they ought to erect, what Places were most commodious, what Ornaments most suitable to the Quality of the several Gods. Altho' in many Temples 'tis too evident that such Observations have not always been duly regarded, yet I shall, with as much Brevity as possible, relate

relate what Writers have left recorded of them, that such as take Delight in ancient Matters, may have Satisfaction in this Particular, and, that the Minds of all may be excited and inflam'd to Diligence and Industry in the building of Churches; for 'tis a very scandalous and dishonourable Thing, that we who profess the true Religion, should be excelled in this Respect by such as had no Knowledge of the Truth at all. Now, since the Places on which such sacred Temples ought to be erected, are the first Things which should fall under our Consideration, I shall treat of them in this Chapter. I say then, that the ancient *Tuscans* directed Temples to be built without the City, to *Venus*, *Mars*, and *Vulcan*, as being the Powers that stirred up Men's Minds to Lasciviousness, Wars, and destructive Fires; and within the City, to such as presided over Chastity, Peace, and all the useful Arts. To those Deities under whose Guardianship the City was entrusted, particularly to *Jupiter*, *Juno*, and *Minerva* (whom they look'd upon likewise as Protectors of the City) they erected Temples in the highest Places, in the Middle of their Towns, and in their Citadels. To *Pallas*, *Mercury*, and *Isis*, because they were the Superintendants of Artificers and Commerce, they built Temples frequently near Squares, and sometimes in them. To *Apollo* and *Bacchus* they built near the Theatre, as to *Hercules* near the Circus and Amphitheatre. To *Æsculapius*, *Hygeia* the Goddess of Health, and such other Gods by whose Influence and Power they thought Men cured of their Distempers, they built in the most healthful Places, and near to salubrious Waters; that by coming out of a bad Air into a good one, and by drinking such Waters, they might the sooner be cur'd; whence also their Zeal for Religion was inflamed the more. Thus they thought it agreeable to all the other Gods to find out Places for erecting their Temples, according to the Properties they ascribed to each of them, and to their particular Manner of sacrificing. But we, who by the special Grace and Favour of God are delivered from this Darkness, hav-

ing

ing forsaken their vain and false Superstition, should chuse such Places for the Situation of our Churches, as are in the most noble and most populous Parts of the City, as distant as possible from unseemly or scandalous Places, and adjoining to beautiful Squares, or other open Places, where several Streets meet; and from whence every Part of the Church may be seen to the best Advantage, at once exciting Devotion, as well as Admiration, in all such as view and consider it. If there be any Hills in the City, the most elevated Parts thereof ought to be pitch'd upon: But in case there should be no such Eminences, the Floor of the Temple must be elevated above the Level of the other Edifice, as much as possibly can be; so that the Ascent will consist of divers Steps, which sets off the Majesty of a Church, and begets greater Devotion. The Fronts of the Temples are so to be disposed, as to look over the most beautiful Part of the City, that Religion may seem to be set as the Guardian and Protectress of the Citizens. But if Temples are to be erected out of the City, then the Fronts are to be so plac'd as to look towards the High Roads, or Navigable Rivers, if there be any adjacent, that Passengers may see them, and pay Reverence and Respect before the Fronts of the Temples.



C H A P. II.

Of the Form in which Temples should be Erected, and what is decent to be observed about them.

TEMPLLES are made either round, quadrangular, sexangular, octangular, or with more Angles and Sides; all which should conclude in the Capacity of a Circle: they are sometimes made in the Form of a Cross, and sometimes in other Fashions and Figures, according to the various Inventions of various Men; but

all commendable, when they are distinguish'd with beautiful and due Proportions, according to the strict Rules of Architecture. But the most agreeable, and most regular Forms, from which all the others receive their Measures, are the round and the quadrangular; and for that Reason *Vitruvius* speaks of these two only, and instructs us how they ought to be comparted, as shall be seen hereafter when we come to treat of the Compartments of Temples. In such as are not round (be they of four, or six, or more Angles and Sides) due Care must be taken, that all their Angles be equal. The Ancients, as we have shewn before, had not only a particular Regard to the Situation for the building of their Temples, and to what might be most agreeable to each of their Deities, but likewise to their Form. For which Reason, as the *Sun* and the *Moon* are perpetually whirling their Orbs about the World, and with this circular Motion produce such Effects as are apparent to all Mankind, they built their Temples round, or at least so, as that they approached to Roundness. So they erected the Temples of *Vesta*, by them accounted the Goddess of the Earth, which Element we are fully satisfied is round. To *Jupiter*, as being the Ruler of the Air and the Sky, they made Temples which were uncovered in the Middle, with Porticos round them, as shall be described hereafter. In the Disposal of their Decorations likewise, they always duly considered what God it was to whom they were building; for which Reason, they made the Temples of *Minerva*, *Mars*, and *Hercules*, of *Dorick* Work; because Edifices without Elegance or Softness were most suitable, in their Opinion, to such Divinities as presided over War. But they maintained, that to *Venus*, *Flora*, the *Muses*, the *Nymphs*, and the most delicate Goddesses, such Temples ought to be erected as best agreed with the gay, tender, and virginal Age; to these therefore they consecrated the *Corinthian* Order, being persuaded that the finest Work, and the most florid, adorn'd with Leaves and Volutas, was most suitable to such an Age. On the other Hand, to *Juno*, *Diana*, *Bacchus*, and such other Gods and Goddesses (to whom neither the Gravity

of

of the former, nor the Delicacy of the latter was agreeable) they ascribed the *Ionick* Order, which retains a Medium between the *Dorick* and the *Corinthian*. Thus we find that the Ancients were truly ingenious in preserving a Decorum in their Buildings, in which consists the Beauties of Architecture. We therefore, who have no false Gods, in order to preserve a due Decorum about the Form of our Churches, should chuse the most perfect; and since the round Form alone, among all Figures, is simple, uniform, equal, strong, and most capacious, we should make our Churches round. Besides, it being included within a Circle, wherein neither End nor Beginning can be found, and having all its Parts alike, and each of them partaking of the Figure of the Whole; and lastly, the Extream in every Part being equally distant from the Center, it is the most proper Figure to denote the Unity, Essence, Uniformity, and Justice of GOD. Moreover, it must be acknowledged, that Strength and Durableness are more requisite in Churches than any other Fabricks whatsoever; since they are consecrated to the immediate Service of GOD Almighty; and the most valuable, famous, and authentick Records of Towns, are preserved in them; wherefore it ought to be concluded, that the round Figure, in which there is no Corner or Angle, is absolutely the most agreeable for Churches, which ought likewise to be as large and spacious as conveniently may be, that a Multitude of People may conveniently assist in them at Divine Service; and of all the Figures which are terminated by an equal Circumference, none is more large and spacious than the round. I do not deny but such Churches are commendable enough as are made in the Form of a Cross, and in that Part which makes the Foot of the Cross, have the Entrance over-against the great Altar and the Choir; as in the two Isles, extending like Arms on each Side, are two other Entrances, or two Altars; because being erected in the Form of the Cross, they represent to Passengers that Wood on which our blessed SAVIOUR was Crucified. I my self built the Church of St. *George*
the

the Great at Venice, in this Form. Churches ought to have large Porticos, having greater Columns than are required in other Buildings; and doubtless 'tis very reasonable they should be large and magnificent, and built with great and well-proportion'd Parts; but yet not exceeding that Proportion which the Extent of the City seems to require; because all Pomp and Magnificence are necessary in the Service of GOD, for which they are set apart; their Orders of Columns ought to be as beautiful as possible, and each Order should have its own proper and convenient Decorations. They should likewise be made of the choicest and most valuable Materials, that the Divinity may be honoured with the Form, Decorations, and Materials, as much as possible: And indeed, were it possible, we ought to make them so exquisitely curious, that nothing could be devised more beautiful; and the Disposal of them, in all their Parts, should be so artful, that such as enter them should be charm'd, and stand astonish'd, when they view their Elegance and Beauty. White, of all Colours, is the most suitable to Temples; because the Purity of it, express'd in the Purity of Life, is highly acceptable to the Almighty. But in case they must be painted, there ought to be no Pictures in them that may in the least tend to the Alienation of Men's Minds from the Contemplation of divine Things. In Temples, therefore, we must never swerve from Gravity, or from such Things as, being seen by us, render our Minds more fervent in the Service of GOD, and dispose us to all manner of good Actions.



C H A P. III.

Concerning the Prospects of Temples.

BY the Prospect I mean the first View, or Appearance that a Temple makes to such as come near it. Seven are the most regular Prospects of Temples, and the best understood ; for which Reason it seems requisite, in my Opinion, to insert in this Place as much concerning them, as *Vitruvius* has delivered in the first Chapter of his first Book, that this Part, which, thro' the small Regard Men shew for ancient Remains, is by many thought difficult, and by few hitherto rightly understood, may become easy and intelligible by what I shall say relating thereto, as well as by the subsequent Draughts, which will serve for Examples of what that great Master has taught. I have likewise thought convenient to preserve his very Names and Terms, that such as peruse the Text of *Vitruvius* himself (which I would advise every one to do) may understand in him the same Words, and not think they are reading different Things. To come therefore to our Subject ; Temples are made either with or without Porticos. Such as are made without, may have three Prospects ; the one is called *in Antis*, that is, a Front in Pilasters, *Antæ* being the Name of the Pilasters which are made in the Angles or Corners of Edifices : Of the other two, the one is called *Prostylos*, *viz.* a Front in Columns ; and the other, *Amphiprostylos*. That called *in Antis* ought to have two Pilasters in the Corners, which should turn from the Sides of the Temple ; and between those Pilasters in the Middle of the Front, there must stand two Columns, which must advance forwards, and support the Fronton that is to be over the Entrance. The other Prospect, called *Prostylos*, must have yet more than the former Columns in the Corners over-against the Pilasters ; and two other Columns, both on the Right and on the

Left, in the Turning of the Corners, that is, one on each Side: But if the same Disposition of Columns be preserved in the back Part of the Temple, as in the Front, this is the Prospect which is called *Amphiprostylos*, that is, both Fronts in Columns. We have not at present any Remains left of the two first Sorts of Prospects of Temples; no Examples, therefore, of such will be introduced here, neither have I thought it requisite to make Draughts thereof, since the Platforms and Elevations of each of them are in the *Vitruvius* which is published with the Annotations of the most Reverend *Barbaro*. But where Temples are made with Porticos, then they are either made quite round the Temple, or the Front only. Such as have their Porticos only in Front, may be said to have the Prospect *Prostylos*: But such as have their Porticos round them, may be made with four Prospects, since they are either made with six Columns in the Fore-front, and six in the Back-front, having eleven Columns on each Side, including the angular ones; and then this Prospect is called *Peripteros*, that is to say, wing'd round; and if so, the Porticos round the Nave must be as large as one Intercolumnation. If there be any ancient Temples that have six Columns in the Front, and notwithstanding have no Porticos round them, then they have Semi-columns in the Walls of the Cell on the Outside, accompanying those of the Portico, and with the very same Decorations as at *Nimes* in *Provence*: and of this Kind may be said to be the Temple of the *Ionick* Order in *Rome*, which, at present, is the Church of *St. Mary the Ægyptian*, which those Architects did on purpose to make the Nave larger, and to save Expences, the same round-wing'd Prospect nevertheless remaining to every one that viewed the Temple in Flank. If Temples be made with eight Columns in the Front, and fifteen on the Sides with the angular ones; these come to have the Porticos round them double, and for that Reason their Prospect is call'd *Dipteros*, or Double-wing'd. Or Temples are thus made with eight Columns in the Front, and fifteen on the Sides; but the Porticos round are not made double, one Order

of

of Columns being left out ; by which Means these Porticos come to be as large as two Intercolumnations, and the Thickness of a Column ; so that the Prospect of them is called *Pseudodipteros*, that is to say, false double-wing'd. *Hermogenes*, one of the most ancient Architects, invented this Prospect, who thus made the Porticos round the Temples large, and commodious likewise, in order to save both Labour and Expencc, and take nothing away from the Prospect notwithstanding. Or, to conclude, 'tis so manag'd, that in the one and the other Front there are ten Columns, and the Porticos round the Temple double, just as in those the Prospect whereof is *Dipteros*. These Temples had other Porticos within, with two Orders of Columns one over the other, which Columns were smaller than those without; the Roof reached from the Columns without to those within, and all the Space which was surrounded by the inner Columns was open ; for which Reason the Prospect of such Temples was *Hypethros*, that is, uncover'd. These Temples were consecrated to *Jupiter*, as the Sovereign Ruler of the Sky and of the Air, and the Altar was erected in the Middle of the Court. Of this Kind, I am apt to think, was the Temple, some few Remains whereof are to be seen in *Rome* on *Monte Cavallo*, which was dedicated to *Jupiter Quirinalis*, and erected by the Emperors ; because, as *Vitruvius* tells us himself, there was no such Temple there in his Time.



C H A P. IV.

Concerning Five Sorts of Temples.

THE Ancients (as has been before observed) generally made Porticos to their Temples, that the People might have a commodious Place to discourse and walk in without the Nave, in which the Sacrifices were offer'd, as well as to bestow the greater Grandeur and Majesty

Majesty on those Fabricks. Now, since the Intervals between one Column and another may be made of five different Spaces, *Vitruvius* has, according thereto, distinguish'd five Kinds or Manners of Temples; the Names whereof are *Pycnostylos*, that is, thick set with Columns; *Systylos*, having Columns at a greater Distance; *Diastylos*, at a still greater Distance; *Areostylos*, at a greater Distance than is proper; and *Eustylos*, that has proper and convenient Intervals. How all these Intercolumnations stand, and what Proportion each of them ought to bear with the Length of the Columns, I have already shewn in the first Book, and given you the Draughts of them; for which Reason I shall say nothing further concerning them here, but that the first four are defective. The two first, because as their Intercolumnations are of a Diameter and half, or two Diameters of a Column, they are very small and strait; so that two Persons cannot go a-breast into the Porticos, but will be obliged to walk one after the other; neither can the Doors, or their Decorations, be seen at any Distance: and, lastly, the Walk round the Temple is much embarrass'd by the Narrowness of the Space. These two Manners however are tolerable, when the Columns are made large, as may be observed in almost all the ancient Temples. The third Manner is defective, because as the Intercolumnations are of three Diameters of a Column, they are too large; whereby the Architraves, thro' the Greatness of the Space, come to break: but this Defect may be rectified by making Arches over the Architraves (in the Height of the Frize) which will bear the Weight, and leave the Architraves free. The fourth Manner, tho' not liable to the Defect we have been speaking of (the Architraves being not made of Stone or Marble, but Beams of Timber being laid over the Columns) may, notwithstanding, be deem'd defective, since it is low, wide, and mean, being appropriated to the *Tuscan* Order. From what has been said, it follows, that the most elegant and beautiful Manner of Temples is that called *Eustylos*, the Intercolumnations whereof consist of two Diameters of a Column,

lumn, and a fourth Part; for it serves perfectly well for Use, Ornament, and Strength. I have call'd the Manners of Temples, and their Prospects, by the same Names all along as *Vitruvius* does; not only for the Reason above-mention'd, but because such Names seem to be already admitted into our Language, and are universally understood; and I shall still continue to use them, in those Draughts of Temples which are to follow, for the very same Reason.



CHAP. V.

Of the Compartment of Temples.

ALTHO' in all Buildings it be absolutely necessary that all their Parts should correspond together, and have such a Proportion, that there be none of them by which the Whole may not be measured, and likewise every individual Part; yet this should be observed with the utmost Precaution in Temples, they being consecrated to the supreme Being; in Honour of whom, the Work ought to be most excellent and beautiful. For which Reason, since the round and the quadrangular Forms of Temples are the most regular, I shall shew how each of them should be comparted, and add likewise some certain Things with Respect to the Temples in use with us Christians. Round Temples were sometimes made open formerly, that is, without a Cell; but with Columns which supported the Cupola, as those that were consecrated to *Juno Lacinia*; in the Middle whereof stood the Altar, and the inextinguishable, or perpetual Fire upon it. This was the Manner in which such Temples were comparted. The Diameter of the whole Space which the Temple was to take up, was divided into three equal Parts; one was given to the Steps, that is, the Ascent of the Floor, and two remain'd for the

Temple itself and the Columns, which are plac'd upon Pedestals, and, with their Bases and Capitals, are as high as the Diameter of the least Course of the Steps, and a tenth Part as thick as they are high. The Architrave, the Frize, and the other Decorations are made in this, and in all other Kinds of Temples, according to the Directions laid down in my first Book. But such Temples as are made close, that is, with a Nave, are either wing'd round, or made with a Portico only in the Front. The Compartment of such as are wing'd round, is as follows. First, two Courses of Steps are made quite round, and the Pedestals are set upon them, as upon these the Columns; the Wings are a fifth Part of the Diameter of the Temple, taking the Diameter from the inner Part of the Pedestals. The Columns are as long as the Cell is large, being a tenth Part as thick as they are long. The Cupola is to be raised above the Architrave, Frize, and Cornice of the Wings, proportionate to the Half of the whole Work. Thus were the round Temples comparted by *Vitruvius*. No Pedestals, however, are seen in the antient Temples, but the Columns begin from the Floor: Which I cannot but approve of, because the Going into the Temple is not only obstructed, in some Measure, by those Pedestals; but the Columns which begin from the Floor, render the Temple more pompous and majestick. But if a Portico be erected only in the Front of round Temples, it must be made as long as the Nave is large, or an eighth Part less: It may be shorter yet, but must never be shorter than three Quarters of the Breadth of the Temple; nor must it ever be made broader than the third Part of its Length. In quadrangular Temples, the Porticos in the Front are to be made as long as the Temple is broad: And if the Manner be *Eustylos*, which is the most elegant and beautiful, then they must be comparted after this Manner: If the Prospect be of four Columns, the whole Front of the Temple (omitting the Projecture of the Bases of the Columns in the Corners) must be divided into eleven Parts and a Half, one whereof we will call a *Module*, that is, a Measure whereby the

the other Parts are to be measured: For in making the Columns one Module thick, four must be given to them, three to the middle Intercolumnation, and four and a Half to the other two; that is, two and a Quarter to each. But in case the Front have six Columns, then it must be divided into eighteen Parts; if eight, into twenty-four and a Half; and if ten, into one and thirty; giving always one of these Parts to the Thickness of the Columns, three to the middle Void, and two and a Half to each of the other. The Height of the Columns must be managed, according as they are either *Ionick* or *Corinthian*. As to the Regulation of the Prospects of the other Manner of Temples (that is, of the *Pycnostylos*, *Systylos*, *Diastylos*, and *Areostylos*) you will find my Directions therein in the first Book, under the Topic of Intercolumnations. The Antitemple was beyond the Portico, and the Nave after the former. The Breadth was divided into four Parts, and the Length of the Temple consisted of eight such; five whereof were given to the Length of the Nave, including the Wall wherein the Door is; and the other three remained to the Antitemple, which has two Wings of Wall on its Sides, continued to the Walls of the Cell. At the End of these are made two *Antæ*, that is, two Pilasters as thick as the Columns of the Portico: And since between these Wings there may be a greater or less Space, if the larger be twenty Foot, there ought to be two Columns put between the said Pilasters, nay more, if there should be Occasion, directly opposite to the Columns of the Portico. The Use of them, is to separate the Antitemple from the Portico: And the three or more Voids that will be between the Pilasters, must be closed with Pannels of Wood or Marble; the necessary Openings however must be left for entering into the Antitemple. But if the Breadth exceed forty Foot, there must be other Columns placed within, over-against those between the Pilasters; and they must be made as high as those without, tho' not quite so thick: For the open Air will take away from the Thickness of those without, and the Inclosure will not let the Smallness of those within be seen, so that they will appear equal. Now, tho' this Com-

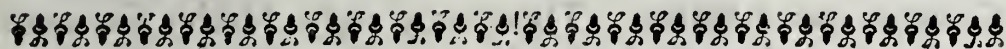
partment

partment succeeds to the nicest Point in Temples of four Columns, yet the same Proportion does not happen in other Prospects and Manners; because the Walls of the Nave will run counter to the Columns on the Outside, and be in a Line, whence the Naves of those Temples will be somewhat larger than we have said. Thus the Ancients comparted their Temples (according to *Vitruvius*) and had always Porticos to them, that the People in excessive Weather might avoid the Sun, Rain, Hail, and Snow; and likewise, that on solemn and festival Days they might converse with one another there till the Hour of Sacrifice came on. But we, not regarding whether the Porticos surround the Temple or not, build our Churches much like the ancient *Basilicas*, or Courts of Justice, wherein (as we have already observed) the Porticos were made within the Building, as we do now in our Churches. The Reason whereof is, that the first who embraced our Religion, being enlighten'd by the Truth, used to meet, for fear of the *Gentiles*, in the *Basilicas* of private Persons; where afterwards, observing that this Form was very convenient, because the Altar could be plac'd in the Room of the Tribunal to great Advantage, and that the Choir could stand round the Altar in good Order, while the remaining Part might hold the People, they have not thought proper to alter it since; and for that Reason, in the Compartment of the Wings or Isles which are made in our Churches, Regard must be had to what I have said on the Subject of *Basilicas*. There is a Place added to our Churches, which is separated from the rest, called the *Sacristy* or *Vestry*, where the Vestments belonging to the Priests are deposited; as also the Vessels, the sacred Books, and such other Things as are made use of in divine Service, the Priests likewise dressing themselves there: and then Towers and Steeples are raised, wherein Bells are hung to summon the People to their publick Devotions; but such Bells are not made use of for these Purposes by any People but Christians. Near the Churches are erected the Apartments for the Priests, which ought to be made with large Cloisters, and beautiful Gardens;

but

but particularly the Habitations for the sacred Virgins, or Nuns, ought to be safe and secure, high, far from Noise and the View of People. Thus much may suffice with respect to the Decorum, the Prospects, the Manners, and the Compartments of Temples. I shall now set down the Draughts and Designs of several ancient Temples, and observe the following Method in the doing thereof: First, I shall give the Draughts of such Temples as are in *Rome*; next, of such as are out of *Rome*, but are up and down in *Italy*; and lastly, of such as are out of *Italy*. But the better to be understood, and not to be too tedious (as well as not to burthen the Reader by minutely expressing the Measures of every Part) I have inserted them all, with their Numbers and References, in the Draughts.

N. B. *This * represents half of the Vicentine Foot divided into six Niches, and each Nich into four Minutes, or Parts. The whole Foot contains 48 Minutes, which Measure is made use of by Palladio through all Parts of the subsequent Temples.*



C H A P. VI.

Concerning the Draughts of several antient Temples which are in Rome; and first, concerning the Temple of Peace.

WE shall begin therefore with a good Omen, from the Draughts of the Temple formerly consecrated to *Peace* §, whose Traces or Footsteps are seen near the Church of *Sancta Maria Nova*, in the *Sacred Way*: And Historians tell us, that it is in the self-same Place

* Plate I.

§ Plate II.

where the *Curia* of *Romulus* and *Hostilius* was at first, and afterwards the House of *Melius*, the *Basilica Portia*, the House of *Cæsar*, with its Portico; which *Augustus* demolished, appearing a Building, in his Opinion, too great and magnificent; but he erected another there which he call'd after the Name of his Wife *Livia Drusilla*. The Emperor *Claudius* begun this Temple, and *Vespasian* finished it, after he return'd victorious from *Judea*, depositing all the Vessels and other Decorations of the Temple of *Jerusalem* therein, which he carry'd in Triumph. This Temple was, as we are informed, the greatest, the most magnificent, and the richest of the whole City: And, doubtless, its Remains, even ruined as they are, represent so much Grandeur, that we may easily form an Idea of what it was when whole and intire. There was a Gallery before the Entry, which had three Voids of Brick-Work; and the rest was a continued Wall, equal to the Breadth of the Front. In the Pilasters of the Arches of the Gallery there were Columns placed on the outside for Ornament, the Order whereof followed likewise in the continued Wall. Over this first Gallery was another open one, with its Ballustrade; and directly over each Column was a Statue. There were eight Marble Columns of the *Corinthian* Order within the Temple, five Feet and four Inches thick; with the Capitals and Bases, fifty three Foot long. The Architrave, Frize, and Cornice, were ten Feet and a half; and supported the Arching of the middle Nave. The Base of these Columns was higher than the Half of the Diameter of the Column, and had its Plinth thicker than the third part of its Height: Which the Builders, in all Probability, disposed after that Manner, as conceiving that the Weight to be laid thereon, might, by that Means, be better regulated. The Projecture thereof was the sixth part of the Diameter of the Column. The Architrave, Frize, and Cornice, were curiously carved. The Cymatium of the Architrave deserves to be taken Notice of, for its different Form from the others, and the Beauty of its Workmanship. The Cornice has Modillions instead of the Corona. The Metopas of the Roses, which

which are between the Modillions, are square; and, as I have observed in all the antient Edifices, ought always to be made so. This Temple was burnt, as Historians tell us, in the Time of the Emperor *Commodus*, which I cannot believe to be Fact, since no Part of it was made of Timber; but it might very probably be destroyed by an Earthquake, or some such fatal Accident; and afterwards repaired, when Architecture was not so well understood as in the Time of *Vespasian*. I am the rather induced to give into this Opinion, because I find that the Intaglias are not so well done, or so carefully labour'd, as those of the Arch of *Titus*, and other Fabricks, that were erected in good Times. The Walls of this Temple were adorned with Statues and Pictures, and the Arches thereof made with Compartments of Stuc: Every Part of it, in short, was extremely beautiful.

*The * Elevation of the outside and inside of the Front, and of the inside of the Flank of the Temple.*

A § Profil at large of the Corinthian Cornice, and other ornamental Members of the said Temple.

A. *The Base,*

B. *The Capital,*

C. *The Architrave, Frize,
and Cornice,*

} *of the Columns that support
the Nave in the middle.*

D. *Compartments of Stuc made in the Arches.*

E. *A Scale of four Feet divided into 192 Parts, where-
with the same has been measured.*

* Plate III.

§ Plate IV.

C H A P. VII.

Concerning the Temple of Mars the Avenger.

NEAR the *Torre de Conti* may still be seen the Ruins of the Temple which was formerly erected by *Augustus* to *Mars the Avenger* *, pursuant to a Vow which he made, when he and *Mark Antony*, to be revenged for the treacherous Murder of *Julius Cæsar*, fought the Battle of *Pharsalia* against *Brutus* and *Cassius*, and conquer'd them. By the Remains of it, we may plainly discern that this was a most beautiful and stupendous Fa-
brick; and much the more marvellous must it have been, by the Splendor reflected upon it from the *Forum* just before it; into which, we are told, that those who return'd Victors, and Triumphant into the City, carry'd the Trophies of their Enemies, and other Signals of their Victory. We are likewise inform'd, that *Augustus*, in the finest Part of it, plac'd two Pictures, wherein were delineated the Manner of an Attack, and the Procession of a Triumph: As also two other Pictures, drawn by *Apelles*; in one of which were *Castor* and *Pollux*, the Goddesses of *Victory*, and *Alexander* the Great; in the other, the same *Alexander*, and the Representation of a Battle. There were two Porticos there, in which the said *Augustus* dedicated the Statues of all such as had return'd in Triumph to *Rome*: But at present there are not the least Footsteps of this *Forum* to be seen, unless those Wings of Walls which are on the Sides of the Temple might possibly be part of it; which, as there are several Places for Statues that are there, is no Ways improbable. The Prospect of the Temple is wing'd round, which we have before, with *Vitruvius*, call'd *Peripteros*. And because the Breadth of the Nave is above twenty Feet, and the Columns are put between

* Plate V.

the two *Antæ* or Pilasters of the Antitemple, over-against those of the Portico (as we have before observed should be done in the like Case), the Portico is not continu'd quite round the Temple. Neither is the said Rule observ'd on the Outside, in the Wings of the Wall which joins to the one and the other Side of the Nave, altho' all Parts are correspondent within: From which we may infer, that the publick Street was both behind and in flank, and that *Augustus* chose rather to accommodate himself to the Situation, than incommode the Neighbours, or take the Houses from the rightful Owners. The Manner of this Temple is *Pycnostylos*. The Porticos are large, in Proportion to the Intercolumnations. Within the Nave there is no Trace or Footstep whatsoever left, no Fragments in the Wall, whereby we might with Confidence affirm, that it had Decorations and Tabernacles; yet since in all Probability there were, I have made some according to my own Imagination. The Columns of the Portico are of the *Corinthian* Kind. The Capitals are wrought with Olive Leaves, and the Abacus is much larger than what is generally observ'd in others of that Order, due Regard being had to the Dimension of the whole Capital. The first Leaves, you may see, swell a little near the Place where they sprout, which adds a peculiar Beauty to them. These Porticos have most curious Soffitas, or, as we may call them, Cielings; and for that Reason I have given their Profil and Prospect in Plans. Round this Temple were high Walls of *Peperino*, which were rustic Work on the outside, and within there were divers Tabernacles, and commodious Places for holding Statues.

The Decorations which I have added to the insides of this Temple, are taken from several ancient Reliques which I found in a neighbouring Place.

A Profil of the Flank of the Portico and of the Nave.*

The † Elevation of half the Front, with part of the Walls that are on the Side of the Temple.

* Plate VI.

† Plate VII.

*The Elevation * of part of the inside of the Portico, and of the Nave, with the Decorations which I have added to them.*

The Decorations † of the Cornice of the Portico.

A. *The Capital of the Columns of the Portico.*

B. *The Architrave, Frize, and Cornice.*

C. *The Soffita of the Portico; that is, the Cieling.*

D. *A Scale of four Feet divided into 192 Parts, wherewith these Decorations have been measured.*

The Soffita ‡ of the Portico, and how it turns in the Antæ, or Pilasters of the Antitemple.

E. *The Soffita of the Architrave between the Columns.*

Some || particular Decorations of the said Temple.

F. *The Base of the Columns of the Portico, which is continued likewise in the Wall round the Temple.*

G. *The Cauriola, from whence the Divisions of the Squares begin, which are made for Shew in the Wall under the Porticos.*

H. *The Plan of the Columns put for an Ornament of the Tabernacles in the Nave.*

I. *Their Base.*

K. *The Capital.*

L. *The Scale of four Feet divided in 192 Parts.*

M. *The Cornice which is seen in the Wings of the Wall, and makes a Square from the Sides of the Temple.*

N. *A Plan of the Diminution of the Column under the Capital.*



C H A P. VIII.

Concerning the Temple of Nerva Trajan.

NEAR the said Temple, built by *Augustus*, are the Traces or Footsteps of the Temple of *Nerva* §. The Prospect thereof is *Prostylos*, and the Man-

* Plate VIII.

† Plate IX.

‡ Plate X.

|| Plate XI.

§ Plate XII.

ner *Pycnostylos*. The Portico, with the Nave, is little less than two Squares in Length. The Floor is rais'd from the Ground by a Basement, which goes round the whole Edifice, and becomes a Butment to the Steps which lead to the Portico. At each End of these Butments stood two Statues. The Base of the Columns is after the *Attick* Manner, different in this from what *Vitruvius* directs; and which I have inserted in my first Book; because there are two Astragals more in him, one under the Scotia, and the other under the Cincture of the Column. The Capitals are wrought with Olive Leaves, and dispos'd Five and Five, like the Fingers of Men's Hands, as all the ancient Capitals of this Kind are made, as I have before observed; which have a better Effect, and are more agreeable than those where the Leaves are made Four and Four. In the Architrave there are more beautiful Intaglias which divide one Fascia from another; which Intaglias and Divisions are the Sides only of the Temple, because in the Front the Architrave and Frize were made even with one another, for placing an Inscription in the most commodious Manner, whereof the few Letters following may still be seen; tho' even these are imperfect, and defac'd by Time.

*IMPERATOR NERVA CAESAR AUG. PONT.
MAX. TRIB. POT. II. IMPERATOR II.
PROCOS.*

The Cornice is beautifully wrought, having a very fine and commodious Projecture. The Architrave, Frize, and Cornice, all together, are a fourth part of the Length of the Columns. The Walls are made of * *Peperino*, and crufted with Marble. In the Nave, along the Walls, I have put Tabernacles with Statues, since by the Ruins it appears, that there were such originally. There was a Square before this Temple, in the Center whereof was erected the Statue of the said Emperor on Horseback.

* A Stone so called.

And its Decorations were so many, and so admirable, as Historians tell us, that it rais'd the Admiration of all that view'd them; imagining them to be Works of Giants, rather than of Men. When the Emperor *Constans* came to *Rome*, the rare Structure of this Edifice, at first, struck his Eye in the most agreeable Manner; and then turning to his Architect, he said, that he would make a Horse like that of *Nerva*, at *Constantinople*, to immortalize his own Memory: Whereupon *Ormisdas* (for that was the Name of his Architect) answer'd him, that it was necessary to make such a Stable for him first, pointing to this Square. The Columns which surround it have no Pedestals, but stand on the Ground; and it was highly requisite that the Temple should be higher than the other Parts. These Columns are likewise *Corinthian*, and there were little Pilasters upon the Cornice directly over them. Upon each Pilaster there must have been a Statue; nor is it any Matter of Wonder, that I place so many Statues in these Edifices: since, we are told, they were so numerous in *Rome*, that they seem'd another People.

E. *The Entry of the Court before the Temple.*

F. *The Entry by the Flank.*

G. *The Portico.*

H. *The Temple.*

I. *The Sides of the Court.*

K. *The Doors to the Front of the Court over-against the Temple.*

L. *The place where the Statue of Trajan stood.*

Elevation * of half of the Out-portico, and of the Entry on the Side of it.

Elevation † of half of the Inside of the Temple, with the Entry on the Side of it.

Elevation ‡ of the Flank of the Portico; and the Disposition of the Columns which were round the Court, is seen through the Intercolumnations.

* Plate XIII.

† Plate XIV.

‡ Plate XV.

*Half * the Front of the Court, over-against the Temple.*

The Decorations † of the Portico of the Temple.

A. *The Basement of the whole Edifice.*

B. *The Base of the Column.*

C. *The Architrave.*

D. *The Frize.*

E. *The Cornice.*

F. *A Scale of two Feet divided into 96 Parts.*

G. *The Soffita of the Architrave within the Columns.*

The Decorations ‡ which were round the Court.

H. *The Architrave.*

I. *The Frize, which was wrought with Figures in Basso-relievo.*

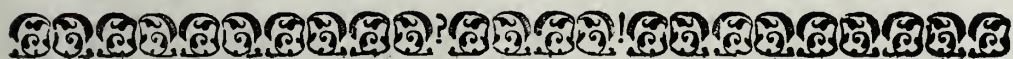
K. *The Cornice.*

L. *The little Pilasters, upon which stood the Statues.*

M. *The Decorations of the Doors which were in the Front of the Court over-against the Portico of the Temple.*

N. *The Base of the Columns.*

O. *A Scale of three Feet divided into 144 Parts.*



C H A P. IX.

Concerning the Temple of Antoninus and Faustina.

N E A R to the Temple of *Peace*, which we have already described, is the Temple of *Antoninus and Faustina* **, from whence *Antonine*, as some imagine, was rank'd by the Antients amongst the Number of their Gods; because he had *Salian* and *Antoninian* Priests besides his Temple. The Front of this Temple is made in Columns, and the Manner of it is *Pycnostylos*. The Floor of it is elevated from the Ground one third

* Plate XVI.

† Plate XVII.

‡ Plate XVIII.

** Plate XIX.

Part of the Height of the Columns of the Portico, to which you go up by Steps; and to these a kind of Pedestal is made by two Basements; the Mouldings whereof are continu'd round the whole Temple. The Base of these Basements is thicker than one Half of the Cymatium, being also made more plain or simple: And so the Antients, as I have already observed, made all such Basements, and likewise the Pedestals that are set under the Columns; and that with very good reason, since all the Parts of any Edifice whatever ought to be the more solid, the nearer they are to the Earth. In the Extremities of these Basements, there were two Statues directly over the angular Columns of the Portico; that is, one at each End. The Base of the Columns is *Attick*; the Capital is wrought with Olive Leaves; the Architrave, Frize, and Cornice, have a quarter, and a third of the said quarter Part, of the Height of the Columns. In the Architrave these Words are still visible:

*DIVO ANTONINO, ET
DIVÆ FAUSTINÆ, EX S. C.*

There are Gryphons carv'd in the Frize, which turn their Faces towards each other, and stretch out a Paw towards a Candlestick, much like those made Use of in Sacrifices. There are no Dentils cut in the Cornice, which is without Modillions; but has a pretty large Ovolo between the Dentil and Corona. Tho' we cannot now discern whether there were any Decorations in this Temple; yet considering the Grandeur and Magnificence of those Emperors, I cannot but think there were some, and for that Reason I have added Statues. It had a Court before it, made of *Peperino*; in the Entry whereof, over-against the Portico of the Temple, were extraordinary fine Arches and Columns, and a Variety of Decorations all round it, tho' there are no Footsteps thereof to be seen at present; nay, I saw one Part of it demolish'd my self, which had stood till that Time. There were two other open Entrys, that is, without Arches on the Sides of the Temple. In the midst of the

the Court was an Equestrian Statue of *Antoninus*, made of Brass, which stands now in the Square of the *Capitol*.

A. *The place where the Statue of Antonine stood.*

B. *The Portico of the Temple.*

C. *The Temple.*

D. *The Entry of the Court over-against the Temple.*

E. *The Entry by the Portico into the Court.*

*The Elevation * of half of the Front of the Temple, and part of the Wall of the Court.*

Elevation † of the inside of the Temple, with a part of the Entablature within the Portico, and a part of the Court Wall.

The Elevation ‡ of the outside in Flank, in which, and thro' the Intercolumnations of the Portico, you may see the Order of the Columns and other Decorations which were round the Court.

The Elevation § of half the Entry, inside of the Court, over-against the Front of the Temple.

The Decorations § of the Portico of the Temple.

A. *The Base round the whole Edifice.*

B. *The Base of the Columns.*

C. *The Capital.*

D. *The Architrave, whereon the Inscription was carv'd.*

E. *The Frize.*

F. *The Cornice.*

G. *A little Cornice made in the Sides of the Temple, on the outside.*

H. *A Scale of four Feet divided into 192 parts.*

I. *The Dentil of the Cornice without carving.*

* Plate XX. † Plate XXI. ‡ Plate XXII. § Plate XXIII. § Plate XXIV.

C H A P. X.

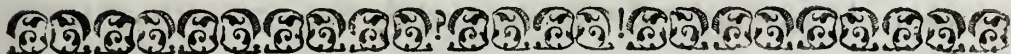
Concerning the Temples of the Sun and Moon.

I N the Gardens of *Sancta Maria Nova*, not far from the Arch of *Titus*, there are two Temples * which are erected after the same Fashion or Structure, and have the very same Decorations. One of them, by its Situation to the *East*, is supposed to have been the Temple of the *Sun*; as the other of the *Moon*, by its being placed towards the *West*. They were erected and dedicated by *Titus Tacitus*, King of the *Romans* (tho' originally King of the *Sabines*.) They come very near the circular Form, because they are as broad as they are long; having Respect to the Course of those Planets round the Heavens. The Galleries, which were before the Entrance to these Temples, are entirely demolish'd; nor are there any other Decorations of them to be seen, but what are in the Arches, which have Compartments of Stuc very curiously wrought, and according to a beautiful Design. The Walls of these Temples are vastly thick: And between the one and the other Temple, on the Flank of the great Chapels (which are over against the Entry) are seen the Faces or Footsteps of some Stairs, which must, doubtless, have led to the Roof. I have made the Fore-galleries, and the Decorations of the Inside, according to the Idea I have conceived of them, by what is now standing above Ground, and the small Matter that could be discern'd of the Foundations, where the Plans of both stand join'd together; as likewise the Place where the Stairs were, which led, as I before observed, to the Roof. Near these Plans are the Elevations both of the inside and out.

* Plate XXV.

*The Decorations *, that is, those of the Arches within (the others being demolished) and the Elevation of the inside in Flank.*

- A. *The Compartments of the Chapels, over-against the Doors, which have each of them twelve Squares.*
- B. *The Profil and Mouldings of those Squares.*
- C. *The Compartments of the great Nave, divided into nine Squares.*
- D. *The Profil and Mouldings of those Squares.*



C H A P. XI.

Concerning the Temple commonly called the Galluce.

NEAR the Trophies of *Marius* is seen the following † *Fabricks*, of a circular Figure, which, in Imitation of the *Pantheon*, is the largest round Edifice in all *Rome*. The Place is vulgarly called *La Galluce*, which gave some People an Opportunity of saying, that it was the *Basilica* of *Caius* and *Lucius*; which, together with a noble Portico, *Augustus* caus'd to be erected in Commemoration of *Caius* and *Lucius* his Grand-children. But this, I am apt to believe, is not Matter of Fact; since this *Fabricks* has none of those Parts which are absolutely necessary in *Basilicas* (the manner of making which I have above describ'd in the third Book, when, according to the Rules laid down by *Vitruvius*, I divided the Parts of a Square) and for that Reason I am fully perswaded this was a Temple. It is all Brick-work, which must have been incrusted, no doubt, with Marble, but is now all taken away. The middle Nave, which is perfectly Circular, is divided into ten Parts, and in each of them

* Plate XXVI.

† Plate XXVII.

there is a Chapel inchas'd in the Thickness of the Wall, except in that where the Entrance is. The two Naves on the Sides, must have been curiously embellish'd, because they contain such a Number of Niches: And, in all Probability, there were Columns and other Decorations in them, which, attending those Niches, must unavoidably produce an admirable Effect. They, who directed the Chapels of the *Emperor* and the King of *France* in *St. Peter's* (which have been since demolish'd) took their Model from this Structure, which, as all its Parts support one another, is prodigiously strong; and, tho' so very antient, is still standing.

The Line A. B. dividing the Plan, shews the Section of the Temple.



C H A P. XII.

Concerning the Temple of Jupiter.

UPON the *Quirinal* Mount, now known by the Name of *Monte Cavallo*, behind the Tenements of the Lords *Colonna*, are seen the Footsteps of the following Fabrick *, which is commonly called the *Frontispiece of Nero*. Some say, the Tower of *Mecænas* stood here, from which *Nero* saw *Rome* in Flames, to his great Satisfaction and Delight. But herein they are most grossly mistaken, because that Tower was on the *Esquiline* Mount, not far distant from the Baths of *Dioclesian*. Others have imagin'd, that the *Cornelian* Family dwelt there. I am of Opinion, for my Part, that 'twas a Temple dedicated to *Jupiter*: Because I saw several People, when I was at *Rome*, digging in the Place where the Body of the Tem-

* Plate XXVIII.

ple stood, where some *Ionick* Capitals were found, which serv'd for the inner Part of the Temple, and were those of the Angles of the Galleries; for the Middle of the Temple, in my Opinion, was uncover'd. The Prospect of this Temple was the false-wing'd, or, as *Vitruvius* calls it, *Pseudodipteros*. The Manner of it was *Pycnostylos*, or of Columns thick set. The Columns of the Porticos without were *Corinthian*. The Architrave, Frize, and Cornice, were the fourth Part of the Altitude of the Columns. The Cymatium of the Architrave was of a very fine Invention. The Frize in the Sides was carv'd with Foliage; but in the Front, which is now demolish'd, there must have been an Inscription. The Modillions of the Cornice are Square, one whereof comes directly over the middle of the Column. The Modillions in the Cornice of the Pediment are perpendicular upon the Column, and ought to be made so. Within this Temple there must have been Porticos, in such manner as I have drawn them. There was a Court round it, adorn'd with Columns and Statues, and two Horses before it, which are now in the Street; and 'tis from hence that this Mount has taken the Name of *Monte Cavallo*. One of them was made by *Praxiteles*, and the other by *Phidias*. There were very commodious Stairs going up to the Temple: And this was the largest and best decorated Temple, according to my Opinion, in all *Rome*.

The Plan comprehends the whole Building, with the back Part where the Stairs stood, which, as they went one over another, led to the Courts on the Sides of the Temple. The Elevation of this sort of Stairs, with their Plan on a large Scale, I have insert'd in my first Book, where I treat of the various Ways of making Stairs.

A. *The Pedestal where the Horse stood which was made by Phidias; as the other was at a great Distance from this, it could not be marked in the Design.*

B. *The Portico of the Temple.*

C. *The Body of the Temple.*

D. *The*

D. *The Courts on either Side of the Temple.*

*Half the * Front of the Portico on the outside, with Part of the Decorations of the Court.*

Half † the inside of the Temple, with part of the Decorations of the Court.

The Flank ‡ of the Temple on the outside.

The Flank || of the inside, both of the Portico and of the Nave of the Temple.

The Decorations § drawn at large.

A. *The Capital.*

B. *The Architrave.*

C. *The Frize.*

D. *The Cornice.*

E. *The Base of the Columns.*

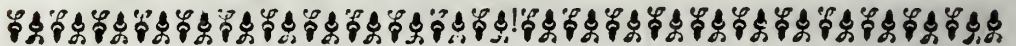
F. *The Base of the Pilasters behind the Columns.*

G. *The Acroteria, or small Pedestals having Statues upon them.*

H. *The Cornice round the Court.*

I. *A Four-foot Scale divided into 192 Parts.*

N. B. *The Cornice H is drawn by a larger Scale than the Scale I, because the small Members thereof could not otherwise be distinguish'd.*



C H A P. XIII.

Concerning the Temple of Fortuna Virilis.

THE following Church §§, now that of *St. Mary the Ægyptian*, is seen almost whole and perfect near the *Senatorian Bridge*, at present *St. Mary's*. The ancient Name of it is not certainly known. Some say, 'twas the Temple of *Manly Fortune*, whereof this Miracle is upon Record, that being in a Flame with every

* Plate XXIX.
§ Plate XXXIII.

† Plate XXX.
§§ Plate XXXIV.

‡ Plate XXXI.

|| Plate XXXII.

thing in it, the gilded wooden Statue, which was erected there by *Servius Tullius*, was the only valuable Part that was not damaged. But since the Temples dedicated to *Fortune* were for the Generality made round, others have maintain'd, that it was not a Temple, but the *Basilica* of *Caius Lucius*, grounding their Notion upon certain Letters which were found there. In my Opinion, however, this cannot be so; both because the Structure is small, whereas the *Basilicas* were of Necessity very large, on Account of the vast Number of Persons that resorted to them about their Affairs; and because the Porticos were made within the Edifice in the *Basilicas*; whereas in this there is not the least Sign of any Portico at all; from whence I am fully perswaded, that it was a Temple. The Prospect thereof is *Prostylos*, and in the Walls of the Nave on the outside there are half Columns, which accompany those of the Portico, and have the very same Decorations: So that to such as view it in Flank, it presents the Prospect *Peripteros*, or wing'd-round. The Intercolumnations are of two Diameters and a Quarter. The Manner thereof is *Systylos*. The Floor of the Temple is rais'd six Feet and a Half from the Ground. There is an Ascent by Steps, butted by the Basement that supports the whole Structure. The Columns are *Ionick*, and the Base is *Attick*; tho' one would imagine it should have been *Ionick* too, as the Capital is; it is not, however, found in any Fabrick, that the Antients made use of the *Ionick* described by *Vitruvius*. The Columns are fluted, and have four and twenty Grooves. The Volutes of the Capitals are Elliptical, and the Capitals in the Angles of the Portico and the Temple front two Ways, which I do not recollect that I have seen any where else: And since this Invention seems to me to be very beautiful and graceful, I have made use of it in several Buildings. The Design will direct you how to do it. The Decorations of the Door of the Temple are very curious, and have an excellent Proportion. This whole Temple is built with *Peperino*, cover'd with *Stuc*.

- A. *The Steps to the Temple.*
 B. *The Portico of the Temple.*
 C. *The Temple.*
 D. *The Base*
 E. *The Dado*
 F. *The Cimaize* } *of the Basement of the whole Edifice.*
 G. *The Base of the Columns over the Basement.*
 H. *Part of the Temple Door seen in Front.*
 I. *Profil of the same with its Scrowl.*
*A Plan * and Elevation of the Temple in Flank.*
 A. *The Steps to the Temple.*
 B. *The Portico of the Temple.*
 C. *Part of the Temple.*
Plan † and Elevation of the Temple in Front.
 A. *The Steps of the Temple.*
 B. *A part of the Portico.*
The Decorations ‡ of the Outside at large.
 D. *Plan of the Capital.*
 E. *The Capital in Front.*
 F. *The Architrave.*
 G. *The Frize.*
 H. *The Cornice.*
 I. *The Decorations of the Frize at large.*
 K. *Plan of the Capital seen by the Angle, whereby the Manner of making it may easily be discern'd.*
 L. *Half of the Capital seen in the Flank.*
 M. *A Profil of the said Capital without its Volute.*

N. B. *The said Decorations have been measured with the Vicentine Feet divided as above-mention'd, into 48 Minutes.*

* Plate XXXV.

† Plate XXXVI.

‡ Plate XXXVII.

C H A P. XIV.

Concerning the Temple of Vesta.

TO follow the Course of the River *Tyber*, near this last Temple there is another round one, call'd at present *St. Stephen's* *. Historians tell us, that it was built by *Numa Pompilius*, and dedicated to the Goddess *Vesta*. He would have it circular, like the Globe of the World, whereby Mankind subsists, and whereof the said *Vesta* was the Goddess. This Temple is of the *Corinthian* Order. The Intercolumnations have a Diameter and a Half. The Columns, with the Bases and Capitals, are eleven *Testas* in length. By *Testa* is understood, as was before observed, the Diameter of a Column towards the Base of it. The Bases have no Plinth, but the Steps, on which they rest, serve instead of it: And this was directed by the Architect, on purpose that the Entrance into the Portico might be the easier; the Manner of it being *Pycnostylos*, or of Columns thick set. The Nave, taking in the Thickness of the Wall, has in Diameter as much as the Columns are long. The Capitals are wrought with Olive Leaves. The Cornice is unseen, but added by me in the Design. There are handsome Compartments under the Soffita of the Portico. The Door and Windows have abundance of curious, tho' plain Decorations. Under the Portico, as also within the Temple, are the Cymatiums which support the Windows. They go quite round, and appear like a Basement whereon the Wall is laid, and upon which the Cupola reposes. This Wall, on the outside, that is to say, under the Porticos, is distinguish'd by Squares from the said Cornice to the Soffita, and is polish'd on the inside, having a Cornice like that of the Portico, which supports the Cupola.

* Plate XXXVIII.

*The Elevation * both of the inside and out.*

A. *The Temple Door at large.*

B. *The Window of the same.*

C. *A Three-foot Scale divided in 144 parts.*

The particular † Members at large.

A. *The Base of the Columns.*

B. *The Capital.*

C. *The Architrave.*

D. *The Frize.*

E. *The Cornice.*

F. *The Soffita of the Portico.*

G. *The little Cornice of the outside going round the Nave, upon which the square Courses of Stone begin to be seen.*

H. *The Base of the said Cornice, which answers to the Base of the Columns.*

I. *The little Cornice within, whereon the Window-sells rest.*

K. *A Four-foot Scale divided in 192 parts, whereby the said Members have been measured.*

C H A P. XV.

Concerning the Temple of Mars.

IN that which is commonly call'd the *Priest's Square*, as you go from the *Rotunda* to the Pillar of *Antonine*, the Remains of the † following Temple are seen, which, according to some, was erected by the Emperor *Antonine*, and dedicated to the God *Mars*. The Prospect thereof is *Peripteros*, or wing'd round. The Manner *Pycnostylos*, or of Columns thick set. The Intercolumnations have a Diameter and a Half. The surrounding Porticos are so much the larger by one Intercolumnation, by how much the more the Antes, or Pilasters of the remainder of the Wall, project outwards. The Columns are of the

* Plate XXXIX.

† Plate XL.

‡ Plate XLI.

Corinthian Order. The Base is *Attick*, and has a little *Astragal* under the Column's Cincture; the *Liftel* whereof is very small, and appears pretty enough. It is always made as small when it is join'd with an *Astragal* over the *Torus* of the Base, being likewise a sort of *Astragal*, because there is no manner of Danger on Account of its breaking. The Capital is wrought with *Olive-Leaves*, and well-design'd. The *Architrave*, instead of the *Ogee*, has a half *Ovolo*, and over it is a *Cavetto*; and this has many curious *Intaglias*, quite different from those of the Temple of *Peace*, and that which we before observ'd was on the *Quirinal* Mount dedicated to *Jupiter*. The *Frize* projects one eighth part of its Height, and swells in the Middle. The *Cornice* has its *Modilion Square*, and over it the *Corona* without *Dentil*, which, as *Vitruvius* observes, ought to be done every time *Modilions* are used; which Rule, however, is practis'd but in few antient Buildings. Over the *Cornice* in the Sides of the Temple is another little *Cornice*, the naked Part whereof falls perpendicular upon that of the *Modilions*, and was made to set the Statues so, that they might be perfectly seen, and that their Feet and Legs might not be conceal'd by the Projection of the *Cornice*. In the inner part of the *Portico* is an *Architrave*, of the same Height as that without: But it has three *Fascias*, which the other has not. The Members which divide one *Fascia* from another, are wrought with little *Intaglias* of Leaves and little *Arches*, and the lesser *Fascia* with *Foliage*. Besides this, instead of an *Ogee*, this *Fascia* has a *Fusarole* with a *Gula* carv'd with Leaves in a most beautiful Manner. The *Architrave* supports the *Arches* of the *Porticos*. The *Architrave*, *Frize*, and *Cornice*, are one fifth Part and a Half of the Length of the Columns: And tho' they should be less than the fifth Part, yet they answer admirably, and are very beautiful. The outside of the Walls are of *Peperino*, and within the Temple are other *Brick-Walls*, the better to support the *Vault*, which was made with most curious *Squares*, wrought with *Stuc*. These Walls were crusted with *Marble*. There were also

Niches and Columns all round, by way of Ornament. Almost a whole Flank of this Temple is yet to be seen; but I have endeavour'd to represent this Fabrick compleat, always following *Vitruvius's* Description of it.

*The Elevation * of the Portico in Front.*

The Elevation † of part of the Temple, seen without on one side.

The Elevation ‡ of another part of the Portico, and of the Temple within.

The Decorations || of the Columns on a large Scale.

A. *The Base.*

B. *The Capital.*

C. *The Architrave.*

D. *The Frize.*

E. *The Cornice.*

F. *The little Cornice of the Statues.*

G. *The Soffita of the Architrave between the Columns.*

H. *The Architrave of the inner part of the Porticos which support the Arches of it.*

I. *A Four-foot Scale divided into 192 Parts.*



C H A P. XVI.

Concerning the Baptistery of Constantine.

THE following Draughts are of *Constantine's* § Baptistery, which is at *St. John's in the Lateran*. This Temple, in my Opinion, is a modern Work, made out of the Spoils and Ruins of antient Fabricks. But as the Design is beautiful, and the Decorations very well carv'd with divers sorts of Intaglias (which may be of Service to an Architect on various Occasions) I thought my self

* Plate XLII.
§ Plate XLVI.

† Plate XLIII

‡ Plate XLIV.

|| Plate XLV.

oblig'd, as it were, to insert it among the antient Works; and the rather, because it is accounted a very good Piece by every body. The Columns are of Porphyry, and of the *Composite* Order. The Base is a Compound of the *Attick* and *Ionick*; the two Torus's being *Attick*, and the two Scotias *Ionick*: But instead of two Atragals which are made between the Scotias in the *Ionick*, this has one only, that takes up the the Room of two. All these Members are beautifully carv'd, and have fine Intaglias. The Bases of the Columns in the Portico are embellish'd with Leaves, running up along the Shaft of the Column, which is worth observing; and shews the Architect to be a Man of very solid Judgment, who could accommodate Things so well: And tho' the Shafts of the Columns were not so long as they should be, yet by this Management he did not rob the Work in the least of any of its Beauty or Majesty. I have made Use myself of the very same Expedient in the Columns which I have put for Ornament in the Door, since they did not reach so far as was necessary; but as they are of such fine Marble, they ought not to be left out of the Work. The Capitals are compounded of *Ionick* and *Corinthian*, with *Acanthus* Leaves. The Manner how they ought to be wrought, is laid down in my first Book. The Architrave is very well carv'd, its Cymaize having a Fufarole and above half an Ovolo, instead of a Gula-inversa. The Frize is plain. The Cornice has two Gula-rectas one above the other, which is a Thing that very seldom happens: I mean, that two Members of the very same sort should be put over each other, without some other intermediate Member besides the Listel. Over these Gula-rectas, or Cymatiums is a Dentil, and then the Corona with its Ogee, and last of all a Gula-recta, or another Cymaize: So that the Architect in this Cornice has, by making Dentils, avoided Modillions.

*The particular * Members at large.*

* Plate XLVII.

A. *The Base.*

B. *The Capital.*

C. *The Architrave, Frize, and Cornice.*

D. *The Soffita of the Architrave between each Column.*

E. *Plan of the Capital.*

F. *A Three-foot Scale divided into 144 Parts.*



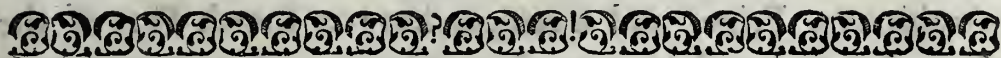
CHAP. XVII.

Concerning the Temple of Bramante.

AFTER the Pomp and Grandeur of the *Roman* Empire began to decline, by the perpetual Irruption of Barbarians, ARCHITECTURE (the same Fate then likewise attended all other Arts and Sciences) declining from its Original Beauty and Perfection, grew every Day worse and worse; infomuch that, at last, all Knowledge of beautiful Proportions, and the elegant Manner of Building were lost, and the Art came to such a low Ebb, that it could not possibly be lower. But, as all human Affairs are in a perpetual Flux and Motion, and as it so happens, that at one time they attain the Achme of their Perfection, and at another descend to their utmost Imperfection: So ARCHITECTURE, in the Days of our Fore-fathers, breaking out of the Darkness wherein it had lain so long in Oblivion, began to appear once more in a fair and advantageous Light. For which Reason, under the Pontificate of Pope *Julius II. Bramante*, who was a most excellent Artist, and a curious Observer of the antient Buildings, made very beautiful Edifices in *Rome*; and after him follow'd *Michael Angelo Buonarroti, Jacobo Sansovino, Balthasar da Sienna, Antonio da San Gallo, Michael de San Michele, Sebastian Serlio, George Vasari, Jacobo Barozzio da Vignola*, and the Cavalier *Lione*, whose surprising Structures may be seen in *Rome, Florence, Venice, Milan,*

Milan, and in other Cities of *Italy*: Besides, most of these Architects were likewise excellent Painters, Sculptors, and Penmen; some of whom are Alive to this Day, together with several others, whom, to avoid being tedious, I shall pass over in Silence. But to return to our Subject; since it is certain, that *Bramante* was the first who brought to light the true and beautiful ARCHITECTURE, which lay conceal'd from the Time of the Antients to his own, I thought my self indispensably oblig'd to afford Room to his Works among those of the said Antients: For which Reason I have in this Book set down the following Temple *, erected by him upon the *Janiculan* Mount; and call'd *San Pietro Montorio*, not only from this Mount, but also, because it is said that *St. Peter* was crucified there.

Elevation † both of the inside and outside of the Temple.



C H A P. XVIII.

Concerning the Temple of Jupiter Stator.

BETWEEN the *Capitol* and Mount *Palatine*, near the *Roman Forum*, are three ‡ Columns of the *Corinthian* Order: Which, as some say, were Part of the Flank of the Temple of *Vulcan*; and, according to others, of the Temple of *Romulus*. There are some likewise, who are of my Opinion, that they belong'd to the Temple of *Jupiter Stator*; which Temple was solemnly vow'd to be erected by *Romulus*, when the *Sabines* having surpriz'd the *Capitol* and Citadel by Treachery, were victoriously marching to Mount *Palatine*, where he kept his Court. Others, however, are of Opinion, that these Columns, together with those

* Plate XLVIII.

† Plate XLIX.

‡ Plate L.

below the *Capitol*, were part of the Bridge made by *Caligula's* Directions, for passing from Mount *Palatine* to the *Capitol*: which Notion is known to have no Shadow of Truth, since it may be seen by the Decorations, that these Columns belong'd to two different Fabricks; besides, the Bridge so order'd to be made by *Caligula*, was of Timber, and cross'd the *Roman Forum*. But to return to our Subject, let these Columns have belong'd to what Temple you will, I never saw better Work, nor more curiously wrought. All the Members are most accurately form'd, and well understood. The Prospect of this Temple was, in my Opinion, *Peripteros*, or wing'd-round; and the Manner of it *Pycnostylos*, or of Columns thick set. It had eight Columns in each Front, and fifteen in each Flank, including those of the Angles. The Bases are compounded of *Attick* and *Ionick*. The Capitals are worthy of particular Notice, on account of the curious Intaglias on the Abacus. The Architrave, Frize, and Cornice, have a fourth Part of the Length of the Columns. The Cornice alone wants very little of the Height of the Architrave and Frize together, which is what I never saw in any other Edifice.

*The Elevation * of the Front of the Temple.*

The particular † Members at large.

A. *The Base.*

B. *The Capital.*

C. *The Architrave, Frize, and Cornice.*

D. *Part of the Soffita of the Architrave between the Columns.*

E. *A Four-foot Scale divided into 192 parts.*

* Plate LI.

† Plate LII.

C H A P. XIX.

Concerning the Temple of Jupiter the Thunderer.

AT the Foot of the *Capitol* are some Traces of the following * Temple, which was consecrated to *Jupiter the Thunderer*, and erected by *Augustus* for his Deliverance from an eminent Danger in the *Cantabrian War*; when in an Expedition which he made by Night, his Litter was pierced through with an Arrow; by which Accident a Slave that was just before him was kill'd, and he preserv'd unhurt. But I very much Question the Truth of it, because the remaining Decorations are most exquisitely wrought with fine Intaglias: And, 'tis plain, that, in the Days of *Augustus*, all Works were made solid and substantial; as appears by the Portico of the *Rotunda* to the *Panttheon* (now consecrated to the *Virgin Mary*) which is very plain and simple, as several other Edifices are, which were seated at that time. Some think, that the Columns here were Part of *Caligula's* Bridge; but I have demonstrated the Falsity of that in the last Chapter. The Prospect of this Temple is *Dipteros*, or double-wing'd. It must be acknowledged, that in that Part of it which is towards the *Capitol*, there was no Portico: But, as far as I could perceive from other Fabricks erected near Hills, I am of Opinion, that it was built on that Side, after the Manner of the Plan; which is, that it had an extreme thick Wall, inclosing the Nave and the Porticos, and, after leaving some Space between, then another Wall with Stone Land-tyes, which enter'd into the Hill. The Reason why the Antients in such Cases made the first Wall so very thick, was, that no Wet might penetrate into the inner Part of the Structure: And they made the

* Plate LIII.

other Wall with Stone Land-tyes, in order to sustain the constant Weight of the Hill; the said void Space being also left between both the said Walls, that the Waters issuing out of the Hill, and meeting there, might have their free Course in such a Manner, as to do no Damage to the Edifice. The Manner of this Temple was *Pycnostylos*. The Architrave and Frize were equal in the Front, to receive an Inscription; some Letters whereof are still legible. The Ovolo of the Cornice above the Frize is different from any I have ever yet seen: And as there are two Ovolos in the Cornice, this Variety is made with great Judgment. The Modillions of this Cornice are so ordered, that there comes an empty Space, and not a Modilion, directly over the Center of the Column, as it occurs also in some other Cornices: Altho' a Modilion should come just over the Middle of the Column, according to the regular Way of Working.

- A. *The Space between the two Walls.*
- B. *The Butments against the Hill.*
- C. *The Spaces between the Butments.*
- D. *A Scale of 50 Vicentine Feet.*
- The particular * Members of the Portico at large.*
- A. *The Base.*
- B. *The Capital.*
- C. *The Architrave.*
- D. *The Frize.*
- E. *The Cornice.*
- F. *The Soffita of the Architrave between the Columns.*
- G. *A Three-foot Scale divided into 144 Parts.*
- H. *A large Pannel taking up the whole Architrave and Frize to place the Inscription upon.*

* Plate LIV.

C H A P. XX.

Concerning the Pantheon, now call'd the Rotunda.

OF all the Temples now to be seen in *Rome*, no one is more celebrated than the *Pantheon*, at present call'd the * *Rotunda*; nor indeed, that is more perfect and compleat, since it appears almost in its original State, with respect to the Edifice, but stript of all its Statues and other Decorations. Some are of Opinion, that it was erected by *Marcus Agrippa*, about the 14th Year of *Christ*: But I am inclinable to believe, that the Body of the Temple was built in the time of the *Republick*, and that *Agrippa* added only the Portico to it, which may be inferred from the two Frontons in the Front of it. This Temple was called the *Pantheon*, either because, after *Jupiter*, it was dedicated to all the Gods; or, as others are of Opinion, because it is circular, or bears the Figure of the World. The Height of it from the Floor to the Opening at the top (from whence it receives all its Light) is the Diameter of its Breadth from one Wall to the other: And as People descend to the Floor, so formerly they ascended to it by some Steps. Amongst the most celebrated Things which we read were in this Temple, were the Ivory Statue of *Minerva* made by *Phidias*; and that of *Venus*, which had the one half of that Pearl for an Ear-ring, whereof *Cleopatra* dissolv'd the other half, and drank it at Supper to exceed the Liberality of *Anthony*. This half only of that Pearl was valued, as is reported, at 250 Thousand Ducats of Gold. This whole Temple, both without and within, was of the *Corinthian* Order. The Bases are compounded of *Attick* and *Ionick*; and the Capitals are carv'd with Olive Leaves. The Architraves,

* Plate LV.

Frizes, and Cornices, have beautiful Mouldings, but otherwise very little Carving. In the Thickness of the Wall there are certain void Spaces left quite round the Temple, the better to preserve it against Earthquakes, and to save Expence and Materials. This Temple has a most beautiful Portico in Front, on the Frize whereof is this Inscription,

M. AGrippa. L. F. Cos. III. fecit.

Under it (that is, in the Fascias of the Architrave) is the following Inscription in smaller Letters, which shews, that the Emperors *Septimius Severus* and *Marcus Aurelius* repair'd this Temple, consum'd with Age:

*Imp. Cæs. Septimius. Severus. Pius. Pertinax. Arabicus.
Parthicus. Pontif. Max. Trib. Pot. XI. Cos. III. P. P. Procos.*

Et. Imp. Cæs. Marcus. Aurelius. Antonius.

Pius. Felix. Aug. Trib. Pot. V. Cos. Procos.

Pantheum. vetustate. (consumtum)

Cum. omni. cultu. restituerunt.

In the Thickness of the Wall within the Temple, there are seven Chapels with Niches, wherein there must have been Statues of course; and a Tabernacle between one Chapel and another; so that there are in all eight Tabernacles. There are several who are of Opinion, that the Chapel in the Middle over-against the Entrance is not antient, because the Arch thereof breaks into some of the Columns of the second Order; but that in the Times of Christianity, since Pope *Boniface*, who first consecrated this Temple to our divine Service, this Chapel is added, as becomes Christian Churches, in order to have one particular Altar larger than all the rest. However, since I perceive that it agrees perfectly well with the rest of the Work, and that it has all its Members excellently finished, I take it for granted, that it was made at the same time with the rest of the Temple. This Chapel has two Columns, one of a Side, which project out, and are fluted, the
Space

Space between one Groove and another being cabled, and accurately finished.

The Stairs mark'd in the Plan on each Side the Entrance lead over the Chapels in a private Passage, which goes quite round the Temple, and whereby one goes out to the Steps, to ascend to the top of the Building, by other Stairs which are round it. That Part of a Building behind the Temple, and mark'd M, is Part of *Agrippa's Baths*.

* Half of the Fore-front.

† Half of the Front under the Portico.

This Temple, as appears by these two Draughts, has two Frontispieces ; one in the Portico, and another on the Temple Wall. Where you find the Letter A, there are some particular Stones jutting out of the Wall, the Use and Service whereof I cannot account for: The Joysts of the Portico are all made of Tables of Copper.

‡ *The Elevation in Flank of all the outside.*

B. *The second Cornice, which surrounds the whole Temple.*

|| *The Elevation in Flank of the inside of the Portico.*

§ *The Decorations of the Portico at large.*

A. *The Base.*

B. *The Capital.*

C. *The Architrave, Frize, and Cornice.*

D. *The Moulding of the Decorations made over the Columns and the Pilasters on the inside of the Portico.*

E. *The Plan of the Pilasters of the Portico, answering to the Columns.*

F. *The turning of the Caulicoles of the Capitals.*

G. *The Soffita of the Architrave between the Columns.*

H. *The Architrave, Frize, and Cornice of the Door.*

I. *The Festoons which adorn the sides of the Door.*

** Part of the Elevation of the inside over-against the Entry, where you may see in what Order the Chapels

* Plate LVI.

† Plate LVII.

‡ Plate LVIII.

|| Plate LIX.

§ Plate LX.

** Plate LXI.

and

and Tabernacles are rang'd, and with what Decorations; as also how the Squares in the Vaults are comparted, which, that they were embellish'd with Plates of Silver, is very probable, by certain Traces remaining there: For had such Decorations been of Bronze, they would not, doubtless, have been taken away, no more than those which, as I have before observed, are in the Portico.

* A large Design of one of the Tabernacles in Front, with Part of the Chapels by it.

† The Decorations of the Columns and Pilasters on the inside of the Temple.

A. *The Base.*

B. *The Capital.*

C. *The Architrave.*

D. *The Frize.*

E. *The Cornice.*

F. *The turning of the Caulicoles of the Capitals.*

G. *The fluting of the Pilasters.*

H. *A Three-foot Scale divided into 144 Parts, wherewith the said Decorations have been measured.*

‡ The Decorations of the Tabernacles between the Chapels, and wherein may be observ'd the profound Judgment of the Architect, who, in the Architrave, Frize, and Cornice of these Tabernacles, has made only a large Ogee, or Gula-recta, and converted the remainder of the Members into a Fascia, because the Pilasters of the Chapels were not so far out of the Wall, as to be able to receive the whole Projecture of this Cornice.

A. *The Embasement.*

B. *The Base.*

C. *The Capital.*

D. *The Architrave.*

E. *The Frize.*

F. *The Cornice.*

G. *A Three-foot Scale divided into 144 Parts.*

* Plate LXII.

† Plate LXIII.

‡ Plate LXIV.

And with this Temple we shall make an End of the Draughts of the Temples which are in Rome.

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## C H A P. XXI.

*Concerning the Draughts of several Temples which are out of Rome, or in other Parts of Italy; and first, with respect to the Temple of Bacchus.*

**W**ITHOUT St. *Agnes's* Gate, as it is now call'd, but distinguish'd by the Antients by the Name of the *Viminal* Gate, from Mount *Viminalis* whereon it stands, the Temple \* which follows, and is now consecrated to St. *Agnes*, may be seen pretty whole and entire. It was, in my Opinion, a Burying-Place, because a very large Coffin of Porphyry was found in it, beautifully carv'd with Vines, and little Children gathering the Grapes. This has induc'd some People to imagine, that it was the Temple of *Bacchus*. And since this is the receiv'd Notion, and since it now serves for a Church, I have placed it among the Temples. Before the Portico of it may be seen the Footsteps of a Court, which was of an Oval Form, and which was embellish'd, as I imagine, with Columns; as well as that there were several Niches, wherein stood the Statues in the Intercolumnation. The Gallery of this Temple, by what is now visible of it, was made with Pilasters, and consisted of three Voids. In the inner Part thereof, the Columns which supported the Cupola were rang'd two by two. All these Columns are of Granate, and the Bases, Capitals, and Cornices of Marble. The Bases are after the *Attick* Manner, the Capitals are very beautiful, and

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\* Plate LXV.

of the *Composite* Order, having some Foliage, which proceeds on each Side from the Rosets, and adds a great Grace to the Volutas. The Architrave, Frize, and Cornice, are but indifferently wrought, which induce me to believe, that this Temple was not erected in the good Times, but rather under some of the late Emperors. It is enrich'd with a great deal of Work, and with various Compartments, partly of fine Stones, and partly of *Mosaick*, as well in the Floor, as in the Walls and Arches.

\* *The Elevation of the outside of the Temple.*

† *Shews how the Columns are disposed, to support the Cupola.*

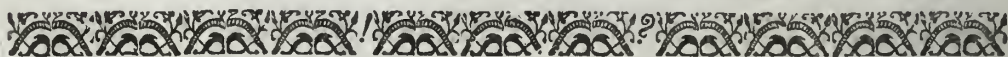
A. *The Base.*

B. *The Capital.*

C. *The Architrave, Frize, and Cornice.*

D. *The springing of the Arches.*

E. *A Two-foot Scale divided into 96 Parts, wherewith the said Parts are measured.*



## C H A P. XXII.

*Concerning the Temple whose Footsteps are seen near St. Sebastian's Church on the Appian Way.*

**W**ITHOUT St. *Sebastian's* Gate, which formerly was called the *Appian* Gate (from that celebrated Way, which with such wondrous Art, and at such a prodigious Expence was made by *Appius Claudius*) are seen the Traces of the following Structure †, near to the said Church of St. *Sebastian*. It is very probable that it

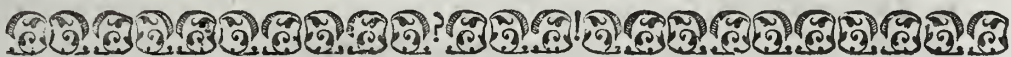
\* Plate LXVI.

† Plate LXVII.

‡ Plate LXVIII.

was wholly built of Brick. A Part of the Galleries which furrounded the Court is yet standing. The Entrance of the said Court had double Galleries; and on the one side and the other of it, there were Apartments, or Chambers, which must have been for the Service of the Priests. The Temple was in the Center of the Court: And that Part which is now seen standing above Ground, and whereon was the Floor of the Temple, is most solid Work, having no Light but from the Doors, and six little Windows, which are in the Niches; for which Reason it is somewhat dark and gloomy, as all the antient Temples for the generality are. Before the Front of this Temple, directly over the Entrance to the Court, are the Foundations of the Portico; but the Columns are now taken away: I have represented them, however, in the same Dimensions and Distances which they must have had, as may be known by the said Foundations.

- A. *The Plan of the Temple and Portico under the Area.*
- B. *The Floor, or Area of the Temple and Portico under the said Area.*
- C. *The Angular Pilasters of the Court at large.*
- D. *The other Pilasters which constitute the Galleries round the Court.*



## C H A P. XXIII.

### *Concerning the Temple of Vesta.*

**A**T *Tivoli*, about sixteen Miles from *Rome*, upon the Fall of the River *Anien*, now call'd *Teverone*, is seen the following circular Temple \*, which the In-

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\* Plate LXIX.

habitants of those Places assure us, was the Habitation of the *Tiburтин Sybil*. But there is no manner of Foundation for this Opinion: And therefore, for the Reasons above, this Temple, as I take it, was consecrated to *Vesta*. It is of the *Corinthian* Order. The Intercolumnations are of two Diameters. The Floor is rais'd from the Ground, one third Part of the Length of the Columns. The Bases have no Zocco, in order that the Walk under the Portico should be more spacious and easy. The Columns are just as long as the Nave is large; and they incline in such a Manner towards the Wall of the Nave, that the Naked at the top of the Columns falls perpendicularly upon the Naked of the Bottom of their Shaft, towards the inside: The Capitals are excellently well executed, and wrought with Olive Leaves; from whence it may be concluded, that this Temple was erected in good Times. The Door and the Windows are narrower at the Top than at the Bottom, according to *Vitruvius's* Directions in the sixth Chapter of his fourth Book. This whole Temple is of *Tiburтин* Stone, cover'd with the finest Stone, which makes it seem all Marble.

\* *The Elevation of the outside and inside of the Temple.*

† *The Members of the Portico and Cornice at large.*

A. *The Basement that goes round all the Temple.*

B. *The Base of the Columns.*

C. *The Capital.*

D. *The Architrave, Frize, and Cornice.*

E. *The Soffita of the Portico.*

F. *A Vault that goes round the Portico.*

G. *A Three-foot Scale divided into 144 Parts.*

H. *The Decorations of Frize round the Temple.*

‡ *The Decorations of the Door and Windows.*

A. *The Decorations of the Door.*

B. *The Decorations of the Windows on the outside.*

C. *The Decorations of the Windows on the inside.*

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\* Plate LXX.

† Plate LXXI.

‡ Plate LXXII.

D. *A Two-foot Scale divided into 96 Parts.*

The Fascias of the Decorations of the Door and the Windows are different from what are generally made.

The Astragals, under the Cymatiums, project beyond them, which is what I have not seen in other Decorations.



C H A P. XXIV.

*Concerning the Temple of Castor and Pollux.*

**I**N a very beautiful Part of the City of *Naples*, below the Square of the Palace and the *Vicaria*, is seen the Portico of a Temple \*, erected and dedicated to *Castor* and *Pollux* by *Tiberius Julius Tarsus*, and by *Pelago*, *Augustus's* Free-Man, as appears by its Inscription in the following *Greek* Characters.

ΤΙΒΕΡΙΟΣ ΙΟΥΛΙΟΣ ΤΑΡΣΟΣ ΔΙΟΣ ΚΟΥΤΡΟΙΣ ΚΑΙ ΤΗ ΠΟΛΕΙ  
 ΤΟΝ ΝΑΟΝ ΚΑΙ ΤΑ ΕΝ ΝΑΩ.  
 ΠΕΛΑΓΩΝ ΣΕΒΑΣΤΟΥ ΑΠΕΛΕΥΘΕΡΟΣ ΚΑΙ ΕΠΙΤΡΟΠΟΣ  
 ΣΤΝΤΕΛΕΣΑΣ ΕΚ ΤΩΝ ΙΔΙΩΝ ΚΑΘΙΕΡΟΣΕΝ.

That is, in *Latin*,

TIBERIUS JULIUS TARSUS JOVIS FILIIS ET URBI  
 TEMPLUM ET QUAE IN TEMPLO.  
 PELAGO AUGUSTI LIBERTUS ET PROCURATOR  
 PERFICIENS EX PROPRIIS DEDICAVIT.

The Signification whereof is, that *Tiberius Julius Tarsus* began to erect this Temple, and all the Things thereto belonging, in Honour to the Sons of *Jupiter* (*viz. Castor* and *Pollux*) and to the City: And that the

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\* Plate LXXIII.

before-mentioned *Pelago* compleated it at his own Expence, and consecrated it. This Portico is of the *Corinthian* Order. The Intercolumnations are more than a Diameter and a Half, but not quite two Diameters. The Bases are after the *Attick* Manner. The Capitals are carved with Olive Leaves, and most accurately wrought. The Invention of the Stalks or Caulicoles, which are under the Rose, and which are knotted together, is very fine: They issue out of the Foliage, which, in the upper Part, cover the other Stalks that support the Horns of the Capital. From this Instance, therefore, as well as from several others interspersed throughout this Book, it is manifest that an Architect may deviate sometimes from the common Methods or Usage, provided his Variation be agreeable and natural. In the Fronton is a Sacrifice carved in Basso-relievo, by the Hand of a most excellent Artist. Some are of Opinion, that there were two Temples in this Place, the one Circular, and the other Square. There remains no Foot-steps of the former one, and the latter one is, in my Opinion, Modern: For which Reason, without meddling with the Body of the Temple, I have only given the Upright of the Front of the Portico in the first Draught.

\* *Particular Members at large.*

A. *The Base.*

B. *The Capital.*

C. *The Architrave, Frize, and Cornice.*

D. *A Four-foot Scale divided into 192 Parts.*

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\* Plate LXXIV.

## C H A P. XXV.

*Concerning the Temple below Trevi.*

**B**ETWEEN *Fuligno* and *Spoleti*, below *Trevi*, stands the little Temple \*, to which the following Draughts belong. The Basement which supports it is eight Feet and a half high; to which Height you ascend by Steps, which proceed from the Sides of the Portico, and end in two small Porticos, issuing out of the Remainder of the Temple. The Prospect of it is *Prostylos*, and the Columns are set very close. The Chapel, which is over-against the Entrance of the Nave, is finely decorated, and the fluting of the Columns is Spiral: These Columns are of the *Corinthian* Order, as well as those of the Porticos, and delicately wrought with a beautiful Variety of *Intaglias*. What I said in the first Book therefore, appears by this Temple, as well as all the others, to be indisputably true, *viz.* that the Ancients, in such sort of Structure, and particularly in the smallest, were very curious and exact in polishing every Part, and setting them off with all the Embellishments imaginable, provided they were natural and graceful: Whereas in the large Edifices, such as Amphitheatres, and the like, they only polished some particular Parts, leaving the remainder rough, to save both the Expence and Time that would be required to polish all, as shall be seen in my *Book of Amphitheatres*, which I intend to publish in a very short Time.

A. *The Plan of the Body of the Temple.*

B. *The Plan of the Portico.*

C. *The Plan under the Embasement of the Portico.*

D. *The Base of the Embasement.*

E. *The Dado of the Embasement.*

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\* Plate LXXV.

- F. *The Cornice of the said Embasement.*  
 G. *The Base of the Columns.*  
 H. *The Base of the Pilasters and Columns of the little Porticos.*  
 I. *The Capitals of the same.*  
 K. *The Architrave, Frize, and Cornice.*  
 L. *The Steps which lead to the Temple.*  
 \* *The Elevation of Half the Front on the outside.*  
 † *The Elevation of the inner Half.*  
 ‡ *The Elevation of the Flank.*  
 || *The Decorations of the Temple drawn at large.*  
 A. *The Capital.*  
 B. *The Architrave.*  
 C. *The Frize.*  
 D. *The Cornice.*  
 E. *A Two-foot Scale divided into 96 Parts.*



## CHAP. XXVI.

### *Concerning the Temple of Scifi.*

THE following Temple § is situate in the Square of *Scifi*, a City of *Umbria*, and is of the *Corinthian* Order. The Pedestals in this Temple, which are placed under the Columns of the Portico, are worthy of Observation; because, as I said before, in all other ancient Temples, where the Columns of the Porticos reach the Ground, I never saw one that had Pedestals. Between one Pedestal and the other are the Steps which go up from the Square to the Portico. The Pedestals are as high as the middle Intercolumnation is large, which is two Inches larger than the rest. The Manner of this Temple is, as *Vitruvius* calls it, *Systylos*, that is, of two

\* Plate LXXVI.  
 § Plate LXXX.

† Plate LXXVII.

‡ Plate LXXVIII.

|| Plate LXXIX.



Diameters. The Architrave, Frize, and Cornice together, are one fifth Part of the Height of the Columns, and something more. The Cornice of the Front, instead of the Modillions, has several Leaves, and in the remaining Part is altogether like that directly over the Columns. The Nave of the Temple is one fourth longer than it is large.

\* *The Elevation of the Front of the Temple.*

|| *The Decorations at large.*

A. *The Pedestal.*

B. *The Base of the Columns.*

C. *The Capital.*

D. *The Architrave.*

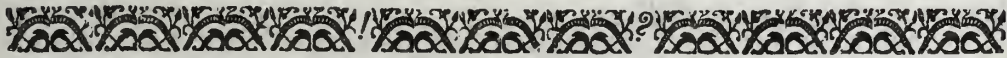
E. *The Frize.*

F. *The Cornice.*

G. *The Foliage carved in the Cornice of the Pediment, instead of Modillions.*

H. *The Acroterias.*

I. *A Two-foot Scale divided into 96 Parts.*



C H A P. XXVII.

*Concerning the Draughts of several Temples which are out of Italy; and, in the first Place, concerning the two Temples of Pola.*

**I**N *Pola*, a City of *Istria*, besides a Theatre, an Amphitheatre, and a Triumphal Arch (which are very beautiful Structures, and of each of which I shall treat, and give their Draughts in their proper Place) there are on the same Side of the Square two Temples § of equal Dimensions, having the same Decorations, and being

\* Plate LXXXI.

|| Plate LXXXII.

§ Plate LXXXIII.

distant from each other 58 Feet, four Inches. Their Draughts follow this Account. The Prospect of them is *Prostylos*, and the Manner of them is what *Vitruvius* calls, as I have above observed, *Systylos*, which has the Intercolumnations of two Diameters, only that the middle Intercolumnation has two Diameters and a Quarter. Round these Temples there goes a Basement, on the Top whereof they have their Area or Floor, to which the Ascent is by Steps, as has been seen in several other Temples, placed in the Front. The Bases of the Columns are after the *Attick* Manner, and their Plinth is as thick as the Remainder of the Base. The Capitals are wrought very neatly with Olive Leaves. The Stalks are covered with Foliage of Oak Leaves, which Variation is seldom seen in others, and merits Observation. The Architrave likewise is different from the most Part of others, because its first Fascia is large, the second less, and the third under the Cymatium still less: Besides, these Fascias shoot out in the lower Part, which was done with Design, that the Architrave might project the less, and so not conceal the Inscription on the Frize of the Front, which is as follows:

*ROMAE ET AUGUSTO CAESARIS INV I.  
F. PAT. PATRIÆ.*

The Foliage of the said Frize surround the other Parts of the Temple. The Cornice has but a few Members, and is wrought with the usual Intaglias. The Decorations of the Door are lost; but I have made them just as I imagine they ought to have been. The Nave is a fourth Part longer than it is large. The whole Temple, taking in the Portico, is longer by two Squares than it is large.

A. *The Steps leading to the Temple.*

B. *The Portico.*

C. *The Body of the Temple.*

\* *The Elevation of a Part of the Temple in Flank.*

A. *The Decorations of a Door of my own Invention.*

B. *The Profil of the Bell of the Capital.*

C. *A three Foot Scale divided into 144 Parts.*

\* *The Elevation of the Front of the said Temple.*

A. *The Steps leading to the Temple.*

B. *A Part of the Portico.*

‡ *The Decorations at large.*

A. *The Pedestal, or the Embasement of the Temple.*

B. *The Base of the Columns.*

C. *The Capital.*

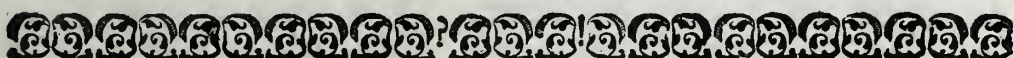
D. *The Architrave.*

E. *The Frize.*

F. *The Cornice.*

G. *A Part of the Plan of the Capital.*

N. B. The Scale whereby the said Decorations have been measured, is in Plate 84, Letter C.



## C H A P. XXVIII.

*Concerning the two Temples of Nimes; and first, with respect to that call'd la Maison Quarre, or the Square House.*

**I**N *Nimes*, a City of *Languedoc*, the Native Country of the Emperor *Antoninus Pius*, the two following Temples are seen, among many other magnificent and curious Remains of Antiquity. § This, whereof I am first going to discourse, is call'd by the Inhabitants of the Place *la Maison Quarre*, or the Square House, because it is built in a quadrangular Form; and they inform us, that it was a *Basilica*, or Court of Justice (of which *Basilicas*, their Use and Manner of Erection, I

\* Plate LXXXV.

‡ Plate LXXXVI.

§ Plate LXXXVII.

have already treated at large in the third Book, according to the Rules laid down by *Vitruvius*) but as their Form was lost, I am apt to think this lower Building to have been a Temple. The Prospect and Manner of it, is manifest enough from what has been already said of so many other Temples. Its Floor is elevated from the Ground ten Feet five Inches. For a Basement all round it there is a Pedestal, upon the Cymatium whereof are two Steps, which support the Base of the Pillars. And *Vitruvius*, in all Probability, meant such Steps, when, at the Close of the third Chapter of his third Book, he says, *That in making a continual Embasement round a Temple, the Scamilli (which probably may be these Steps, or else Zoccos) under the Bases of the Columns ought to be made unequal, falling directly plum over the Naked of the Pedestal, which is under the Columns, and being equal under the Base of the Column and above the Cymatium of the Pedestal.* This Passage has incited the Attention of several Architects. The Base of this Basement has but few Members, and is thicker (as I have elsewhere directed should be done in Pedestals) than the Cymatium. The Base of the Columns is *Attick*, but has likewise some Astragals, from whence it may be properly call'd *Composite*, and agreeable to the *Corinthian* Order. The Capitals are wrought with Olive Leaves, and have the Abacus carv'd. The Rose placed in the midst of the Fore-part of the Capital takes up the Height of the Abacus and the Fillet of the Bell; which, as I have before observed, is follow'd in all the antient Capitals of this Sort. The Architrave, Frize, and Cornice, are one fourth Part of the Length of the Columns, and all the Parts of them are very curiously carv'd. The Modillions are different from all I have ever seen, and this Difference of theirs from the common Sort is very ornamental: And as the Capitals are wrought with Olive Leaves, these are carv'd with Oak Leaves. Over the Gula-recta, instead of a Filet, is carv'd an Ovolo, which is seen but in a few Cornices.

nices. The Fronton is exactly finish'd according to *Vitruvius's* Directions, in the Place above-quoted. Because of nine Parts of the Length of the Cornice, one is put in the Height of the Fronton under its Cornice. The Jambs or Pilasters of the Doors are thick in Front, one sixth Part of the Largeness of the Light, or void Space. This Door has several curious Decorations, and is perfectly well carv'd. Over its Cornice, and even with its Jambs, are two Pieces of Stone wrought like Architraves, and projecting out of the said Cornice. In each of them is a large square Hole, about ten Inches and a Half every Way, thro' which they let down, as I imagine, some certain long Pieces that reach to the Ground, in order to support an additional Door, to be taken up or down as Occasion may require, and made after the Manner of a Lattice, that the People who stand without might see was done in the Temple, without being any Hindrance or Interruption to the Priests.

A. *The Steps which lead to the Temple.*

B. *The Portico of the Temple.*

C. *A Plan of the two bor'd Stones, which project over the Cornice of the Door.*

D. *The Holes of ten Inches and a Half Square in the middle of the said Stones.*

E. *The Door of the Temple.*

F. *The Body of the Temple.*

\* *The Elevation of the Front of the Temple.*

† *The Elevation of the Flank.*

‡ *Part of the Members at large.*

A. *The Base*  
B. *The Cymatium* } *of the Pedestal.*

C. *The Base of the Columns.*

D. *Half of the Capital.*

E. *The Architrave.*

F. *The Frize and the Foliage carved in it.*

G. *The Cornice.*

\* Plate LXXXVIII.

† Plate LXXXIX.

‡ Plate XC.

- H. *The Decorations of the Door.*
- I. *The Scrowls of the Door in Front.*
- K. *The Profil of the said Scrowl.*
- L. *The Stone over the Cornice.*
- M. *A three-foot Scale divided into 144 Parts.*



## C H A P. XXIX.

### *Concerning the other Temple of Nimes.*

**T**HE following Draughts appertain to the other \* Temple of *Nimes*, which, as the Inhabitants of that City report, was formerly the Temple of *Vesta*; but, in my Opinion, that cannot be, not only because the Temples of *Vesta* were made circular, after the Form of the Earth, whereof she was reputed to be the Goddess; but because the Passages on three Sides of this Temple were inclosed with Walls, wherein were the Doors to the Sides of the Cell, and the Door of the Nave it self in the Front, so that it could receive no manner of Light from any Quarter. Now, as no Reason can be assigned why dark and gloomy Temples should be consecrated to *Vesta*, this Temple was dedicated, in my Opinion, to some of the infernal Deities. In the inner Part there are some Tabernacles, wherein there must have been Statues. The inside of the Temple, over-against the Door, is divided into three Parts. The Area, or Floor of the middle Part, is even with the rest of the Temple: The other two Parts have their Floors raised to the Height of the Pedestals, and you go up to them by two Pair of Stairs, beginning in the Passages, which, as I have before observed, come round this Temple. The Pedestals are somewhat higher than the third Part of the Length of the Columns. The Bases of

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\* Plate XCI.

the Columns are compounded of the *Attick* and *Ionick*, and have a delicate Profil. The Capitals likewise are Composite, very accurately wrought and polished. The Architrave, Frize, and Cornice have no Intaglias; and the Decorations of the Tabernacles, which are round the Nave, are very plain and simple. Behind the Columns which are over-against the Entry, and form, according to our Manner of speaking, the great Chapel, there were square Pilasters, which have Composite Capitals alike, but different from those of the Columns, nay, different among themselves; because the Capitals of the Pilasters next the Columns have different Intaglias from the other two: But all of them have so agreeable and beautiful a Form, and are of such an extraordinary Invention, that I do not remember I have seen any Capitals of that Kind better or more judiciously compass'd. These Pilasters support the Architraves of the Chapels on the Sides, whereto you go up, as I said before, by the Stairs of the Passages; and are therefore larger this Way than the Columns are thick, which is worth the Reader's Observation. The Columns, which are round the Nave, bear up certain Arches made of square Stones: And the Stones which make the greater Vault of the Temple, are placed from one of these Arches to the other. This entire Fabrick is made of square Stones, and cover'd with flat ones, so dispos'd, that the End of one comes over the Beginning of the other, so that no Wet can possibly penetrate through them. I have been more curious and exact about these two Temples, because they seem'd to me to be Structures which deserved the utmost Consideration; and by which it may be known, that it was the peculiar Property, as it were, of that Age, to understand the true Way of Building every where.

\* *Half what appears of the inside over-against the Door.*

† *The Elevation of Part of the Flank inside.*

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\* Plate XCII.

† Plate XCIII.

\* *The Decorations of the Tabernacles, Columns and Soffitas. The following Letters refer to them all.*

A. *The Pedestal.*

B. *The Base of the Column and Pilasters.*

C. *Plan of the Capital.*

D. *The Capital of the Columns.*

E. *The Profil of the Capital without the Volutas.*

F. *The Architrave, Frize and Cornice over the Columns.*

G. *The Capital of the Pilasters behind the middle Columns.*

H. *The Capital of the other Pilasters.*

I. *The Architrave, Frize, and small Cornice over the Pilasters behind the middle Columns.*

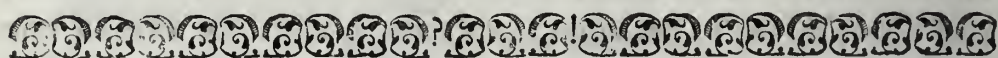
K. *The Decorations of the Tabernacle between the Columns round the Temple.*

L. *The Decorations of the Tabernacle of the great Chapel in the middle of the Temple.*

M, N, O. *The Compartments of the Soffita of the said Chapel.*

N. B. *The Compartments above-mention'd have been design'd by a smaller Scale.*

P. *A Three-foot Scale divided into 144 Parts.*



## C H A P. XXX.

*Concerning the two other Temples in Rome; and first with respect to the Temple of Concord.*

**B**ESIDES the Temples above delineated, when I discoursed of such as are in *Rome*, at the Foot of the *Capitol*, not far from the Arch of *Septimius*. (where the *Roman Forum* began) may be seen the Columns of the

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\* Plate XCIV.



Portico of the following \* Temple ; which, pursuant to a Vow, was erected by *Furius Camillus*, and, according to some, consecrated to *Concord*. The publick Affairs were frequently here debated ; and we may reasonably conclude, that this Temple was devoted to that Service, since the Priests would not permit the Senate to convene about State Affairs, except only in the consecrated Temples, and such only were consecrated as were erected according to the Directions of the *Augurs* ; for which Reason, and on Account of their debating in such Places on the necessary Occasions of the Government, the Temples so made were likewise called *Curia*. Among many Statues with which this Temple was embellished, some Historians make mention of that of *Latona*, holding *Apollo* and *Diana* her Children in her Arms ; as also the Statue of *Æsculapius*, and his Daughter *Hygeia*, or *Health* ; those of *Mars*, *Minerva*, *Ceres*, *Mercury*, and that of *Victory*, which was in the Fronton of the Portico, and which was Thunder-struck in the Consulship of *Marcus Marcellus*, and *Marcus Valerius*. By what may be collected from the Inscription which still remains on the Frize, this Temple was destroy'd by Fire, and afterwards re-edified by the Direction of the Senate and People of *Rome* ; from whence I am inclinable to believe, that it is not so beautiful and compleat as the first. The Words are these,

S. P. Q. R.  
INCENDIO CONSUMPTUM  
RESTITUIT.

That is, “ The Senate and People of *Rome* rebuilt this “ Temple consum'd by Fire.” The Intercolumnations are somewhat less than two Diameters. The Bases of the Columns are compounded of *Attick* and *Ionick*. They are different in some Measure from such as are generally made, but very curiously finish'd. The Capitals may be said

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\* Plate XCV.

likewise to be compounded of *Dorick* and *Ionick*, and are perfectly well wrought. The Architrave and Frize in the Front on the outside are even with each other, and there is no Distinction between them, that an Inscription might be put there: But on the inside, that is, under the Portico they are divided, and have, as may be seen in their Draughts, their several Intaglias. The Cornice is plain, that is, without Intaglias. No Vestiges of the old Walls of the Nave are visible, but the present Walls have been made since, and not extremely well: But we know, however, how they ought to have been erected.

A. *The Steps which lead to the Temple.*

B. *The Portico.*

C. *The Body of the Temple.*

\* *The Elevation of the Front of the Temple.*

† *The several Members at large.*

A. *The Basement going round the Temple.*

B. *The Base of the Columns.*

C. *The Front*

D. *Half the Plan* } *of the Capital.*

E. *The Profil without the Volutas*

F. *The Architrave, Frize, and Cornice.*

G. *The Architrave and Cornice within the Portico.*

H. *A Three-foot Scale divided into 144 Parts.*

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\* Plate XCVI.

† Plate XCVII.

## C H A P. XXXI.

*Concerning the Temple of Neptune.*

OVER against the Temple of *Mars the Avenger*, the Draughts whereof we have given you above, in the Place call'd *in Pantano*, behind *Marforio*, stood formerly the following \* Temple, the Foundations whereof were discover'd as some Workmen were digging in order to build a House; and there was a great store of Marble Stones found likewise, all admirably well wrought. By whom it was built, or to what God consecrated, we cannot determine; but since there are Dolphins carv'd in the Fragments of the Cymatium of its Cornice; and since in some Places between the Dolphins there are Tridents, I presume it was consecrated to *Neptune*. Its Prospect was *Peripteros*, or wing'd-round: Its Manner *Pycnostylos*, or thick set with Columns. The Intercolumnations thereof were the eleventh Part of the Diameter of the Columns, wanting a Diameter and a Half; which I think worthy of Observation, since I never saw in any other antient Fabrick such small Intercolumnations. Tho' no Part of this Temple is now standing, yet from the Ruins of it, which are many, it was possible to come at the Knowledge of the whole; that is, the Plan, the Elevation, and the particular Members, which are all artfully wrought.

† *The Elevation of Half the Front, without the Portico.*

A. *The Door of the Temple.*

B. *The Architrave round the Door.*

C. *The Frize.*

D. *The Cornice.*

E. *A Six-foot Scale divided into 288 Parts.*

\* Plate XCVIII.

† Plate XCIX.

\* *The*

\* *The Elevation of Half the Front under the Portico, that is, the first Columns being remov'd.*

F. *The Profil of the Pilasters round the Nave of the Temple, over-against the Columns of the Porticos.*

G. *The Coriola of the Wall of the Nave on the outside, whereon begins the Division of the rustick Masonry of the Wall.*

H. *The Profil of the rustick Masonry of the Wall.*

I. *A Six-foot Scale divided into 288 Parts.*

† *The particular Members at large.*

A. *The Base.*

B. *The Capital.*

C. *The Architrave, Frize, and Cornice.*

‡ *The Compartments, and the Intaglias of the Soffitas of the Porticos round the Nave.*

E. *The Profil of the Soffitas.*

F. *A Three-foot Scale divided into 144 Parts.*

G. *The Soffita of the Architrave between one Capital and another.*

\* Plate C.

† Plate CI.

‡ Plate CII.

REMARKS.

R E M A R K S.

*H*ERE are the two Prints \* I mentioned at the End of the second Book, which were probably mislay'd during the Hurry of so laborious an Edition made by Palladio of his Works. Perhaps, as Mr. de Cambray thinks, they were not drawn till afterwards, intending them for a second Edition, which, in all probability, he would have embellished with many more of the like Nature; as may be collected from what he said above in the 25th Chapter, wherein he promises in a short time to publish his Draughts of the Amphitheatres; besides what he had already promised in the 19th Chapter of the first Book with respect to the Triumphal Arches: But as that Part of his Works has not appeared in Publick, we may reasonably conclude that he did not live long enough to accomplish his Design. This Temple is of the Dorick Order, and tho', to all outward Appearance, very plain and simple, it was notwithstanding plac'd by Ant. Labaco among the antient Fabricks. Palladio mentions it likewise in the 15th Chapter of his first Book, where he distinguishes it by the Name of the Temple of Piety. It seems likewise that Vitruvius has had the same in View in the third Chapter of his fourth Book, where he speaks of the Inconveniencies which attend the angular Trygliphes, found in the Entablature of this Temple. It is an authentick Precedent, however, for the Opinion of such as maintain it to be an Error to add a Base to the Dorick Columns, since the Antients never did; and to be a peculiar Propriety of that Order. The Antiquity of this Structure, and the Occasion of its being built, still render it more valuable. It is the receiv'd Opinion, that it stands on the very Spot of Ground where that memorable Deed of the young Woman happened, who knowing her Father to be sentenced to be starv'd to Death in that Prison, came every Day privately to give him Suck. The Story is universally known. Pliny and Valer. Maximus relate it, and say, it happen'd under the Consulate of L. Quinctius and M. Acilius, in the Year of Rome 603, and about 148 Years before the Birth of Jesus Christ.

\* Plate CIII. and CIV.





A

# T A B L E

Of the most remarkable Things contain'd in  
this Work.

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N. B. *That I denotes the first and second Books, II the third and fourth Books; the Cyphers denote the Number of the Page quoted.*

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A.

**A**GRIPPA built no more of the *Pantheon*, than the *Portico*, II, Page 227.

*Alessandro Vittoria*, a Carver or Sculptor, I, 81.

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B. Bap-

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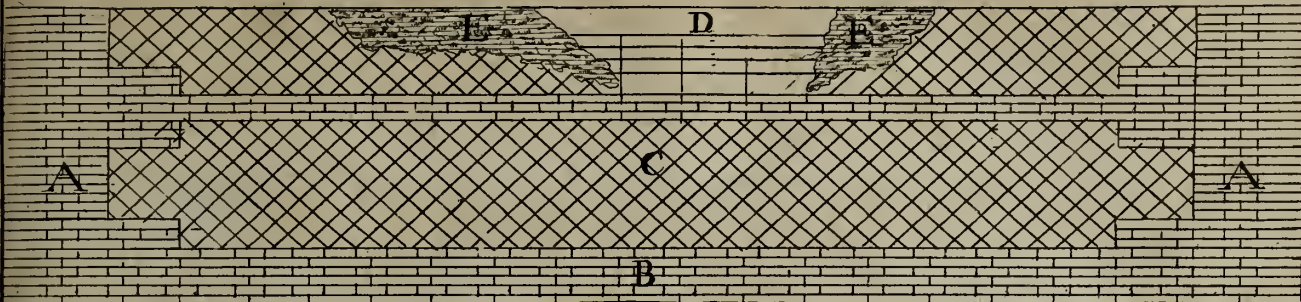
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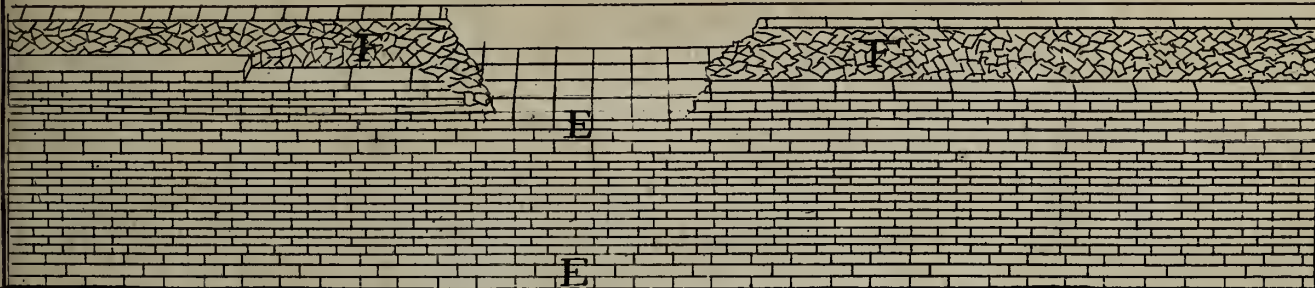


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A. Angles made of Bricks. B. Courses of Bricks that bind y<sup>e</sup> whole Wall. C. The net work. D. Courses of Bricks through y<sup>e</sup> thickness of the Wall. E. Middle of the Wall made of Cement.

II



E. Courses of Bricks that bind the Wall. F. The inner part of y<sup>e</sup> Wall made of Cement, between the several Courses, & the outward Bricks.

III



G. Cement or River Pebbles. H. Courses of Bricks y<sup>t</sup> bind y<sup>e</sup> whole Wall

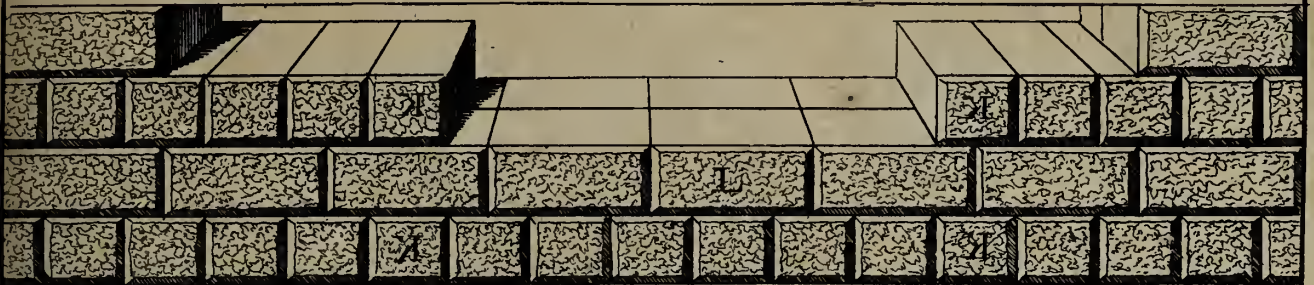
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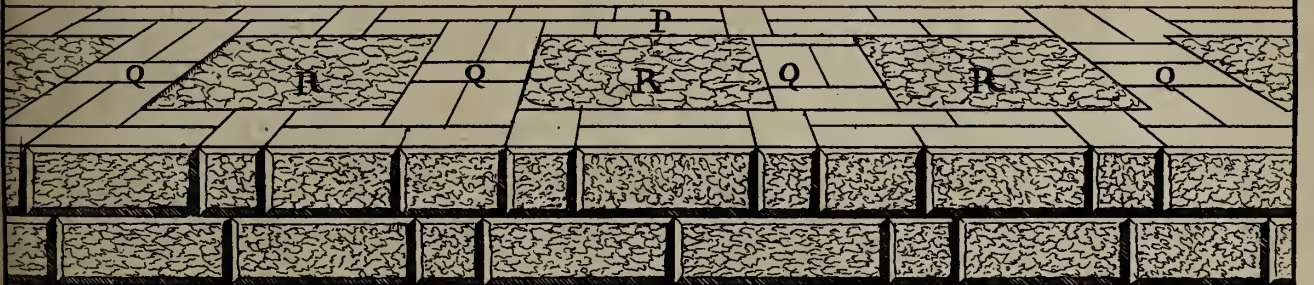
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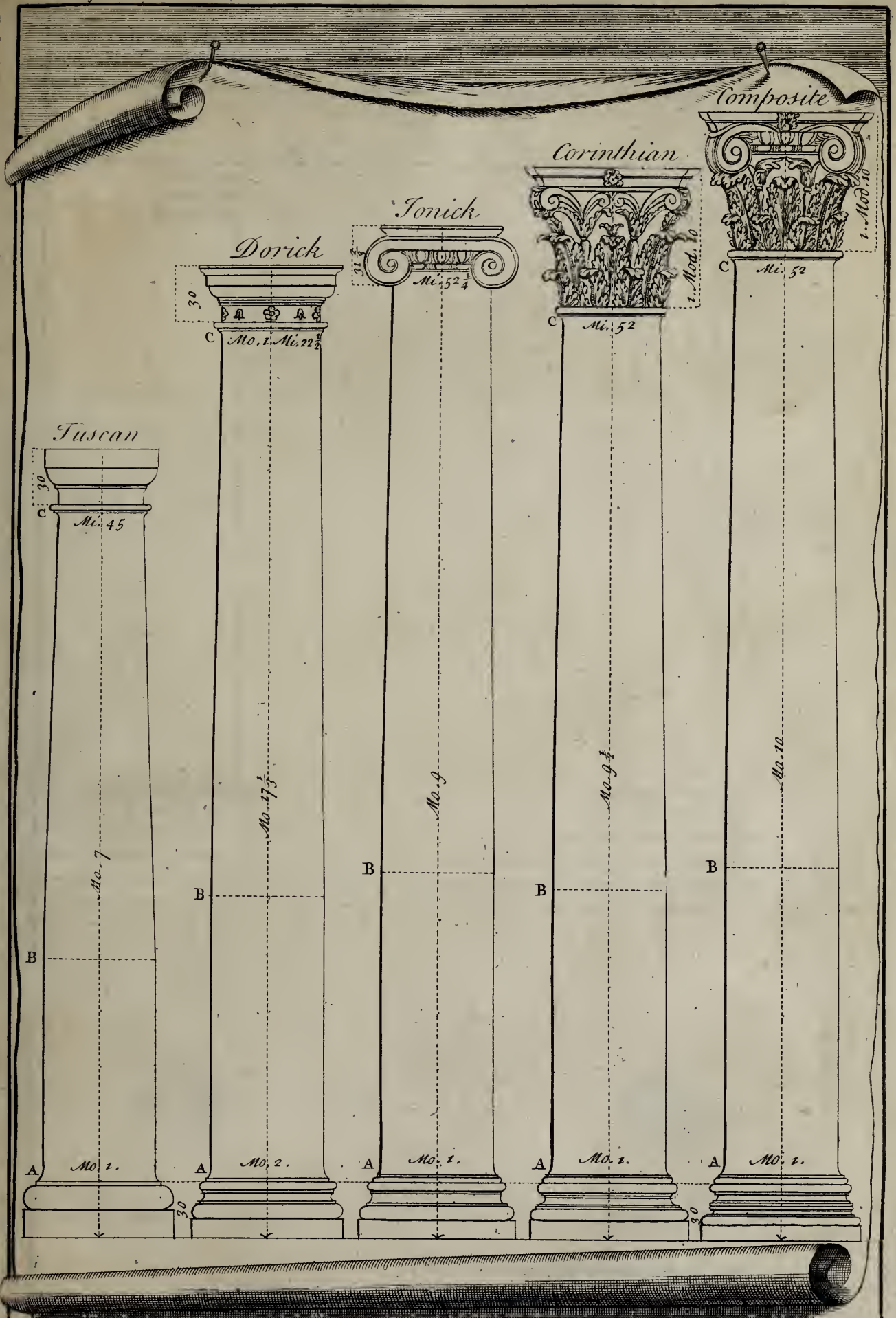
M. Planks laid edgeway. N. Inward part of the Wall. O. Face of the Wall the Planks being taken away.

VII



P. Walls fac'd with Stone. Q. Cross binding Courses of Stone. R. Coffers filled with Stones & Earth.





A.B. The third part of the column which is exactly perpendicular.  
 B.C. The two thirds that diminishes.  
 C. The Point of the Dimenution under the Collarino.

E. Hoppus delin.

B. Cole sculp.



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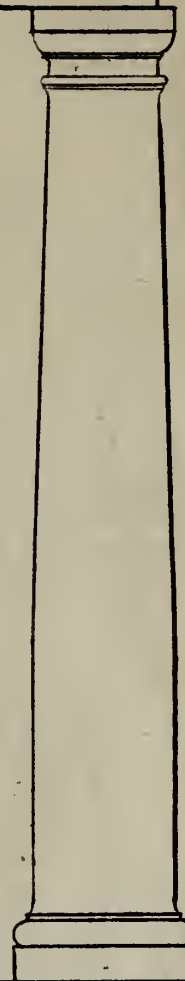
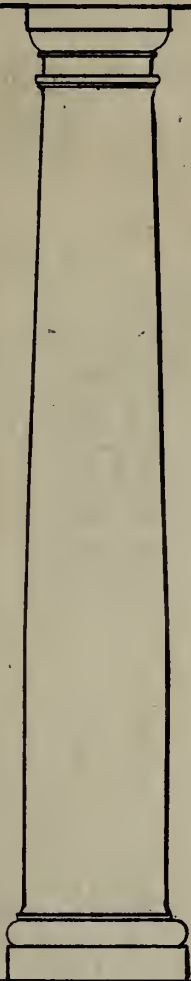
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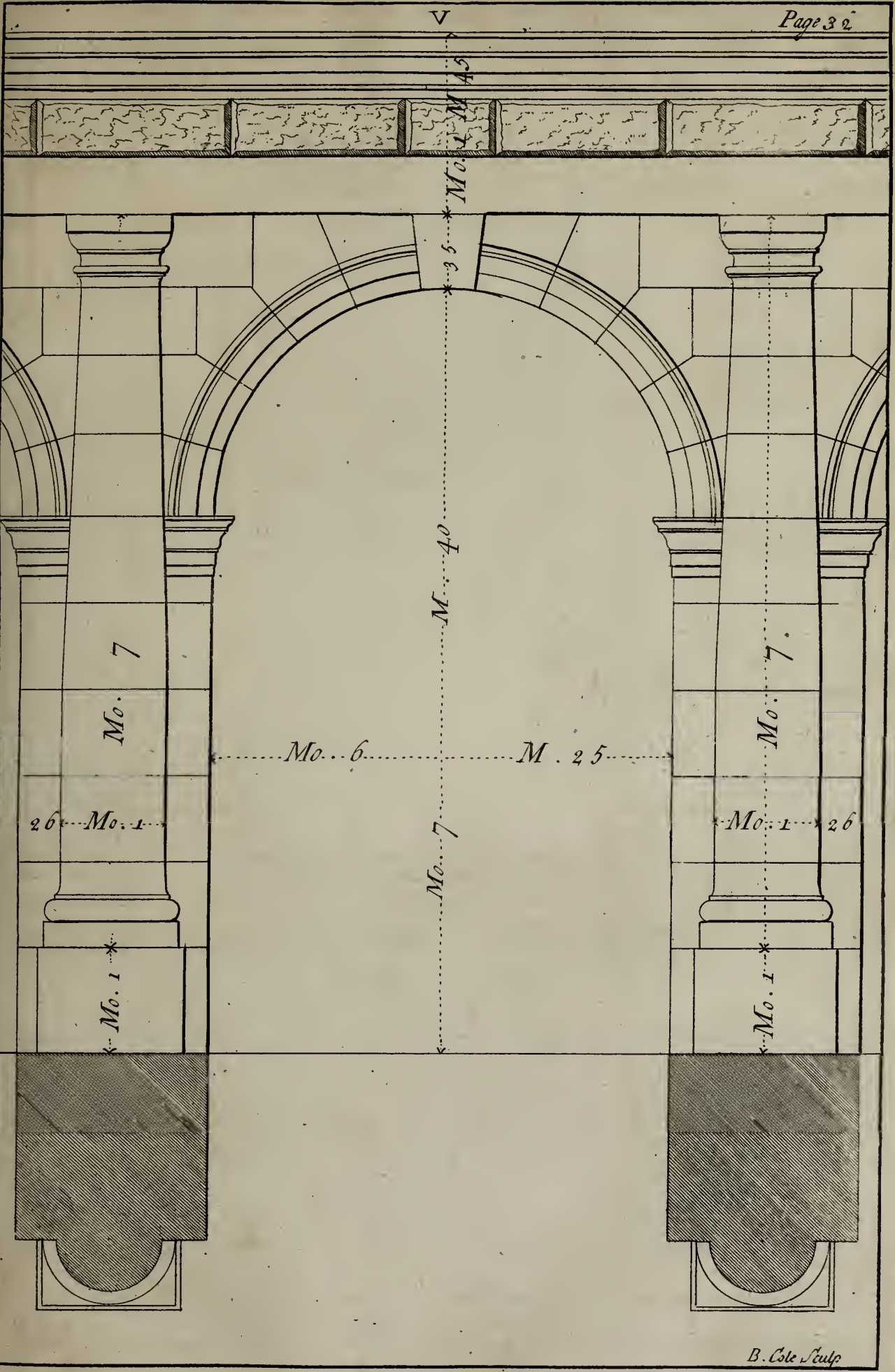


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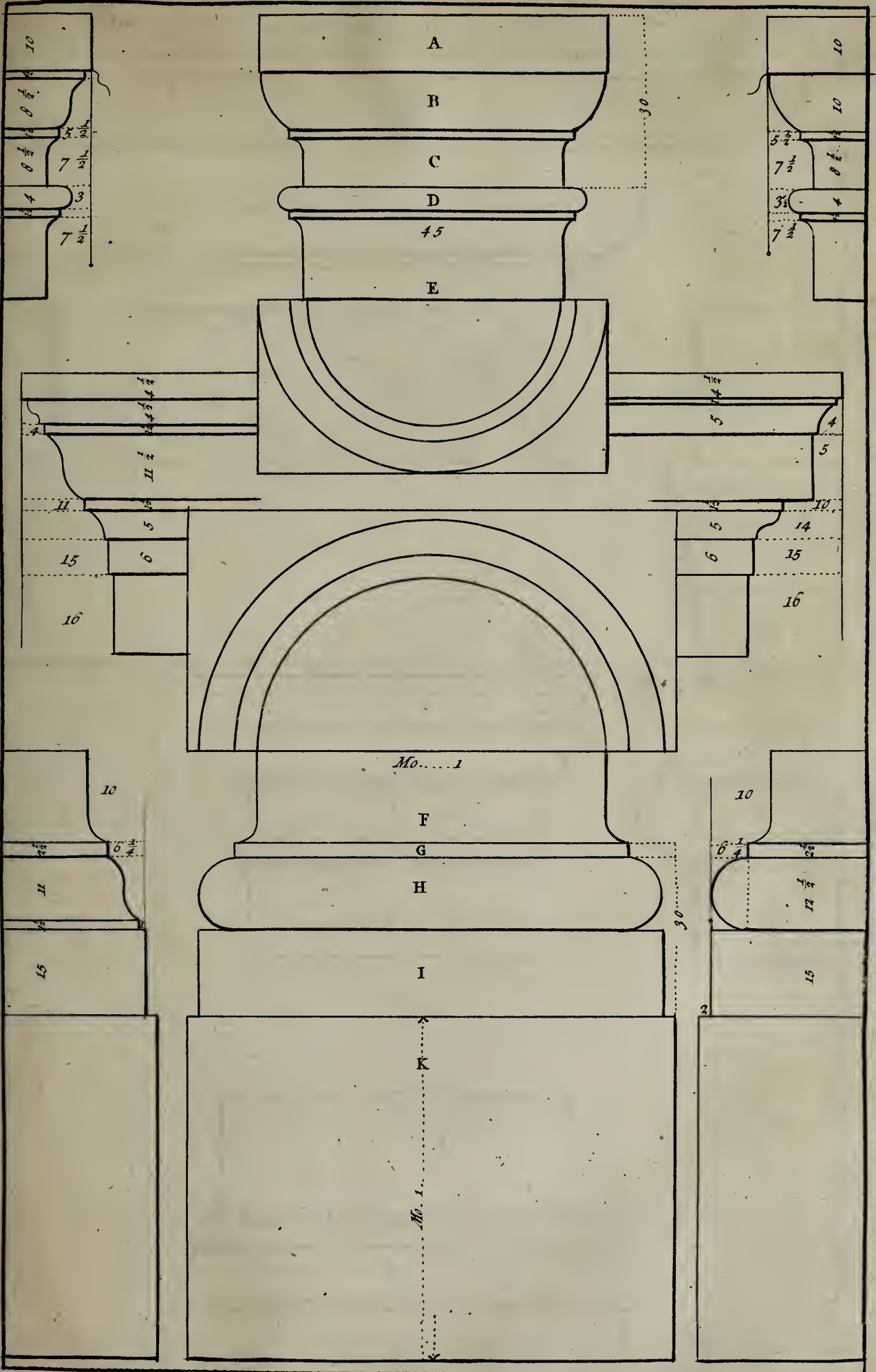


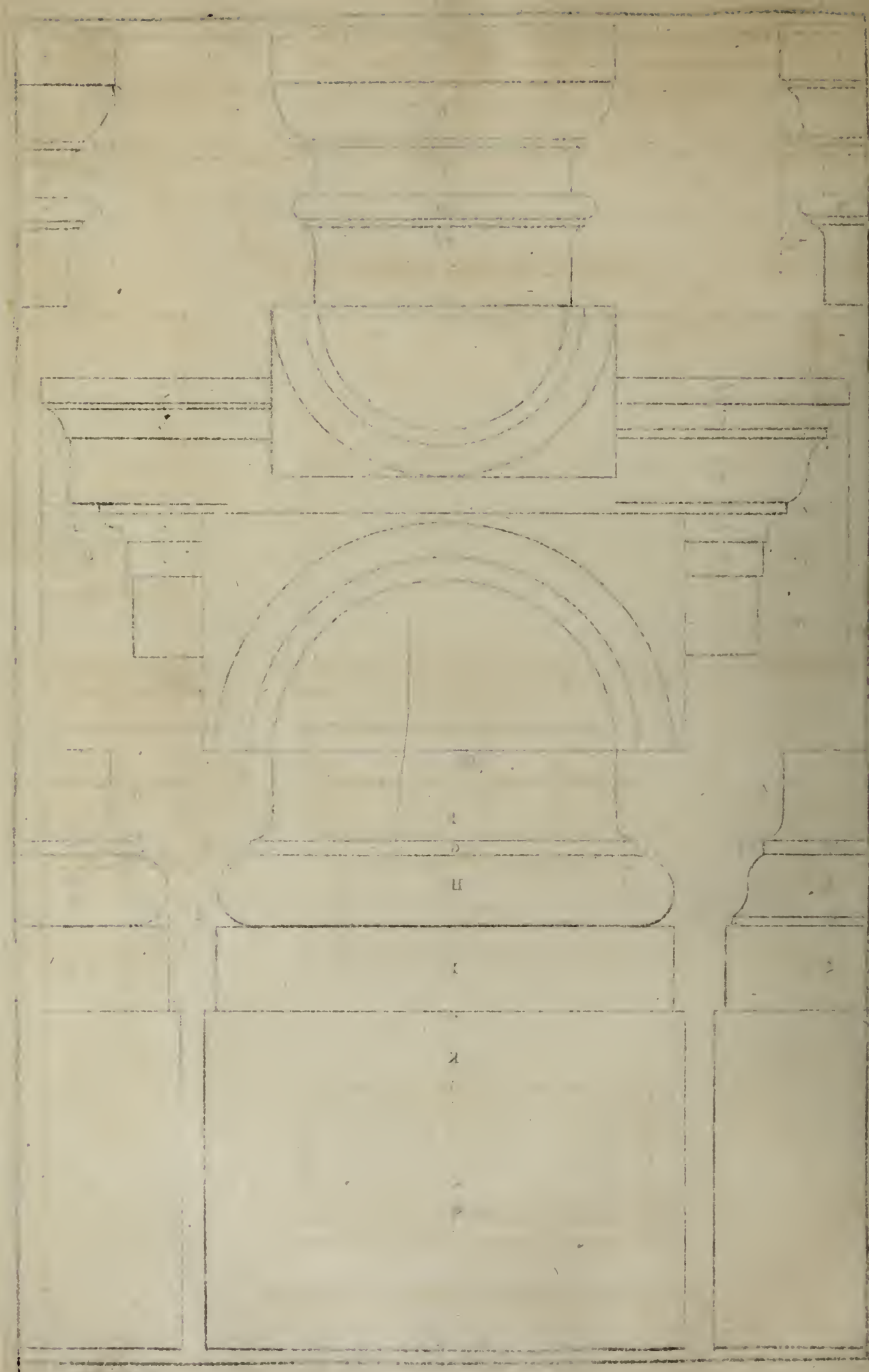


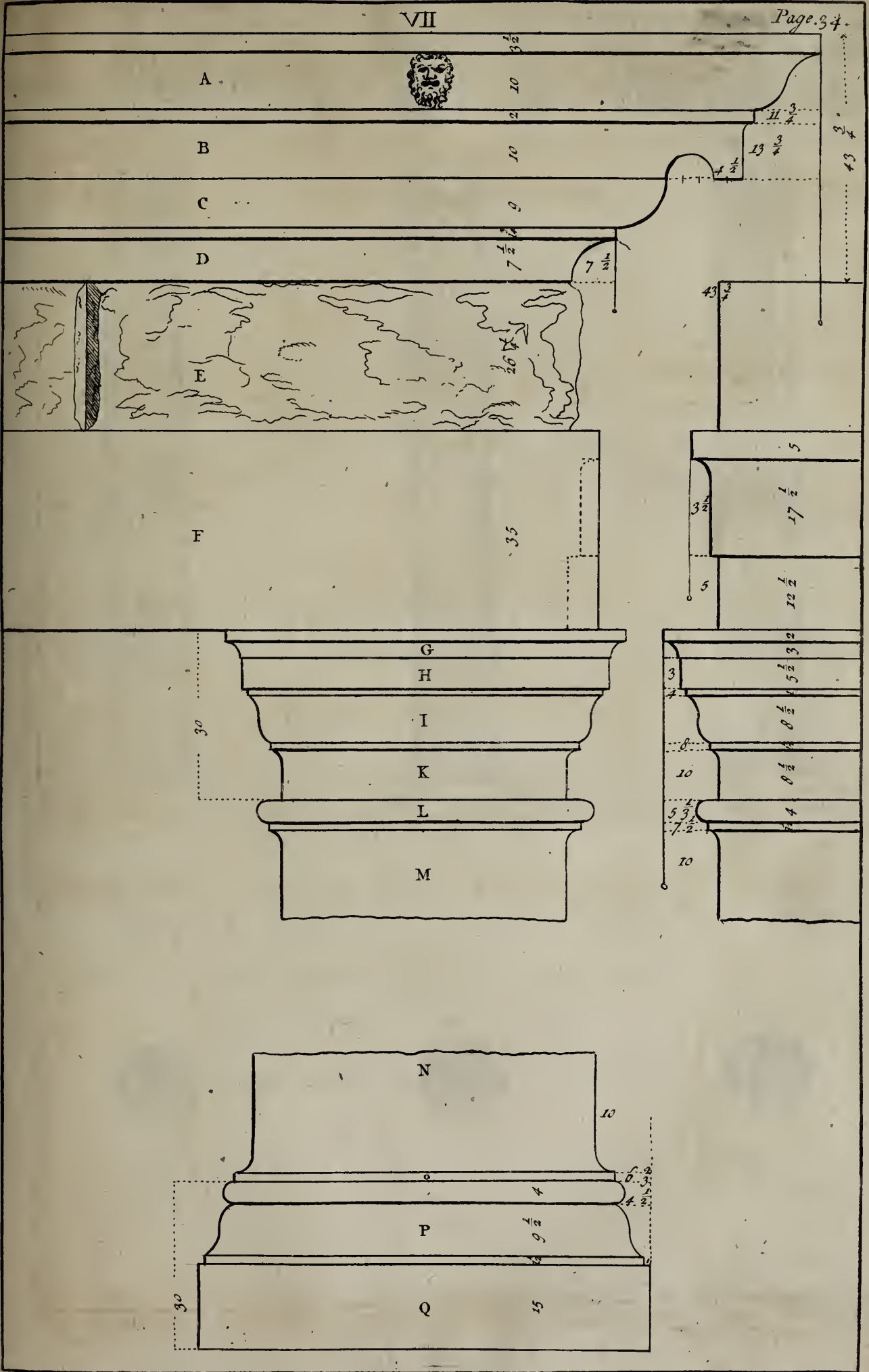


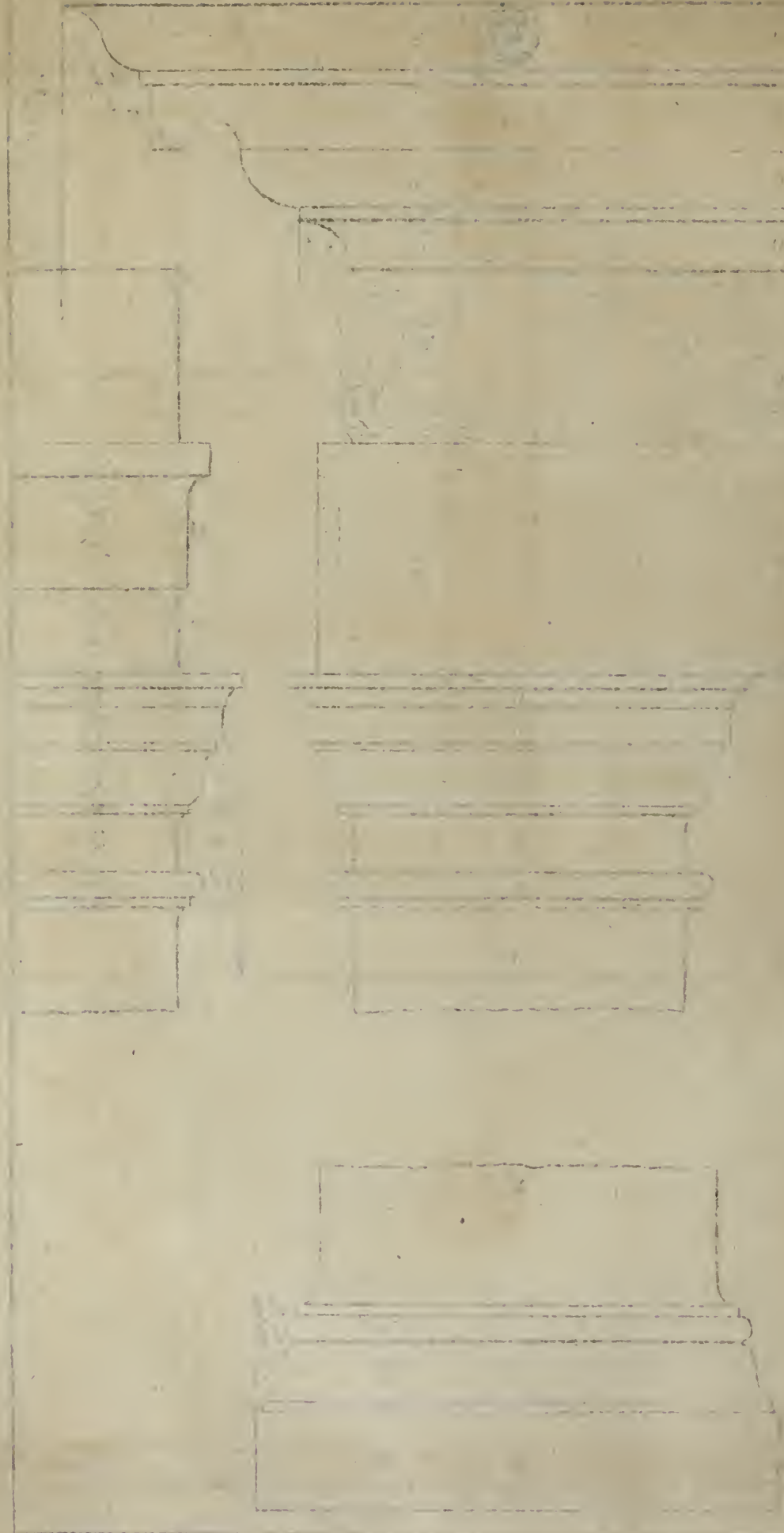


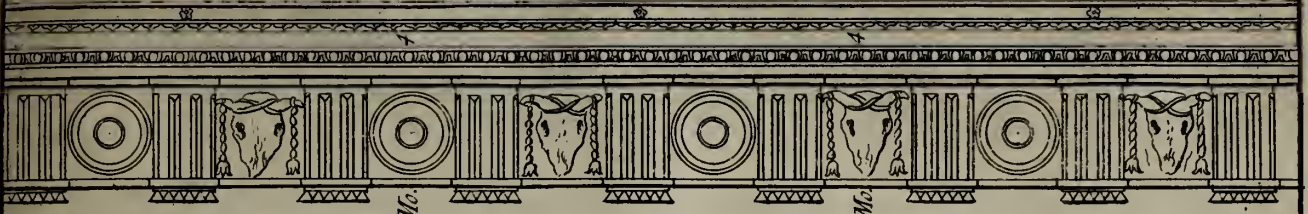






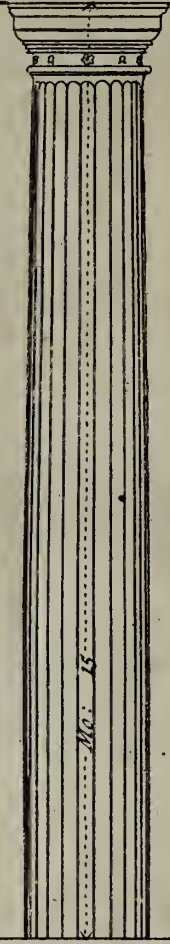
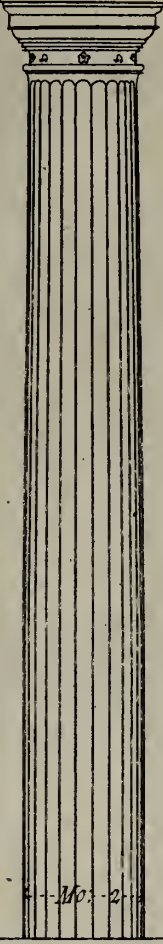






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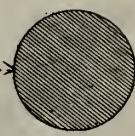


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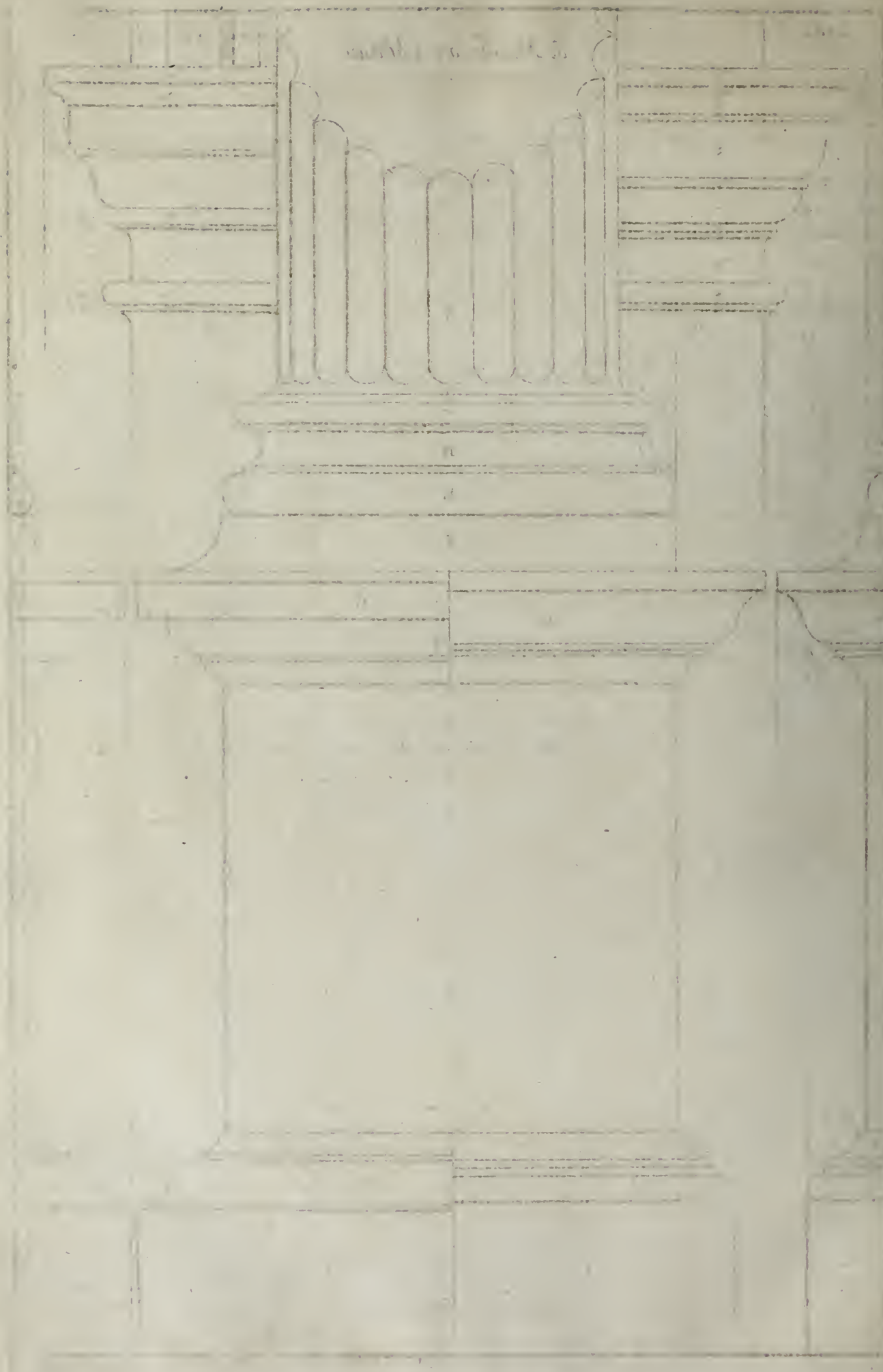
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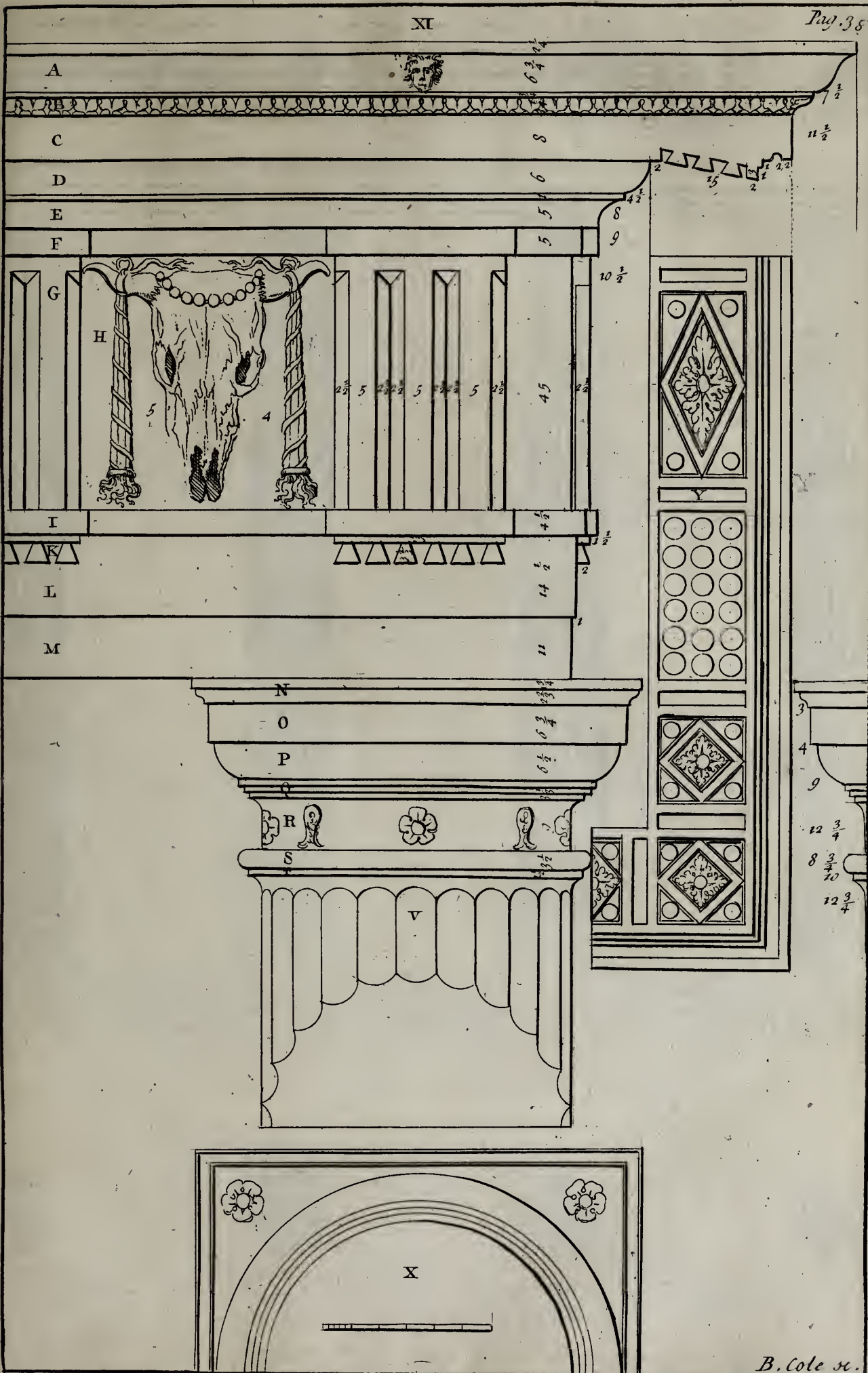


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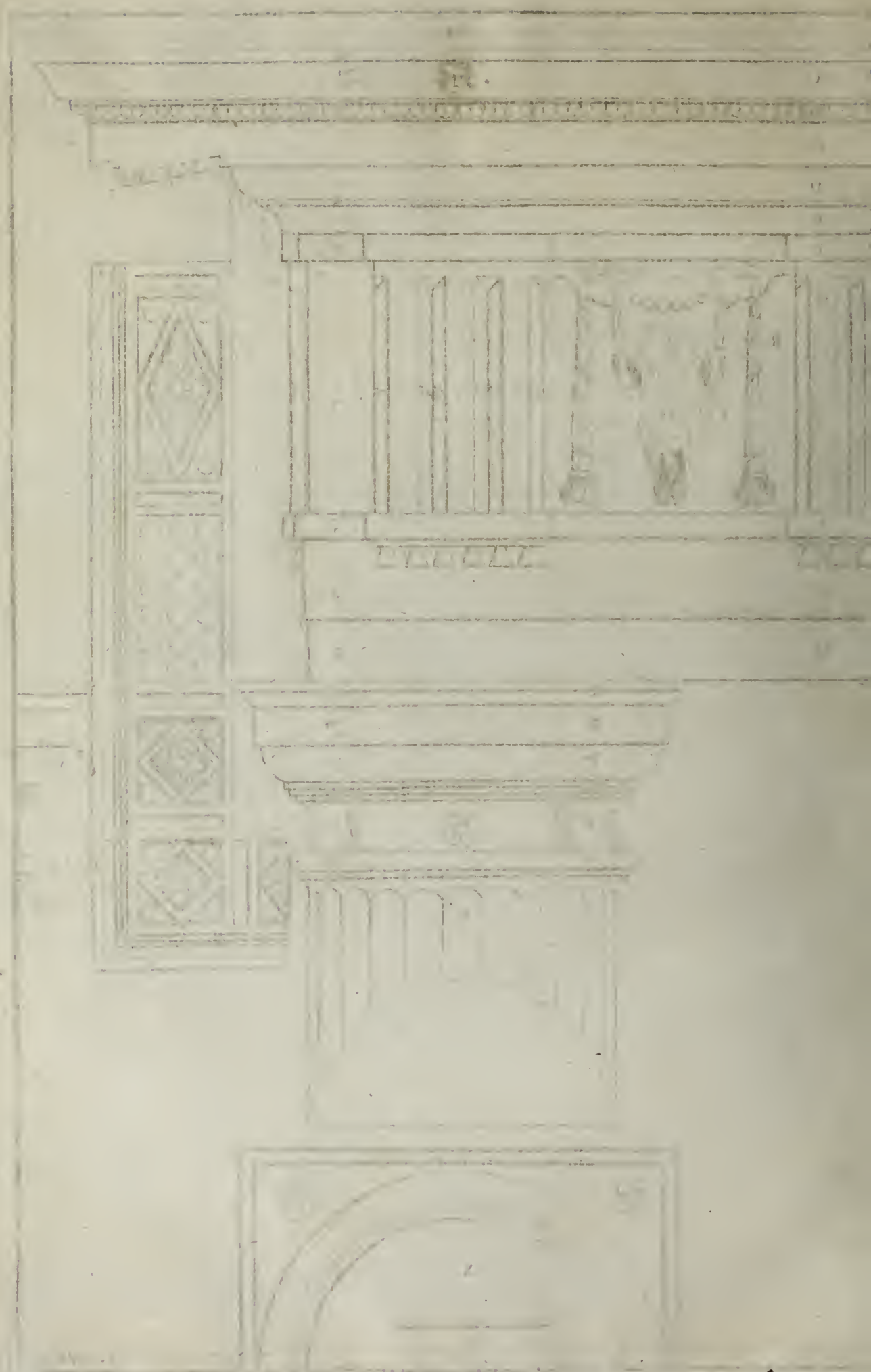


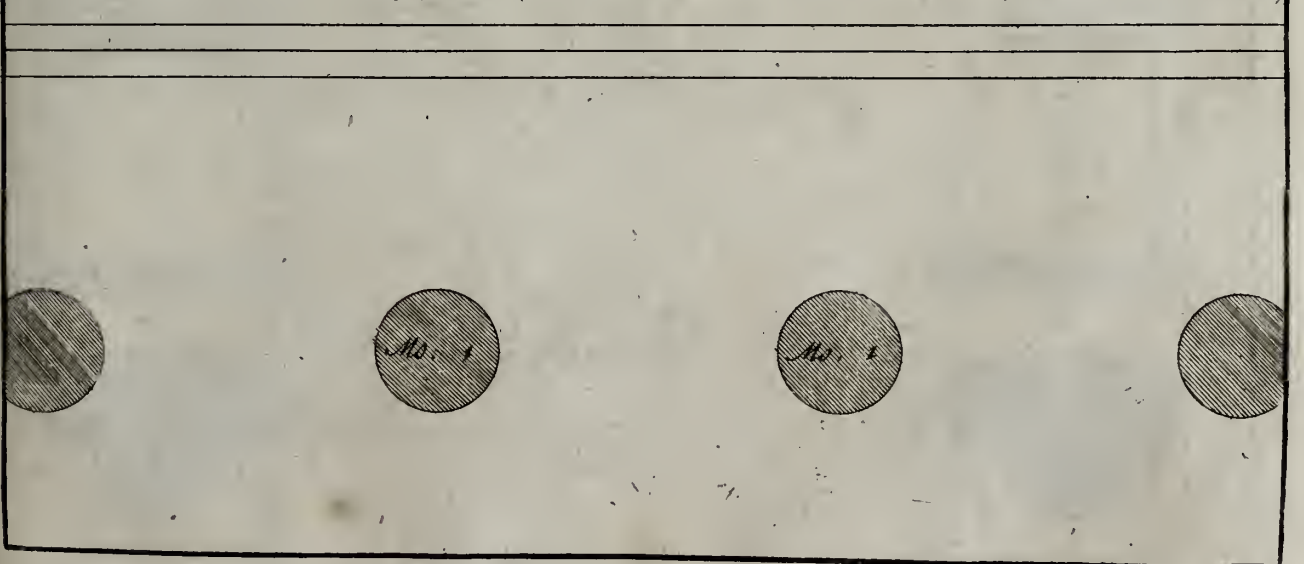
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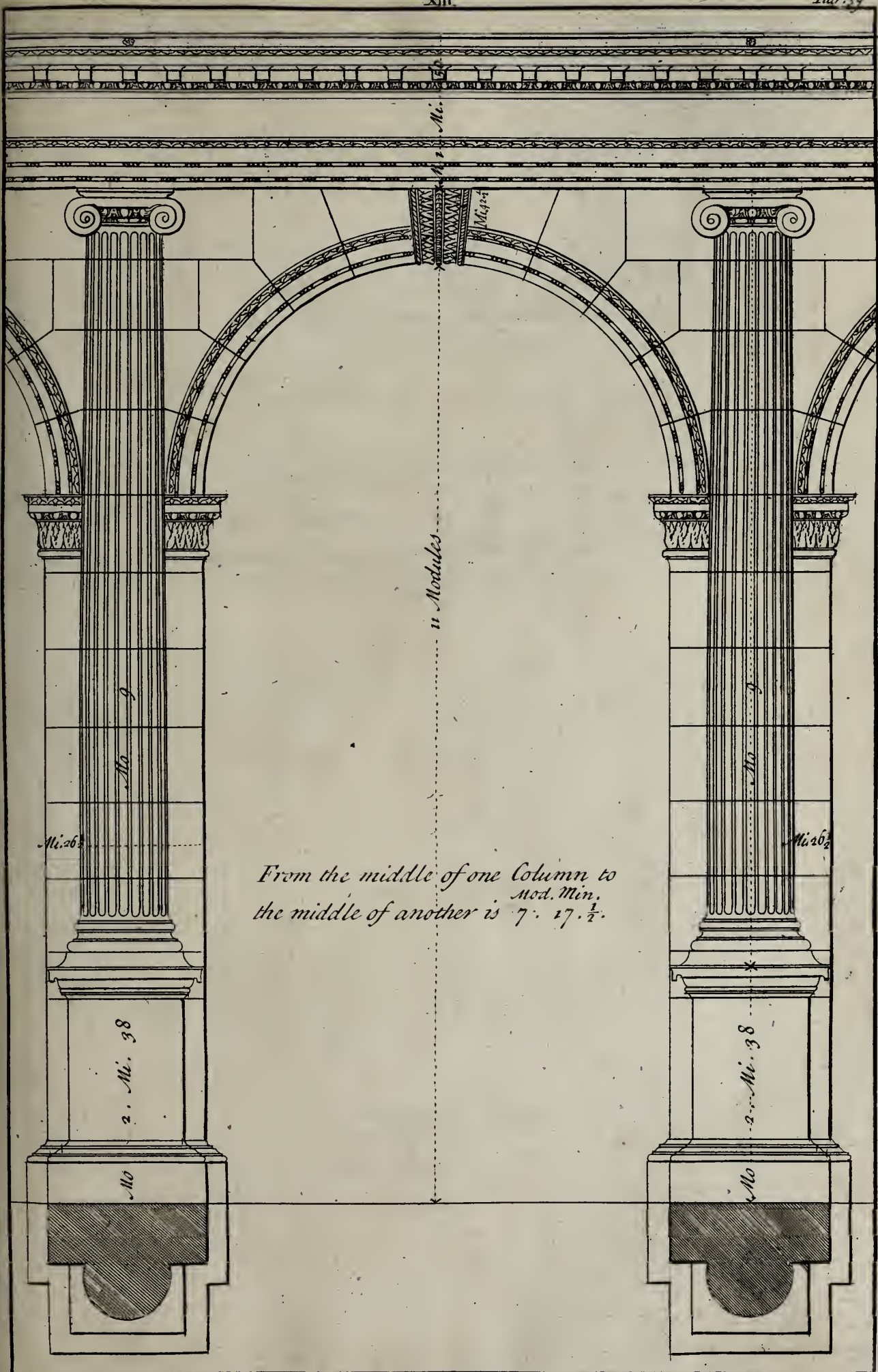
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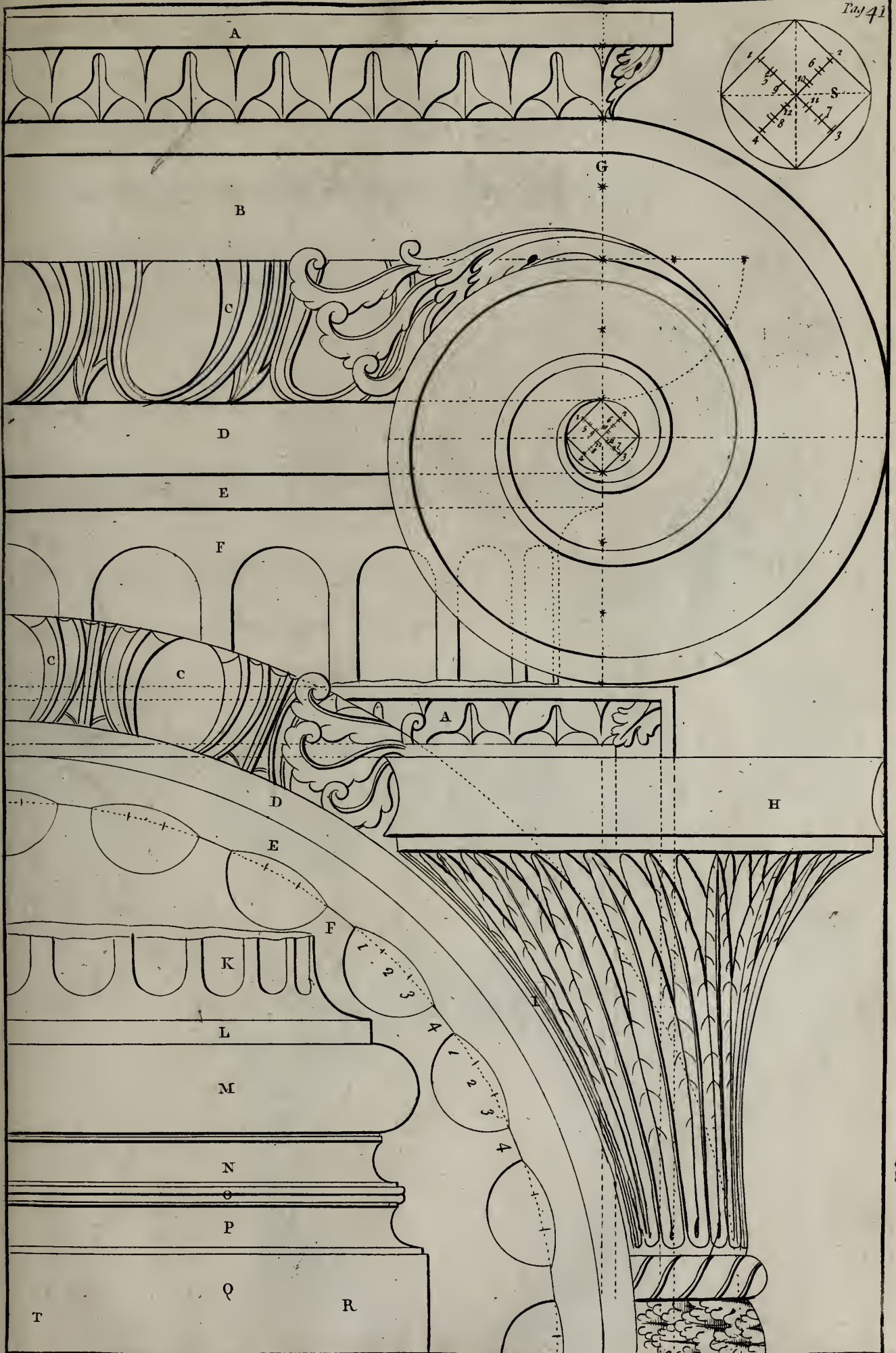


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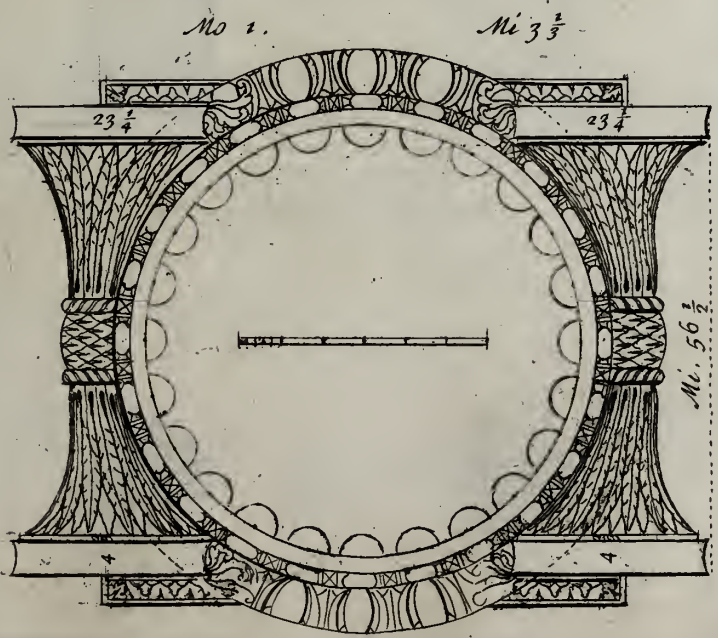
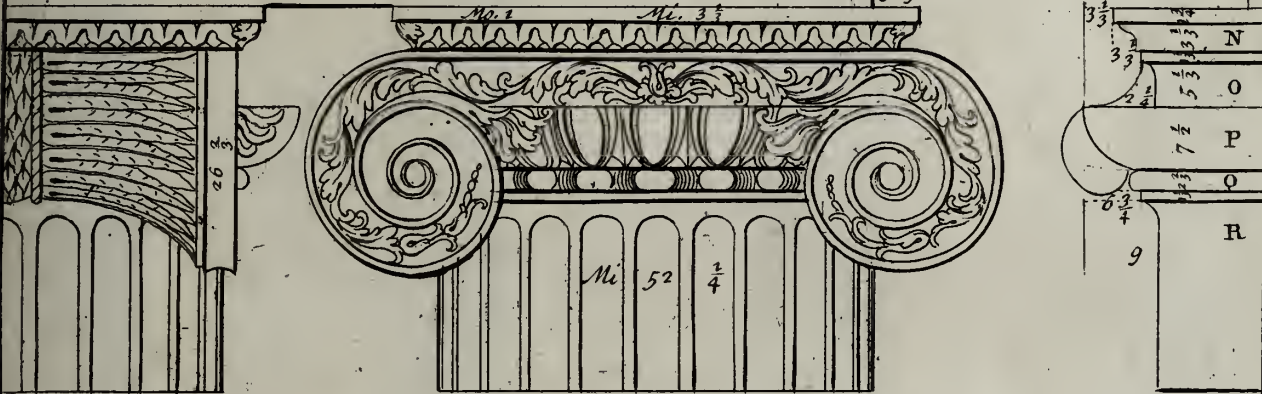
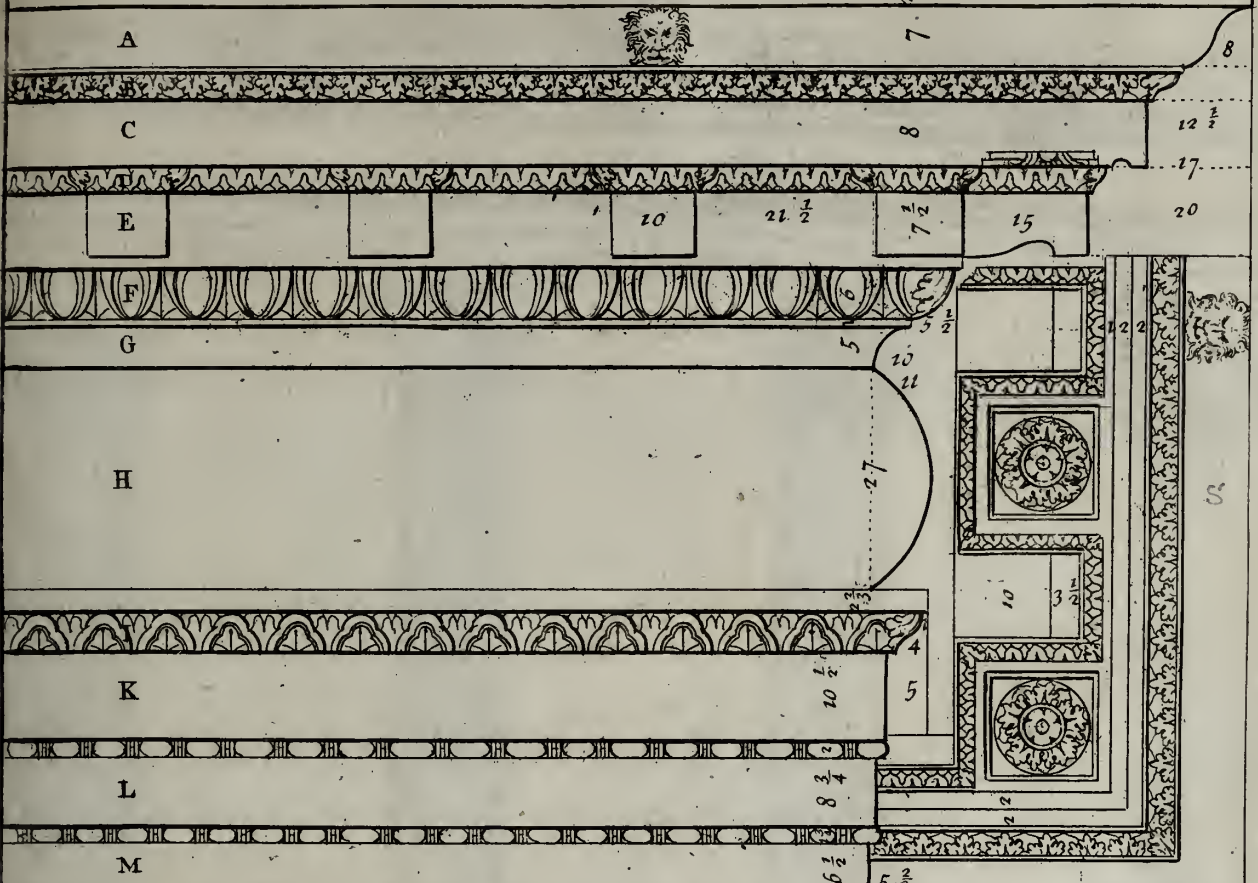


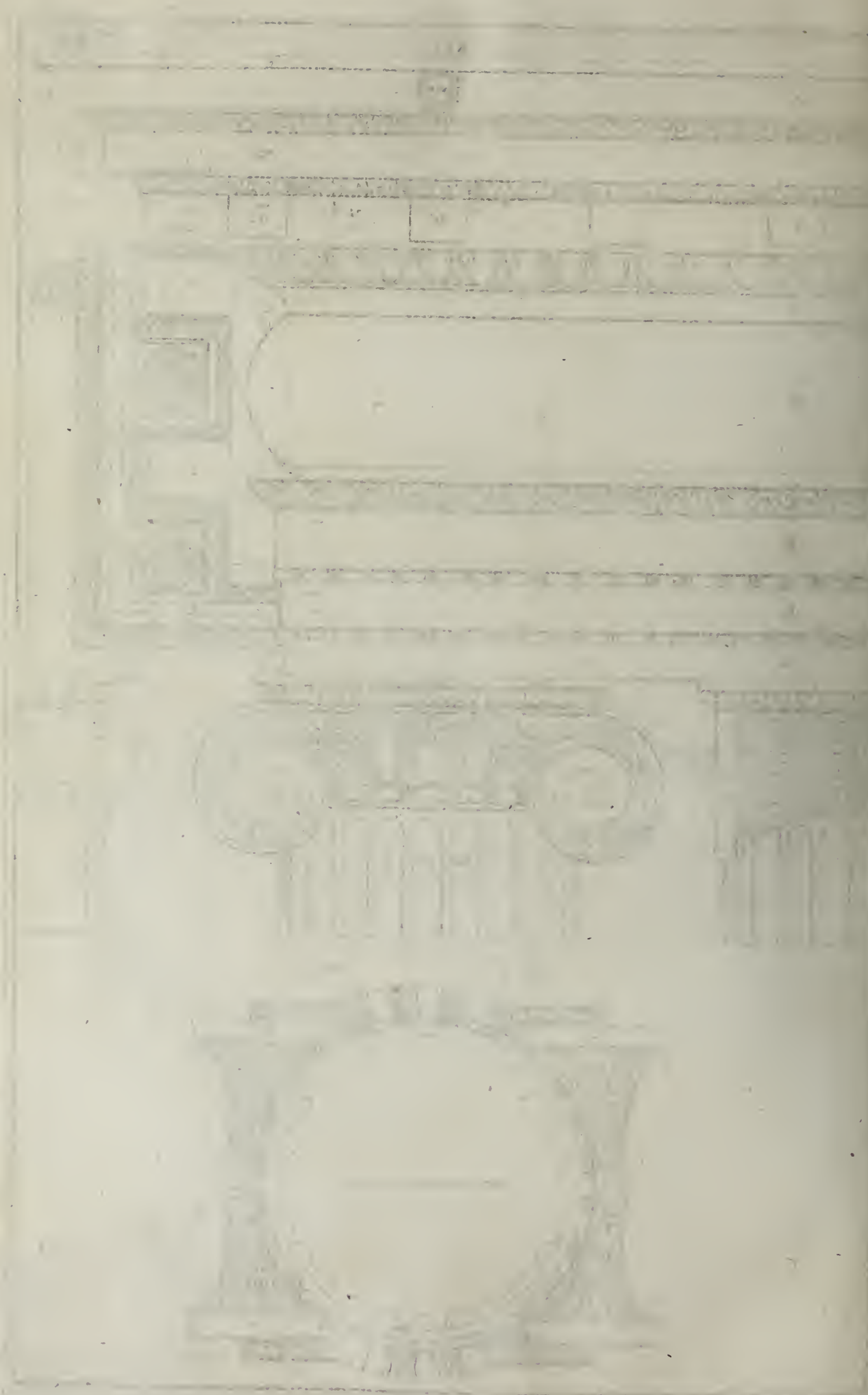




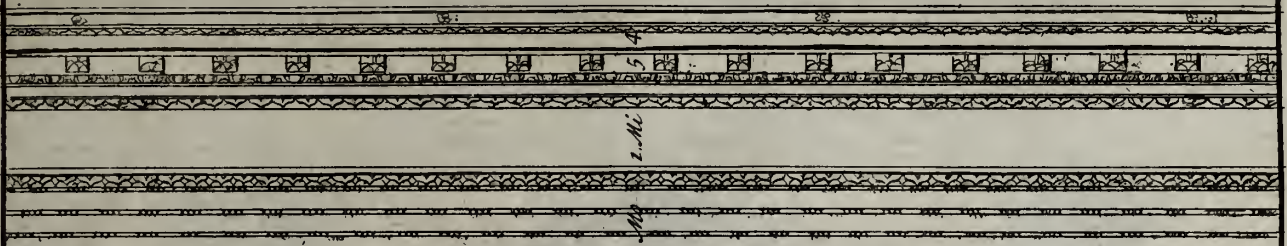




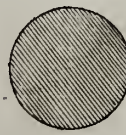








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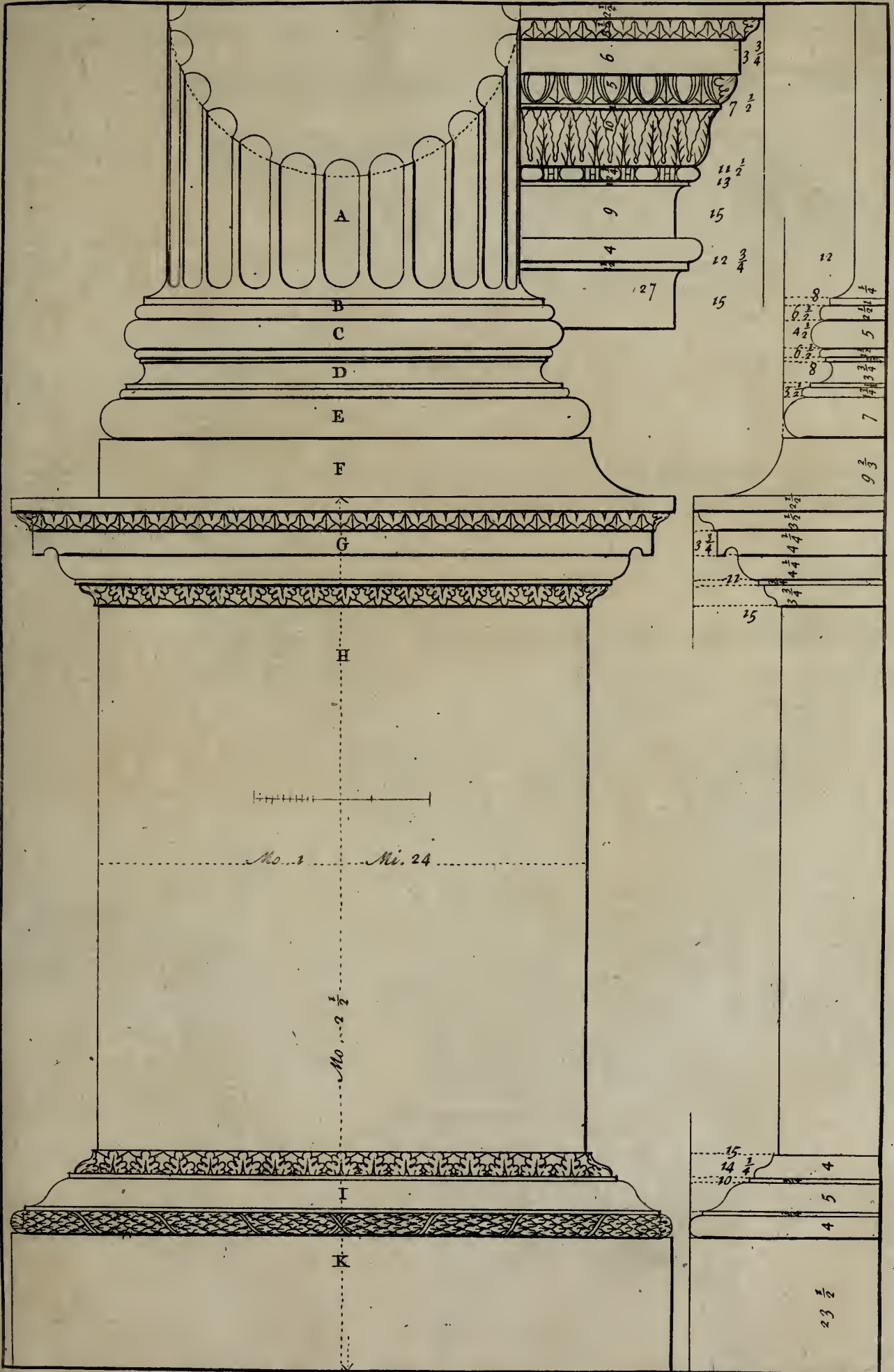


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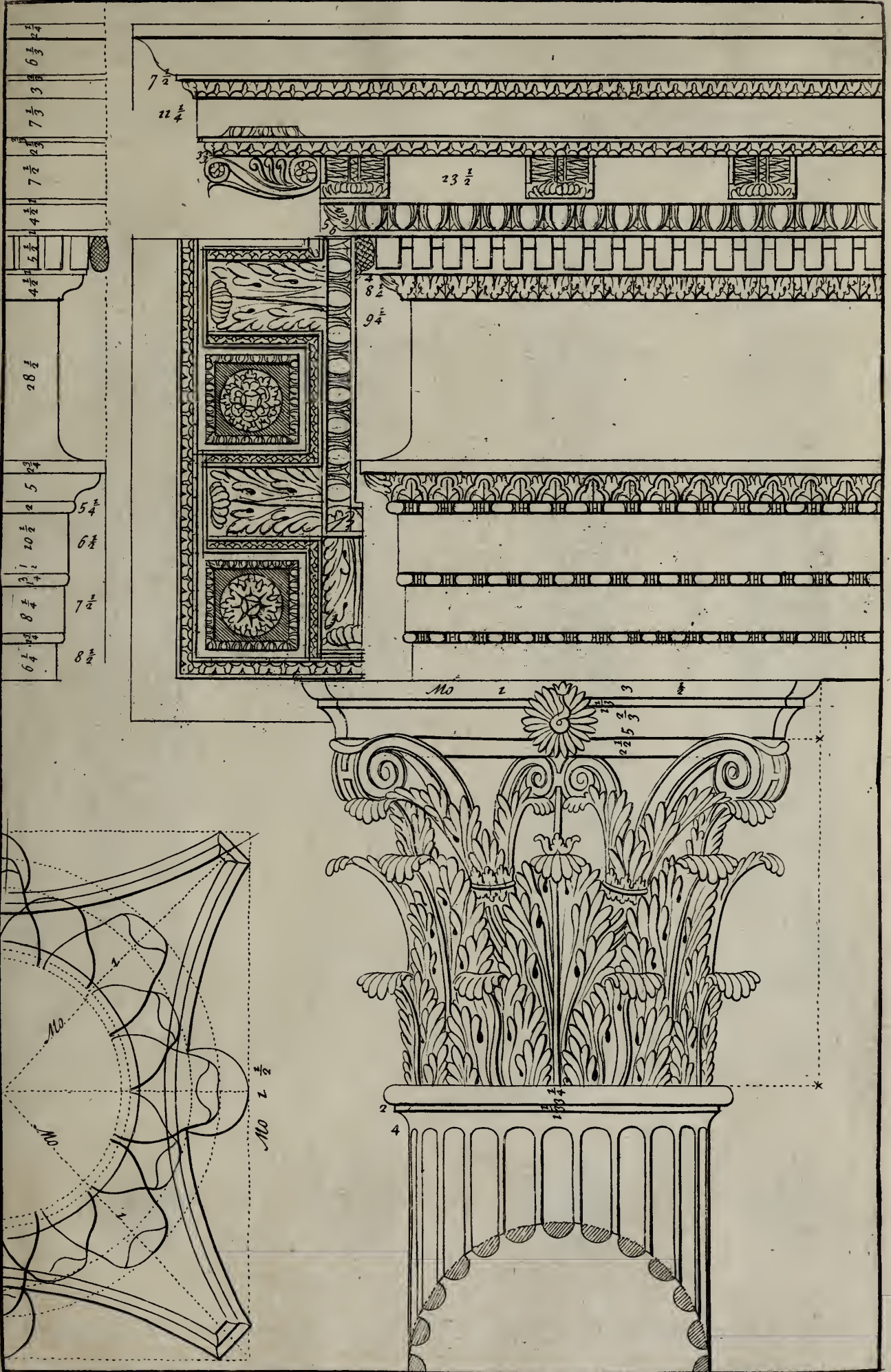
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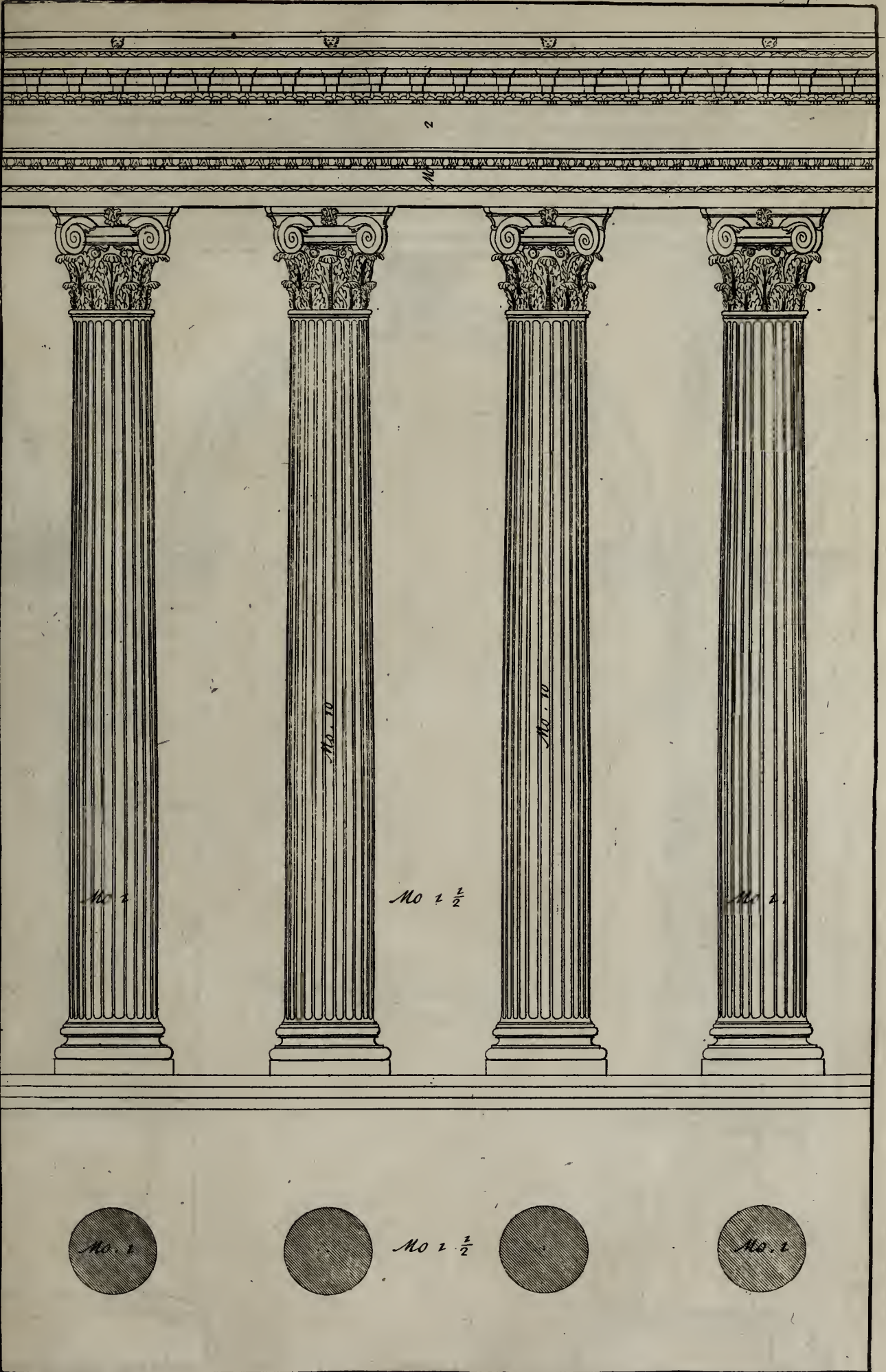
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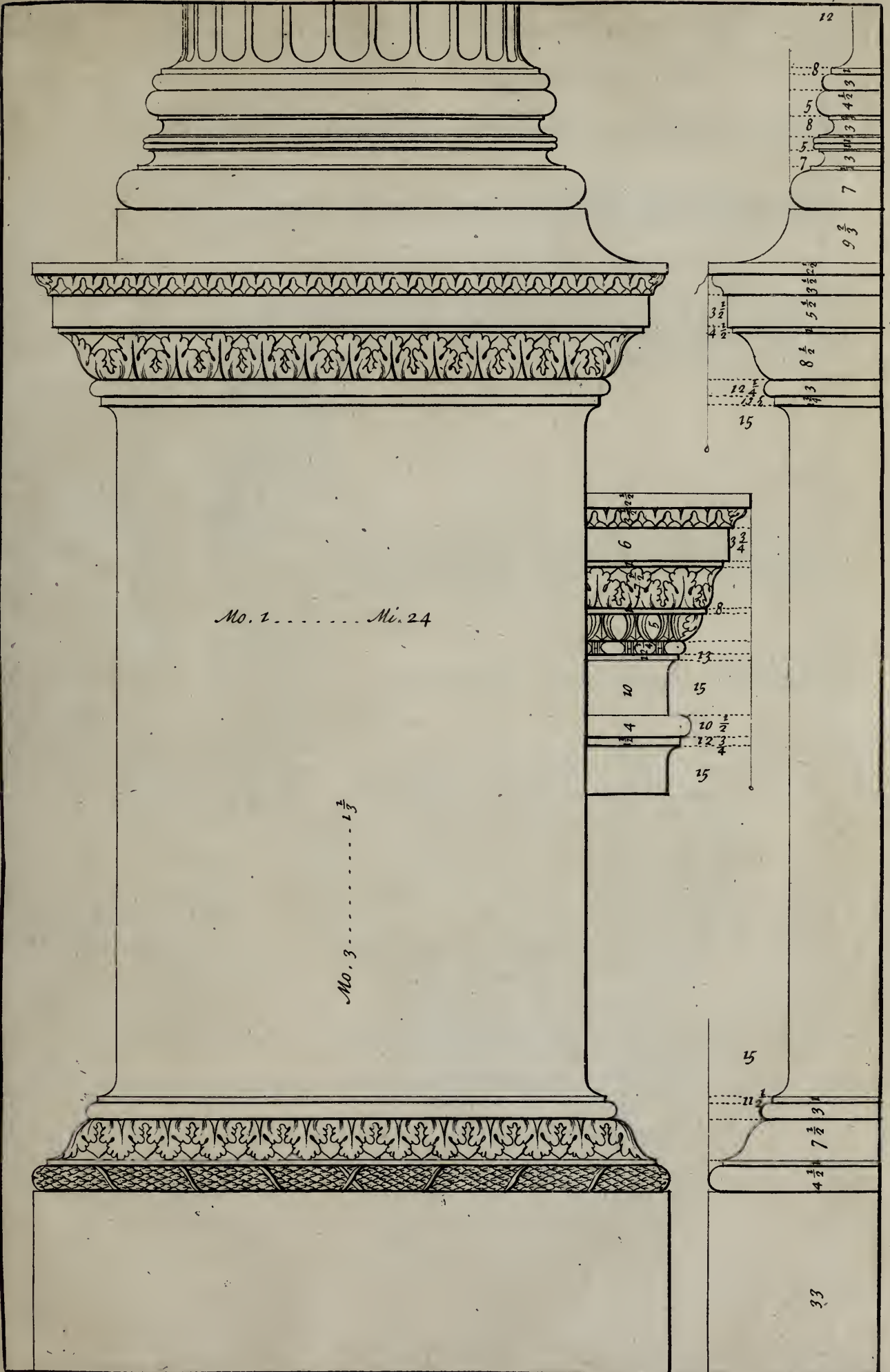
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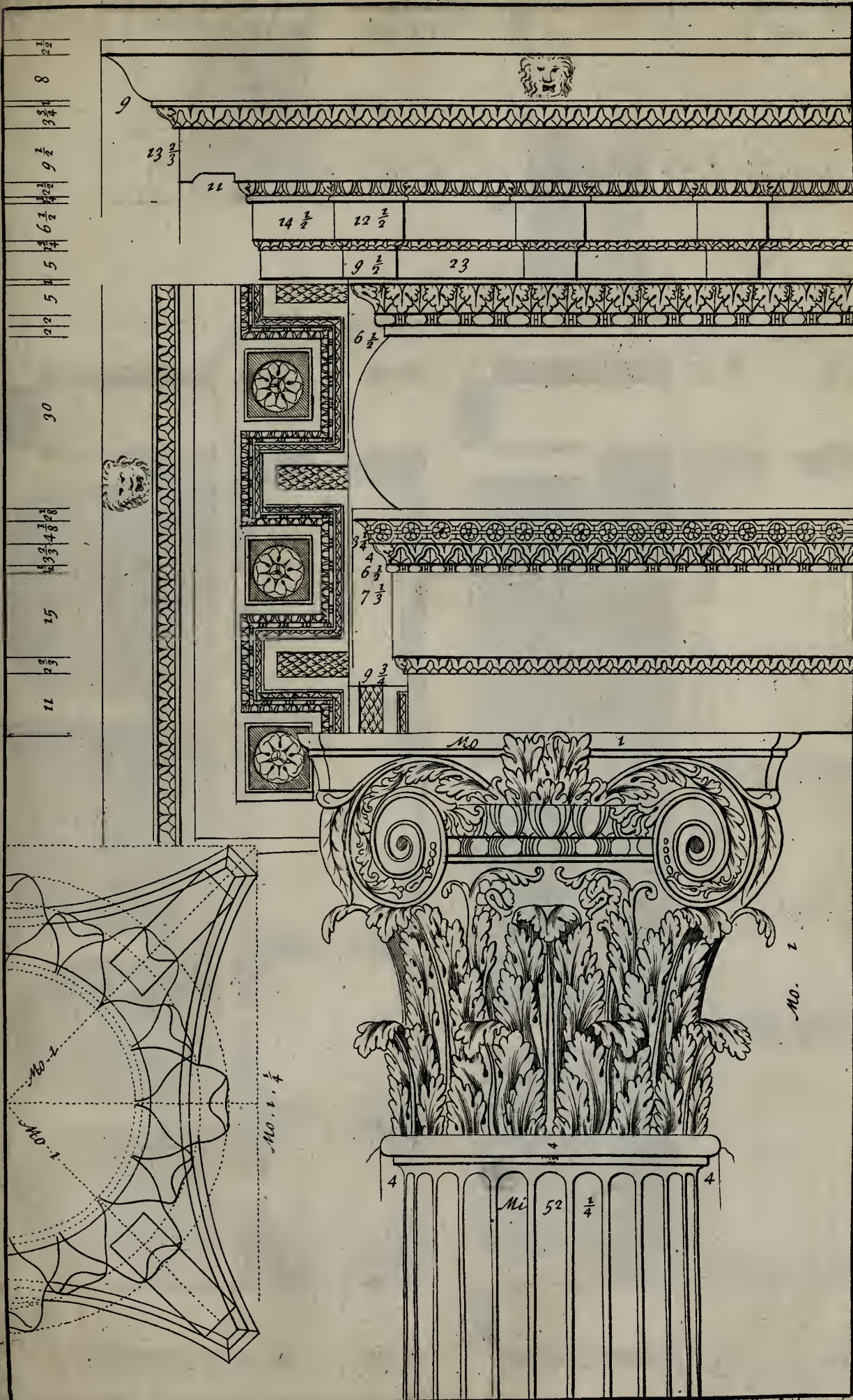
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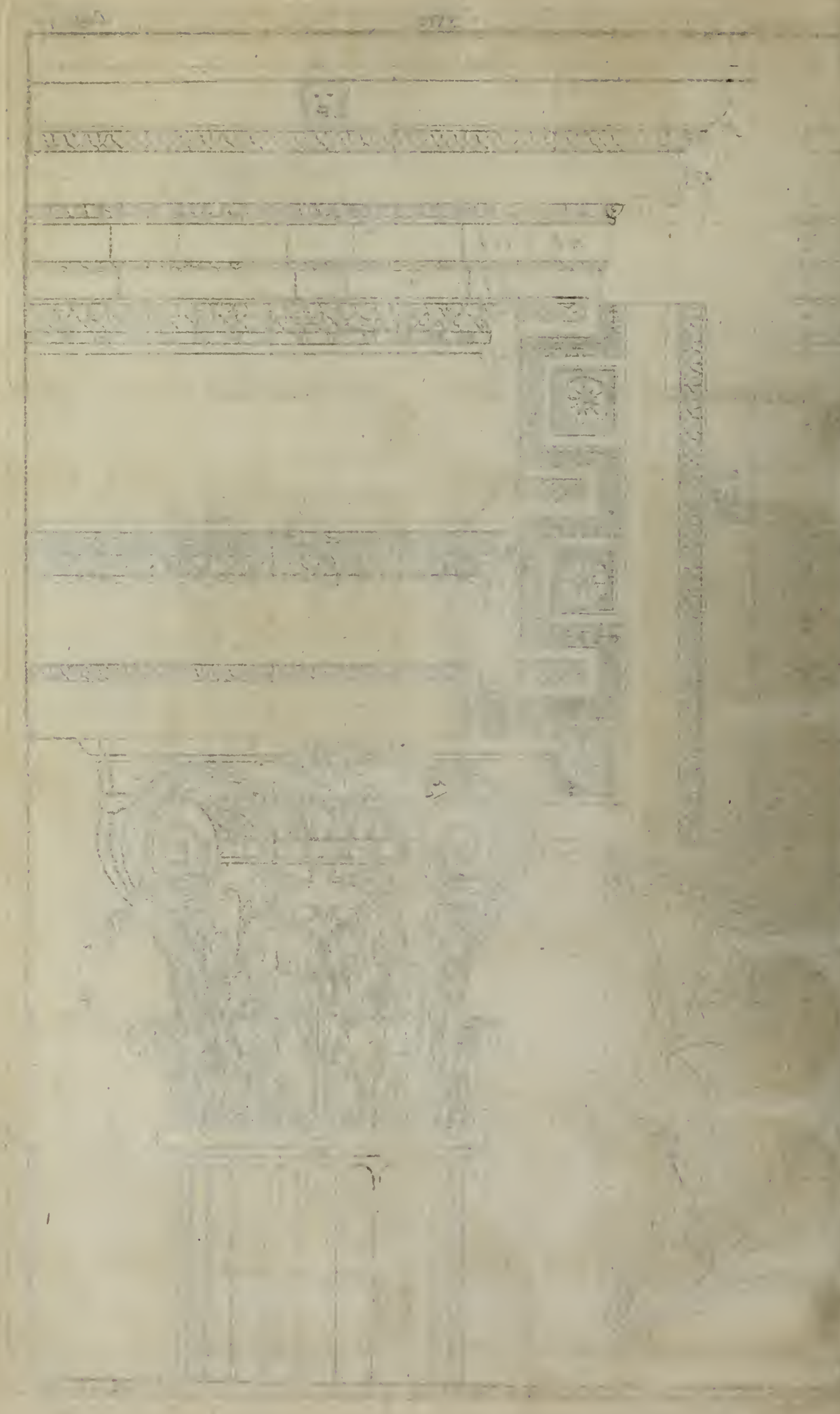




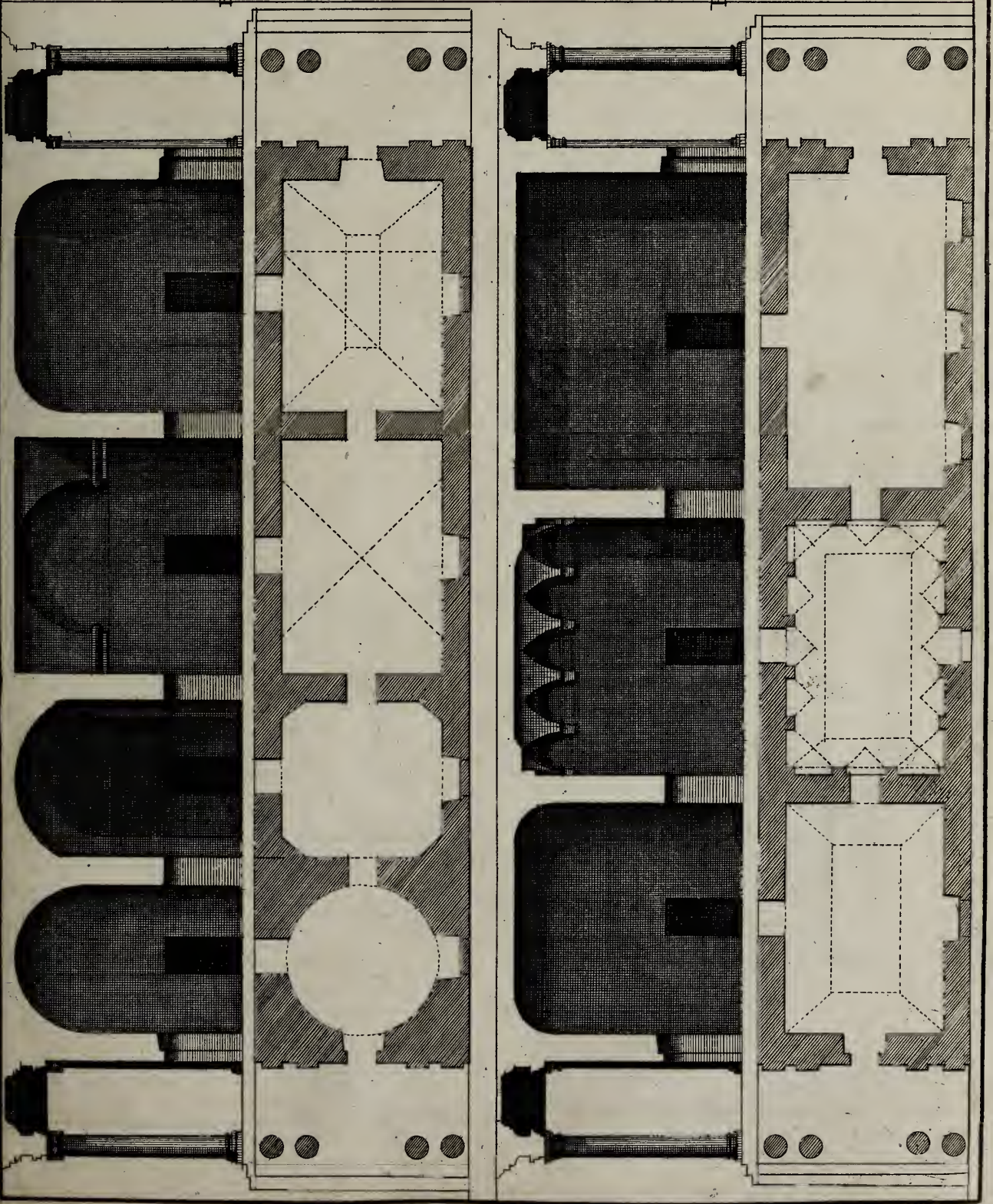
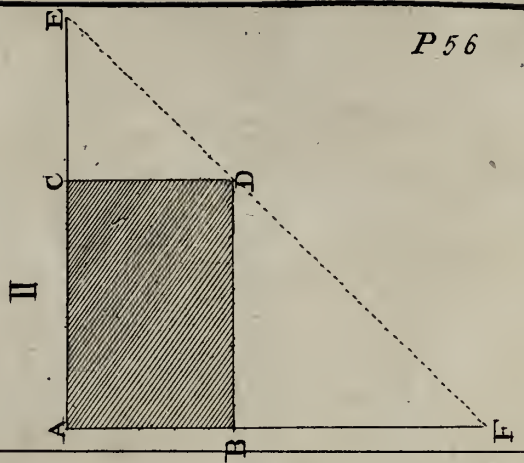
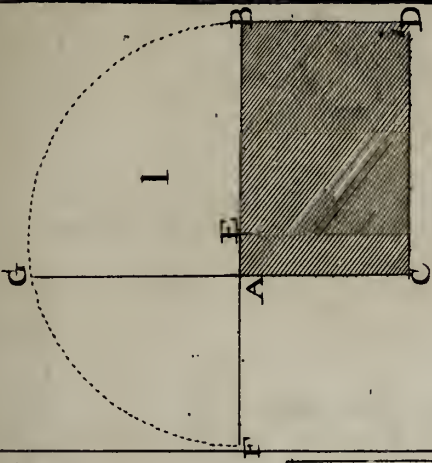
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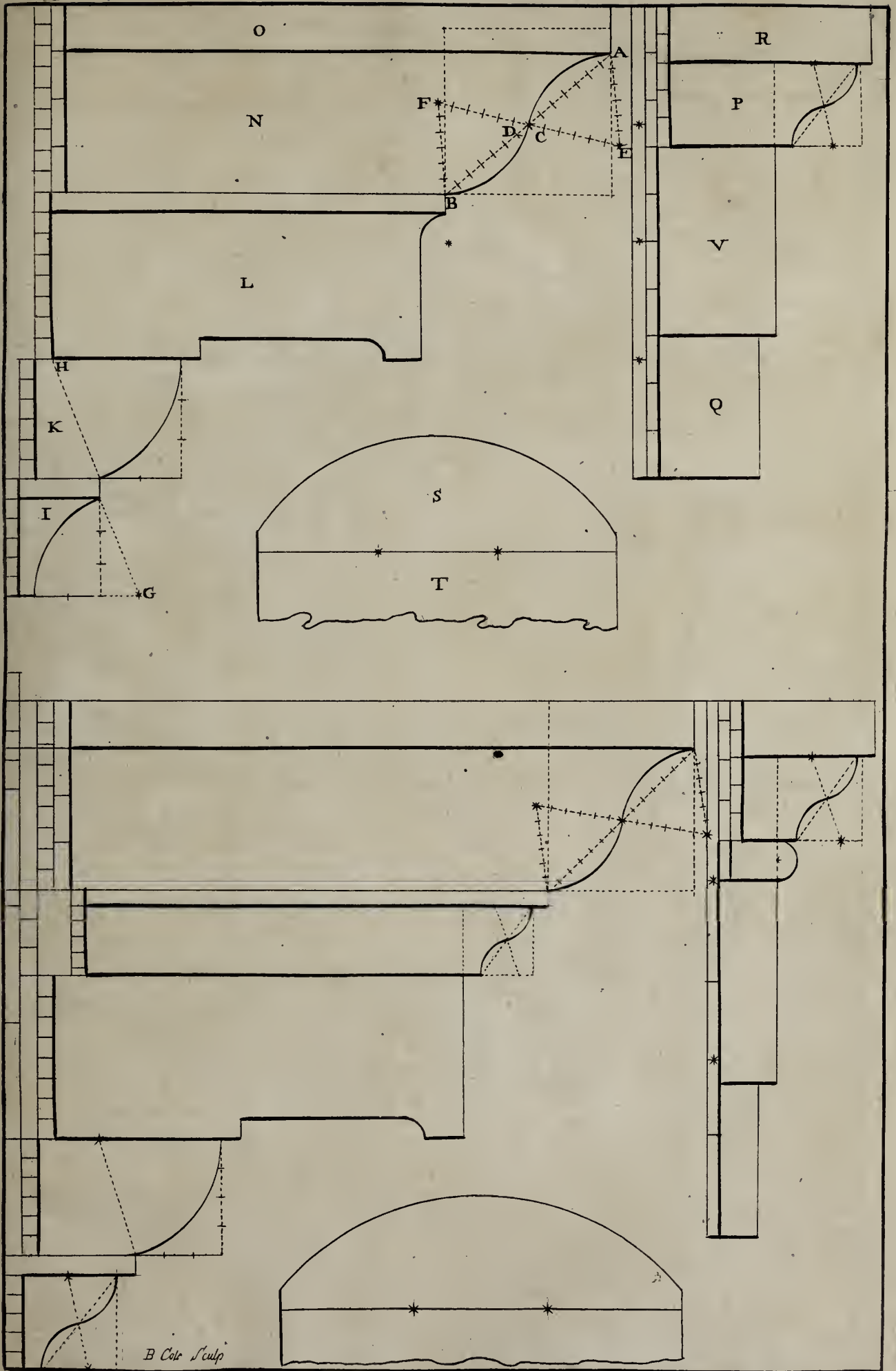






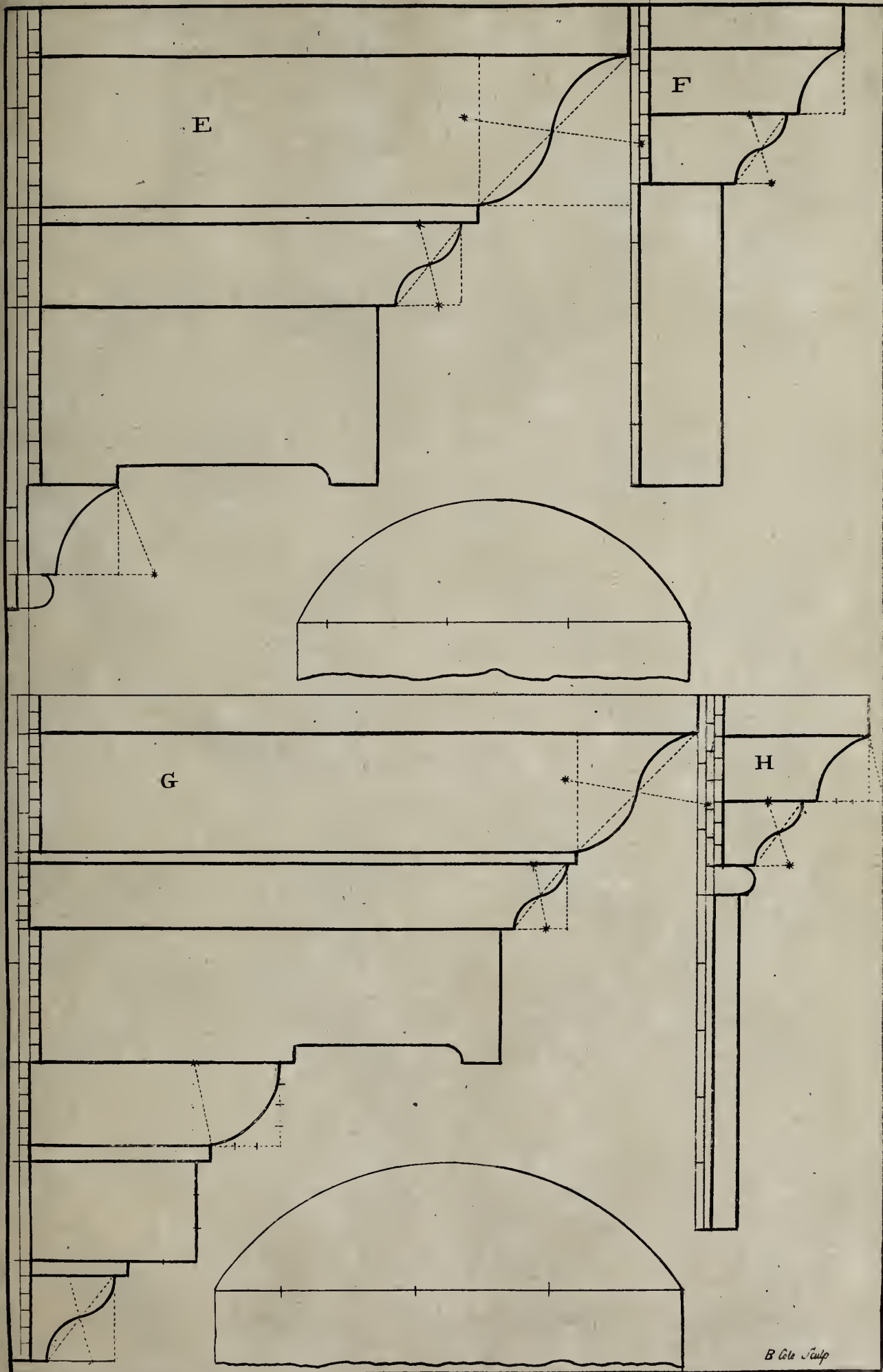


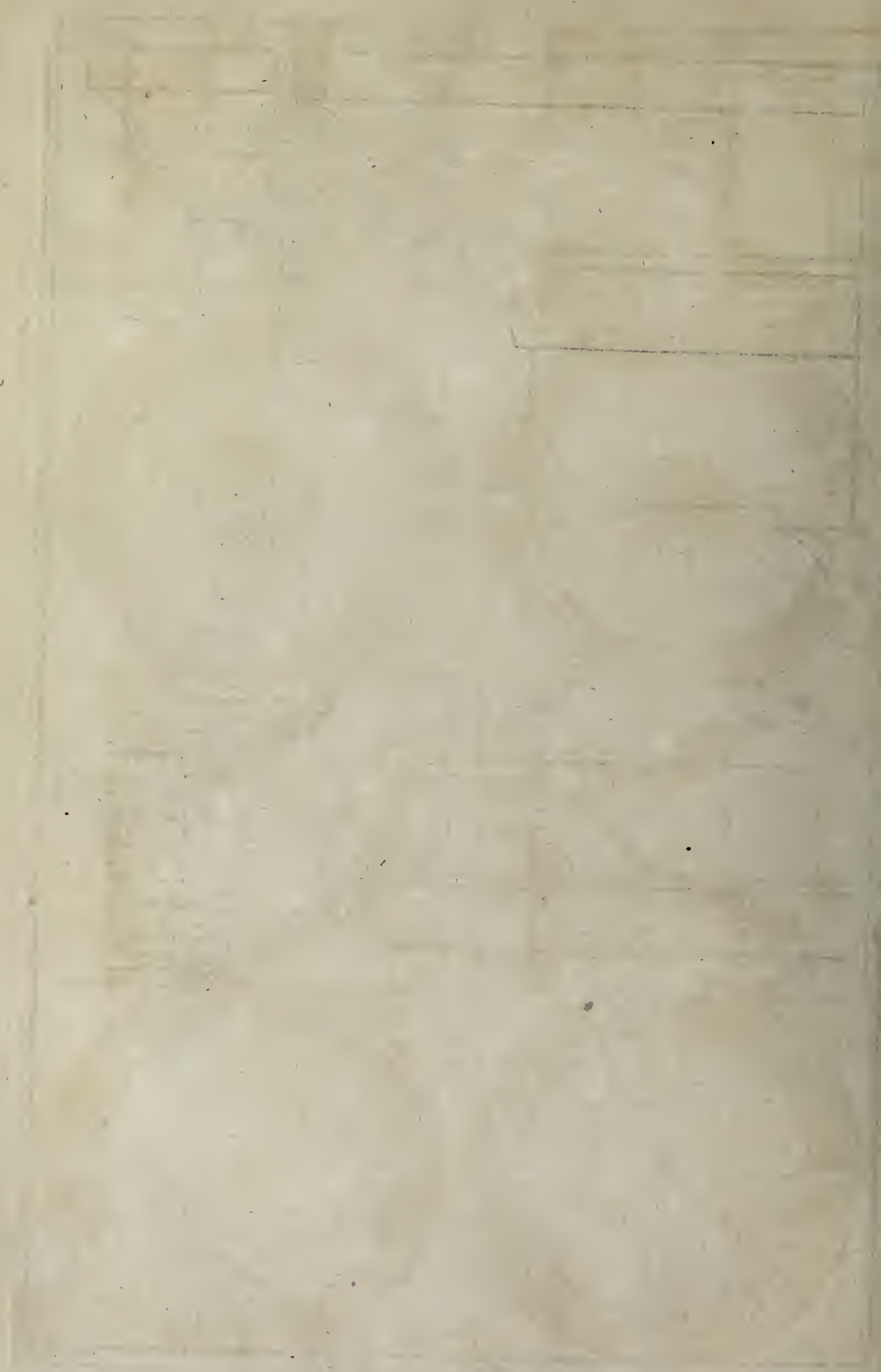
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| 1   | John Smith         | 25  | Male   |
| 2   | Mary Jones         | 30  | Female |
| 3   | James Brown        | 18  | Male   |
| 4   | Elizabeth White    | 22  | Female |
| 5   | Robert Black       | 35  | Male   |
| 6   | Sarah Green        | 28  | Female |
| 7   | William Grey       | 40  | Male   |
| 8   | Jane Pink          | 15  | Female |
| 9   | Thomas Red         | 20  | Male   |
| 10  | Anna Blue          | 25  | Female |
| 11  | George Yellow      | 30  | Male   |
| 12  | Patricia Purple    | 35  | Female |
| 13  | Richard Orange     | 40  | Male   |
| 14  | Linda Silver       | 45  | Female |
| 15  | Charles Gold       | 50  | Male   |
| 16  | Barbara Bronze     | 55  | Female |
| 17  | Edward Iron        | 60  | Male   |
| 18  | Susan Copper       | 65  | Female |
| 19  | Paul Nickel        | 70  | Male   |
| 20  | Karen Zinc         | 75  | Female |
| 21  | Mark Cadmium       | 80  | Male   |
| 22  | Michelle Lead      | 85  | Female |
| 23  | Steven Tin         | 90  | Male   |
| 24  | Christina Platinum | 95  | Female |

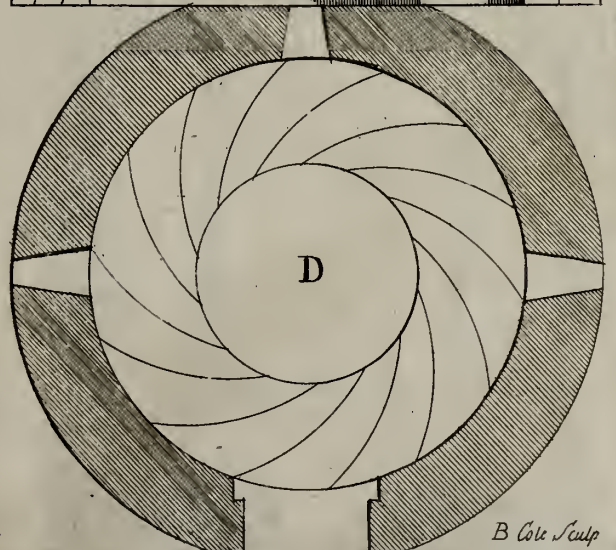
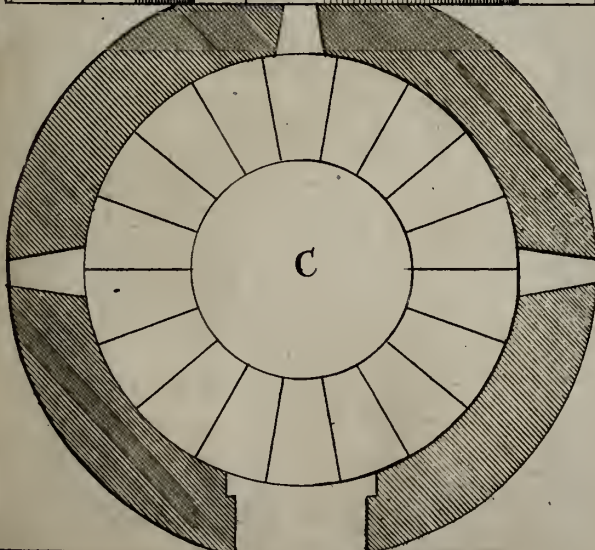
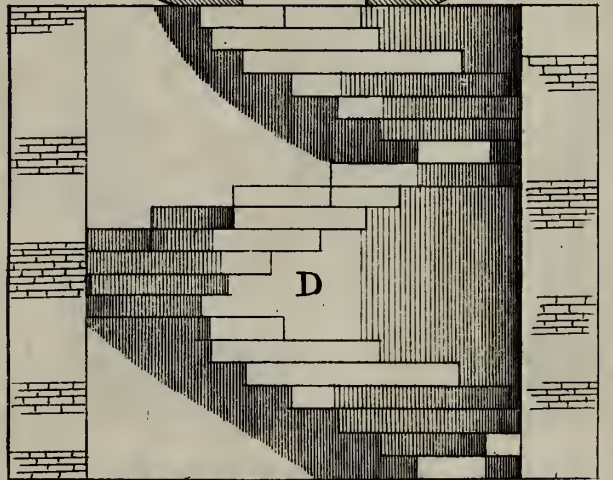
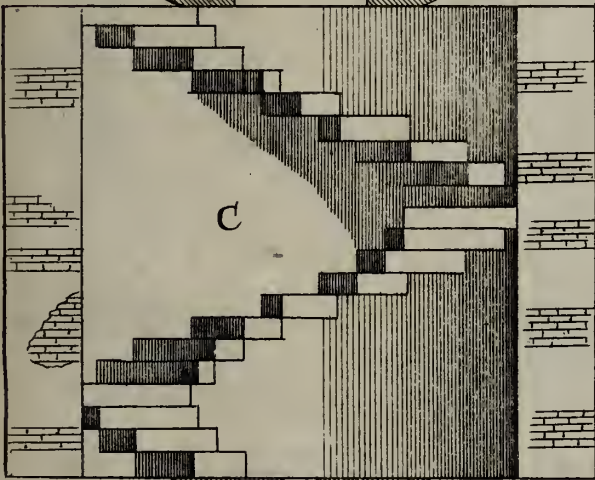
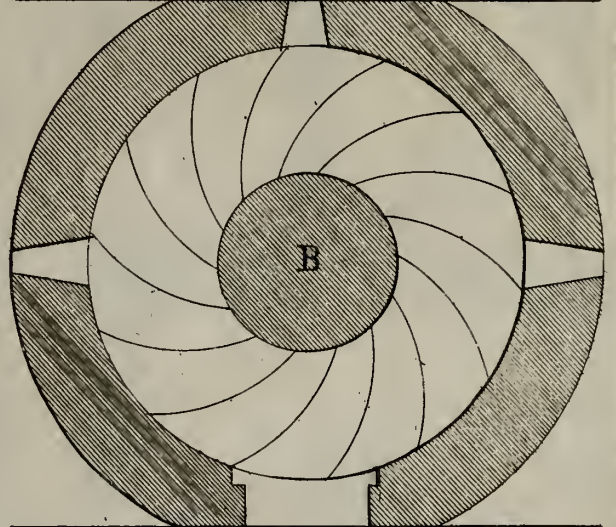
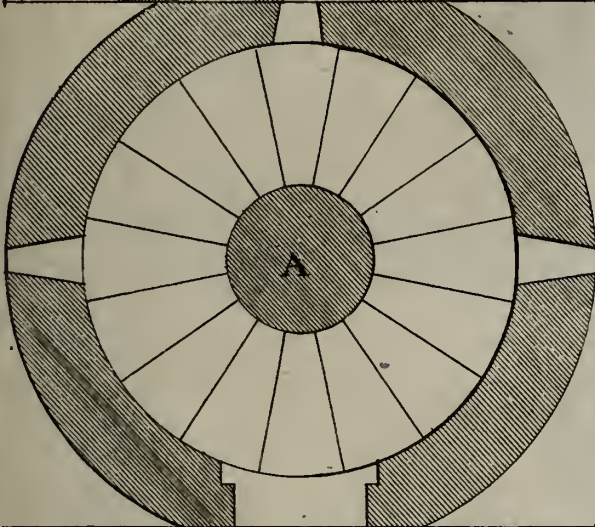
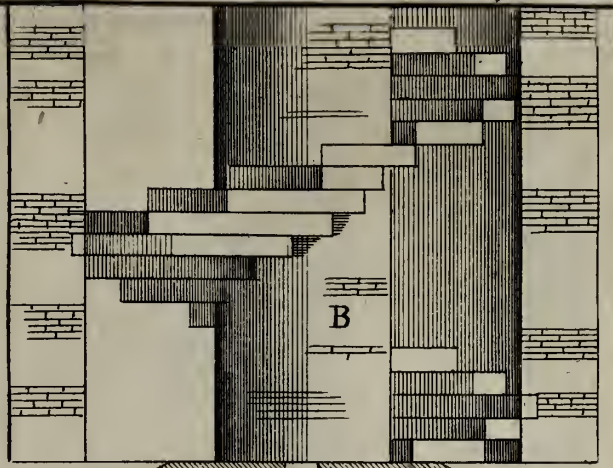
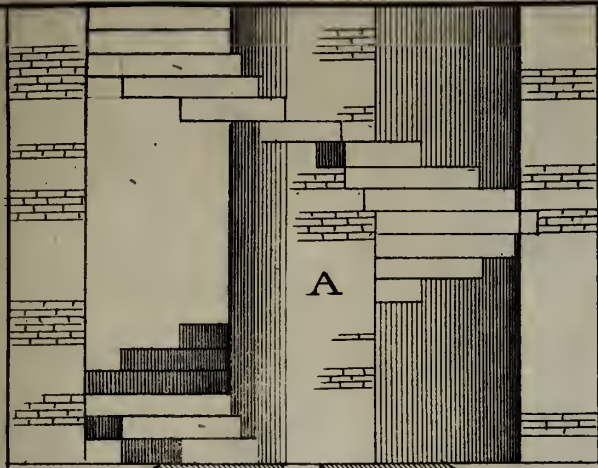


B Color Sulp



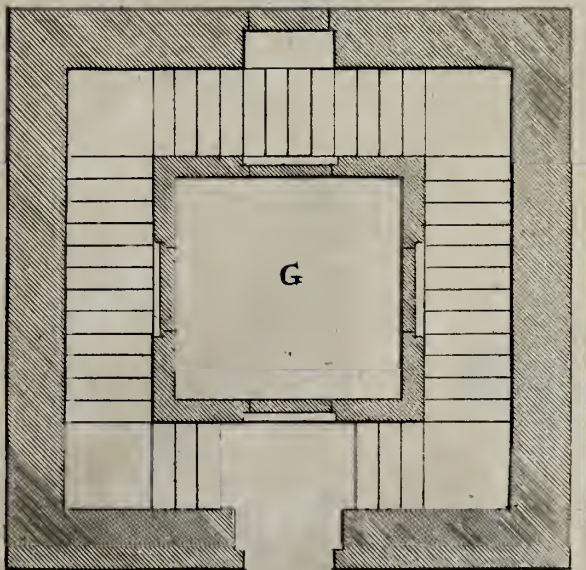
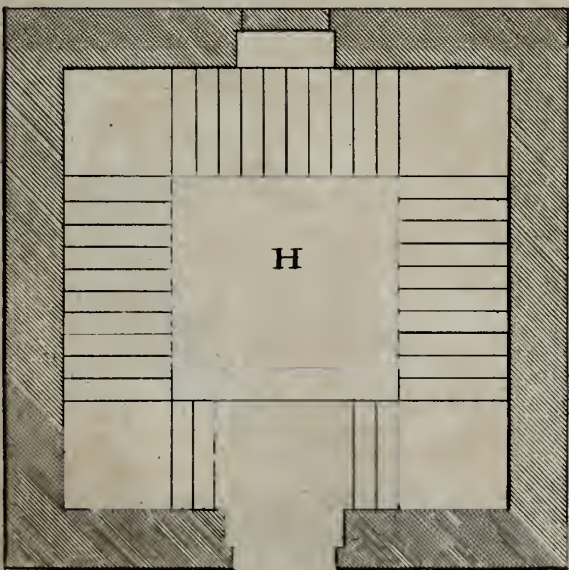
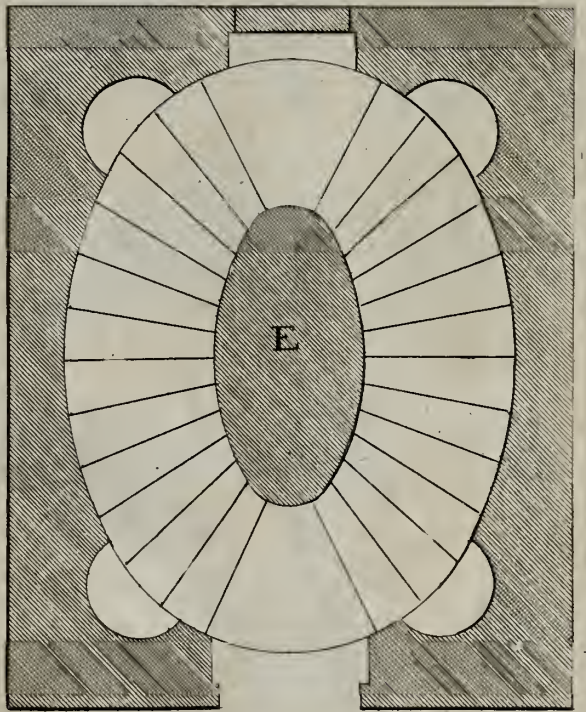
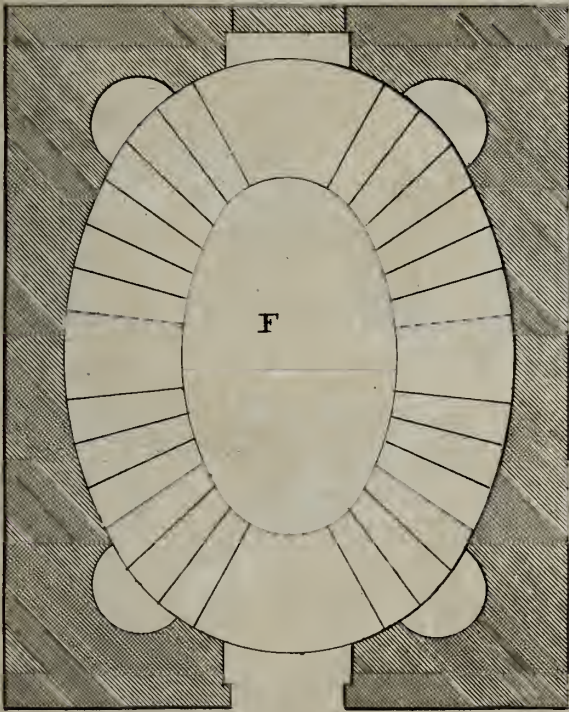
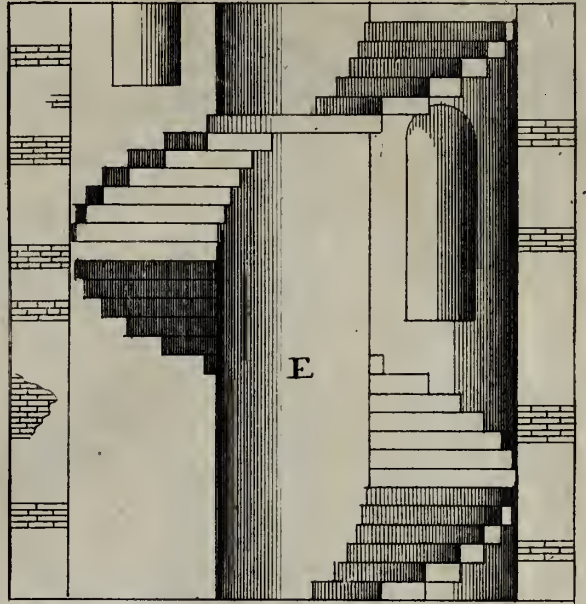
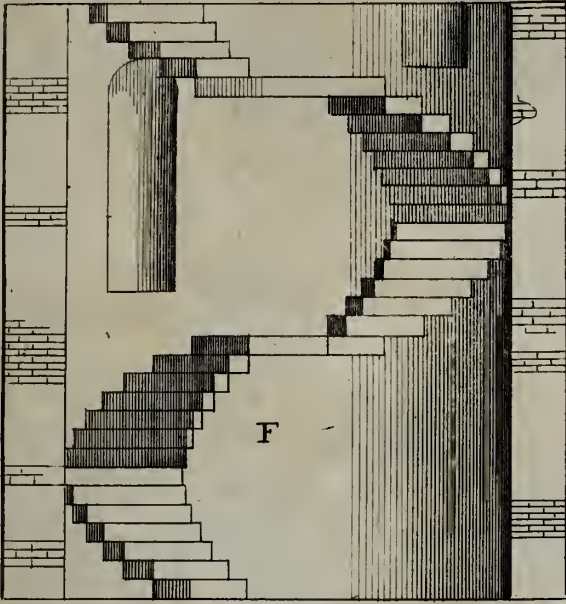


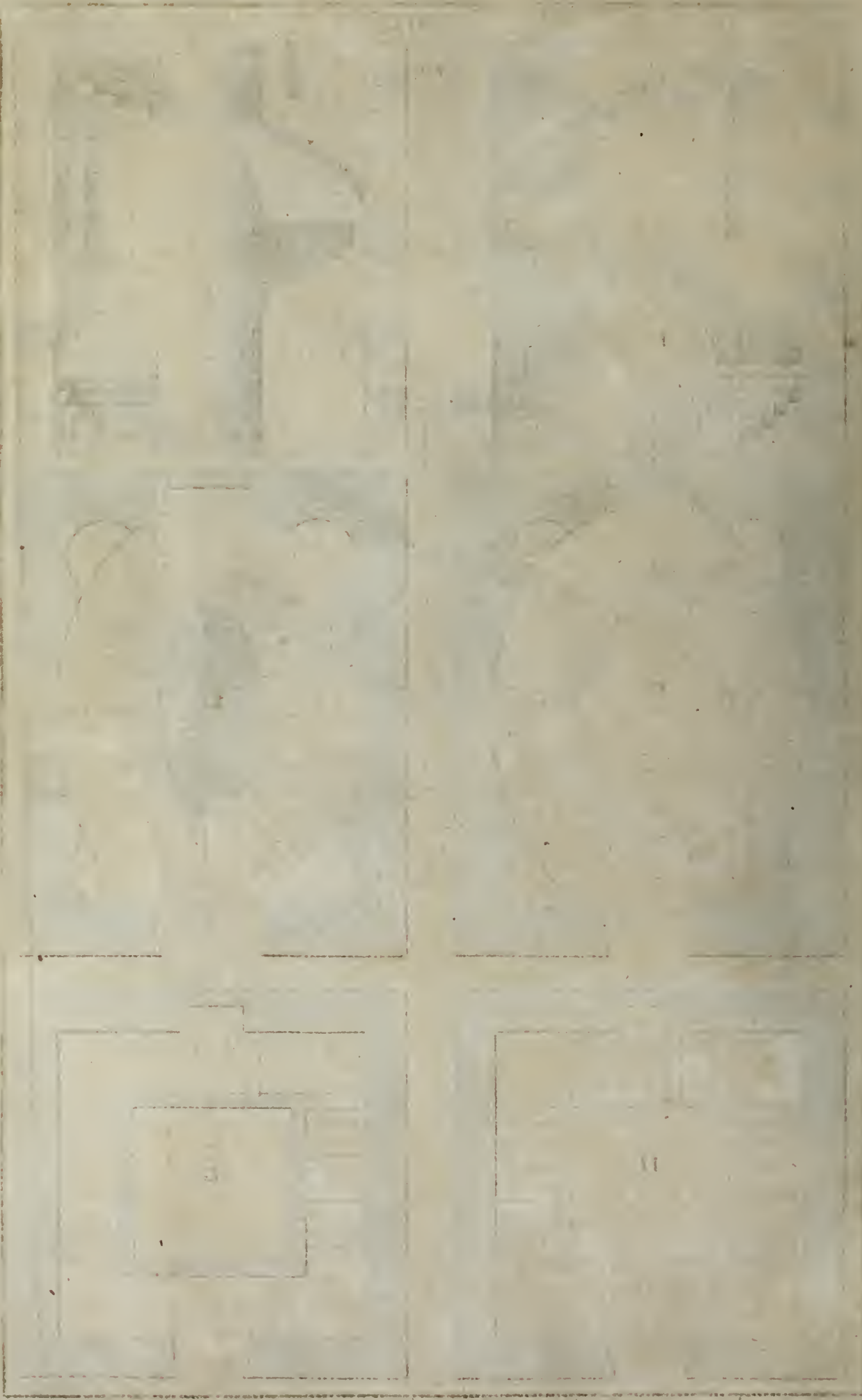


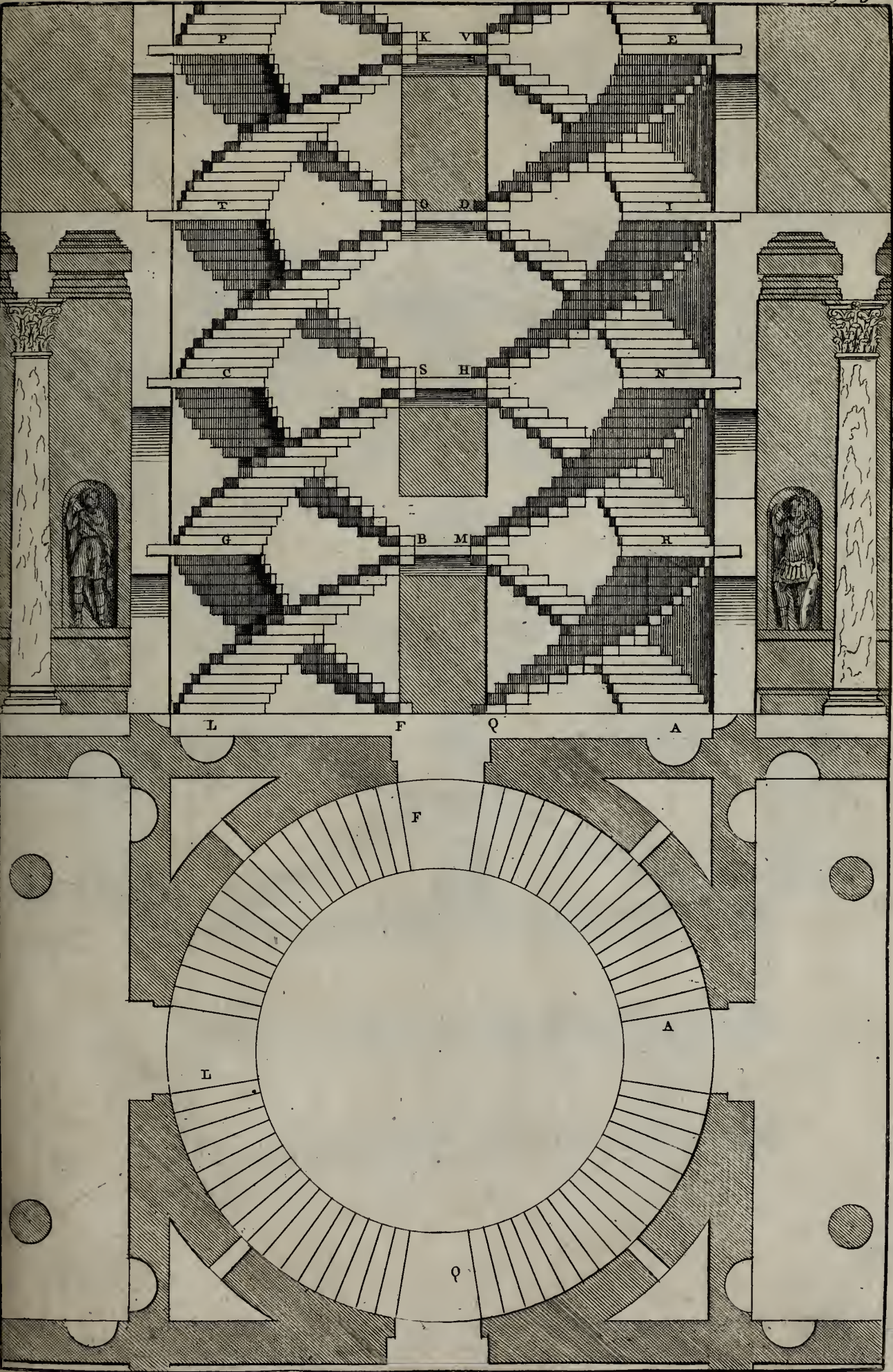




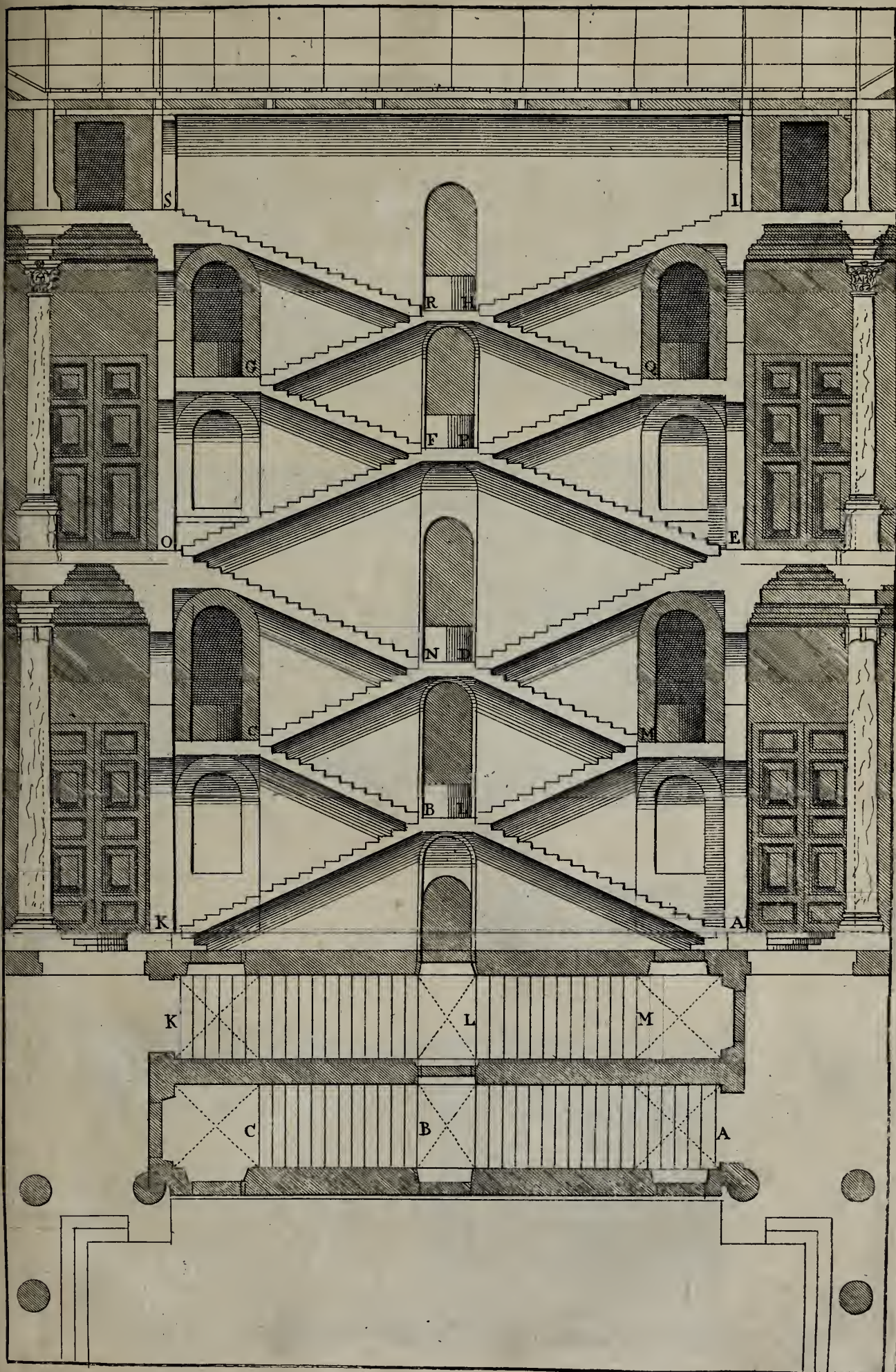






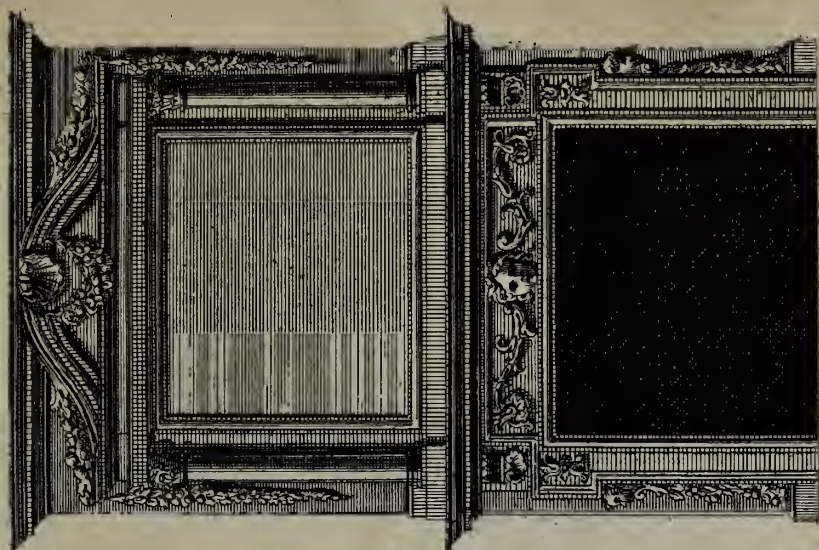




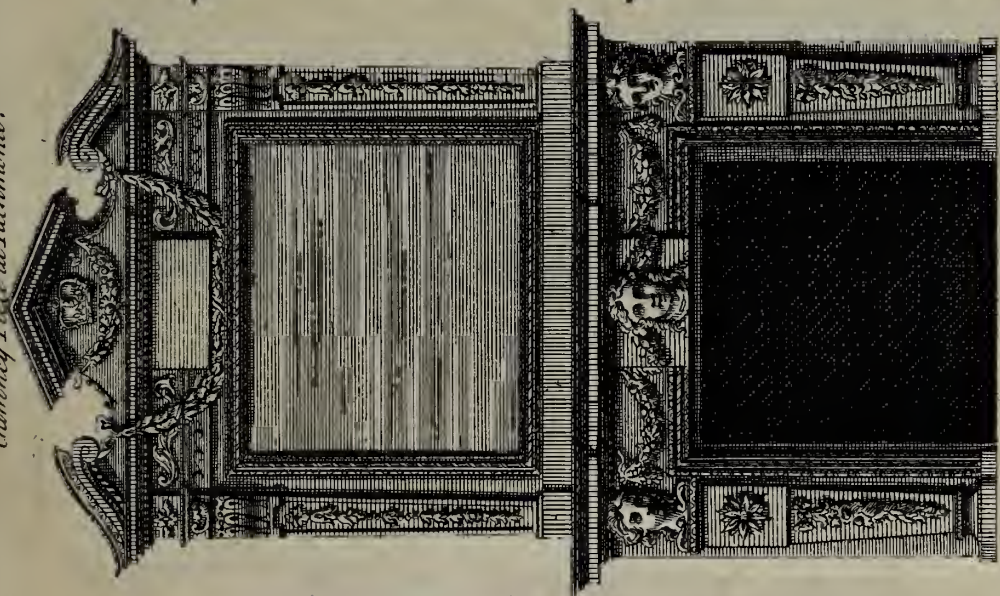




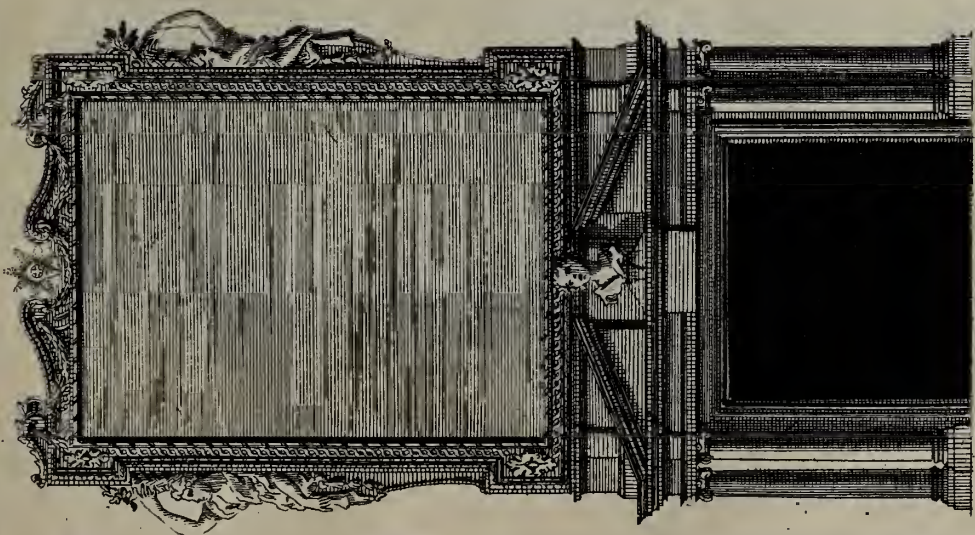
Chimney Piece,  
Inigo Jones.

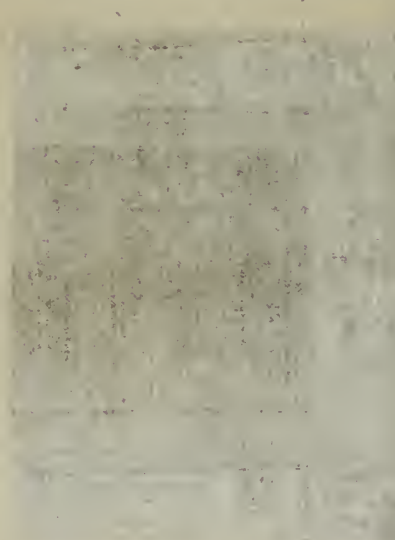
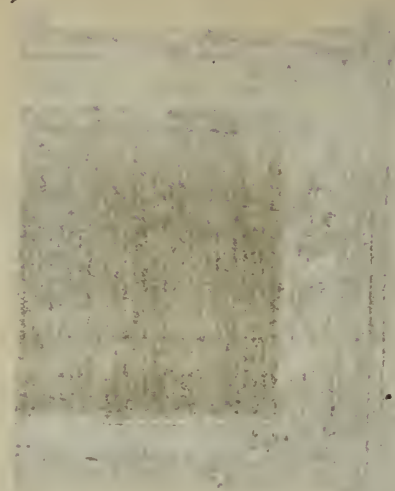


Chimney Piece at Richmond.



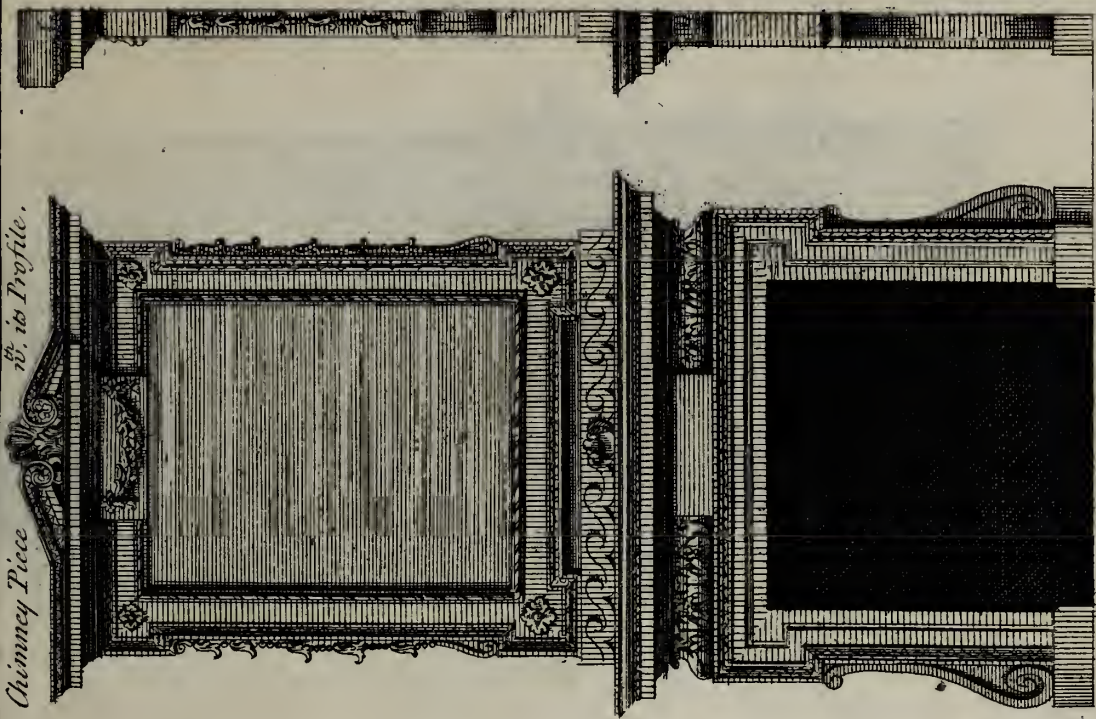
Chimney Piece at S. Will. Stricklands with its Profile.



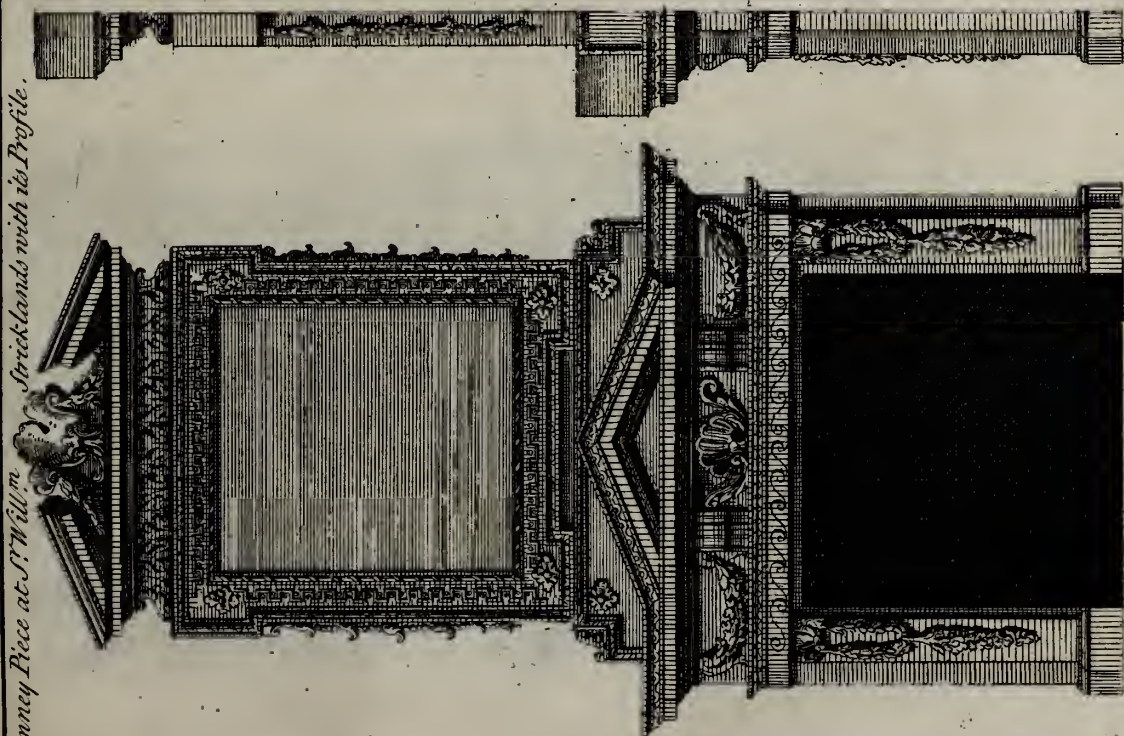




Chimney Piece  
ib. is Profile.

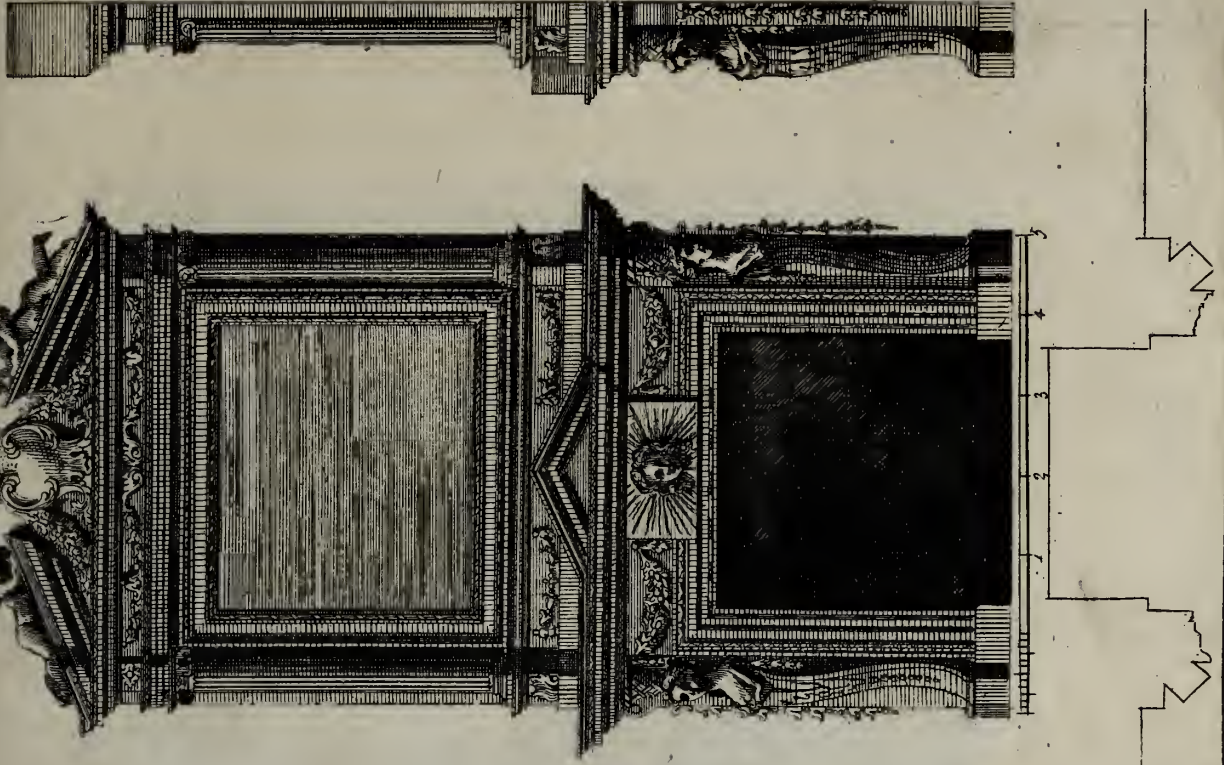


Chimney Piece at St. Will<sup>m</sup>  
Stricklands with its Profile.

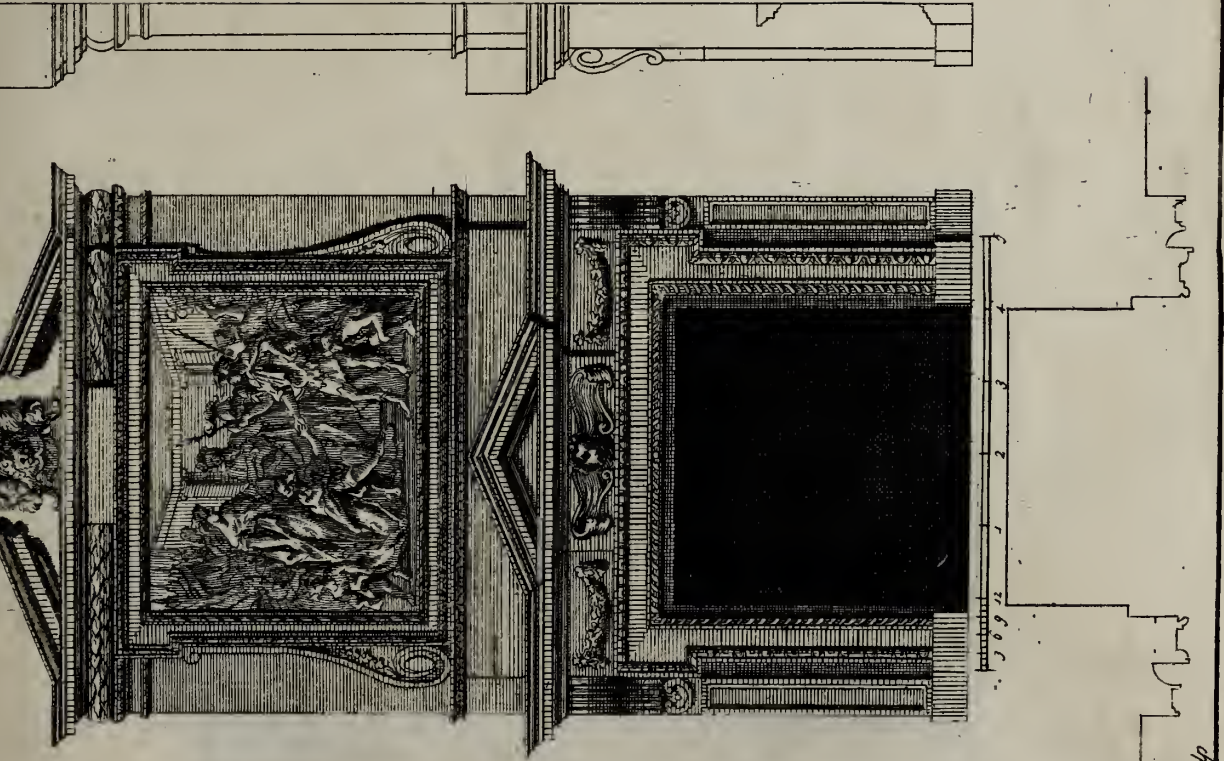




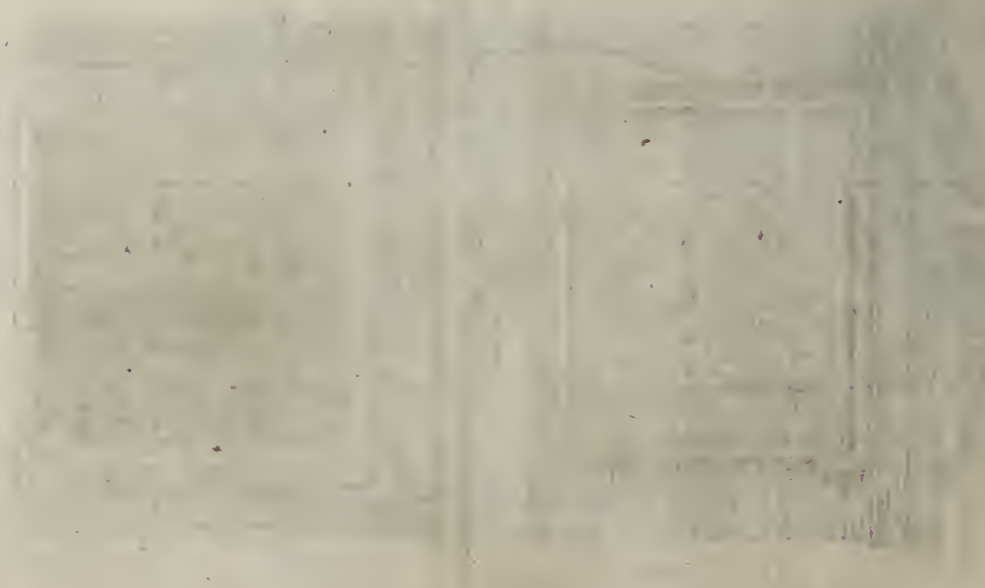
Chimney Piece at St. Matt. Deckers, Richmond.



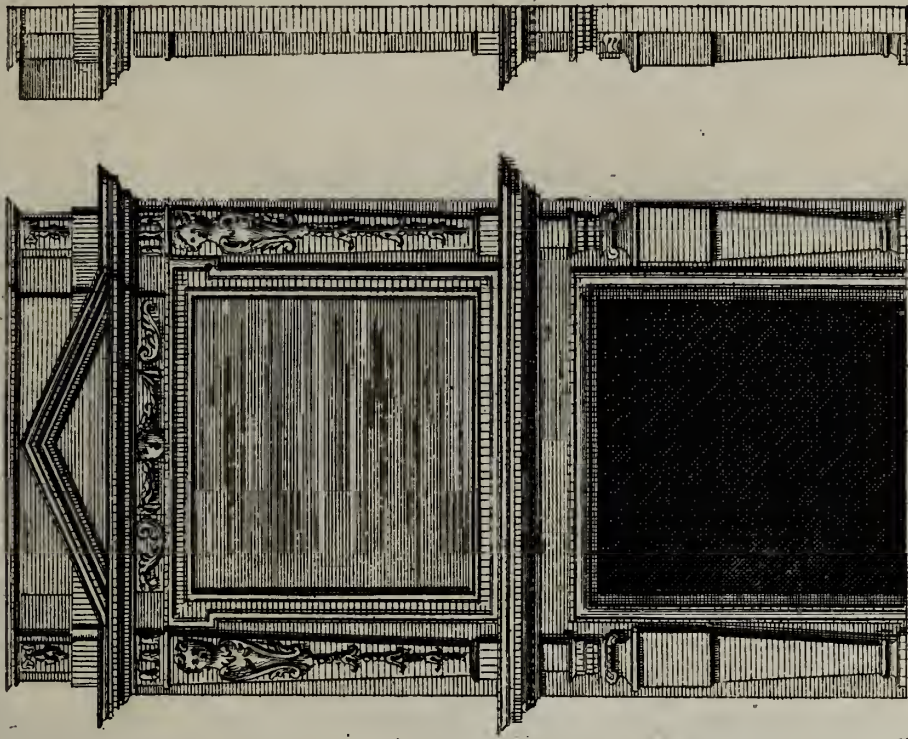
Chimney Piece at Stov.



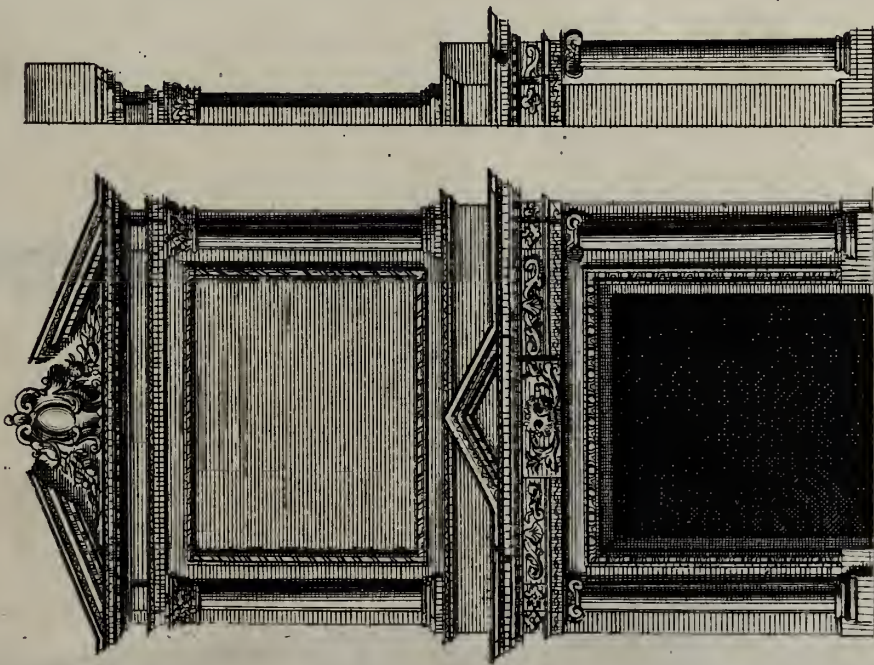
[Faint, illegible text or markings]

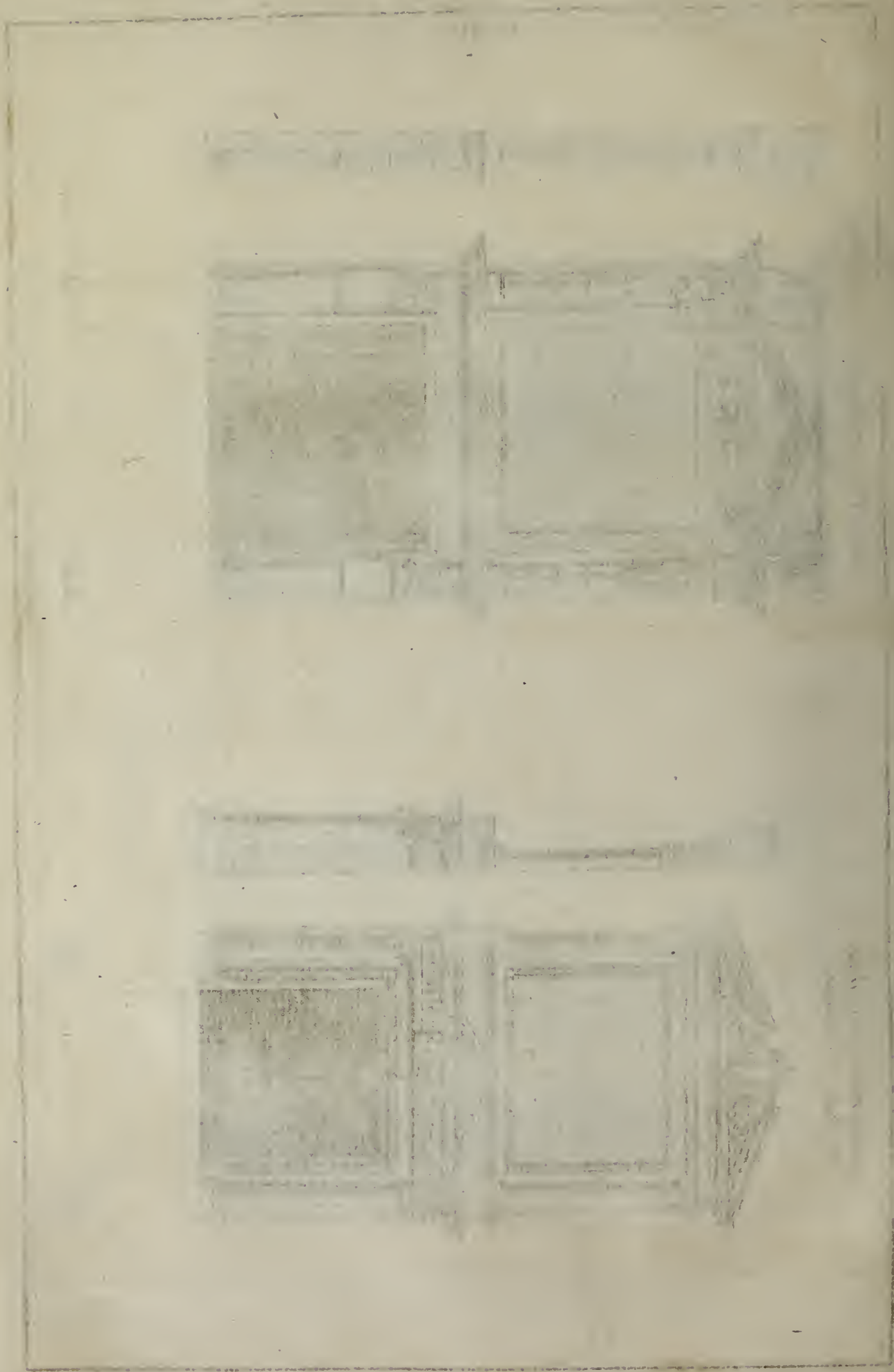


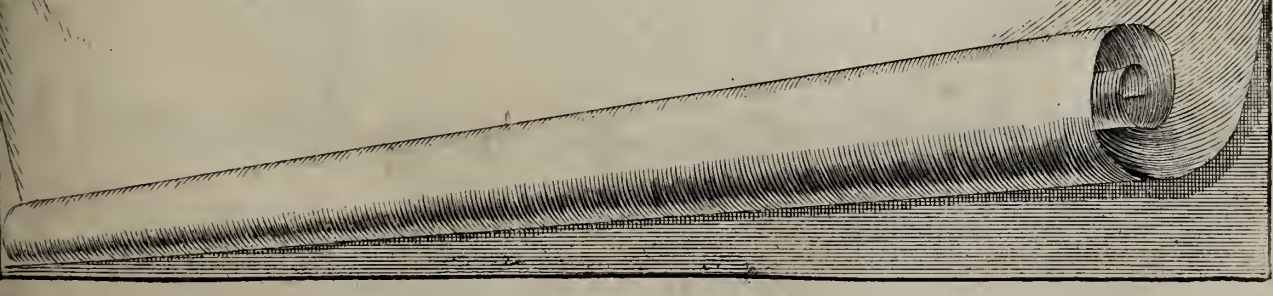
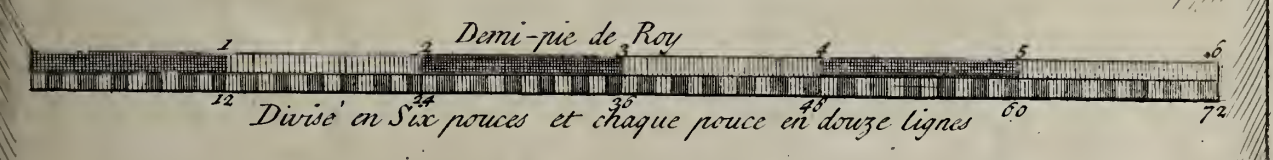
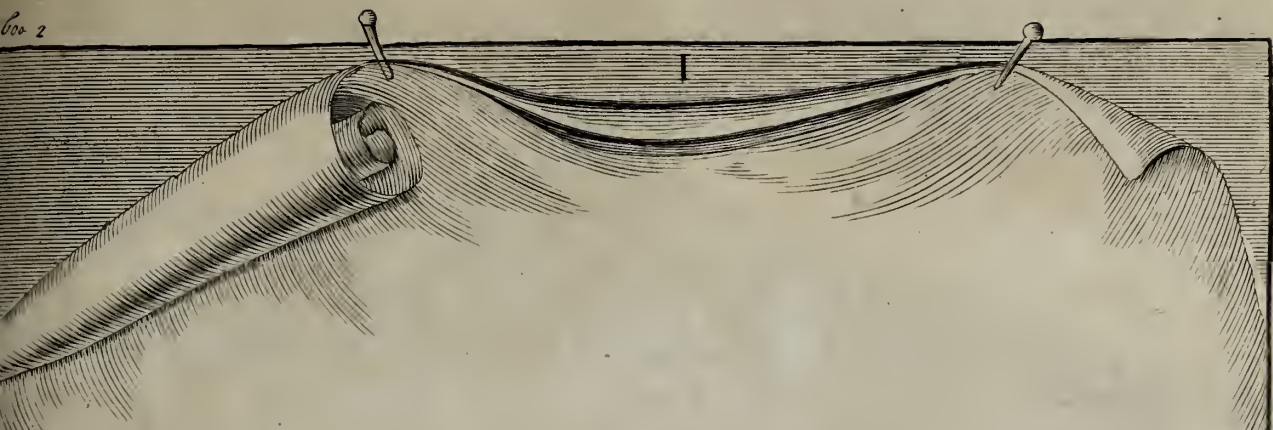
*Chimney Piece at Chiswick with its Profile.*



*Chimney Piece at his Grace the Duke of Graftons.*

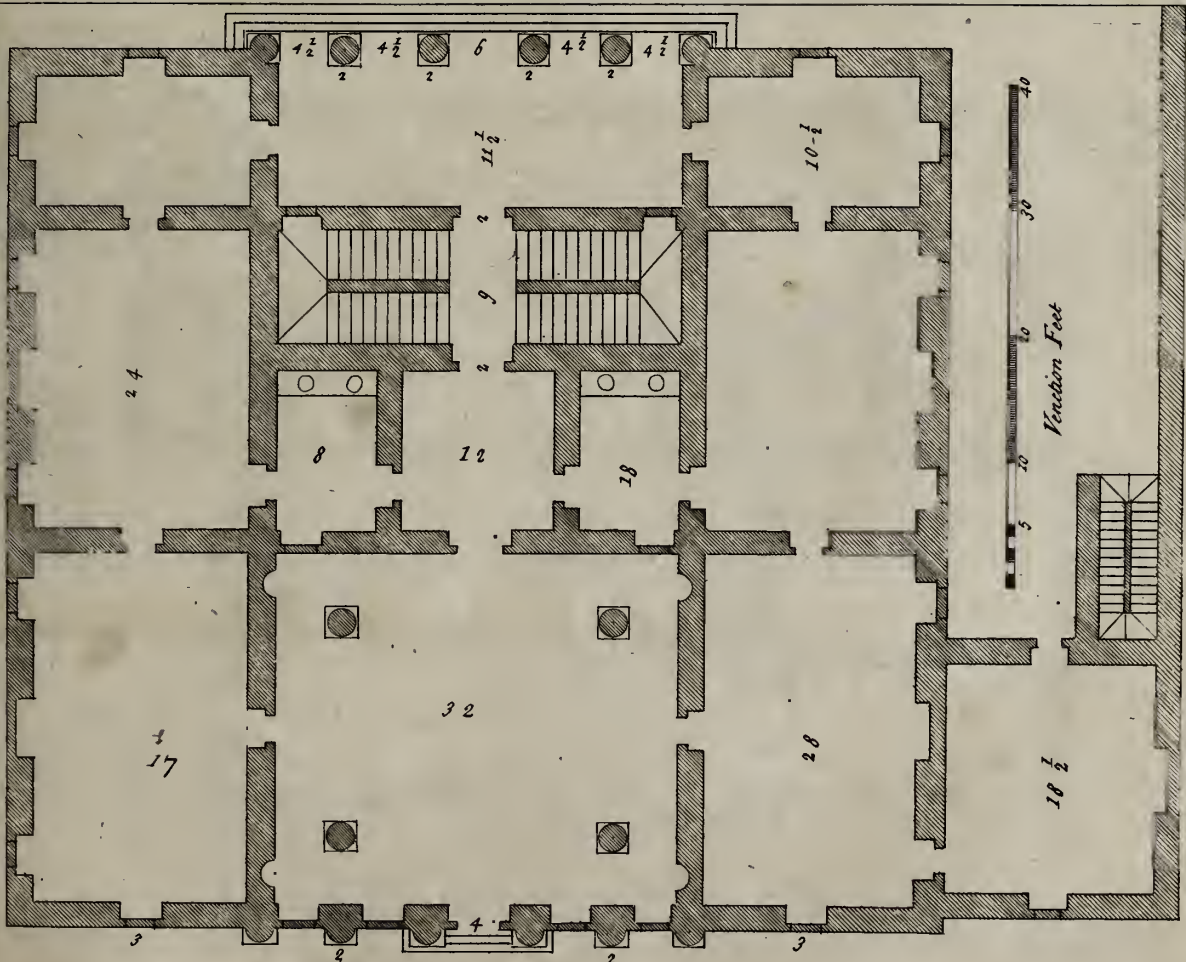












| Date | Description | Amount  |
|------|-------------|---------|
| 1890 | Jan 1       | 100.00  |
| 1890 | Feb 1       | 200.00  |
| 1890 | Mar 1       | 300.00  |
| 1890 | Apr 1       | 400.00  |
| 1890 | May 1       | 500.00  |
| 1890 | Jun 1       | 600.00  |
| 1890 | Jul 1       | 700.00  |
| 1890 | Aug 1       | 800.00  |
| 1890 | Sep 1       | 900.00  |
| 1890 | Oct 1       | 1000.00 |
| 1890 | Nov 1       | 1100.00 |
| 1890 | Dec 1       | 1200.00 |
| 1891 | Jan 1       | 1300.00 |
| 1891 | Feb 1       | 1400.00 |
| 1891 | Mar 1       | 1500.00 |
| 1891 | Apr 1       | 1600.00 |





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E. Hoppus del.  $\frac{2}{2\frac{1}{2}}$   $\frac{4}{6} = 2\frac{1}{3}$   $\frac{2}{2\frac{1}{2}}$   $6 = 10\frac{2}{3}$

B. Cole sculp











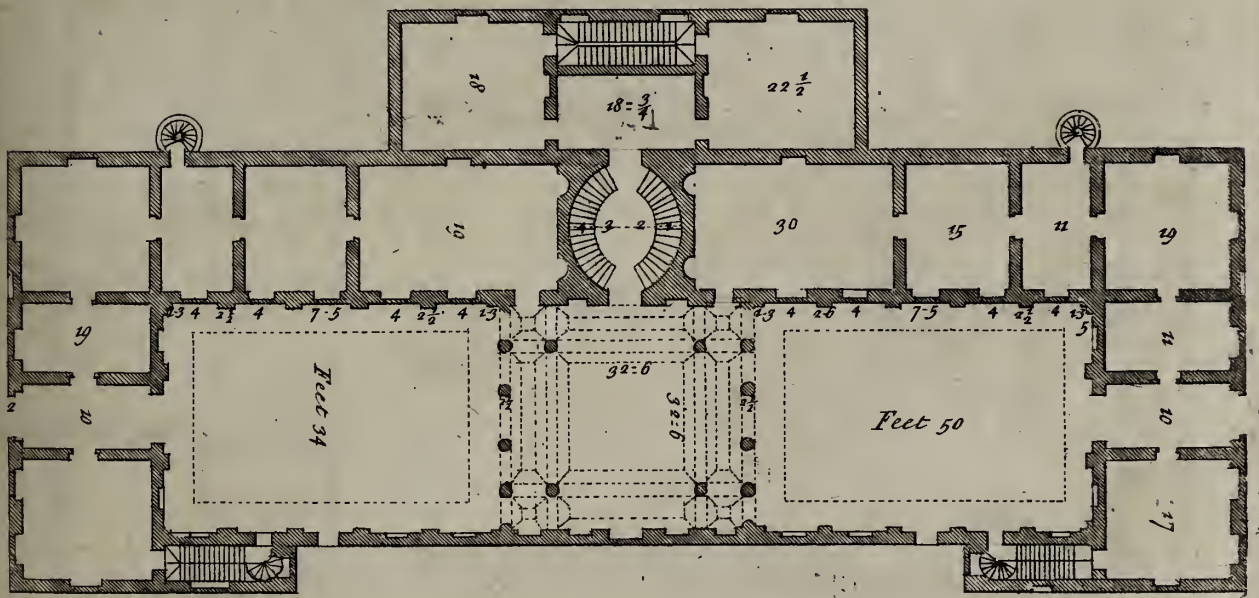








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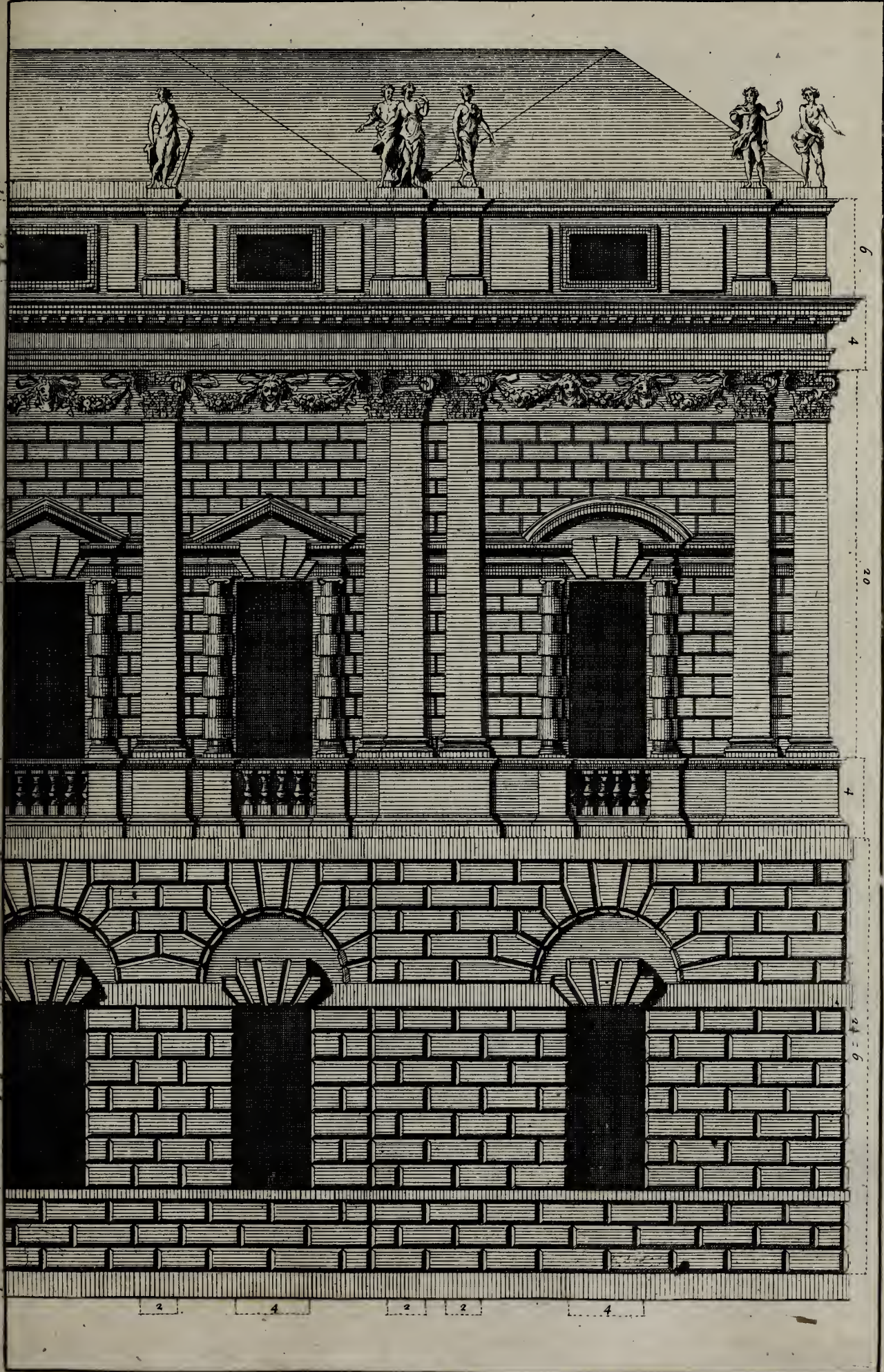


| Date | Description | Debit | Credit | Balance |
|------|-------------|-------|--------|---------|
| 1890 | Jan 1       |       |        |         |
| 1891 | Feb 1       |       |        |         |
| 1892 | Mar 1       |       |        |         |
| 1893 | Apr 1       |       |        |         |
| 1894 | May 1       |       |        |         |
| 1895 | Jun 1       |       |        |         |
| 1896 | Jul 1       |       |        |         |
| 1897 | Aug 1       |       |        |         |
| 1898 | Sep 1       |       |        |         |
| 1899 | Oct 1       |       |        |         |
| 1900 | Nov 1       |       |        |         |
| 1901 | Dec 1       |       |        |         |
| 1902 | Jan 1       |       |        |         |
| 1903 | Feb 1       |       |        |         |
| 1904 | Mar 1       |       |        |         |
| 1905 | Apr 1       |       |        |         |







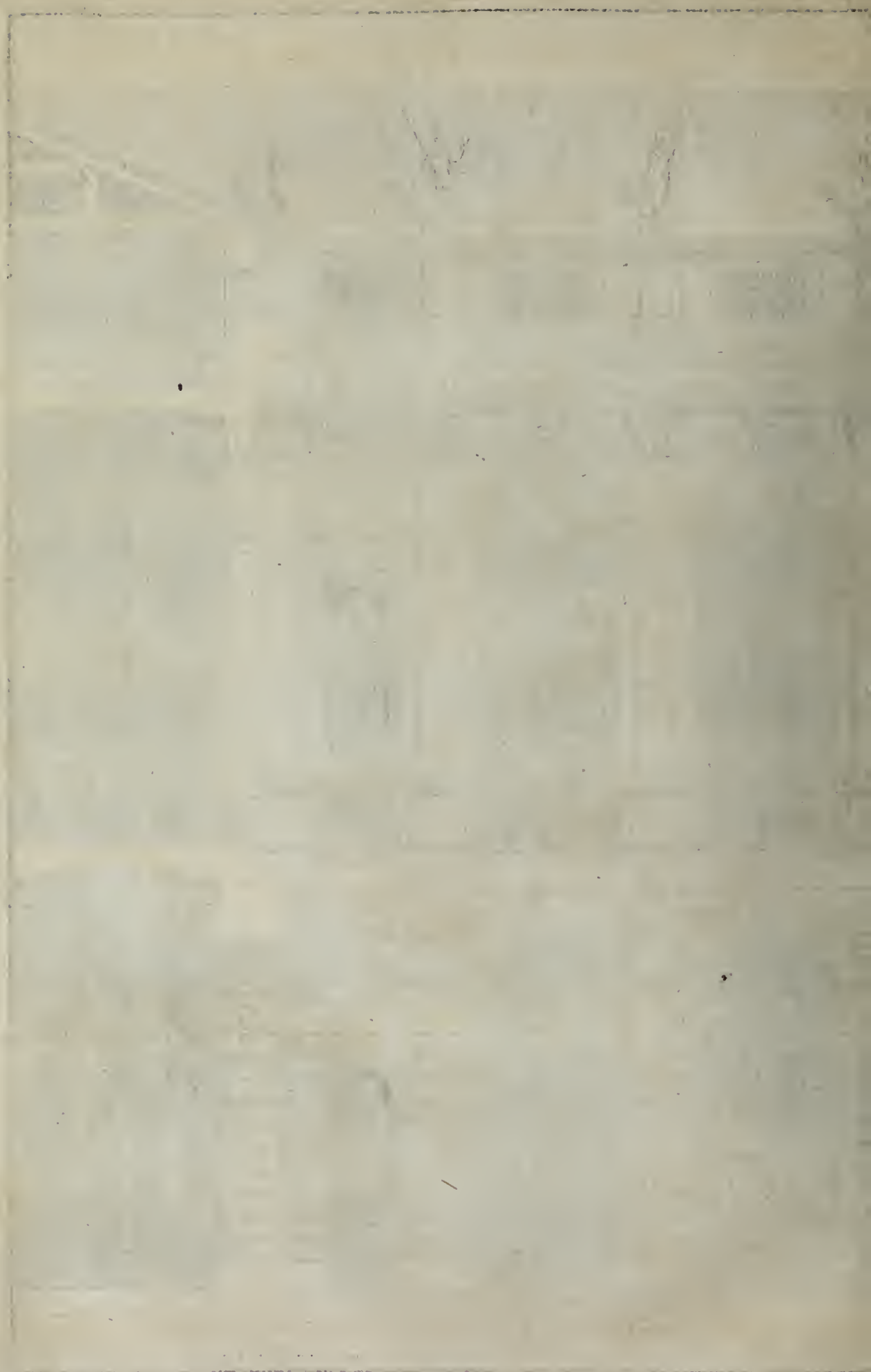


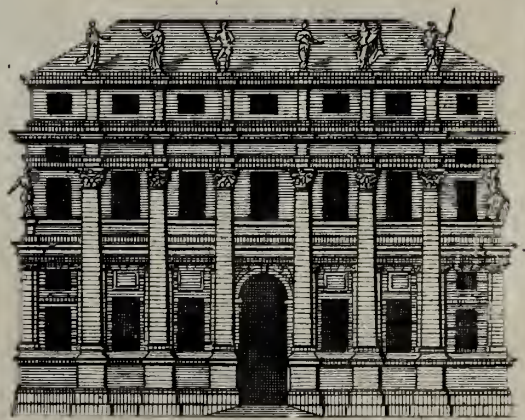
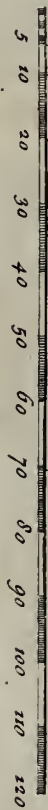
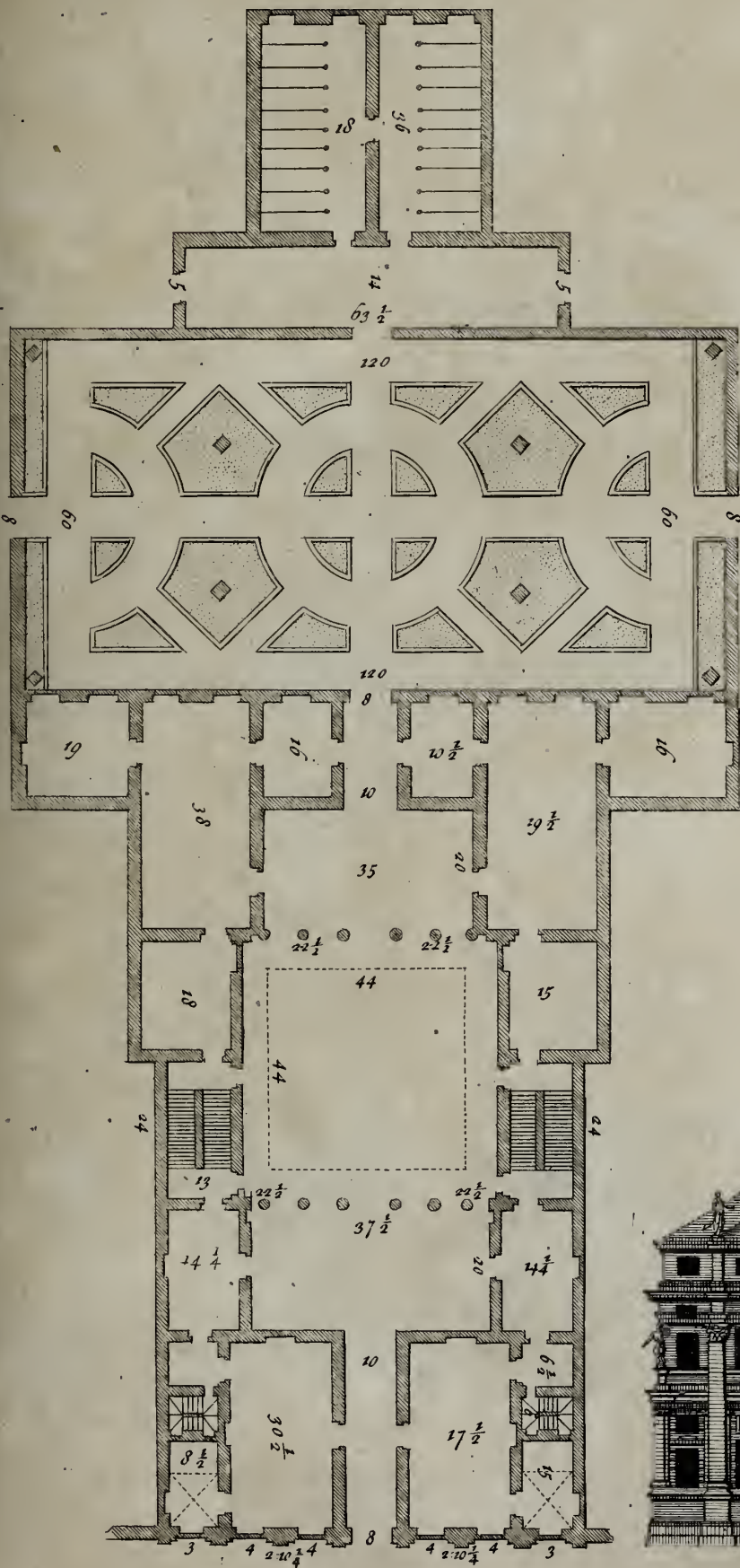
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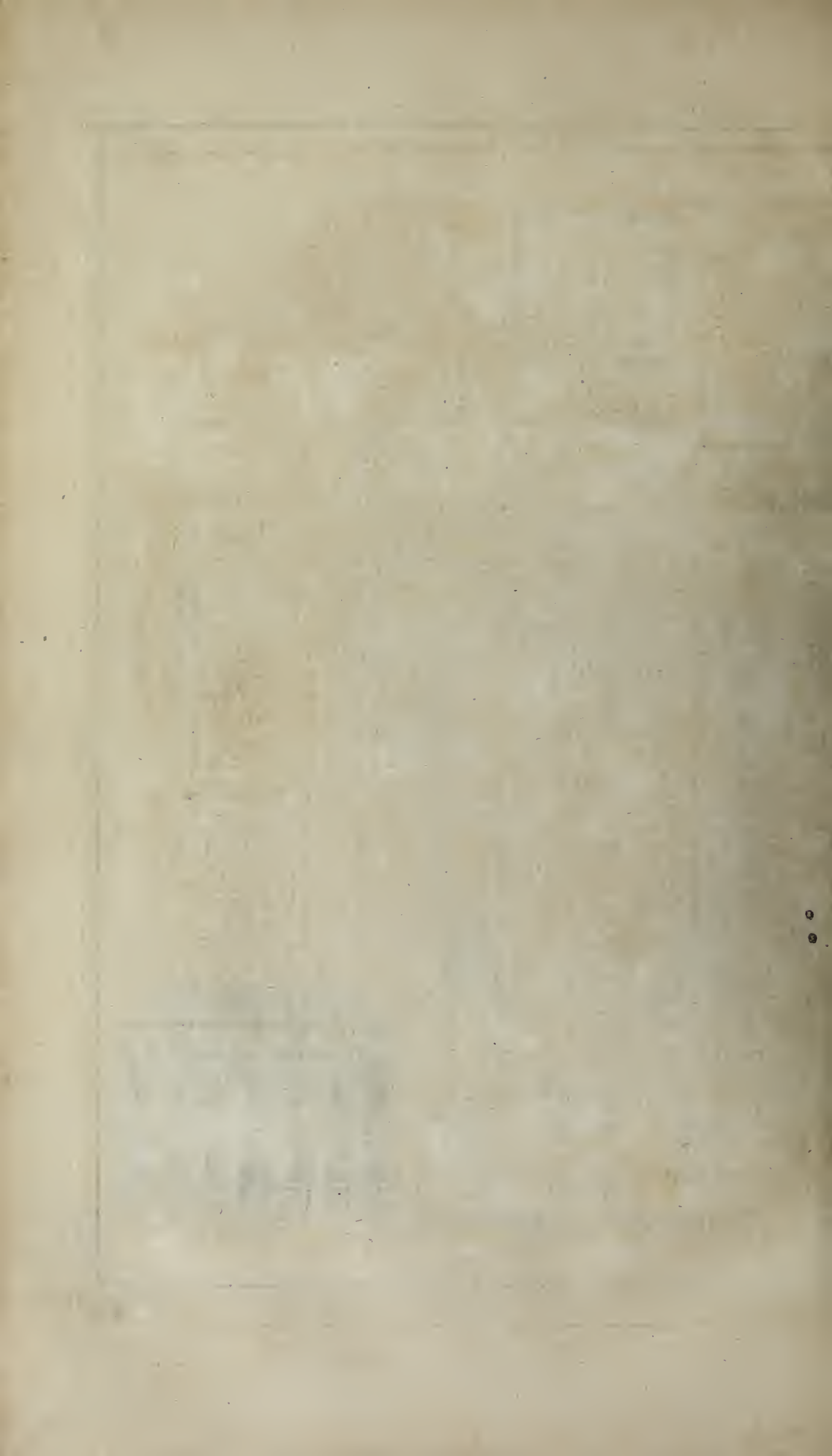
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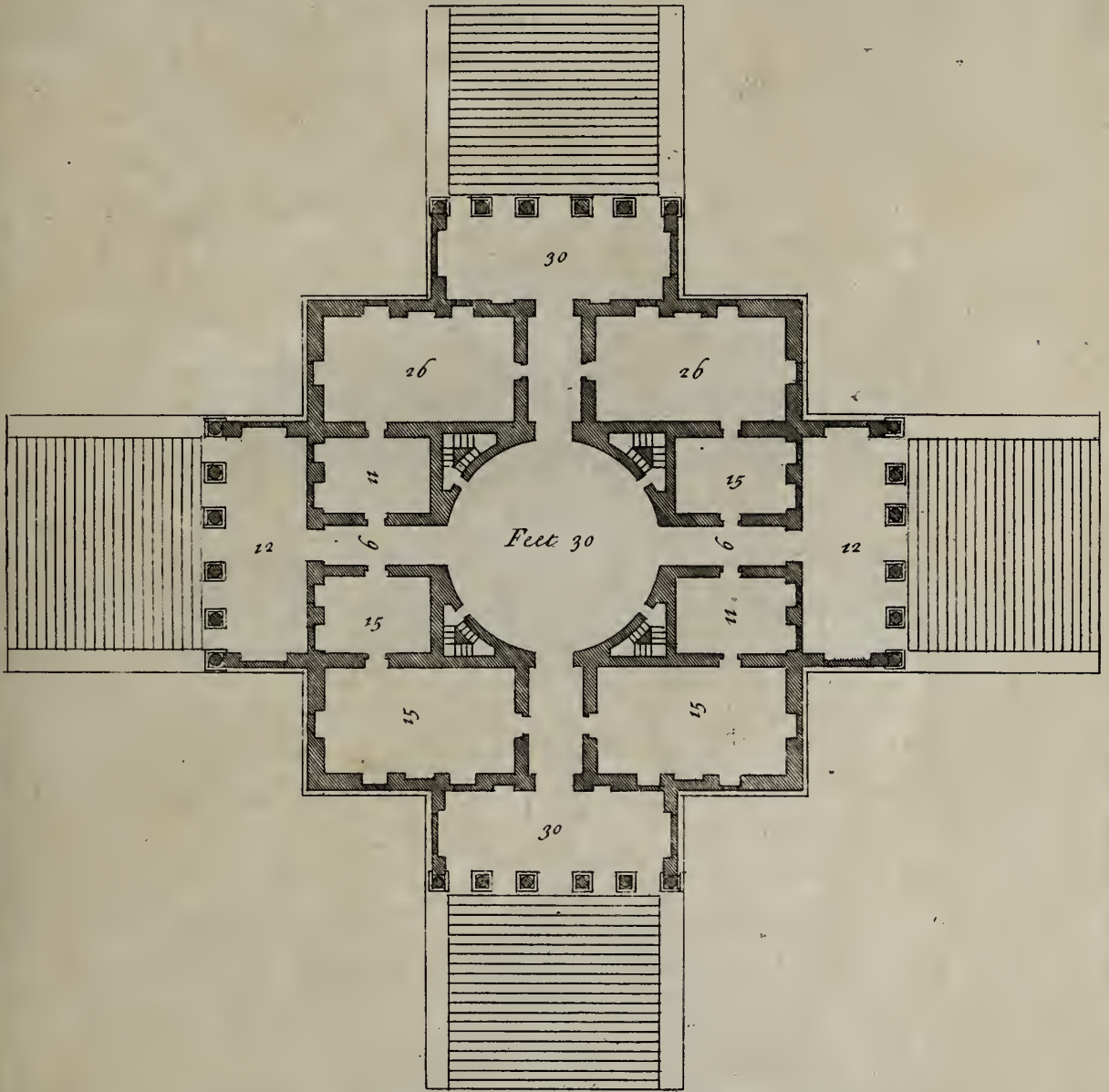
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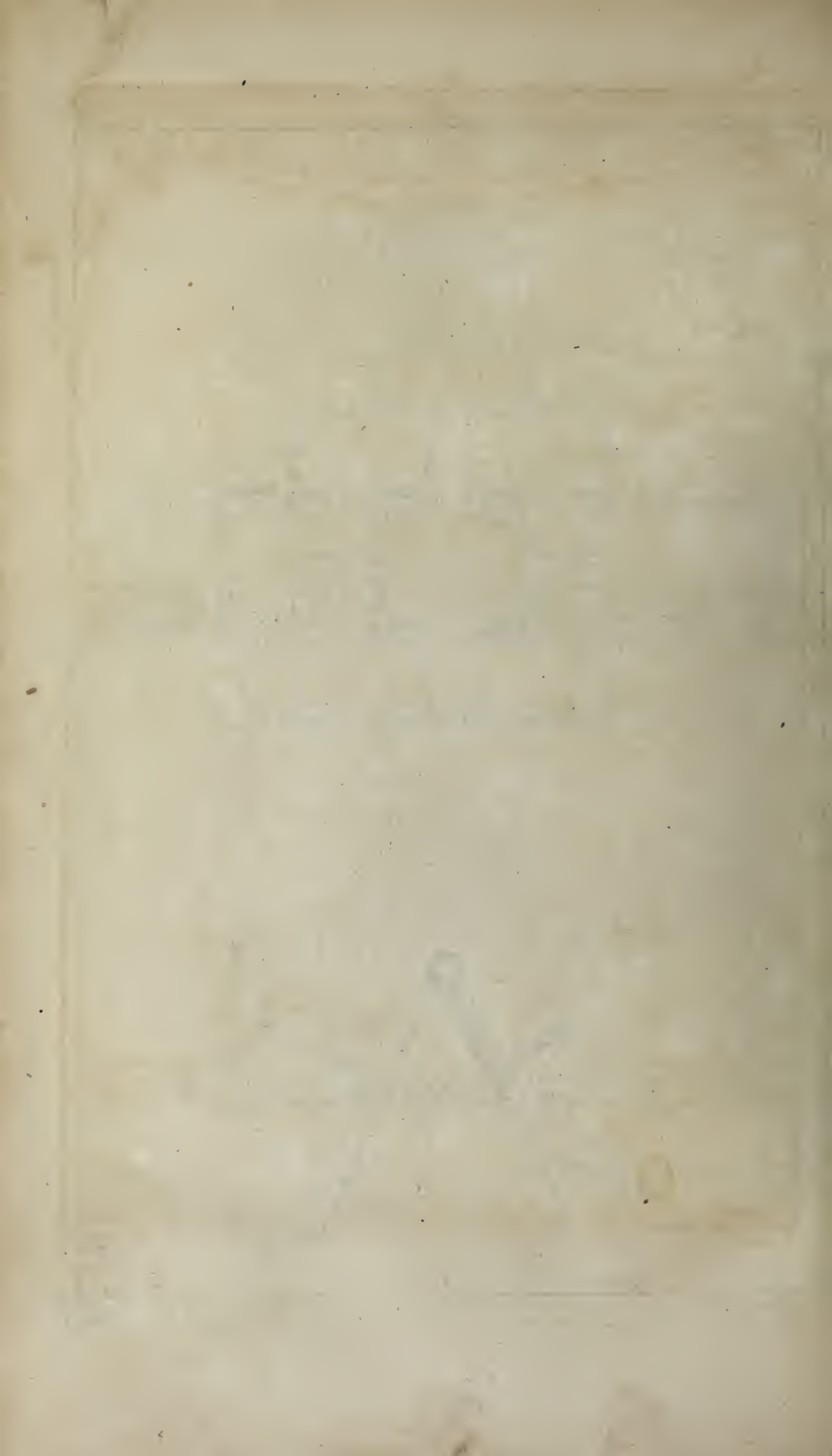
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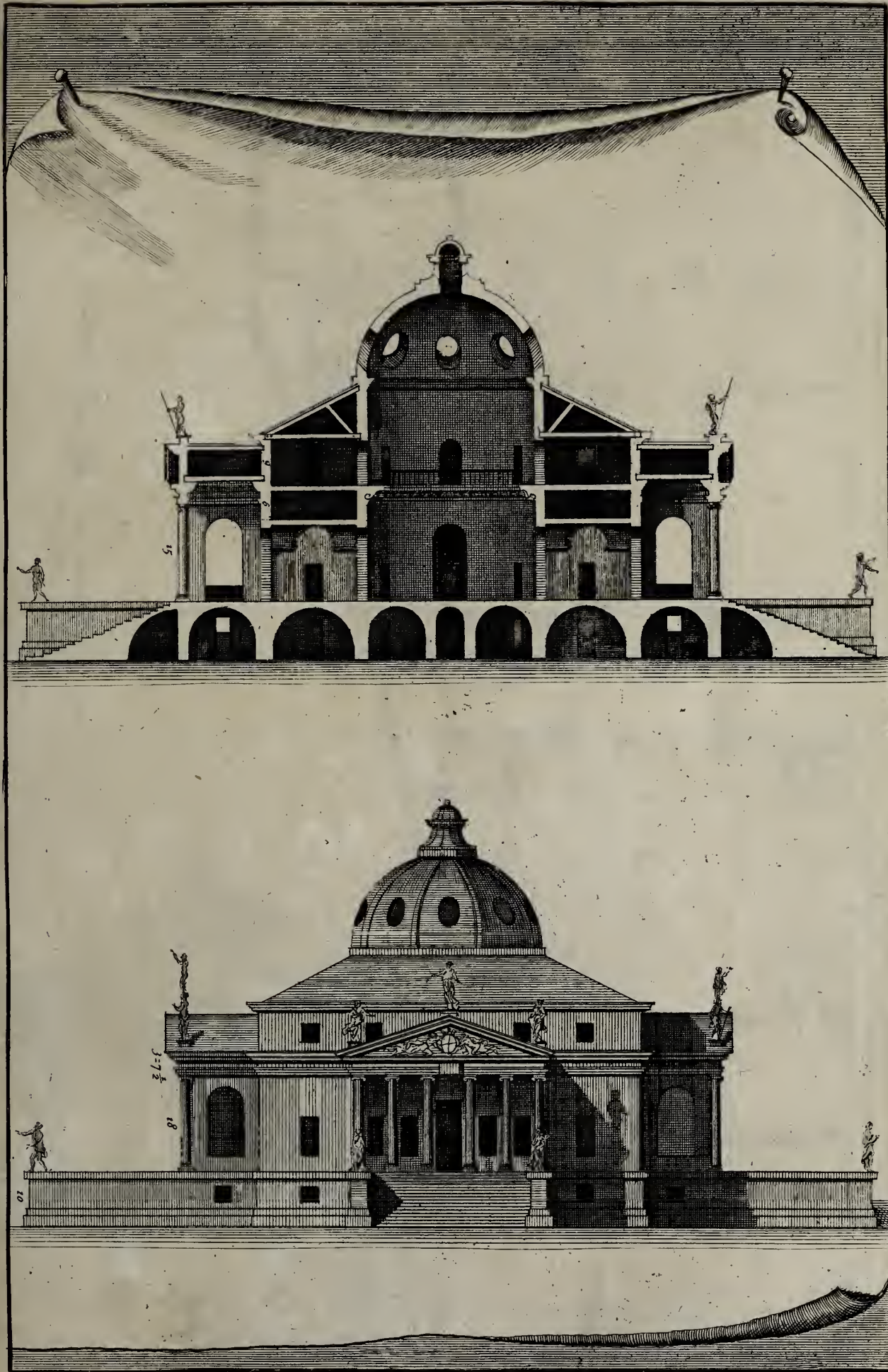
| Date | Description | Debit | Credit |
|------|-------------|-------|--------|
| 1860 | Jan 1       |       |        |
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| 1860 | Mar 1       |       |        |
| 1860 | Apr 1       |       |        |
| 1860 | May 1       |       |        |
| 1860 | Jun 1       |       |        |
| 1860 | Jul 1       |       |        |
| 1860 | Aug 1       |       |        |
| 1860 | Sep 1       |       |        |
| 1860 | Oct 1       |       |        |
| 1860 | Nov 1       |       |        |
| 1860 | Dec 1       |       |        |
| 1860 | Total       |       |        |











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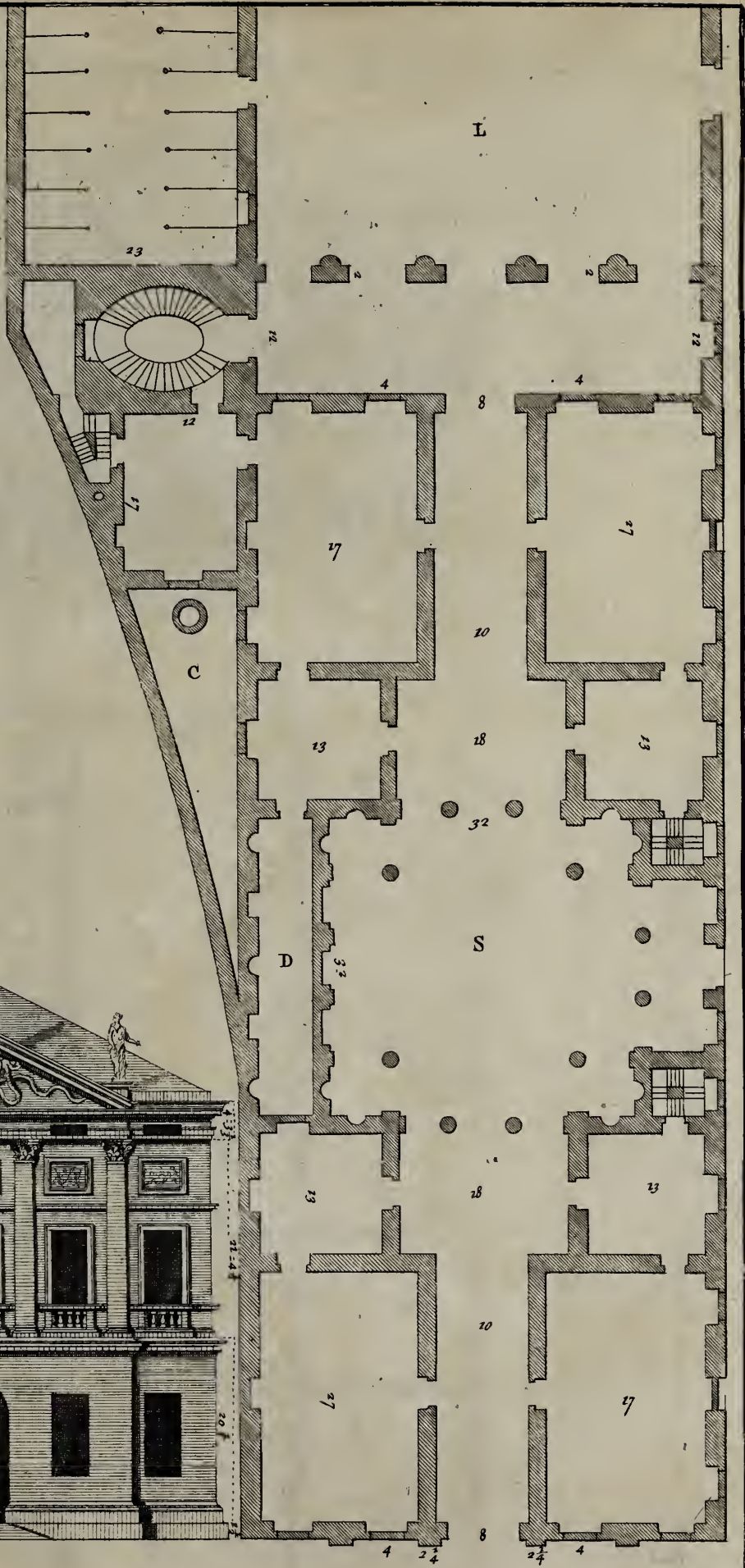
18

E. Hoppus delin.

B. Cole sculp



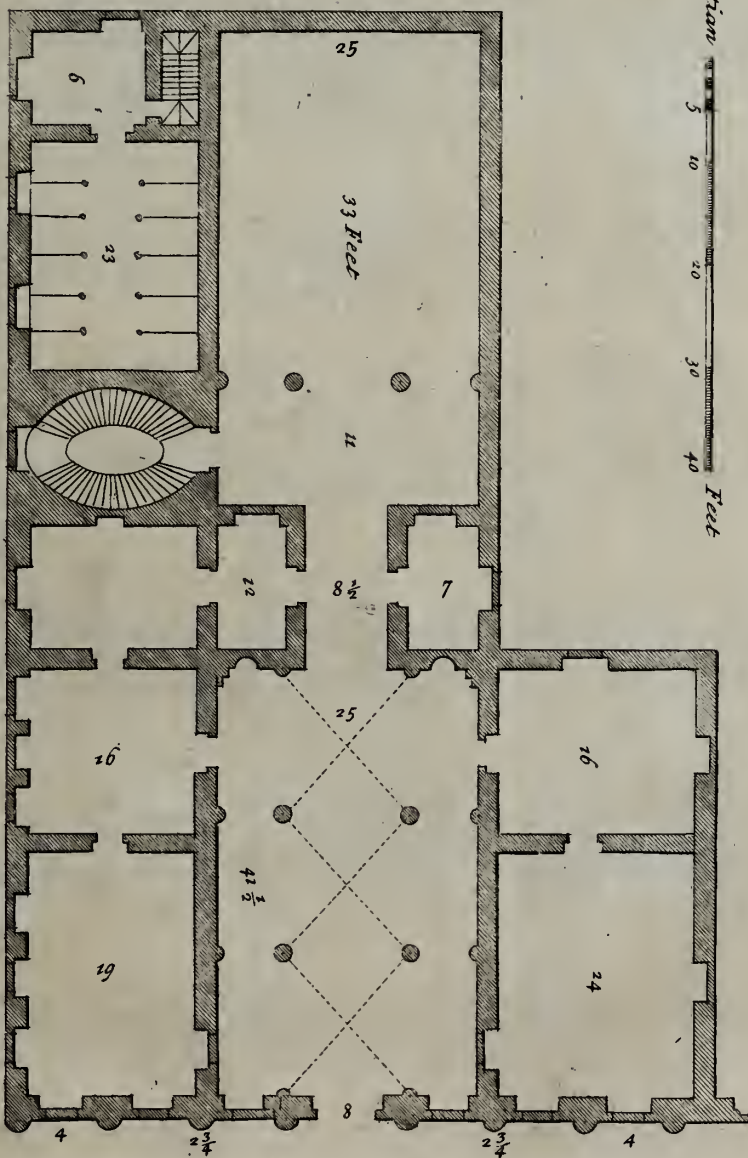
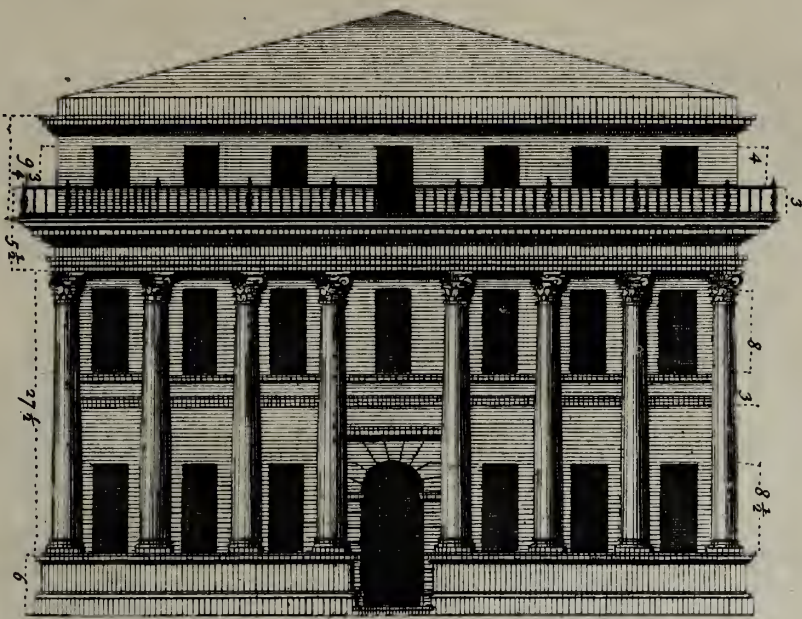
60  
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Scale of Venetian Feet.

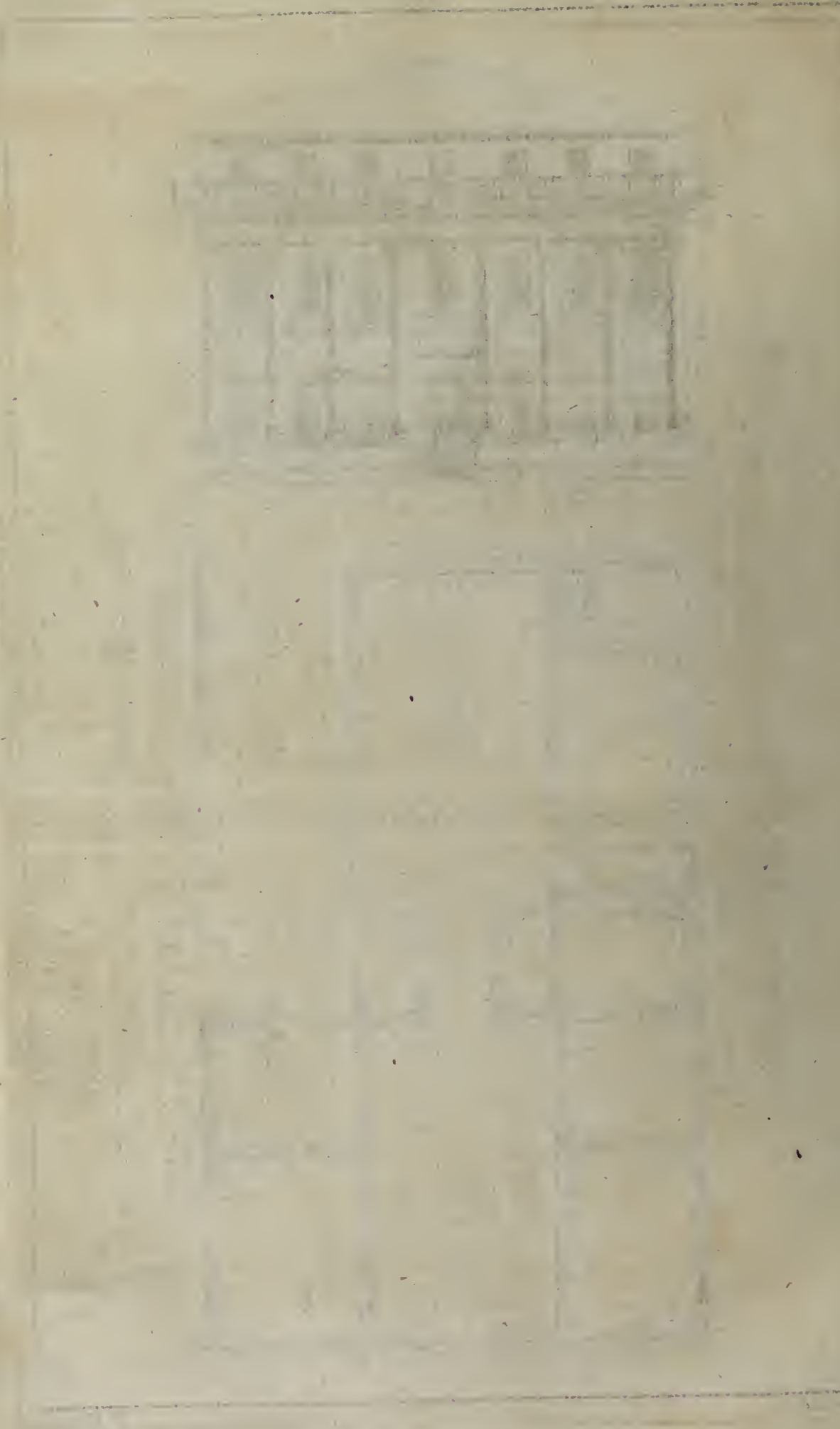


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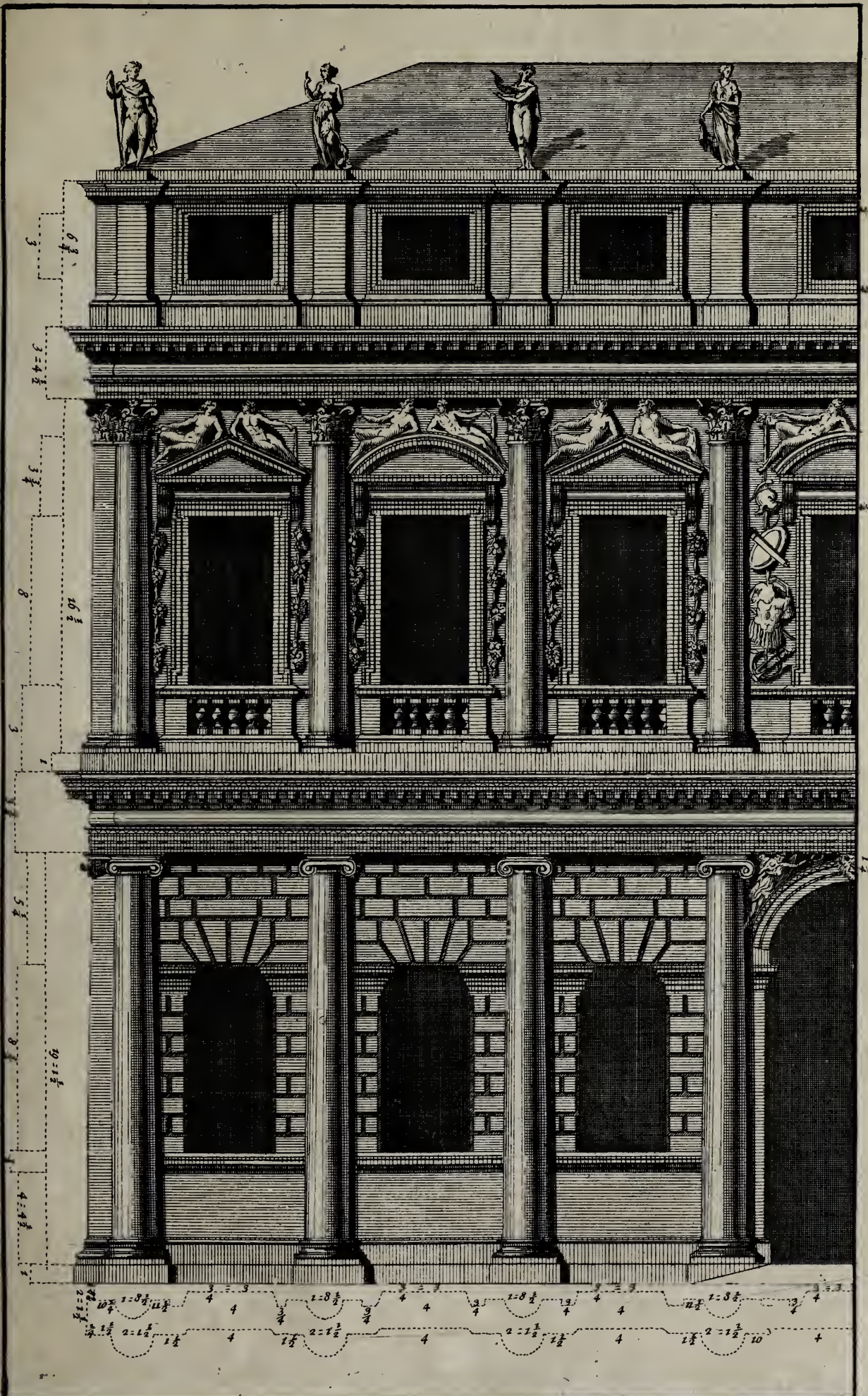
B. Cole sculp.







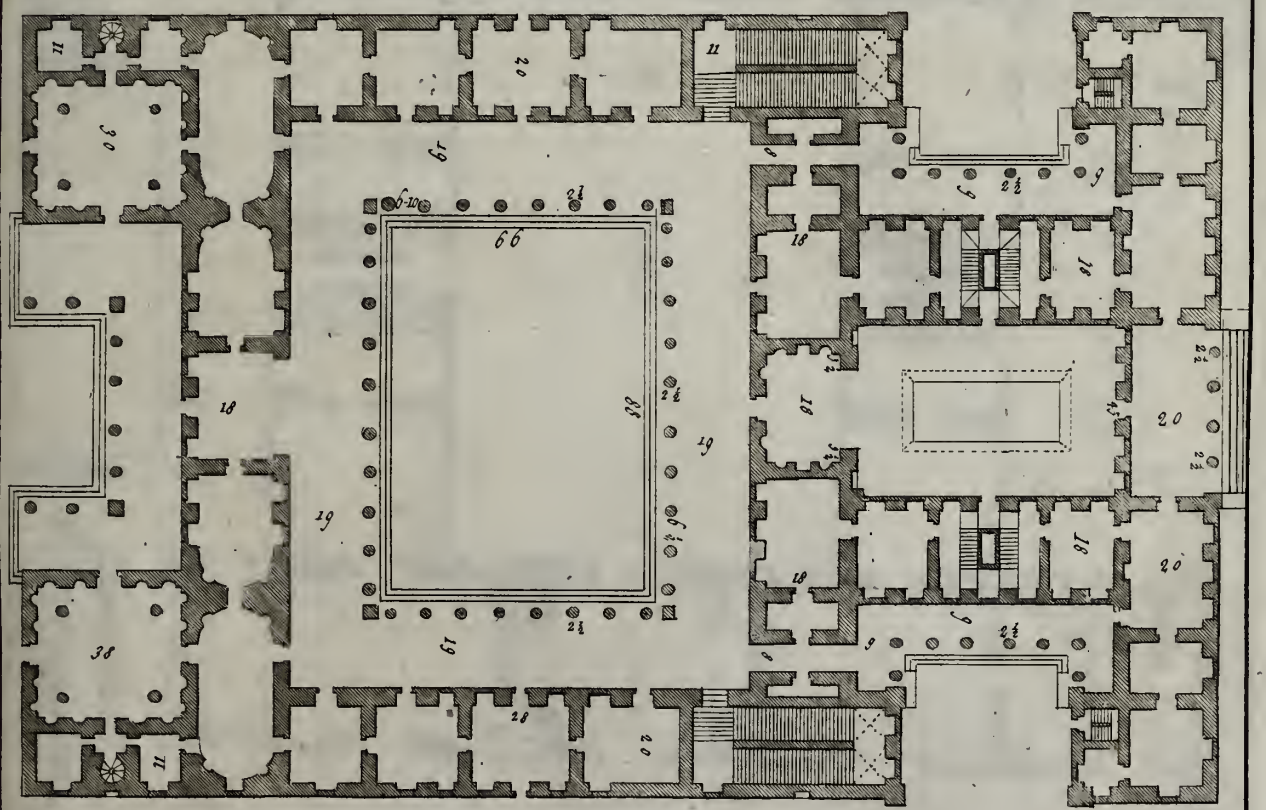
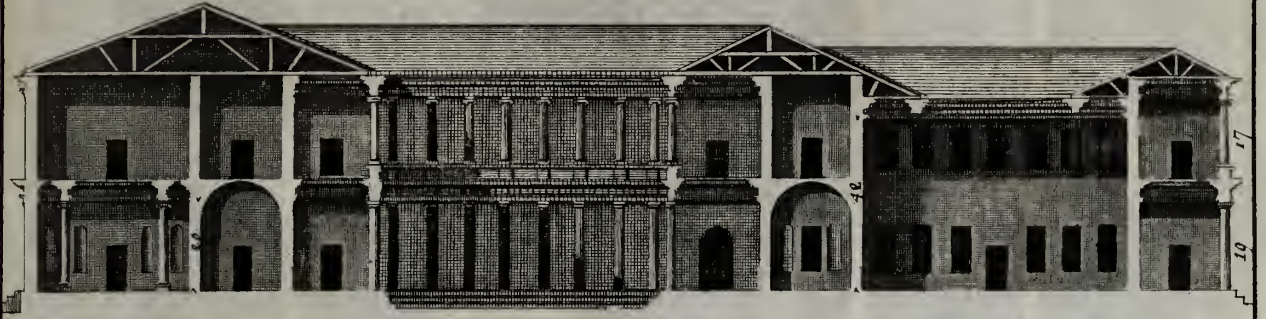


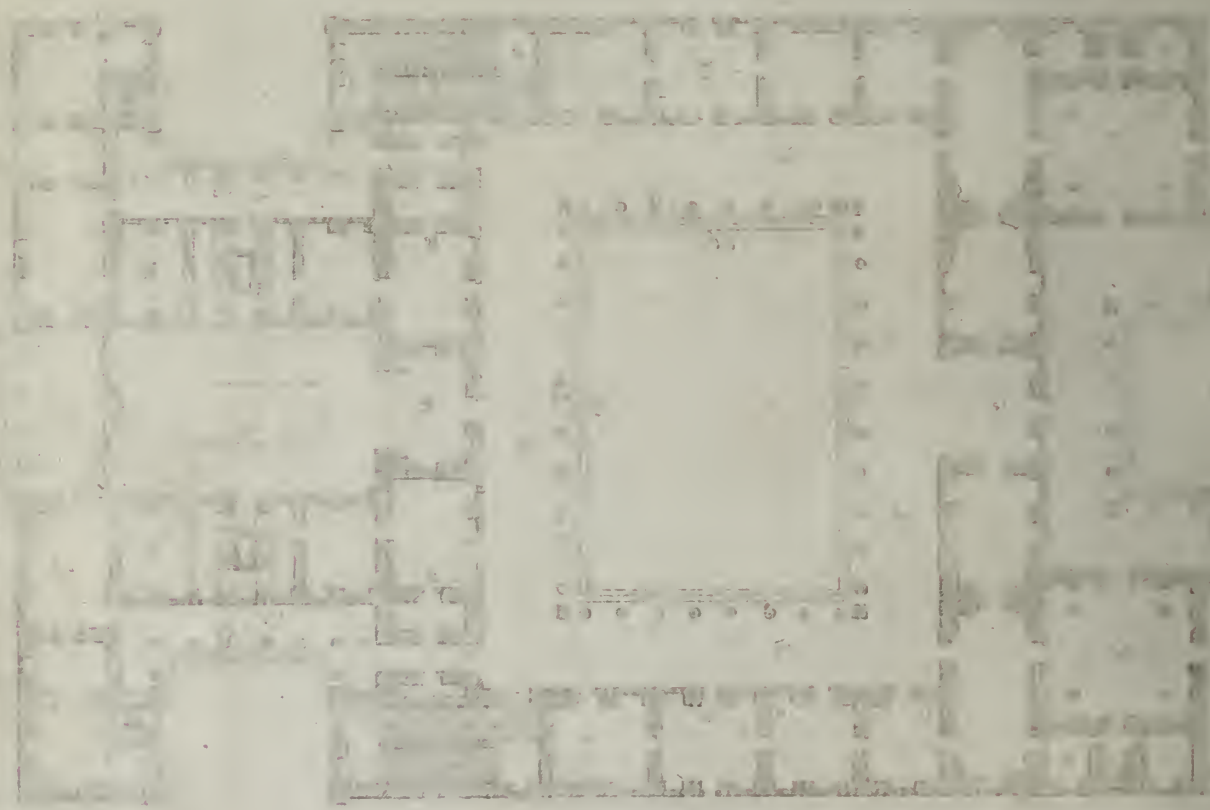
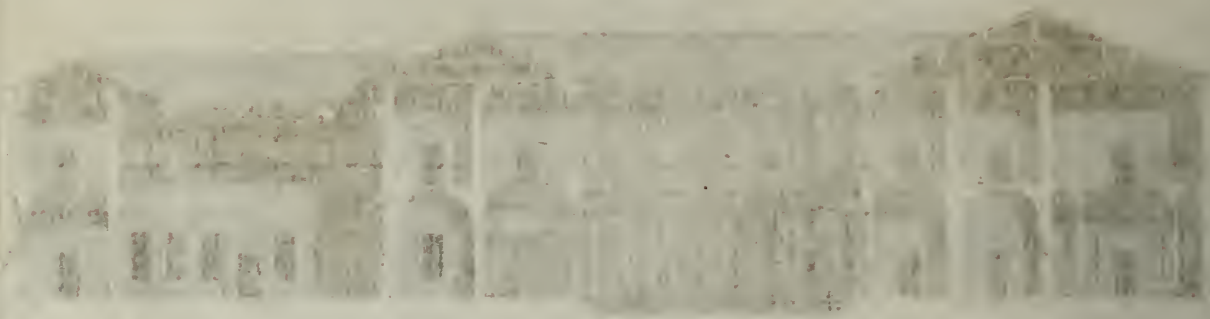


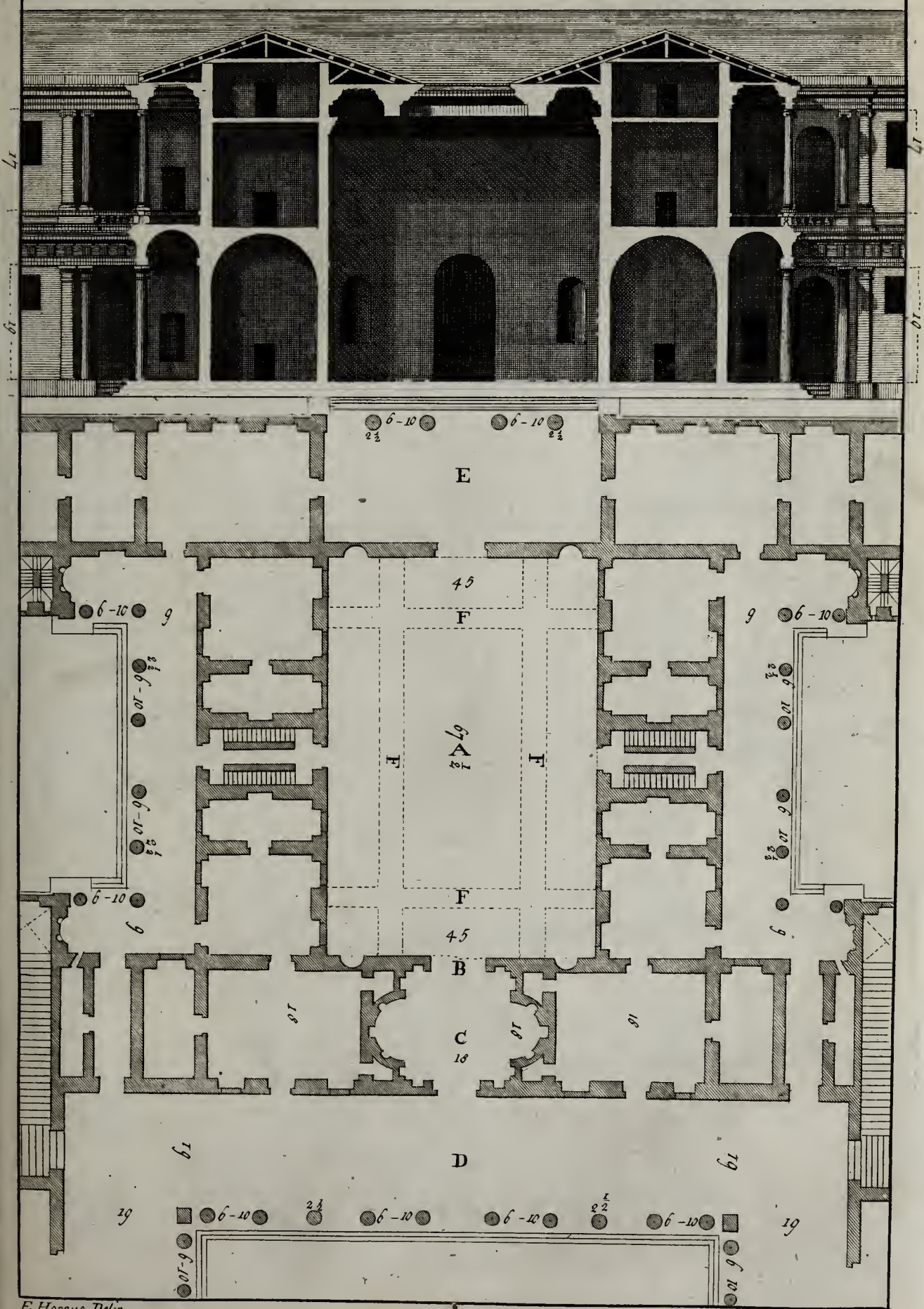
E. Hoppus delin.

B. Cole sculp.

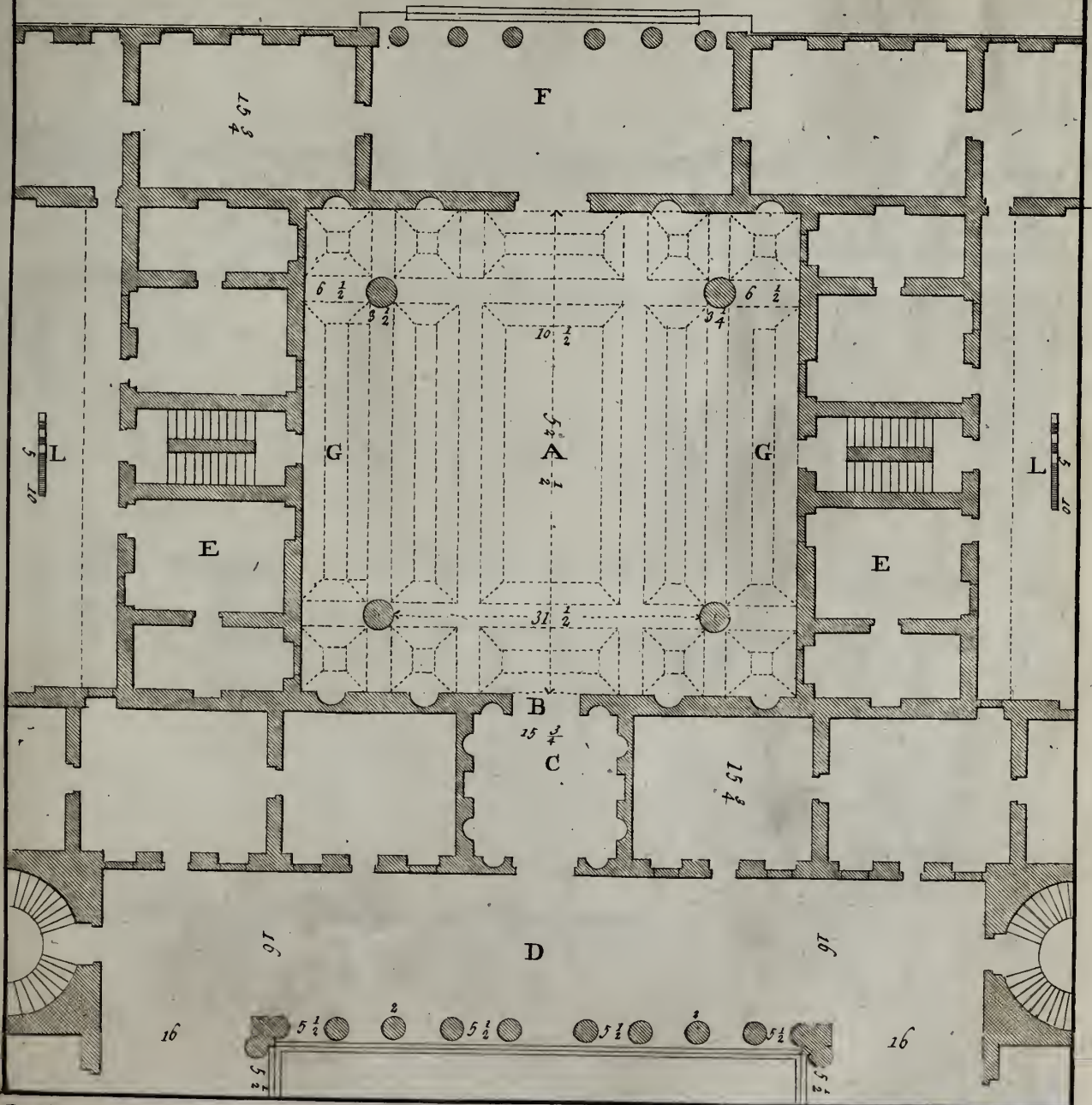
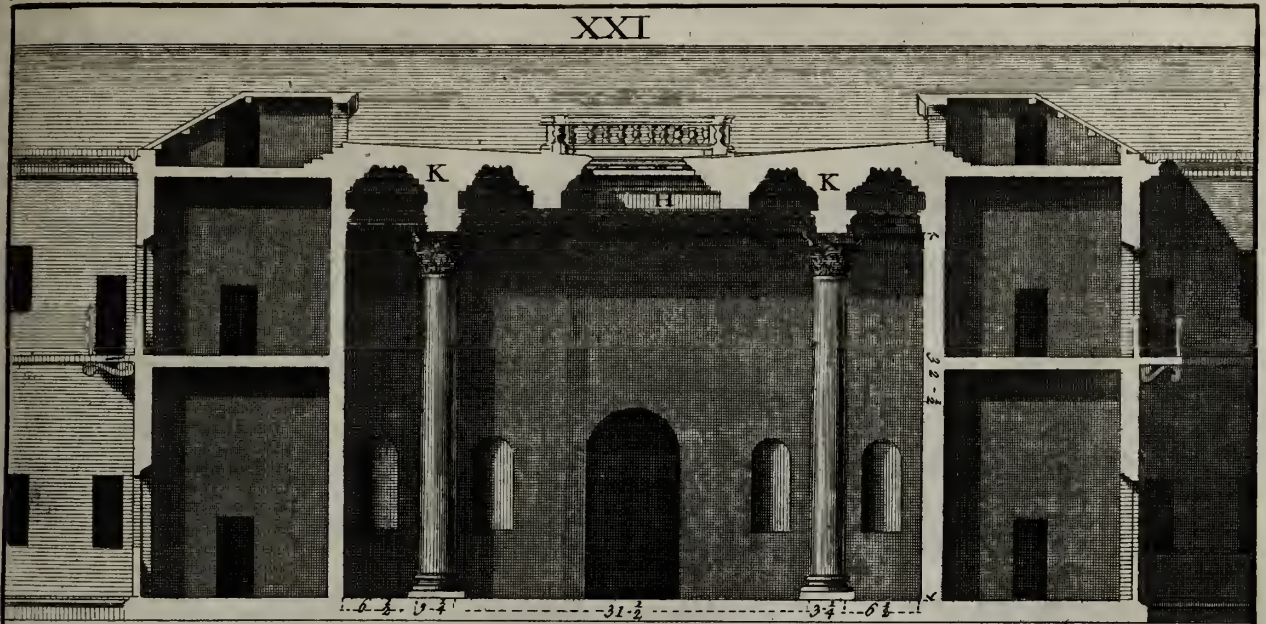
The image shows a very faint table with multiple columns and rows. The text is illegible due to fading. The table appears to be a ledger or account book with several columns and rows of data. The columns are separated by vertical lines, and the rows are separated by horizontal lines. The overall appearance is that of an old, worn document.









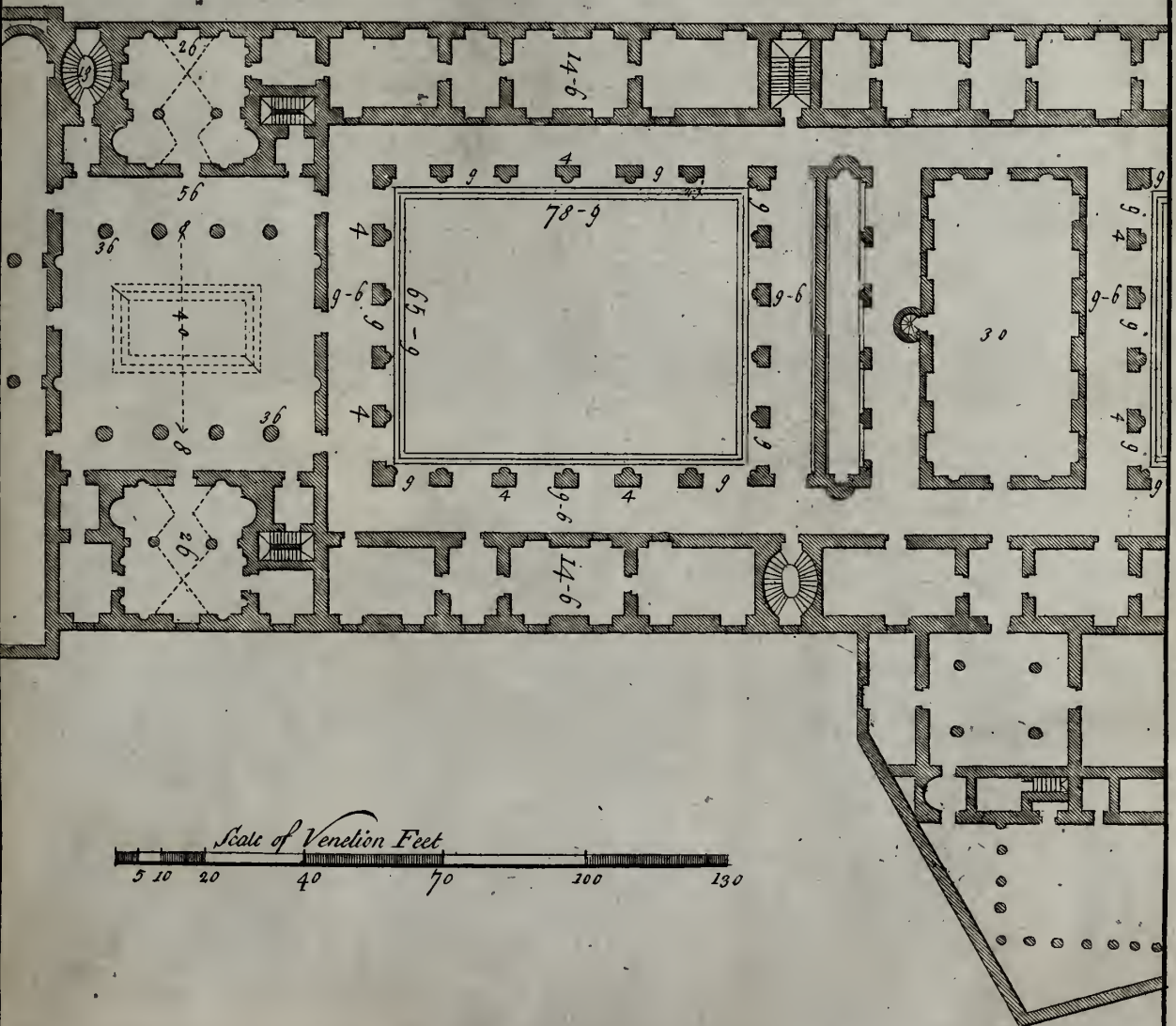
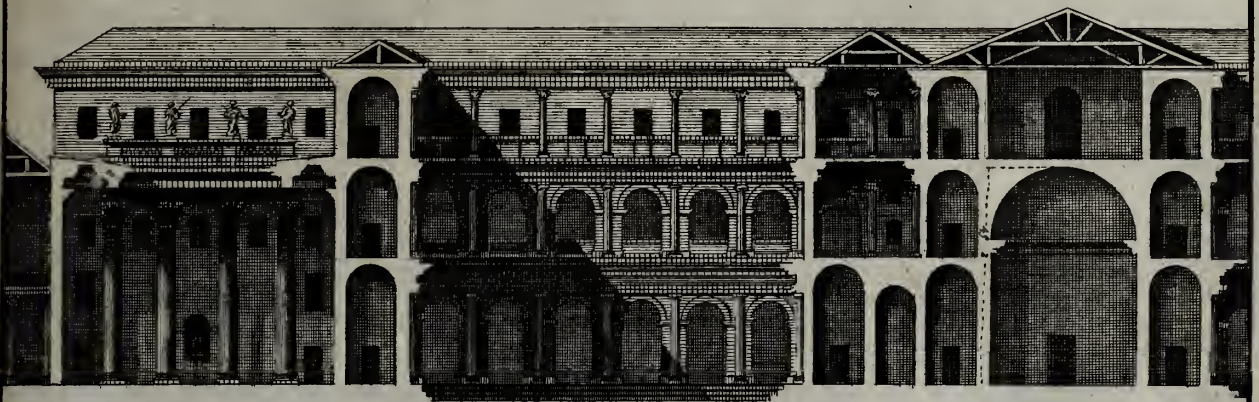


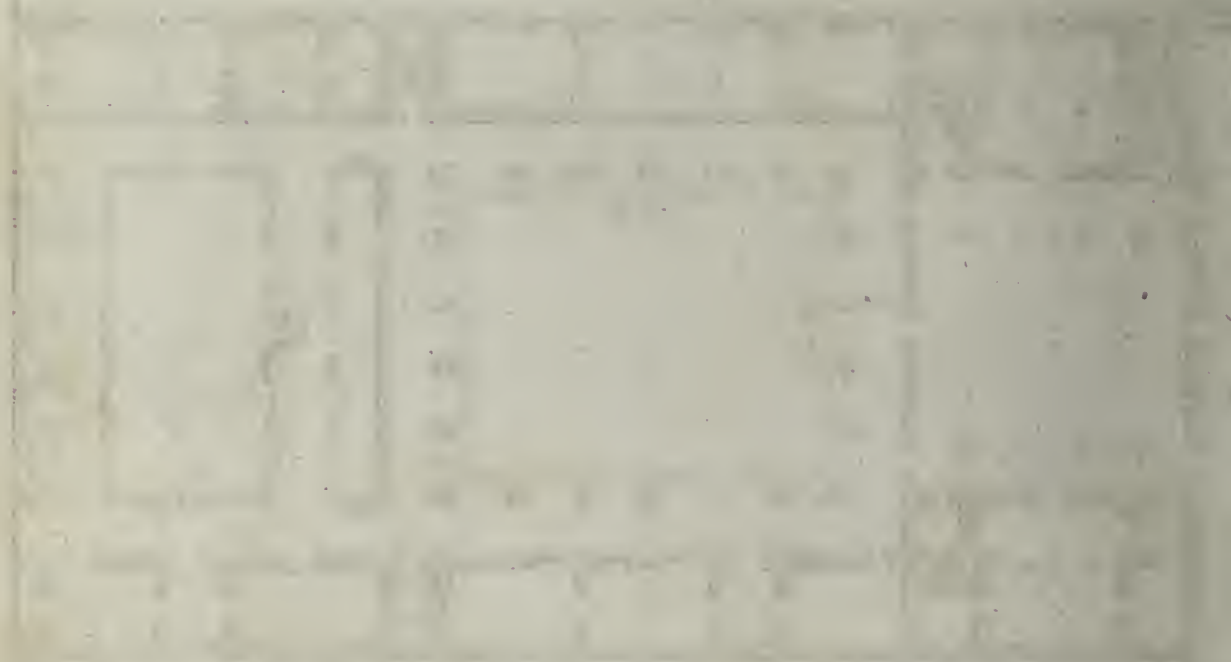
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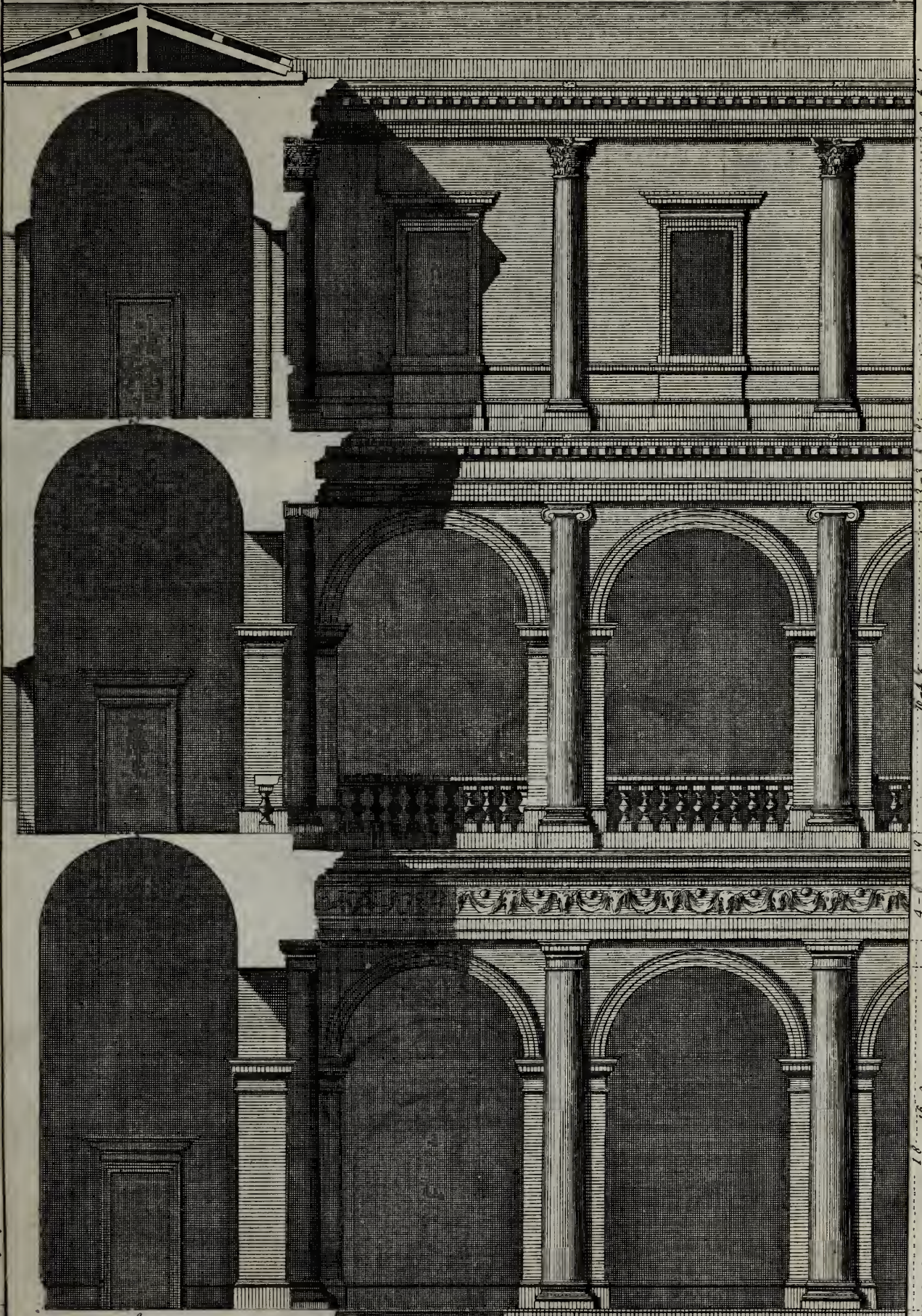






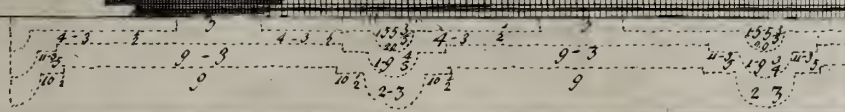
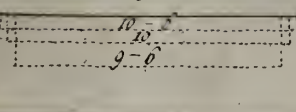


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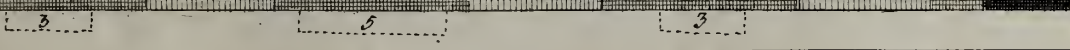
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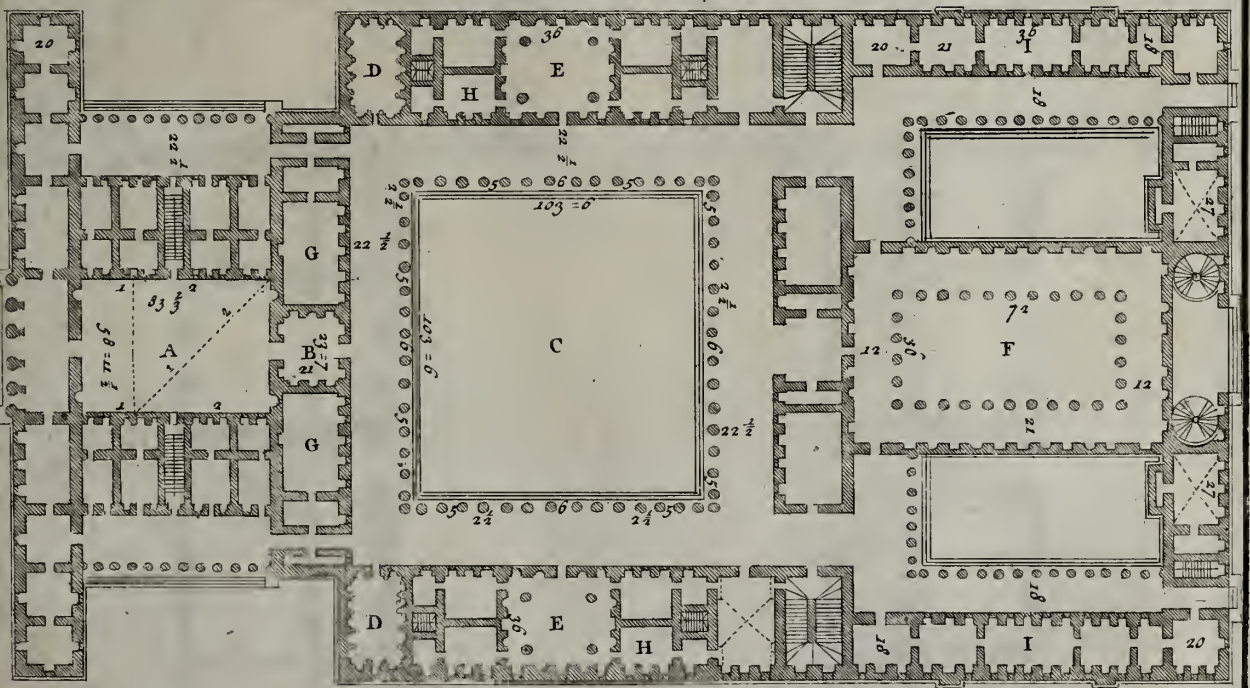
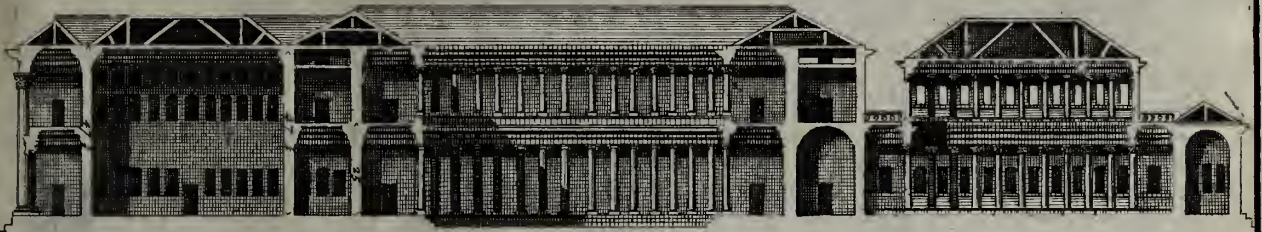
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E. Hoppus Delin

B. Cole Sculp

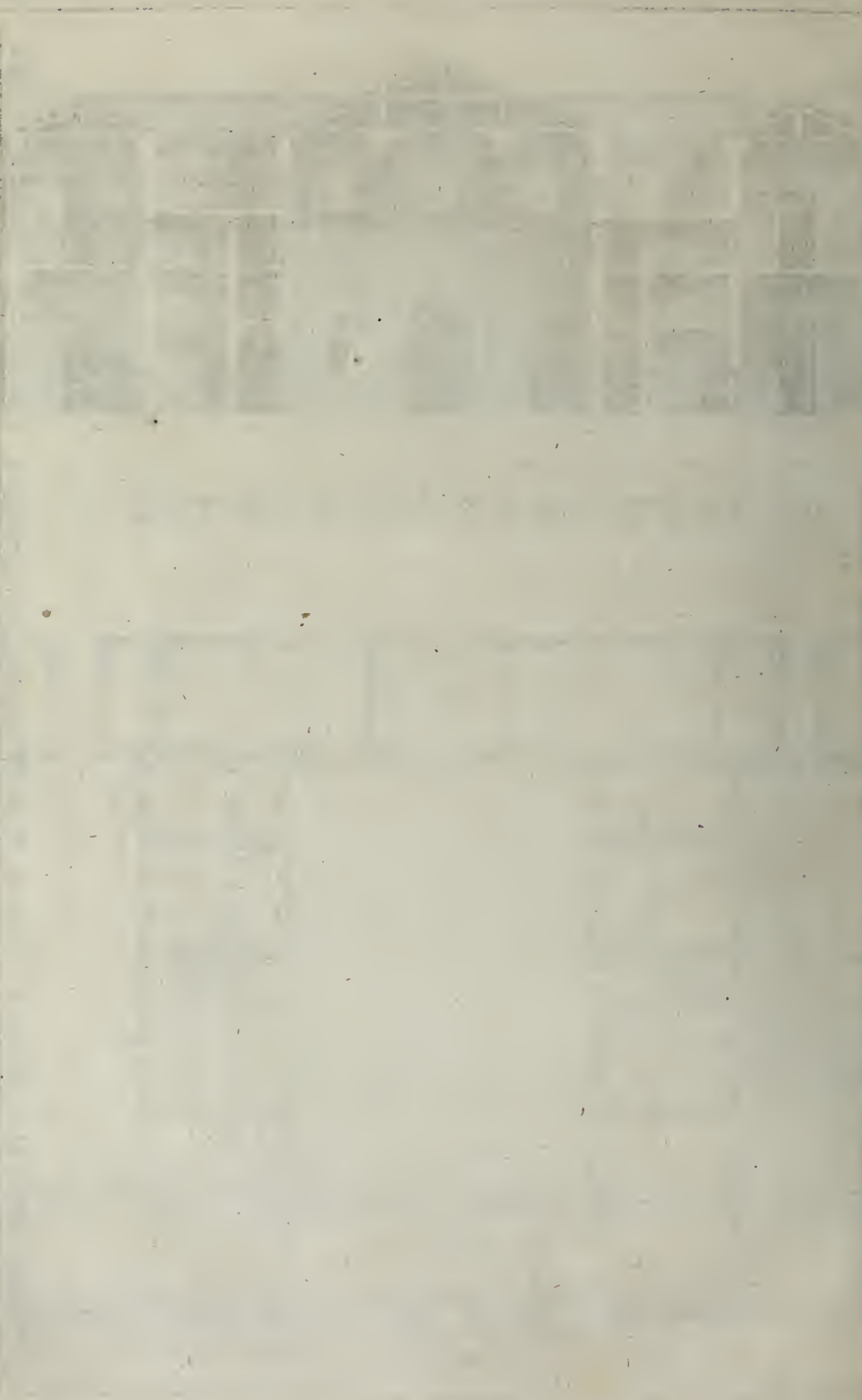
| Date | Description | Debit | Credit | Balance |
|------|-------------|-------|--------|---------|
| 1890 | Jan 1       |       |        |         |
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| 1890 | Jan 1       |       |        |         |



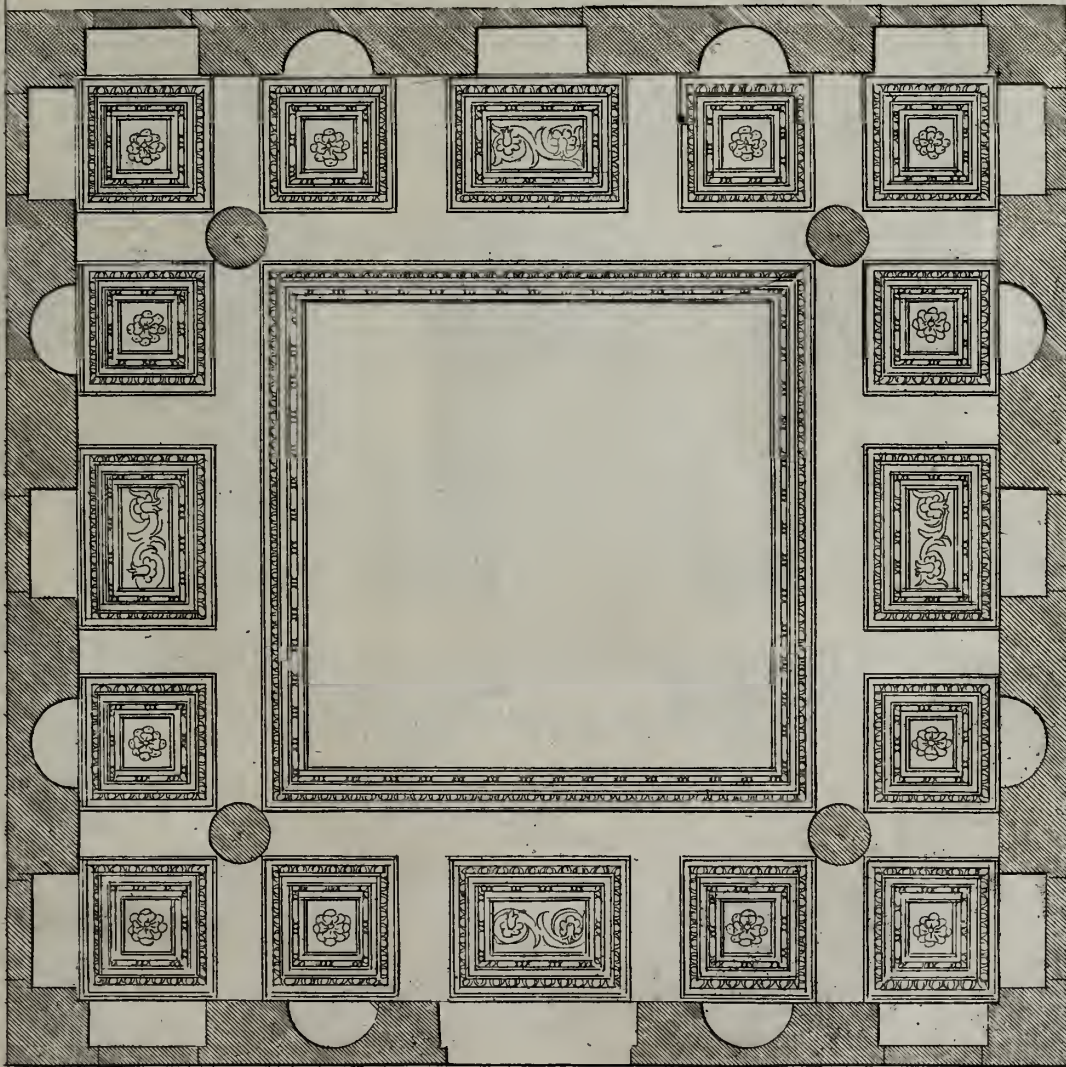
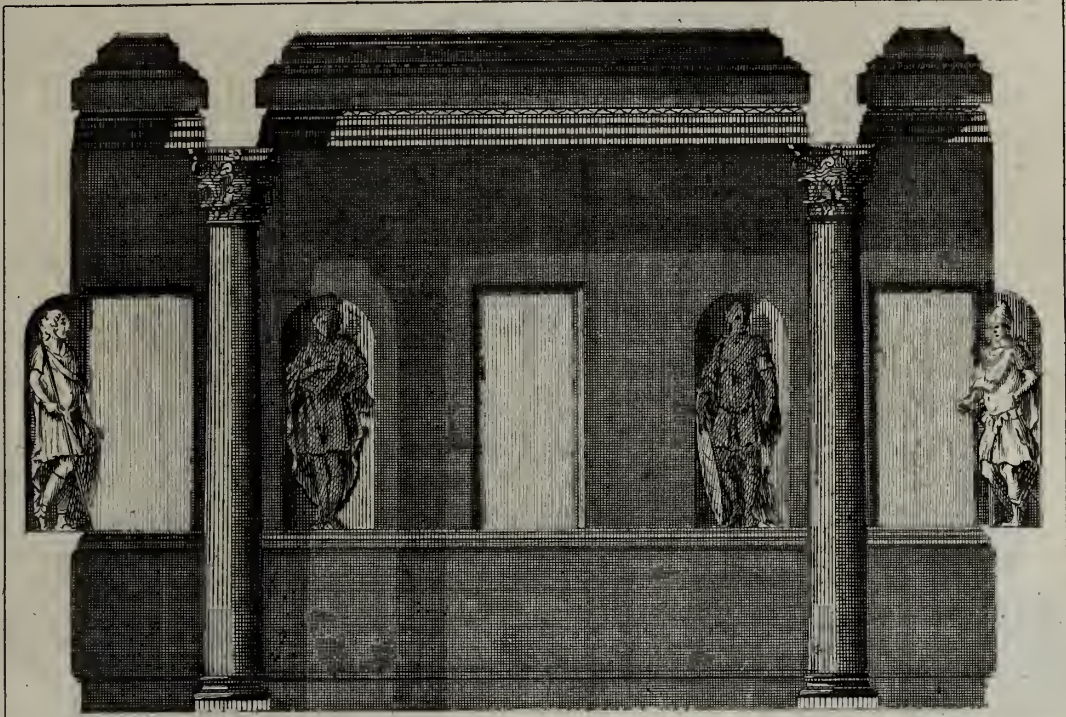








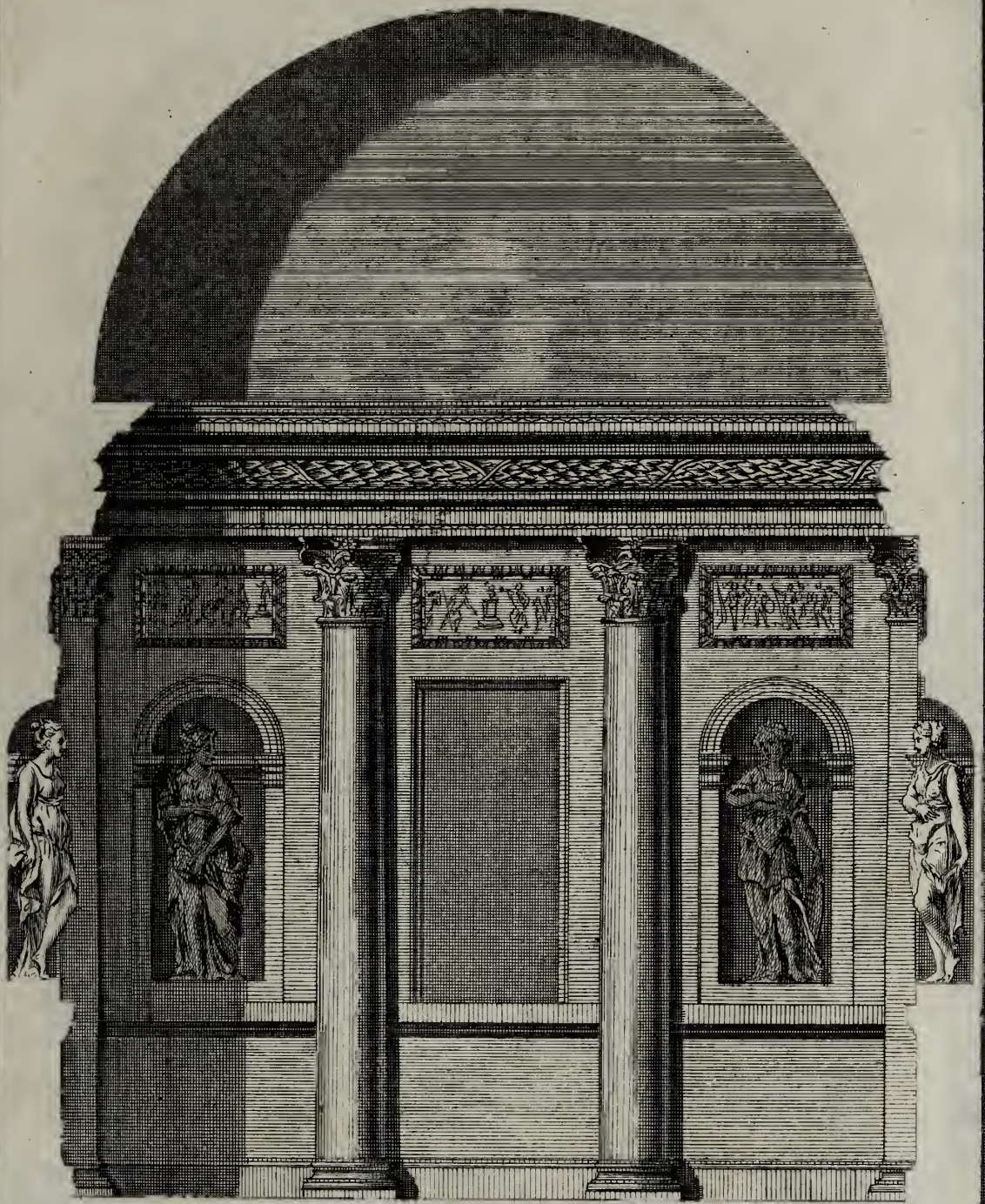
6.2



*E. Hopper Delin*

*B. Cole Sculp.*

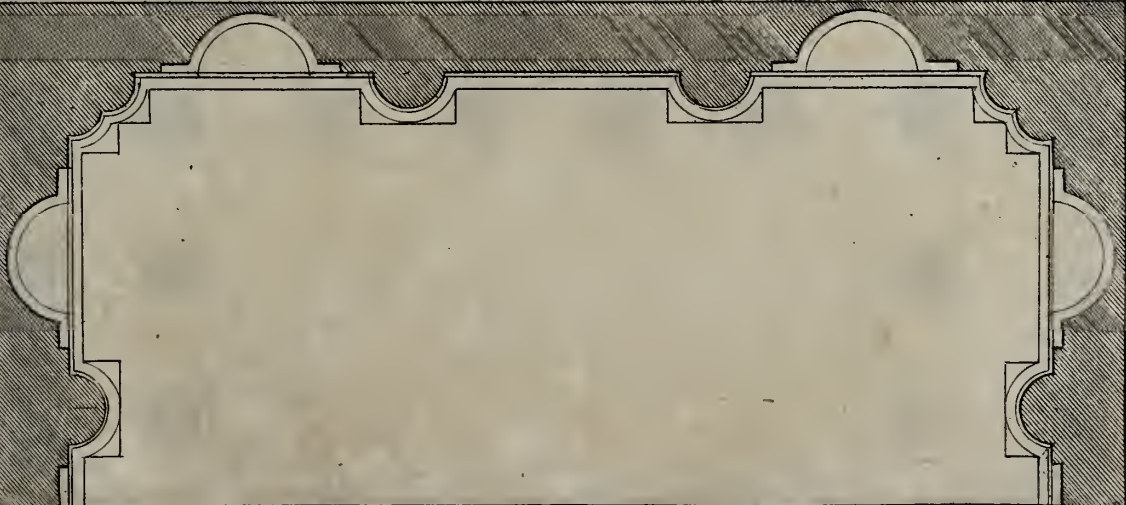


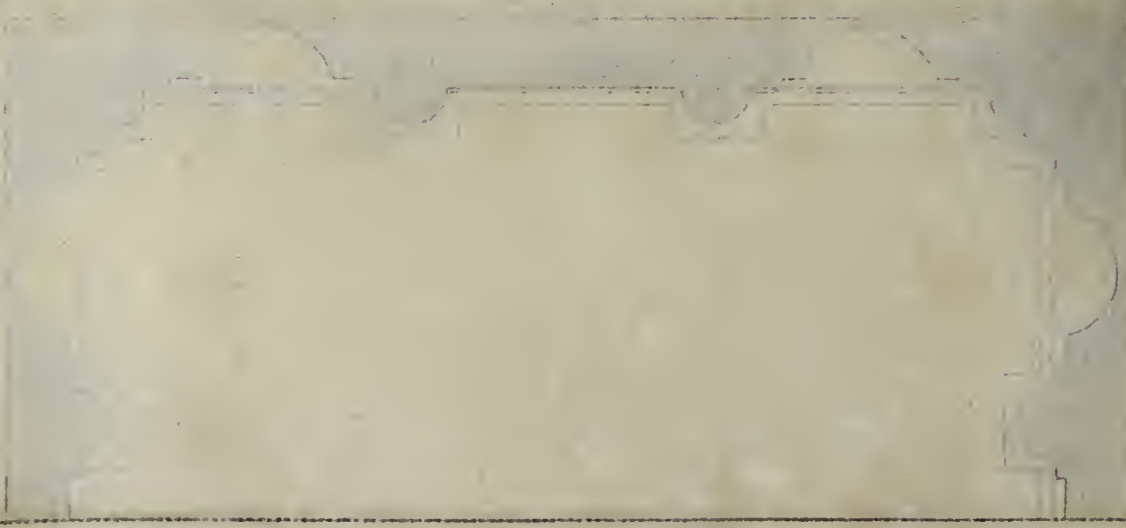


*E Hoppers Delin*

*B Cole Sculp*



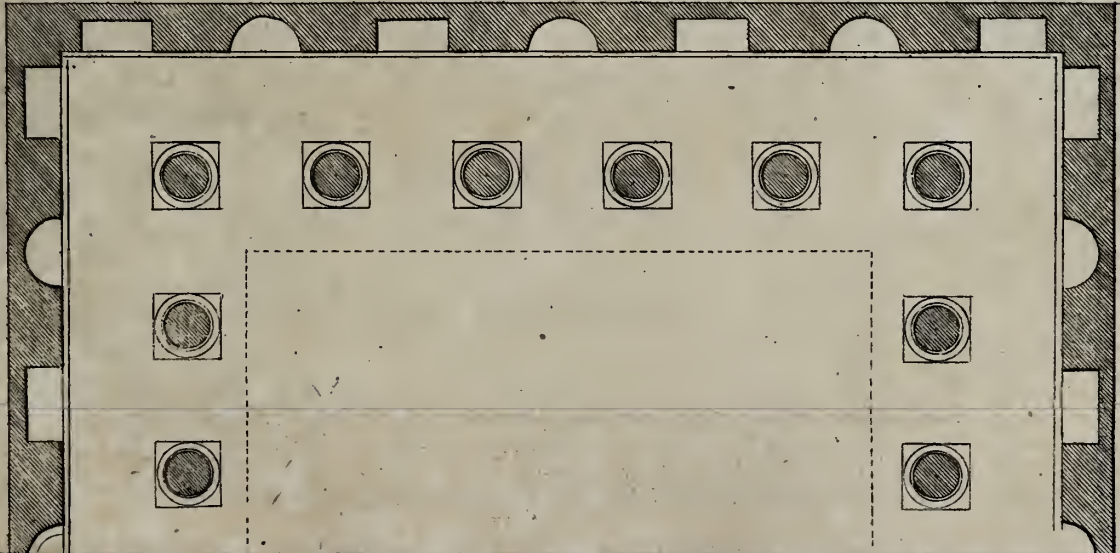






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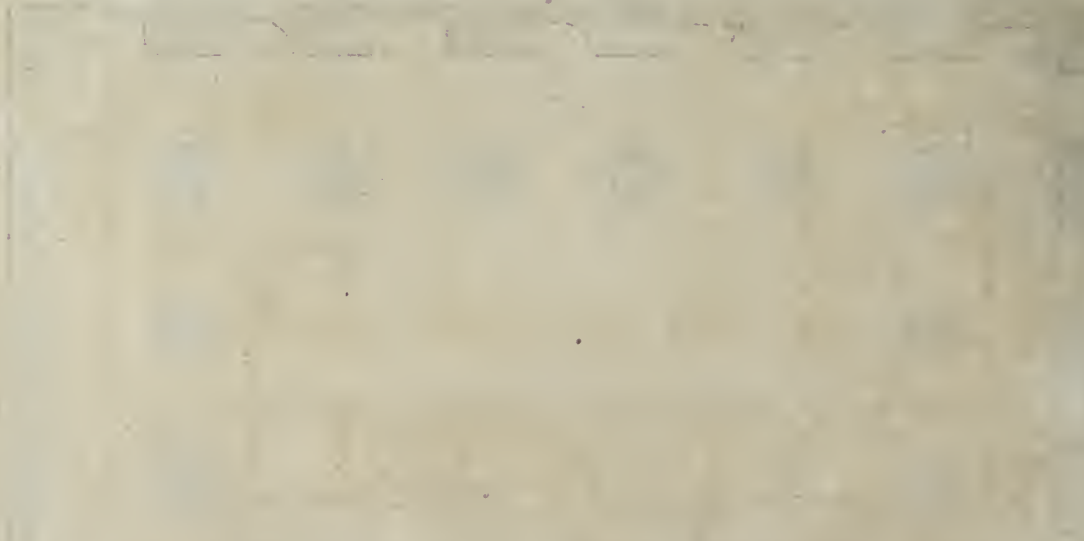
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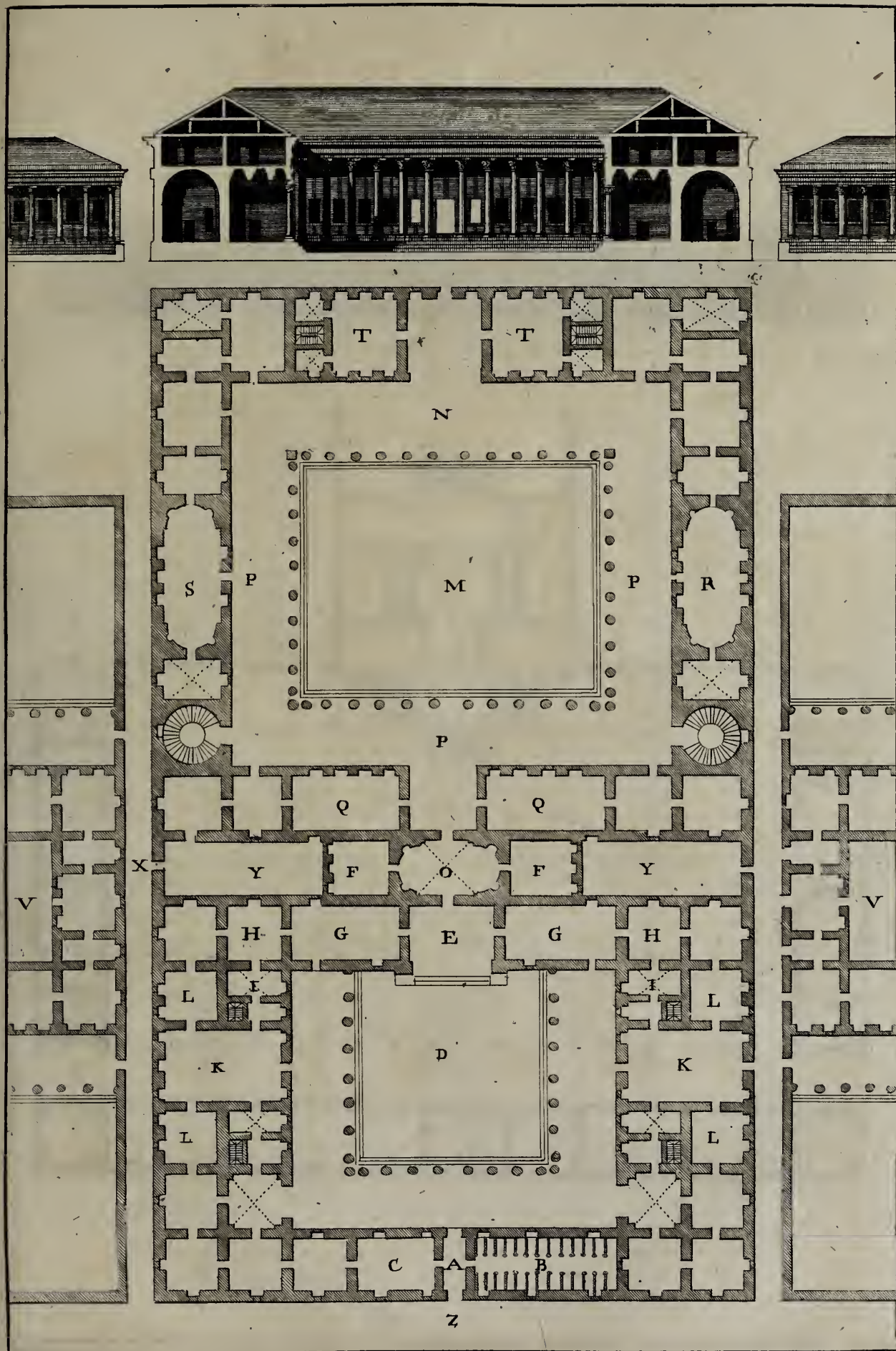


E. Hoppus Deline

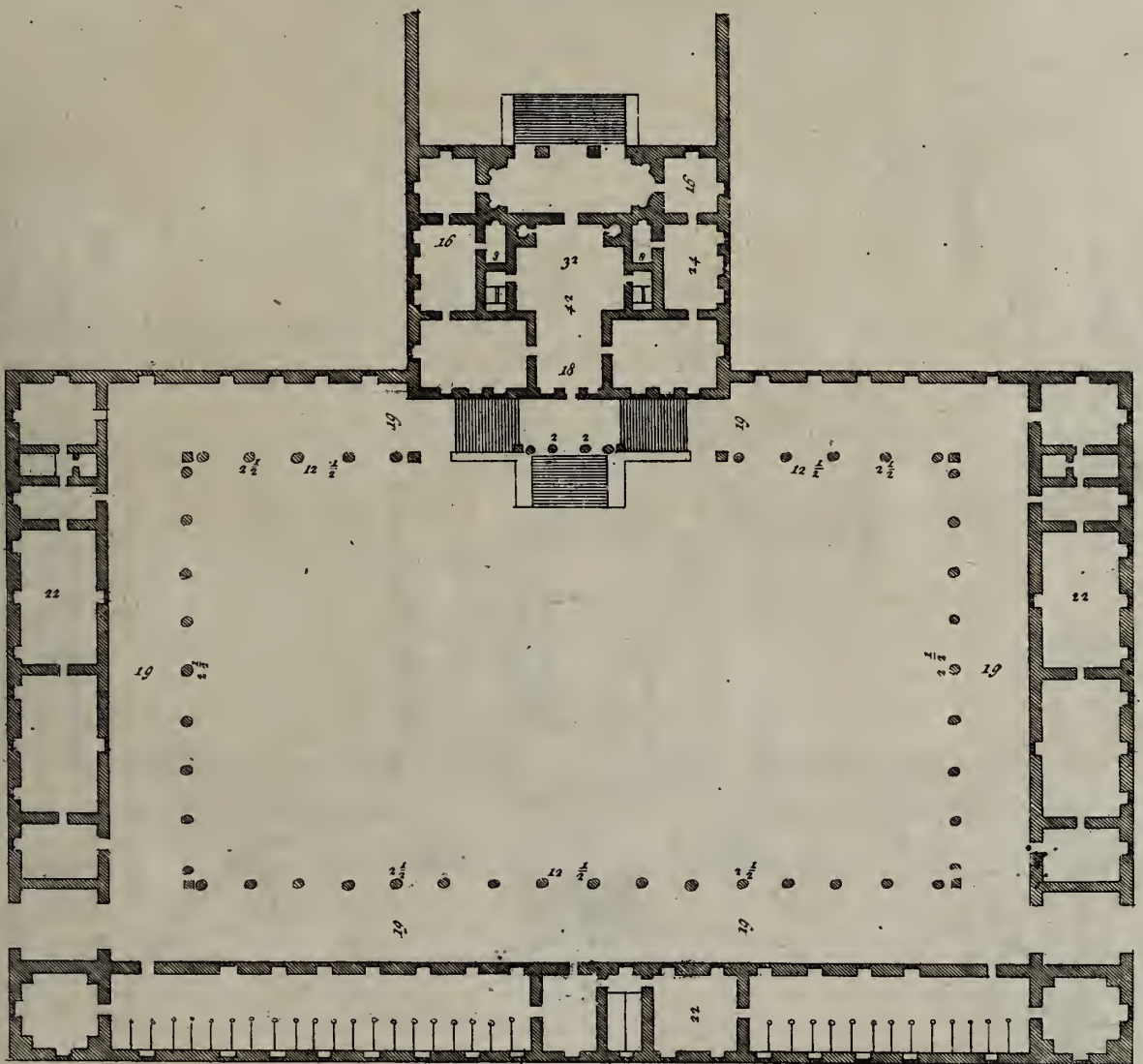
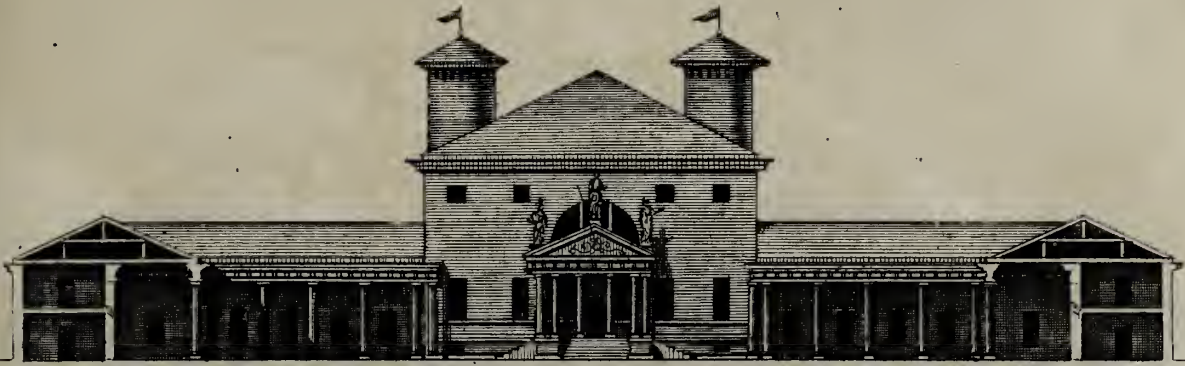
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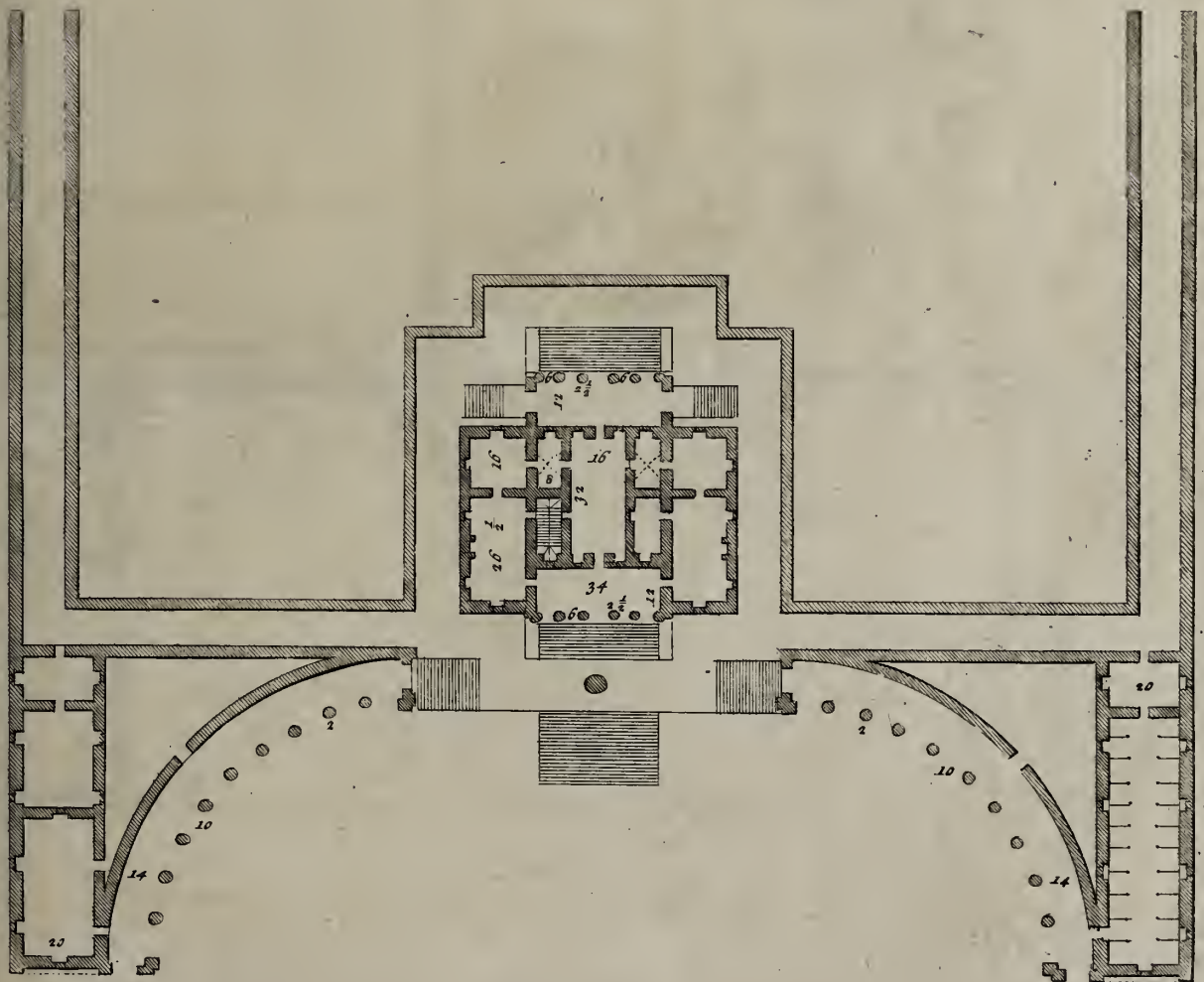






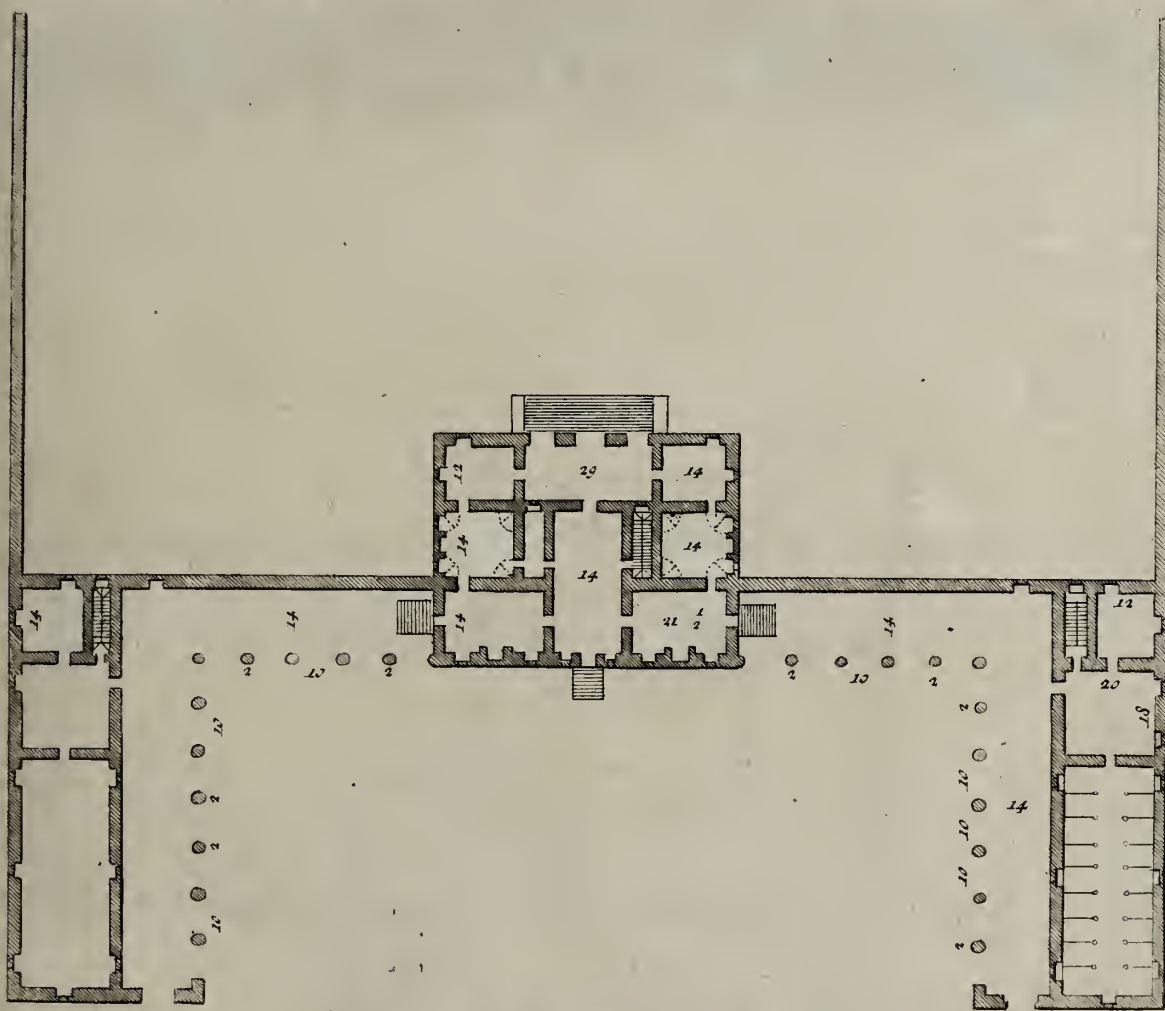




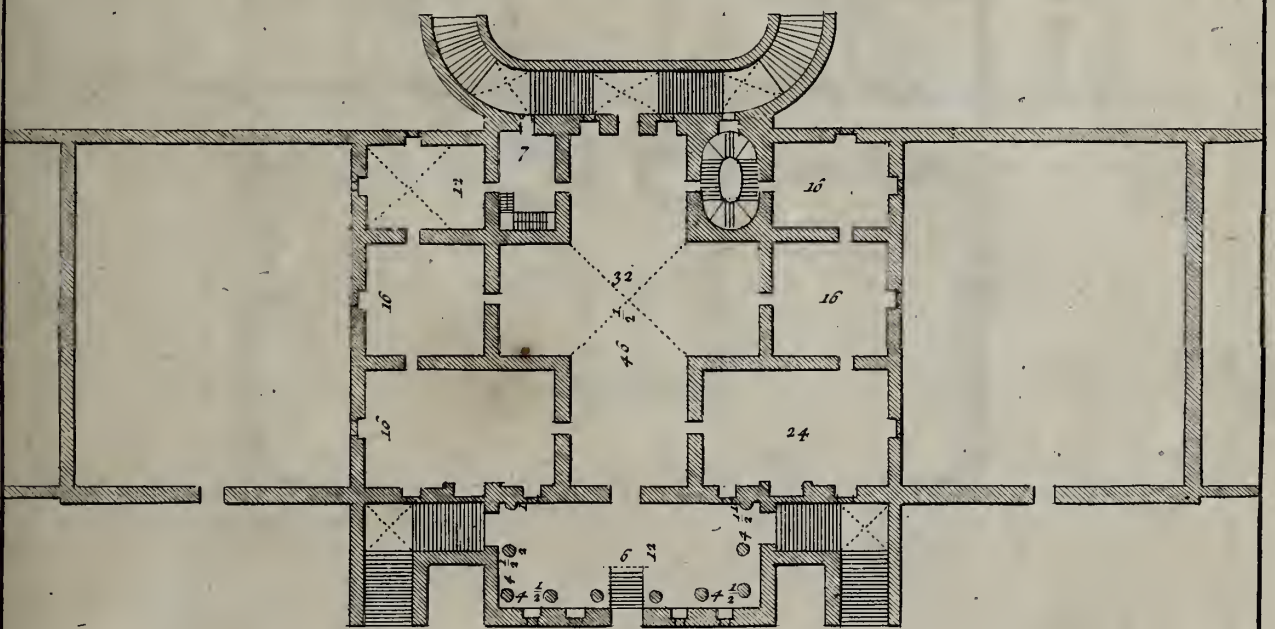




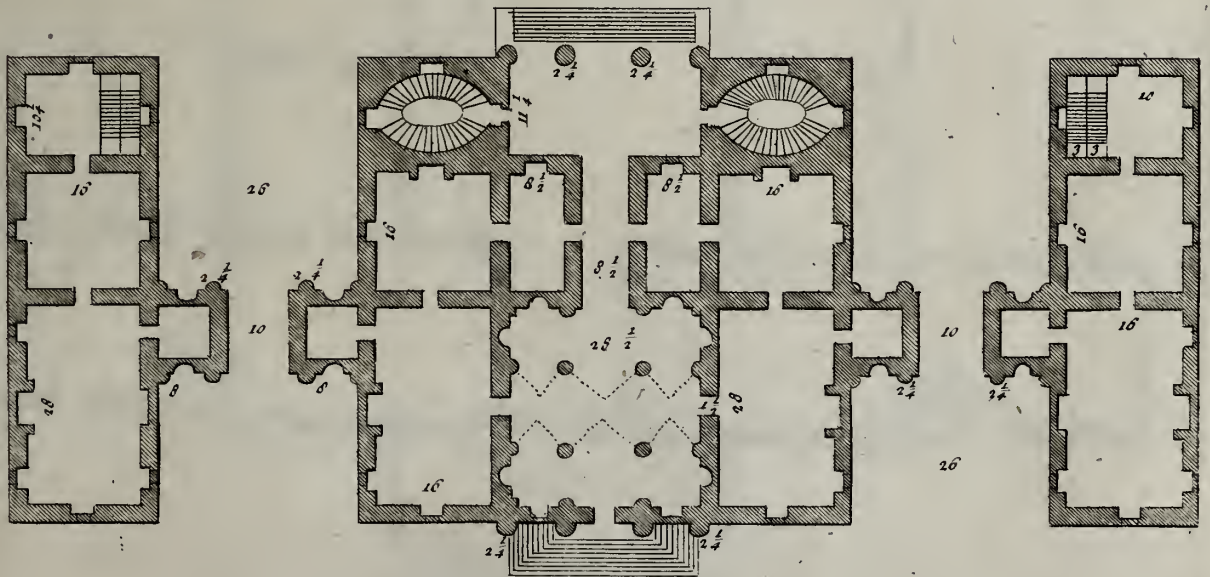






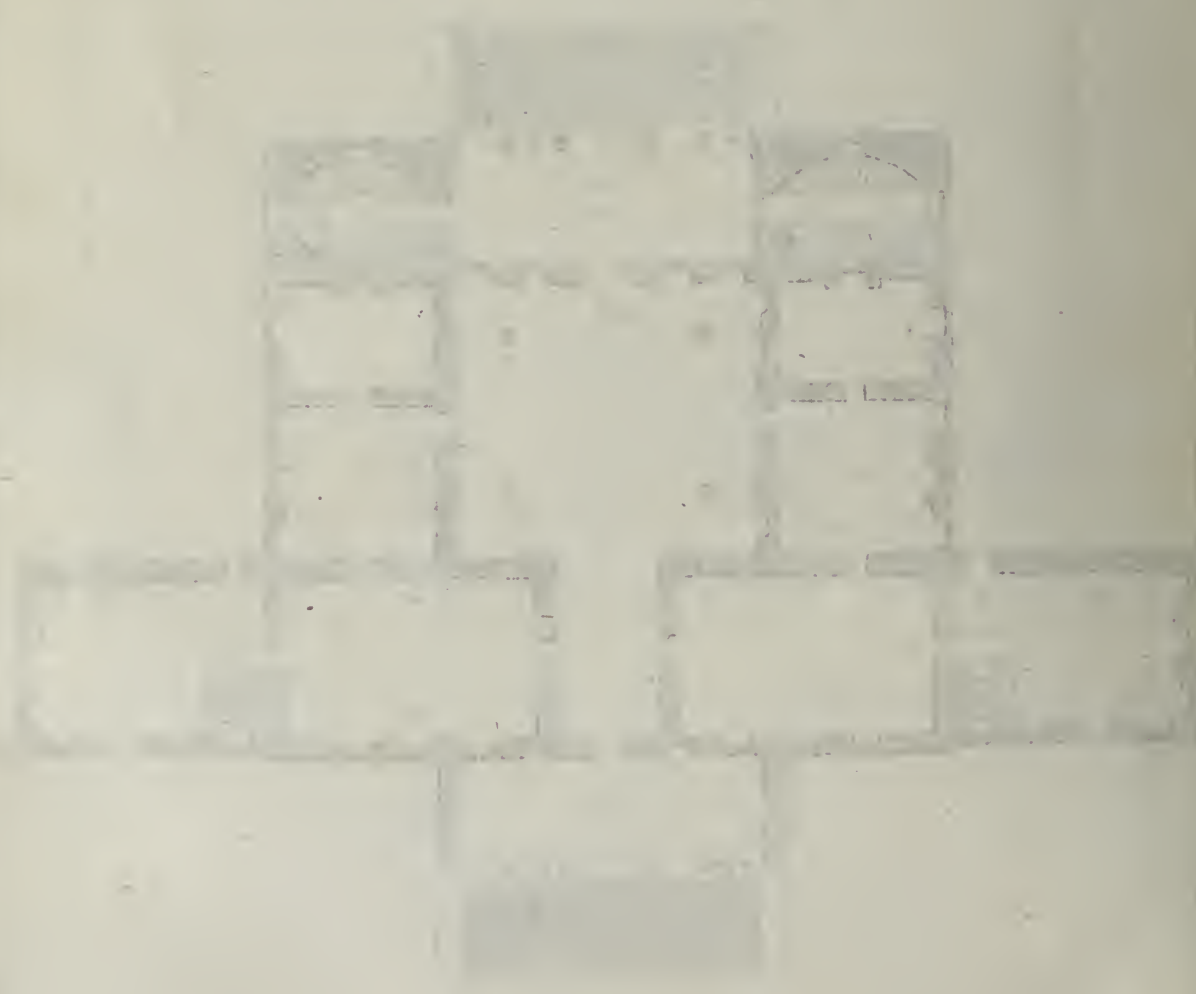




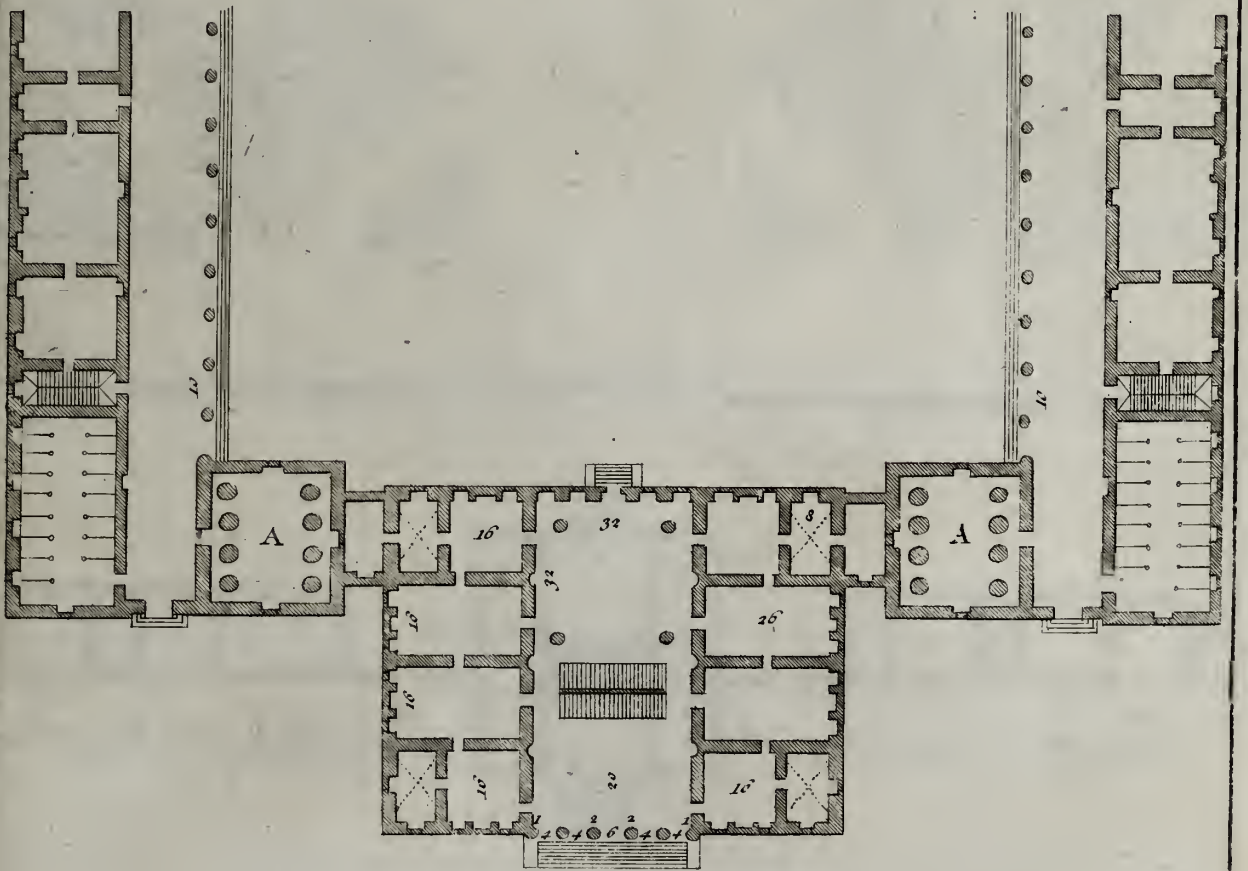


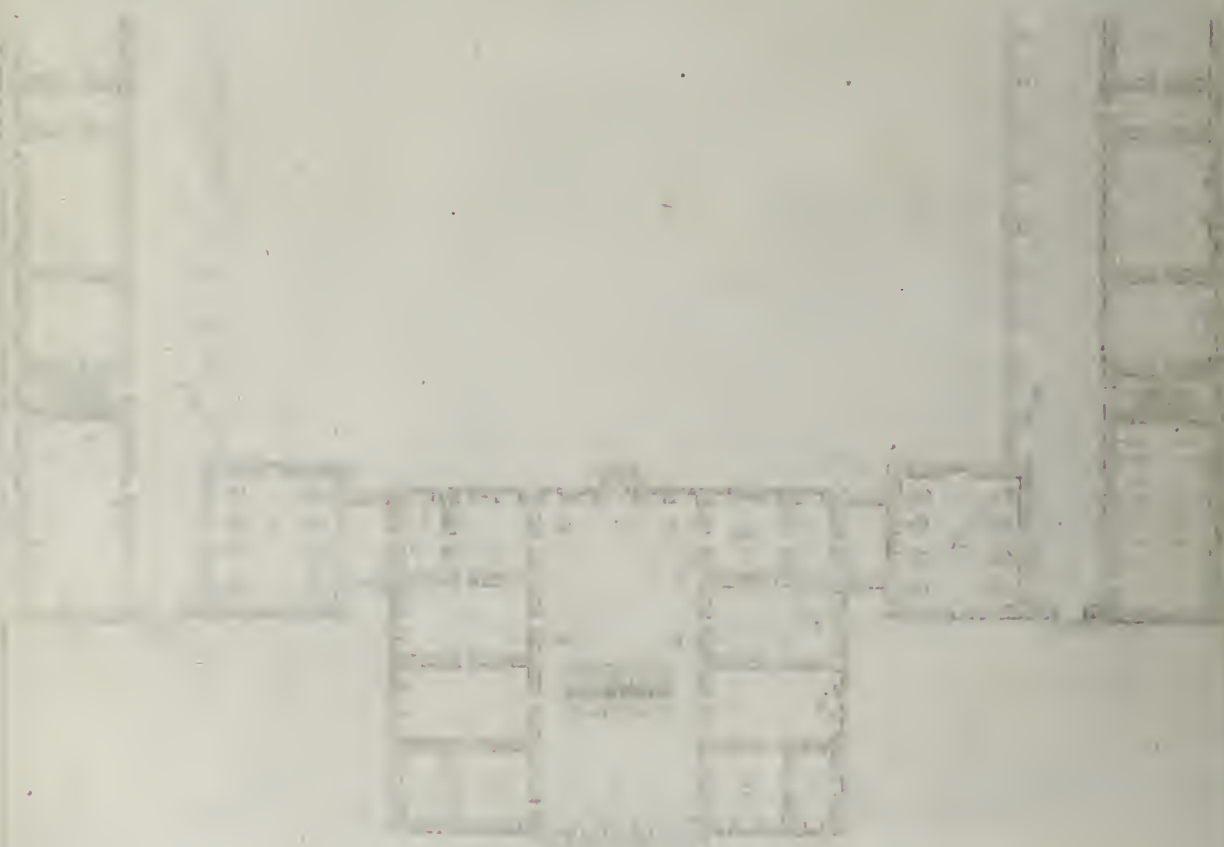


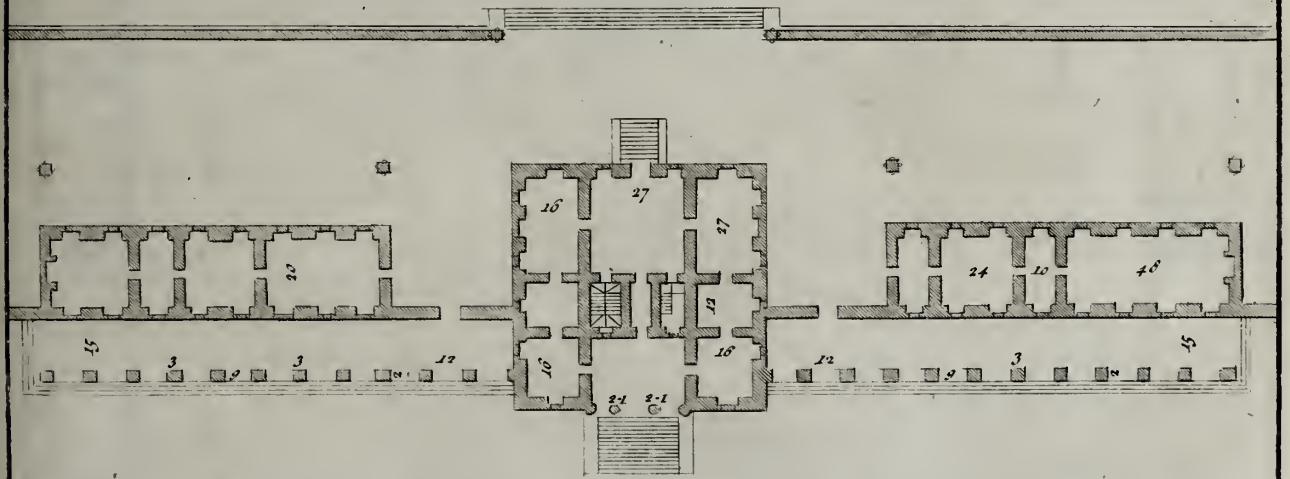
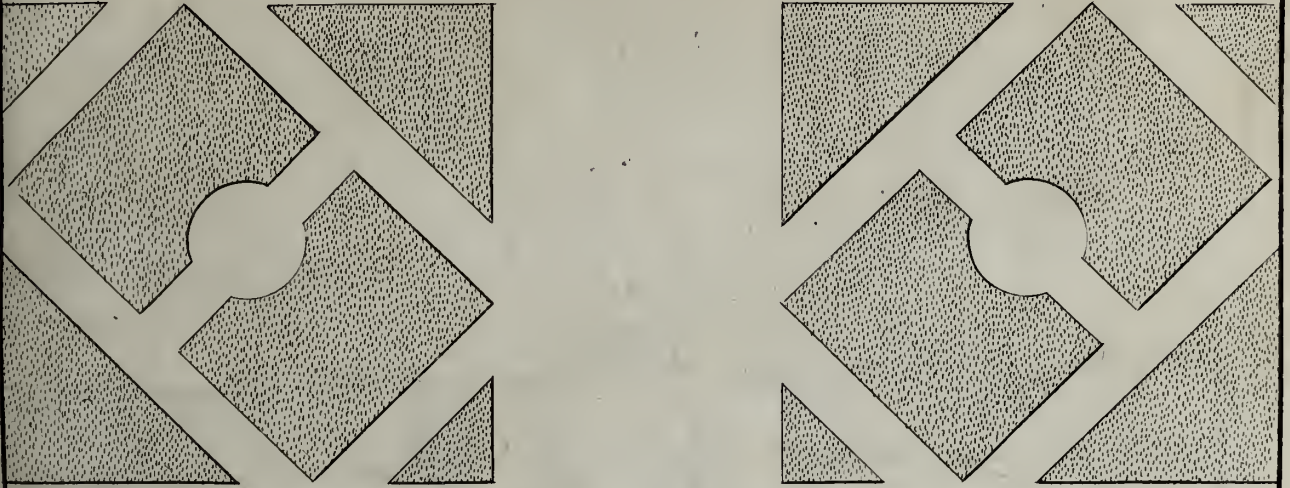
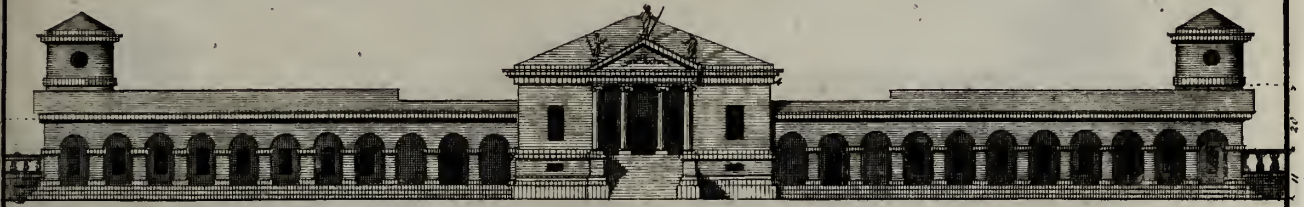




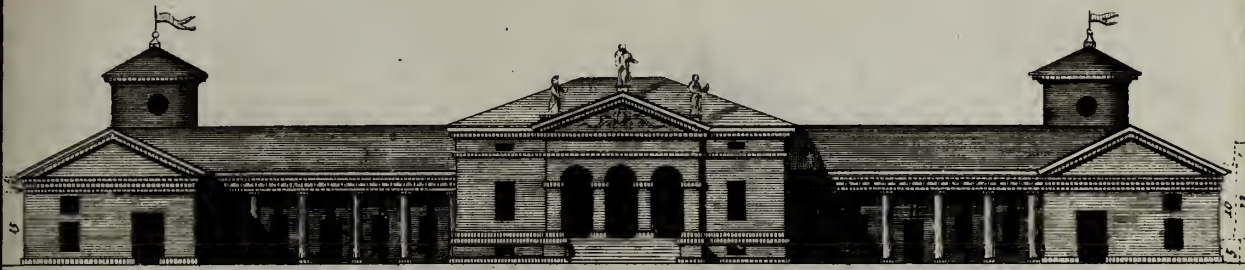


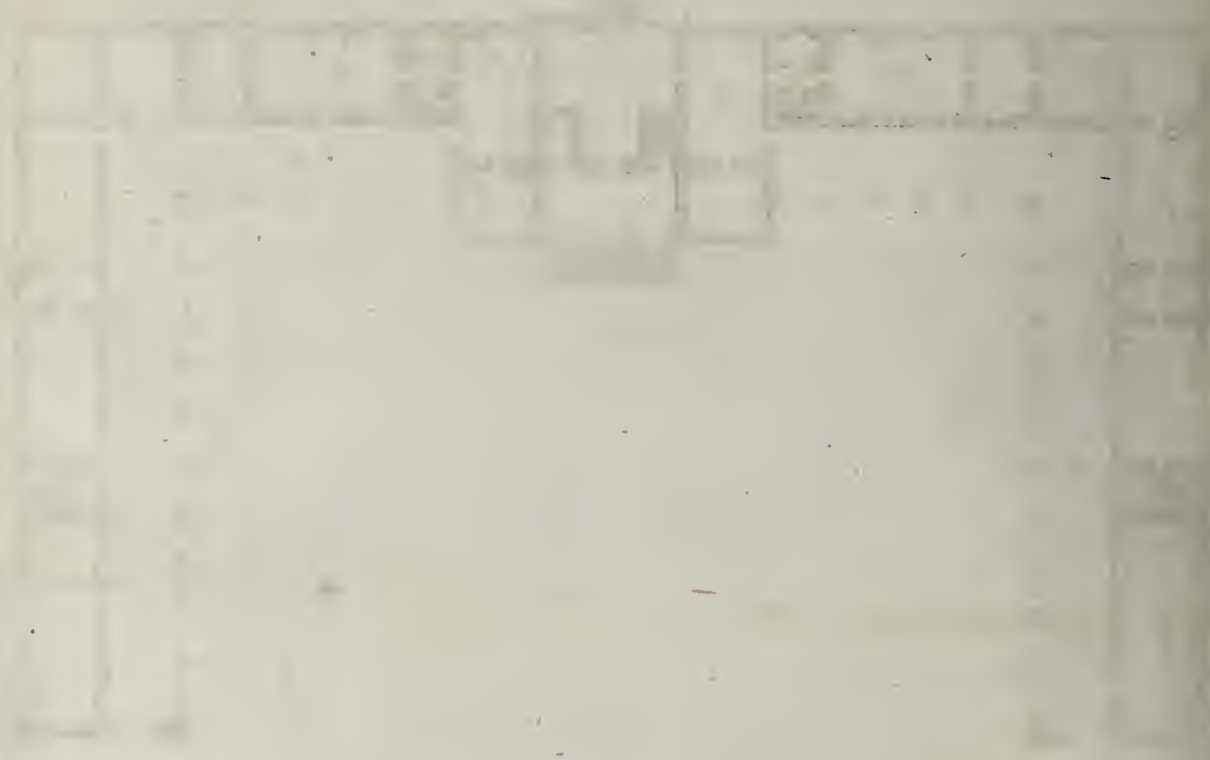








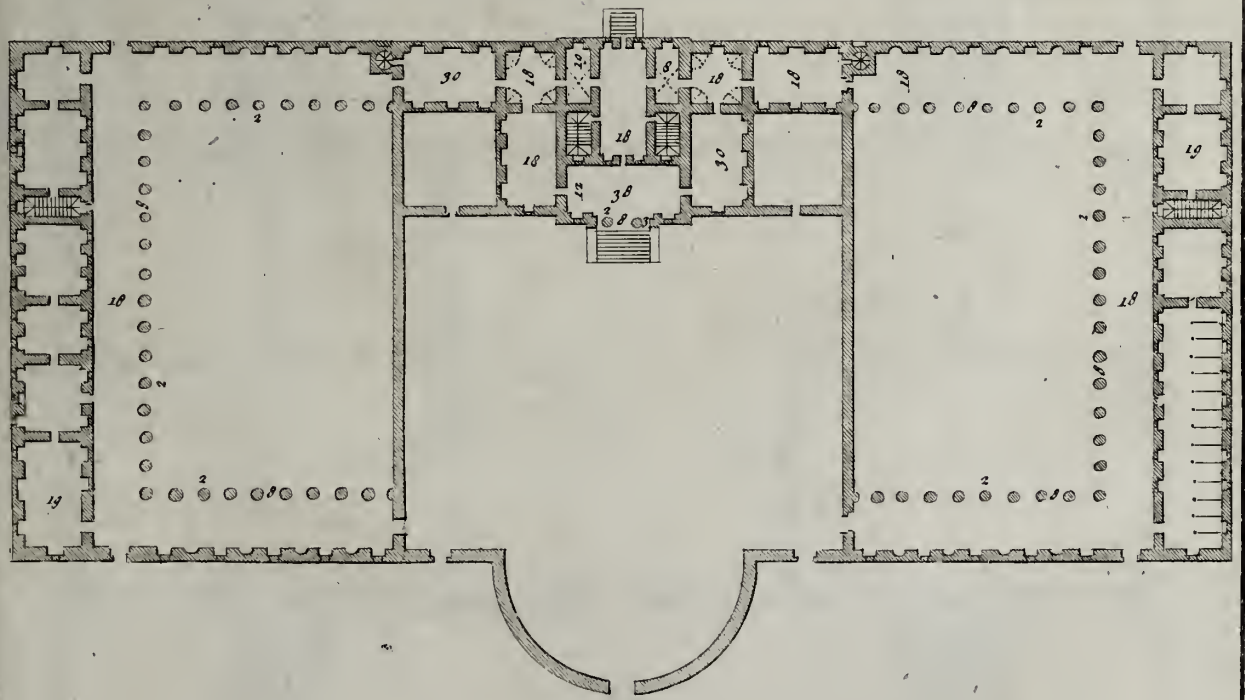


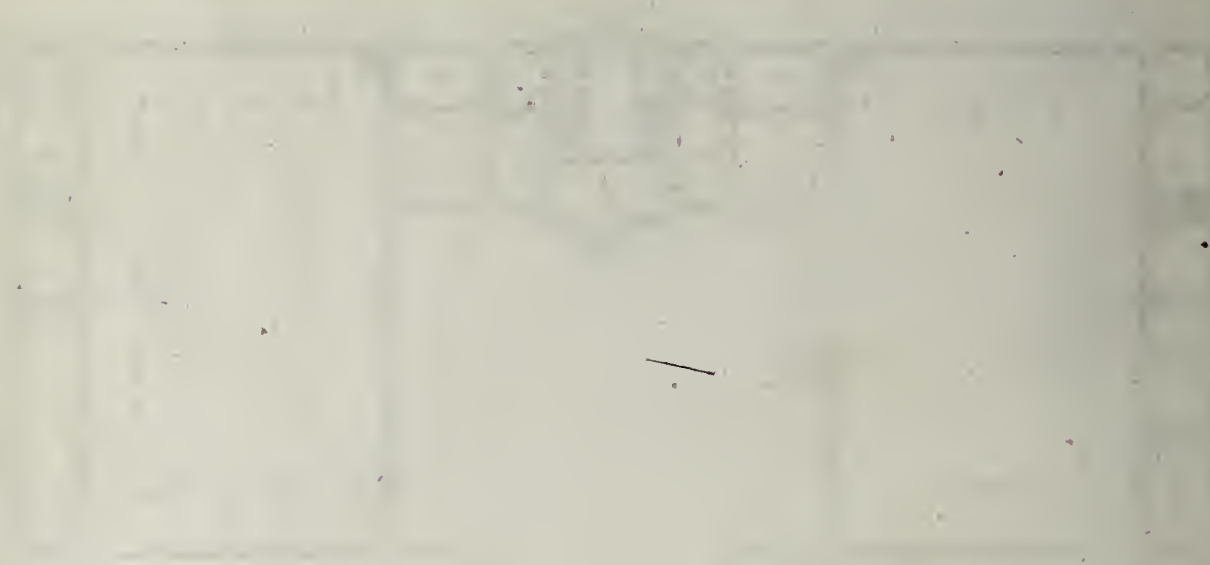
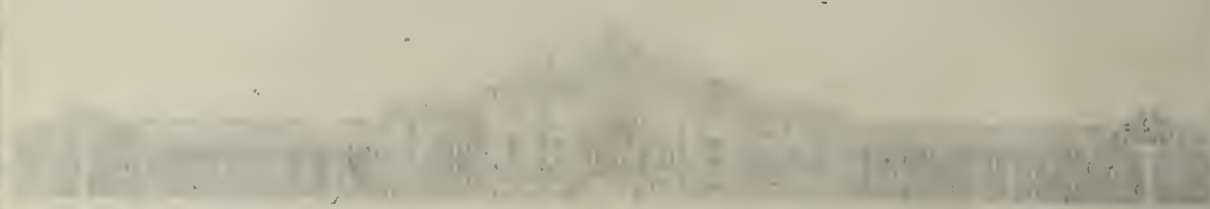


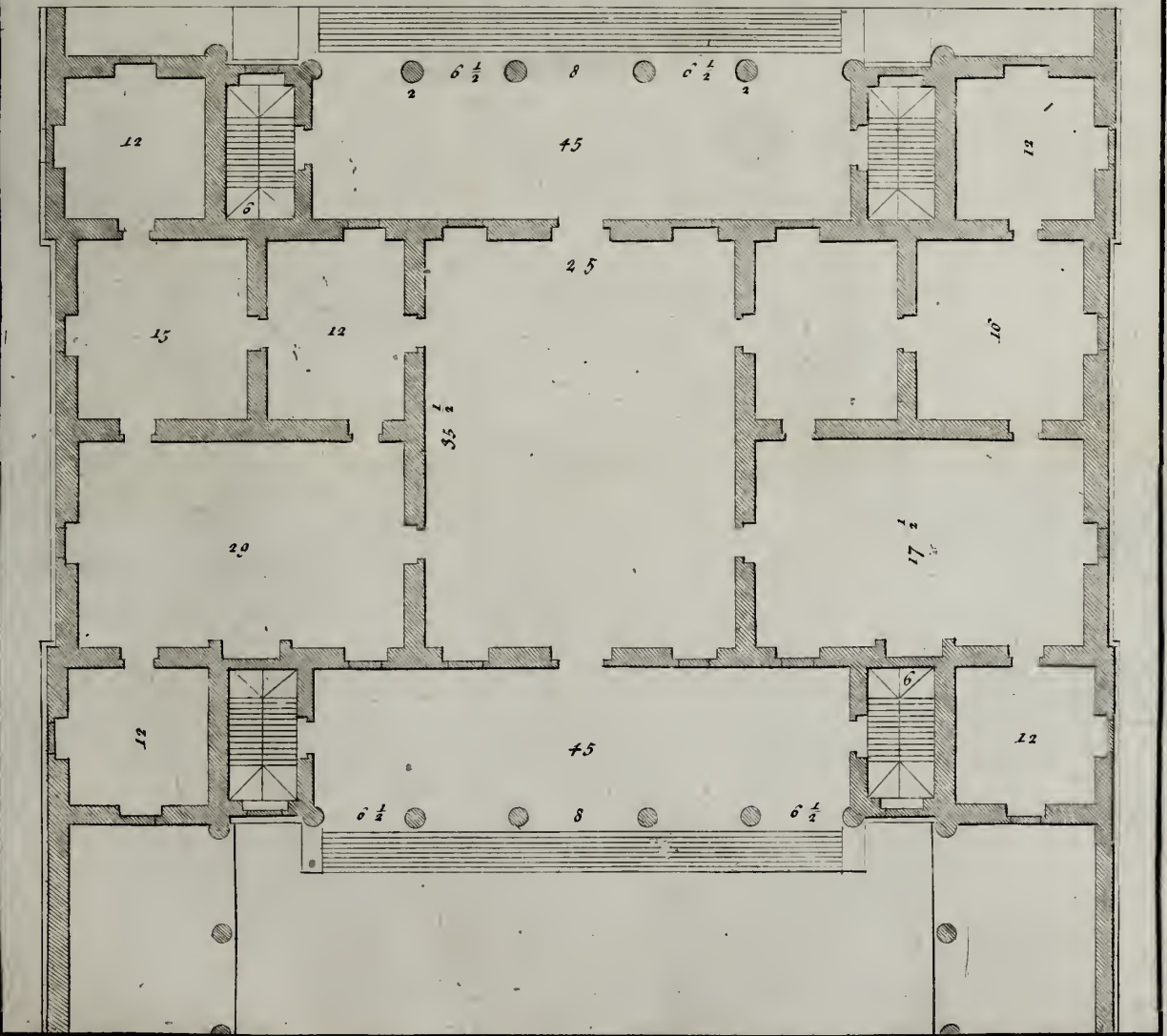


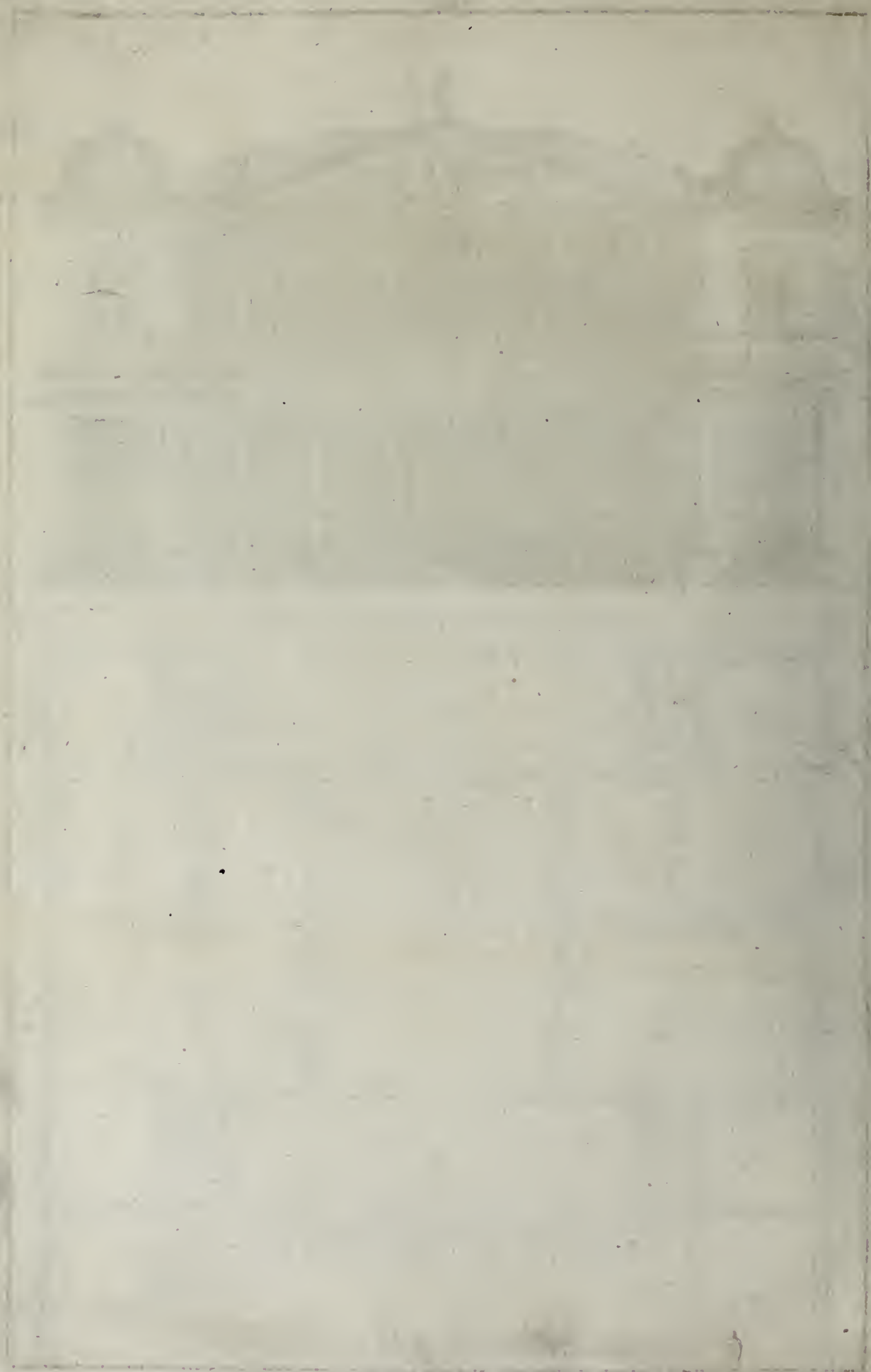


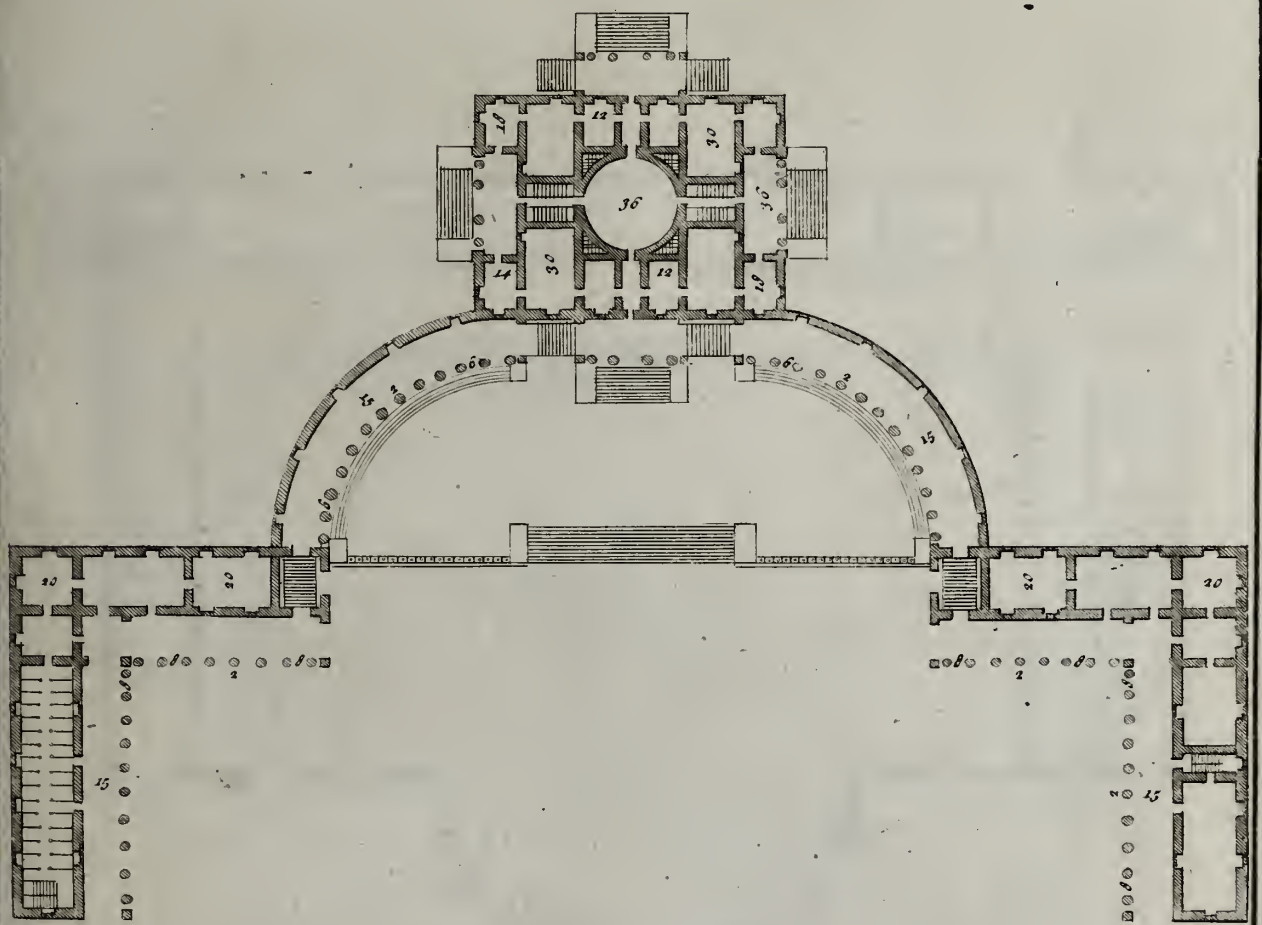






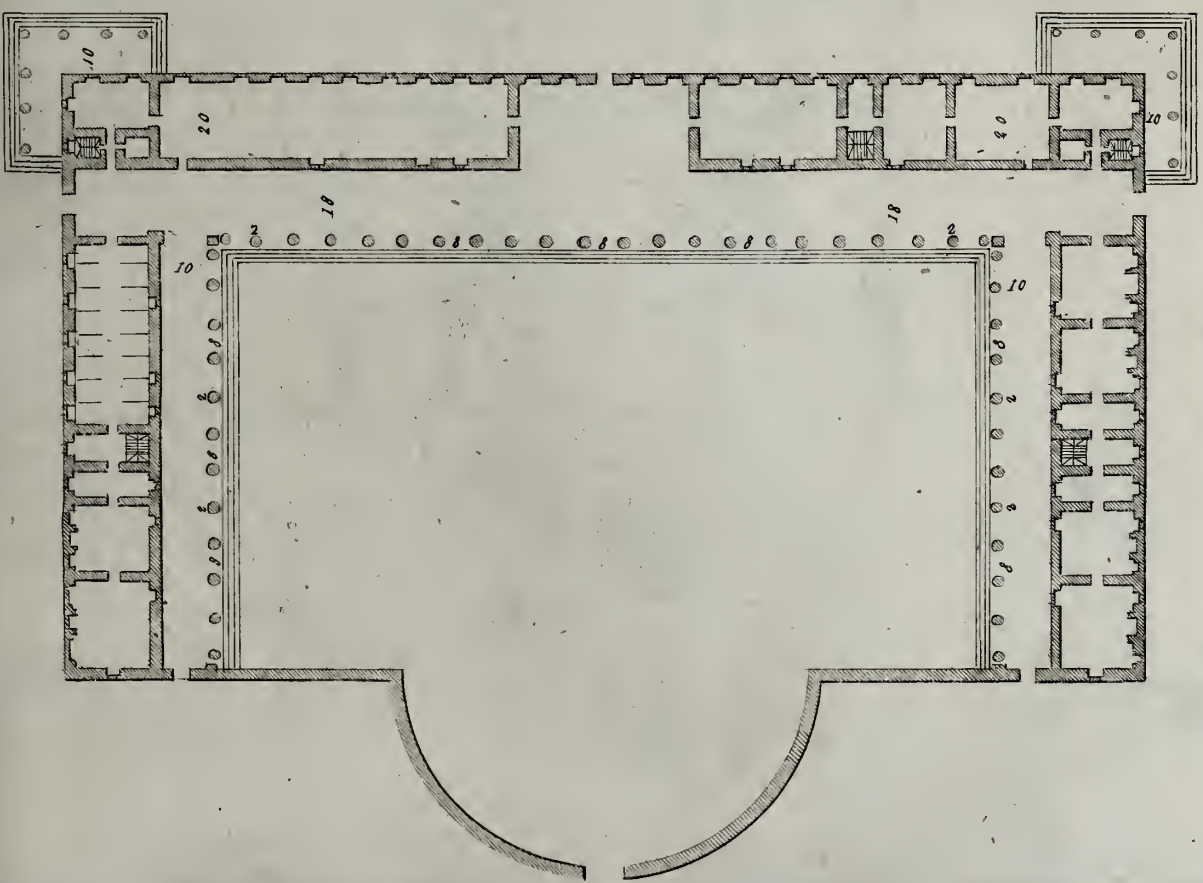






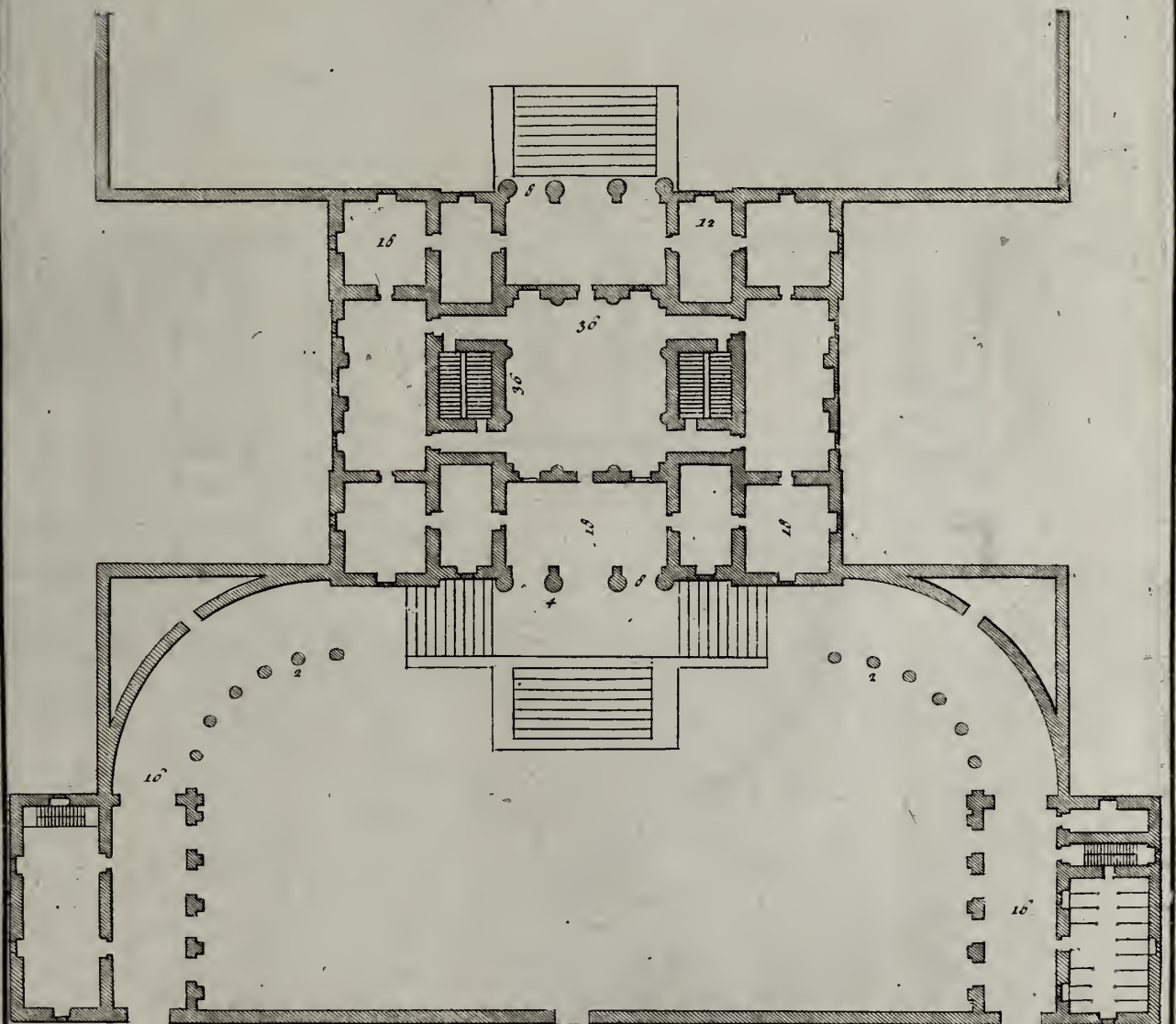


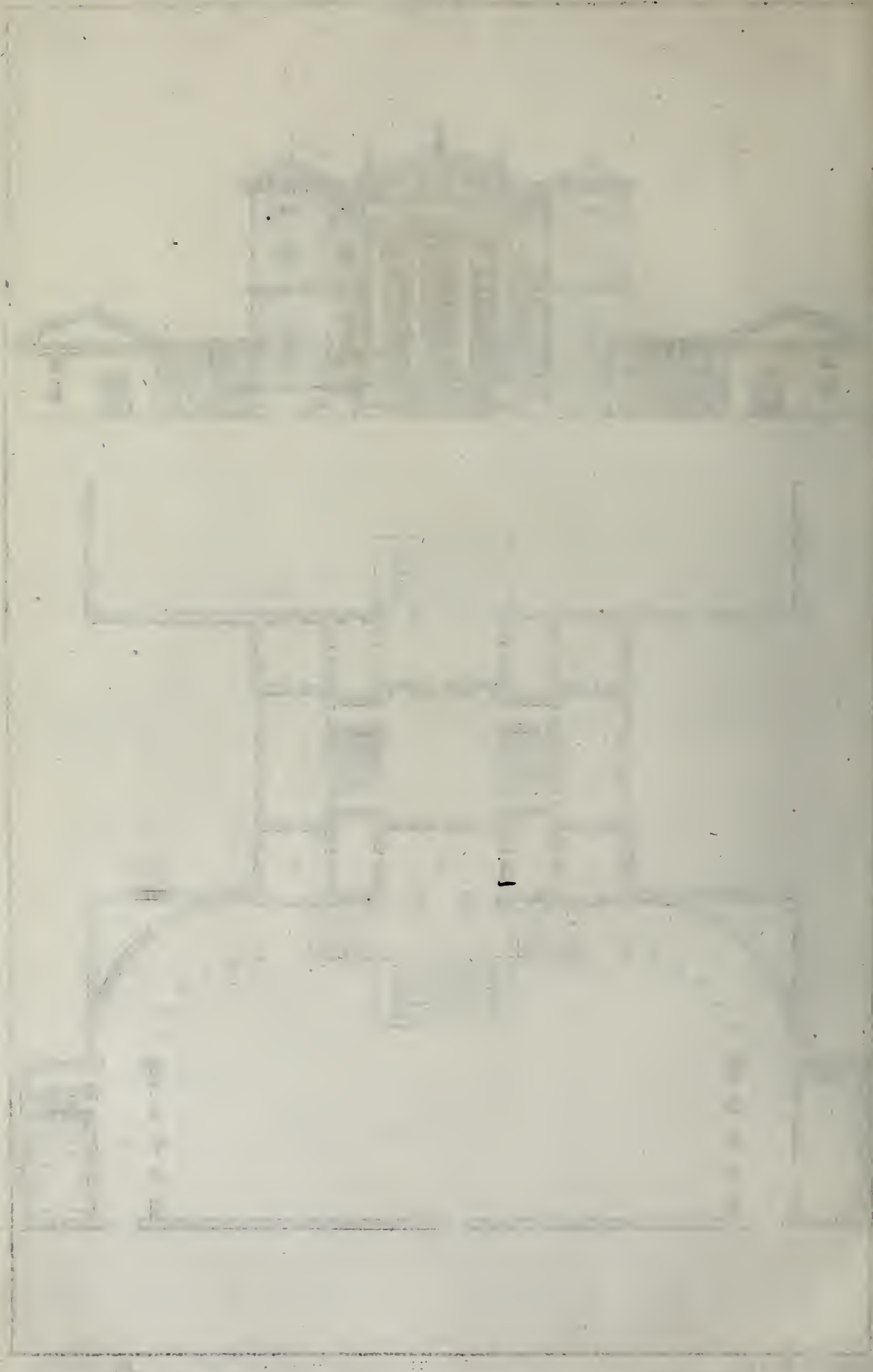
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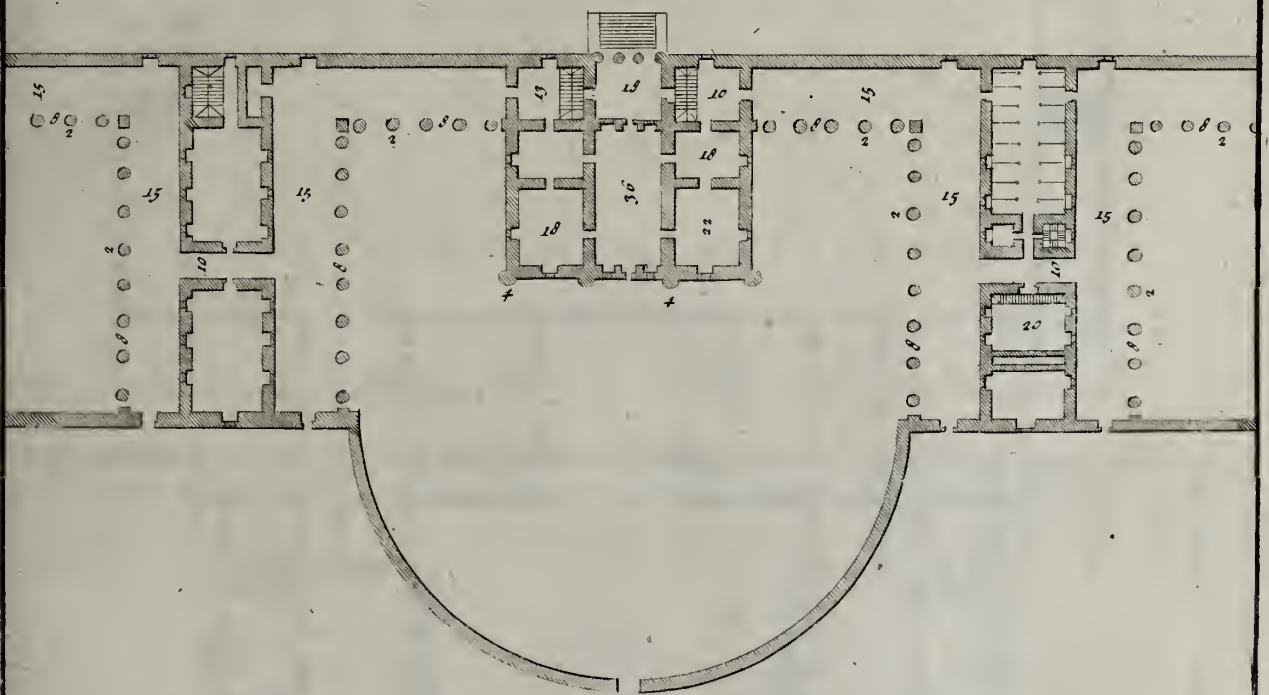






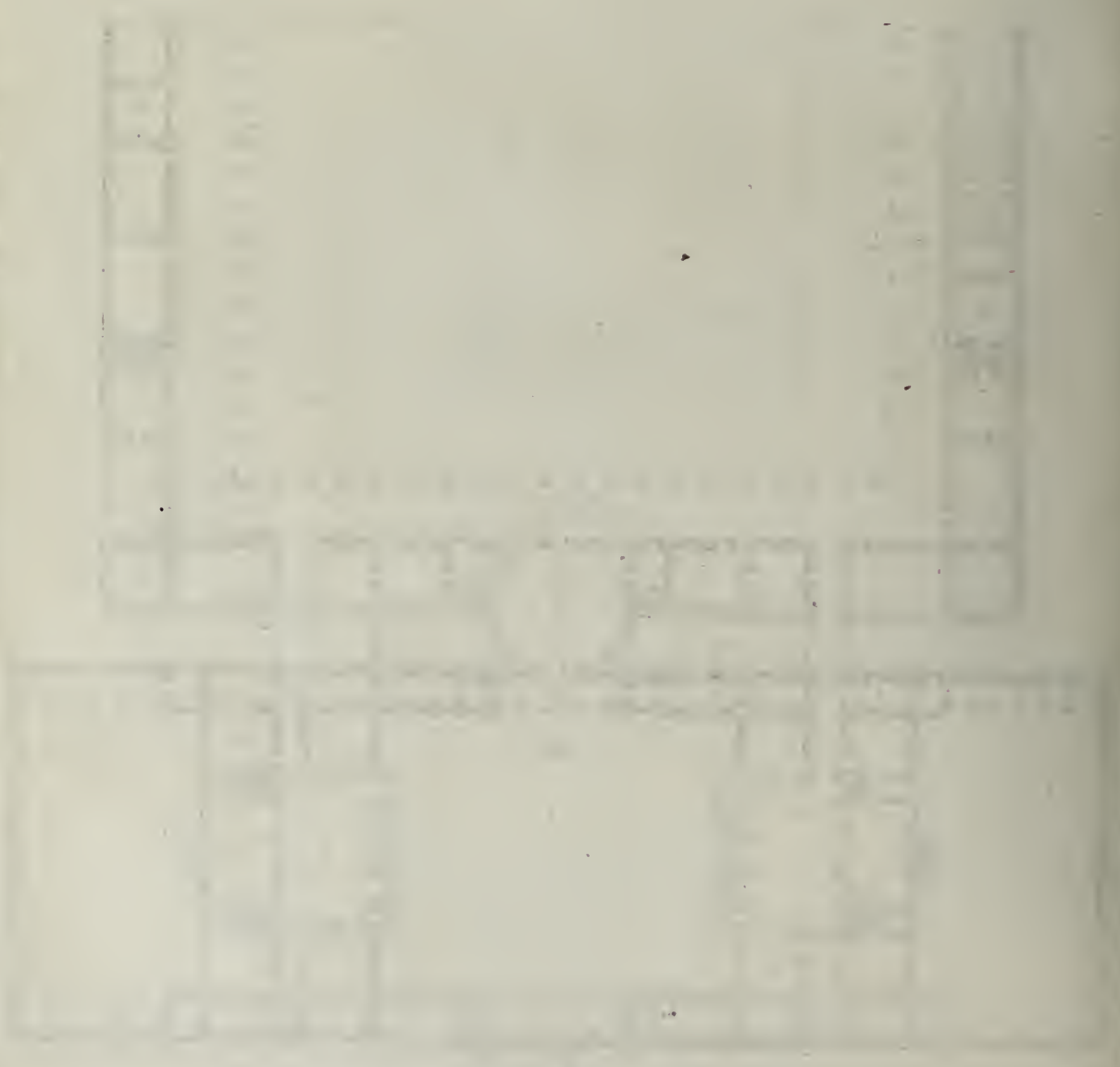
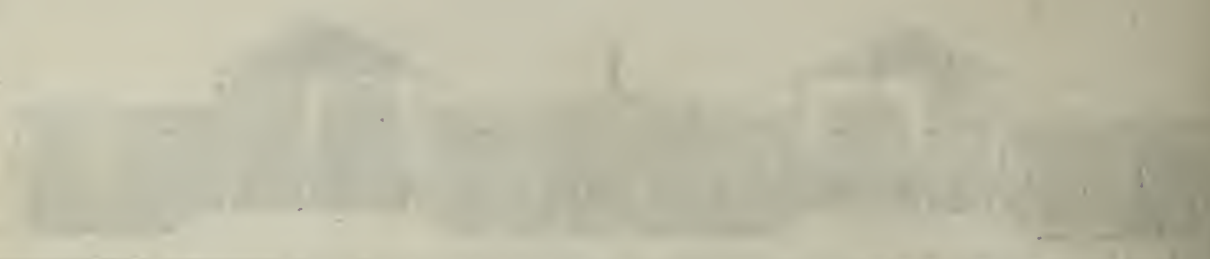




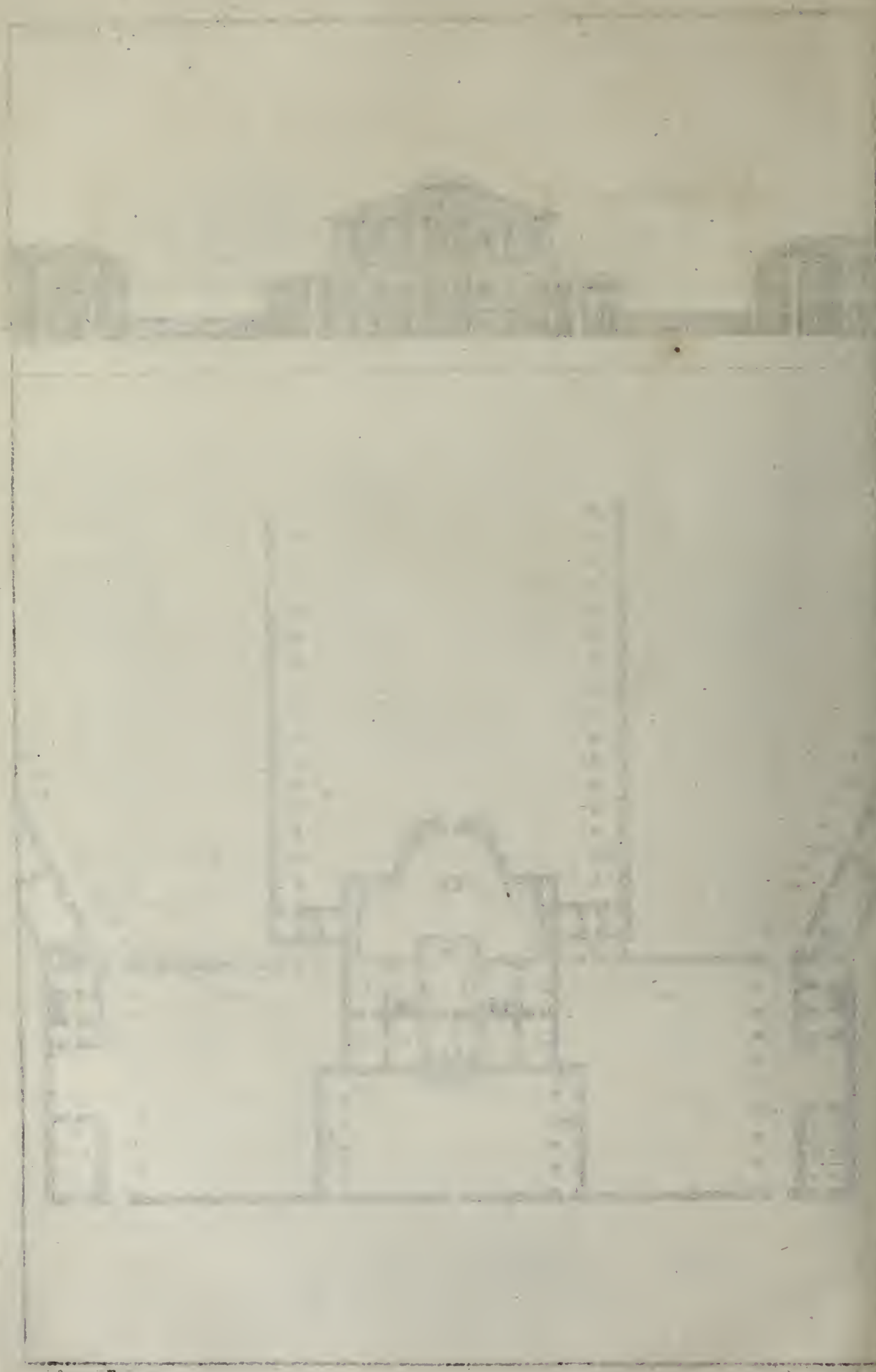




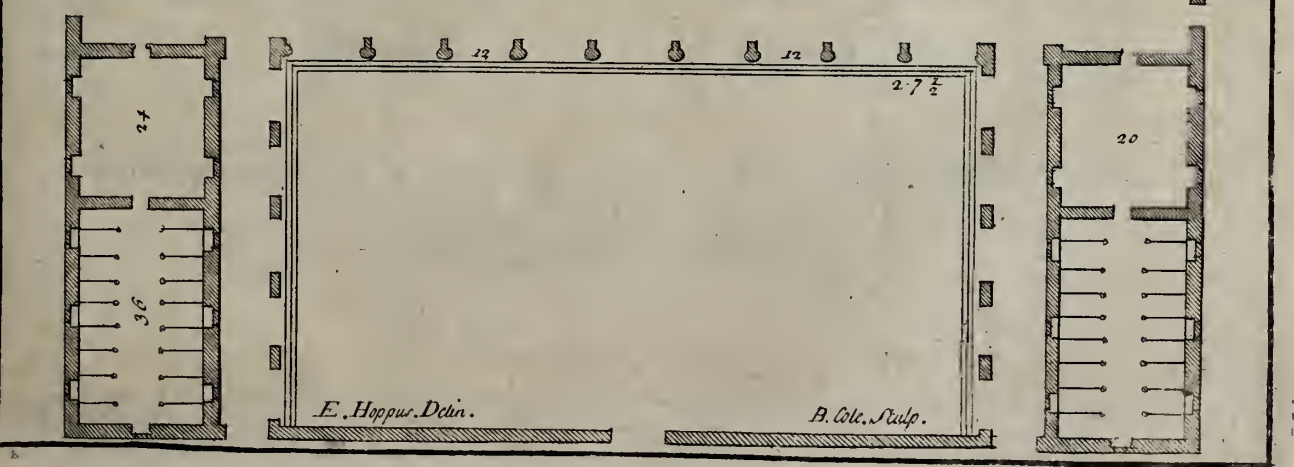
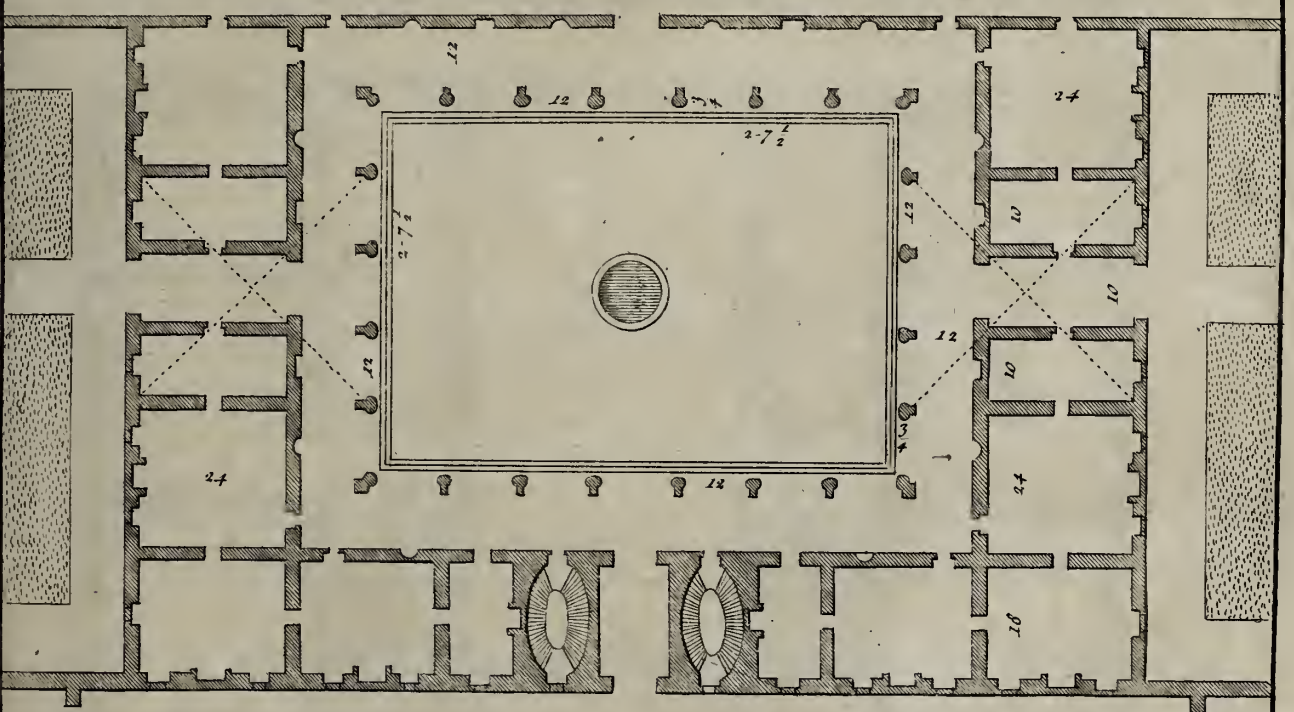
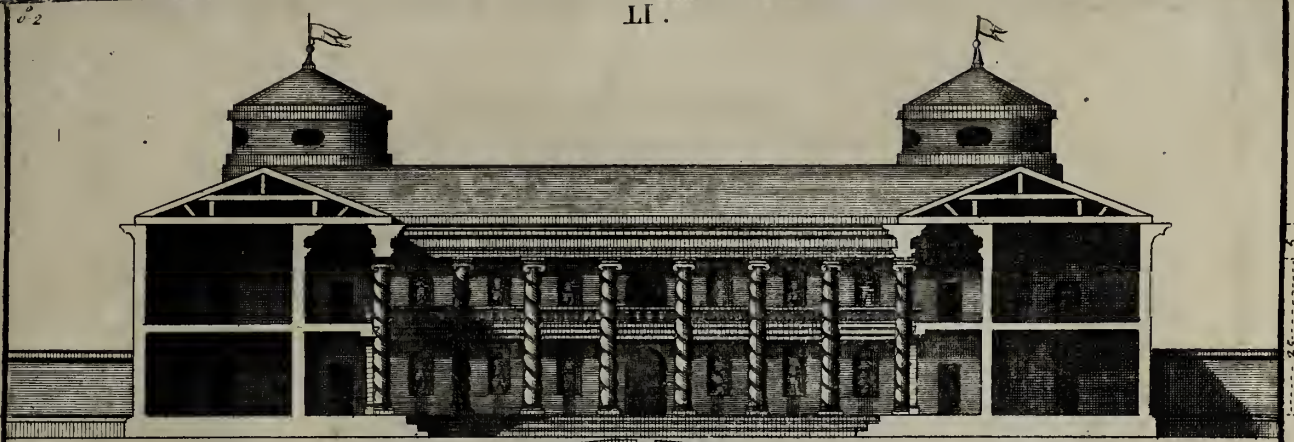




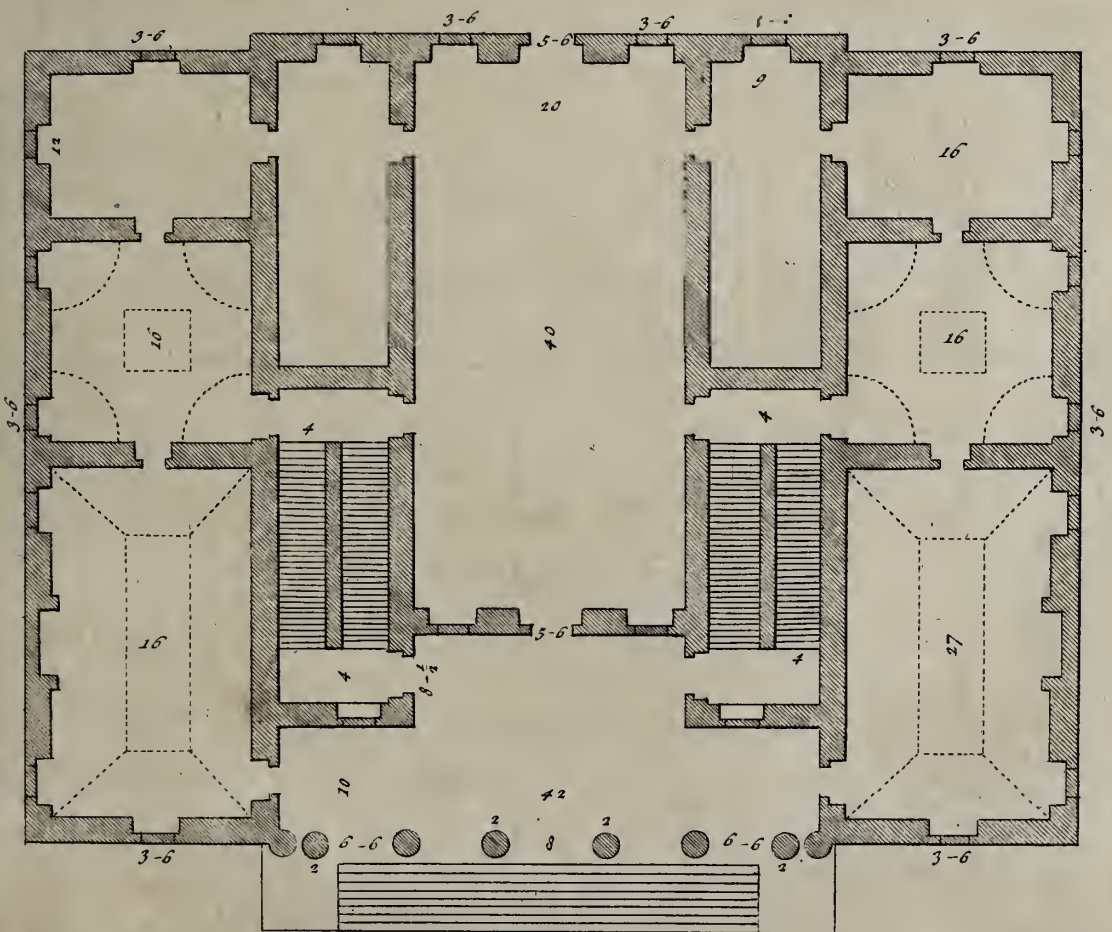




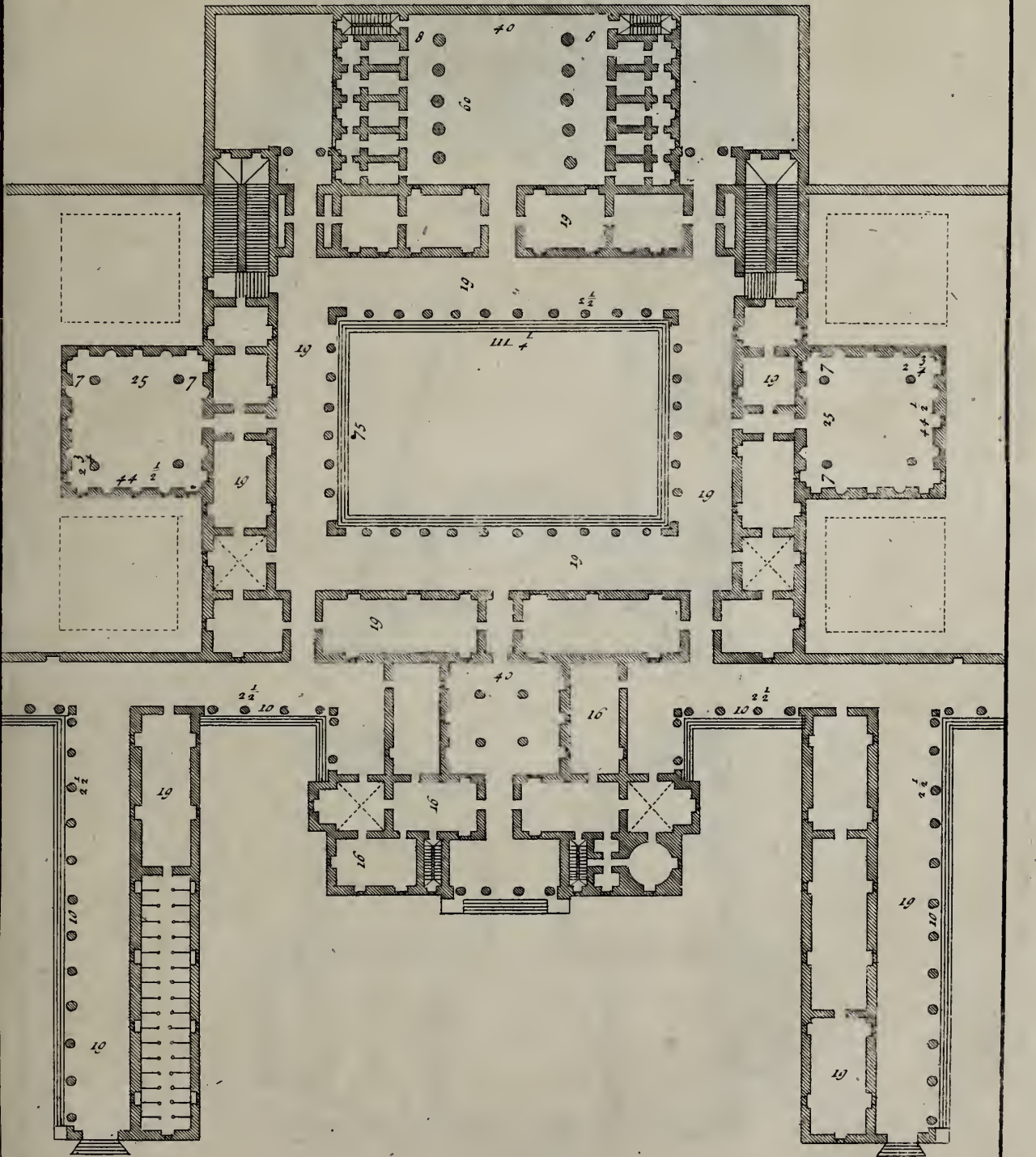




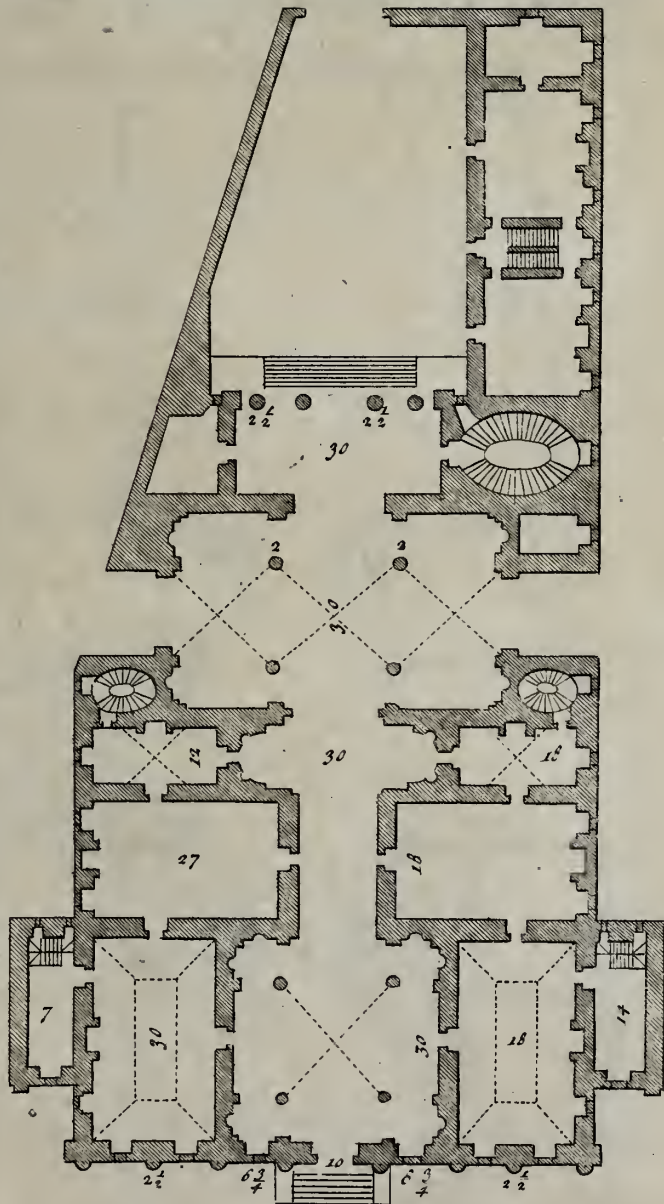










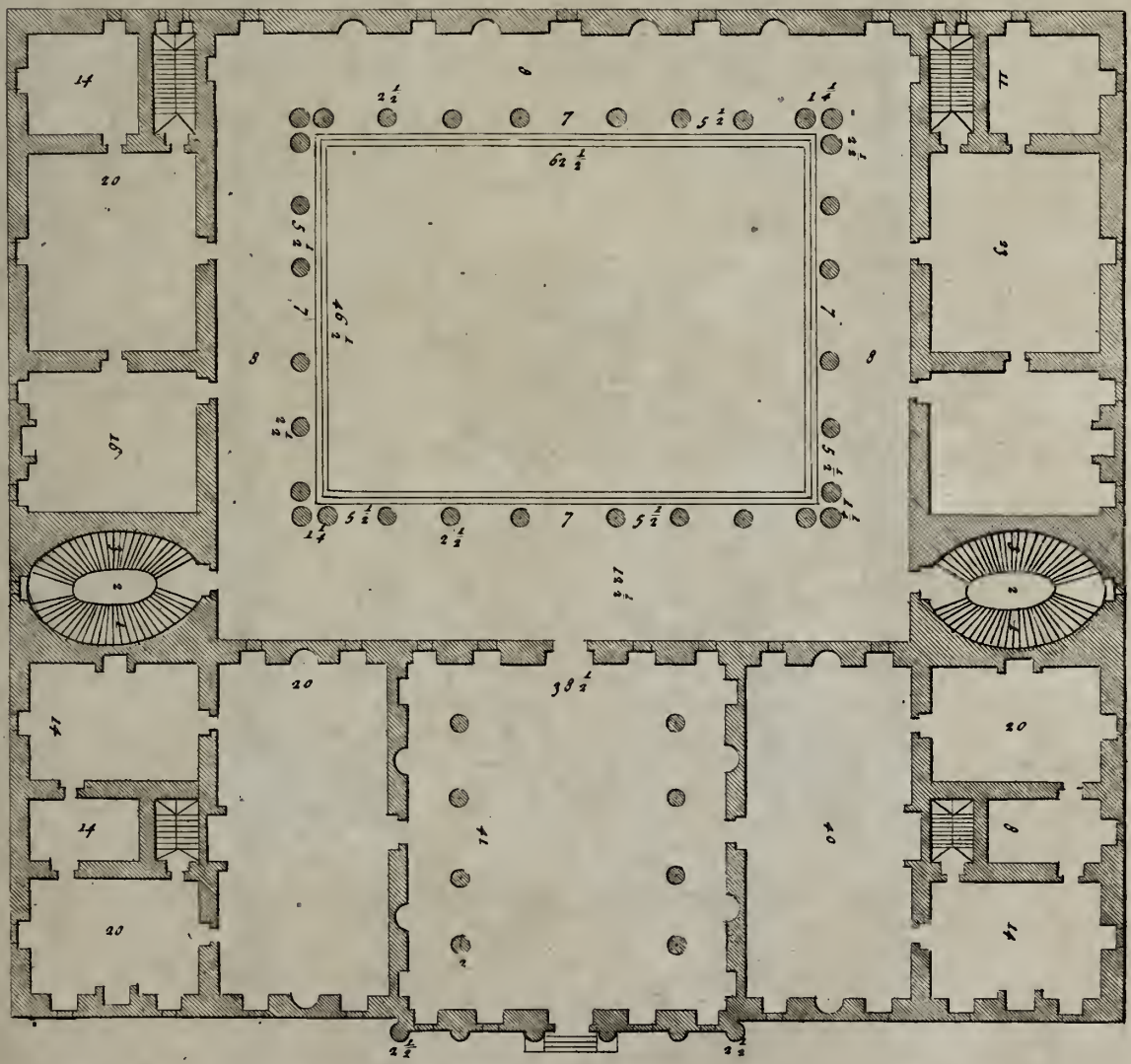




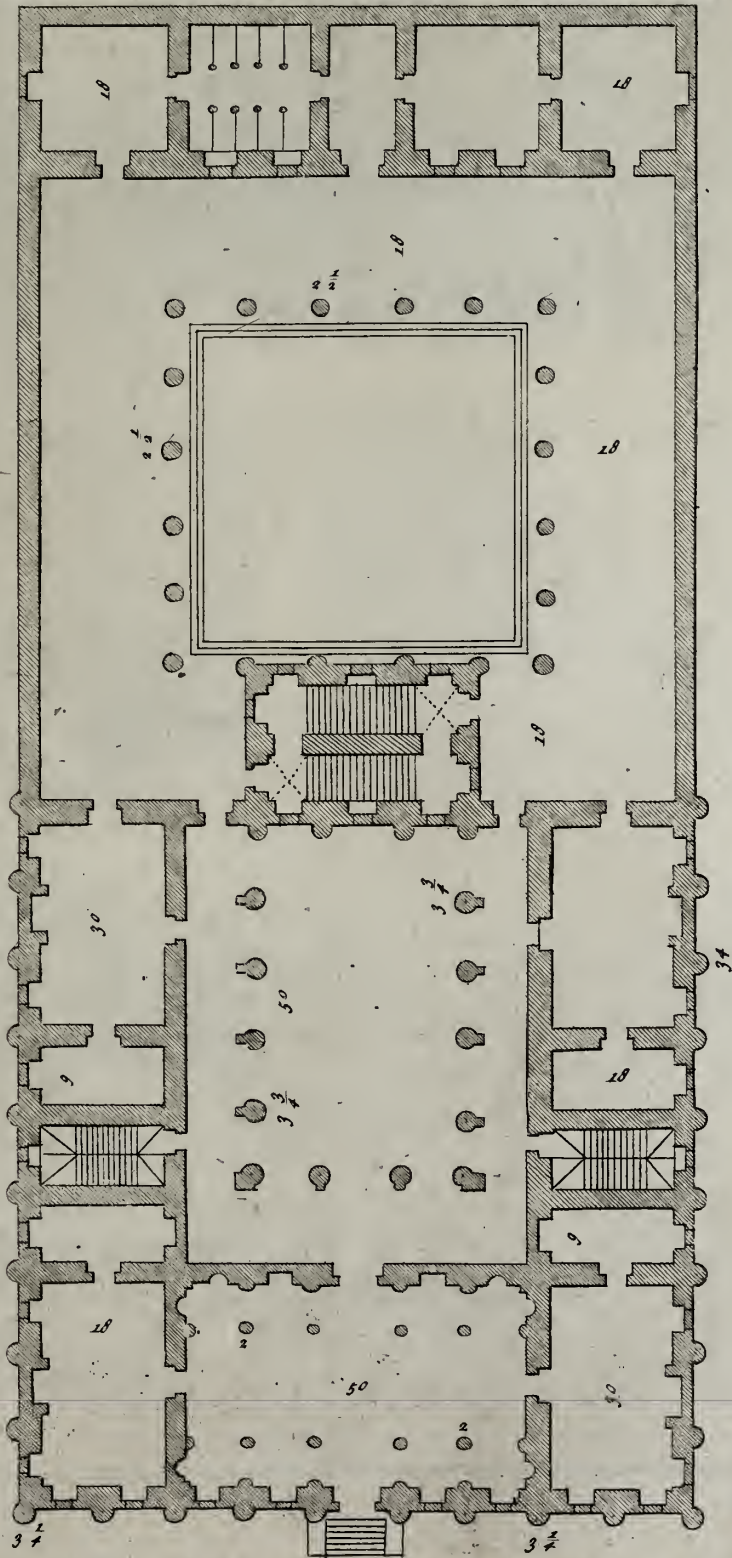
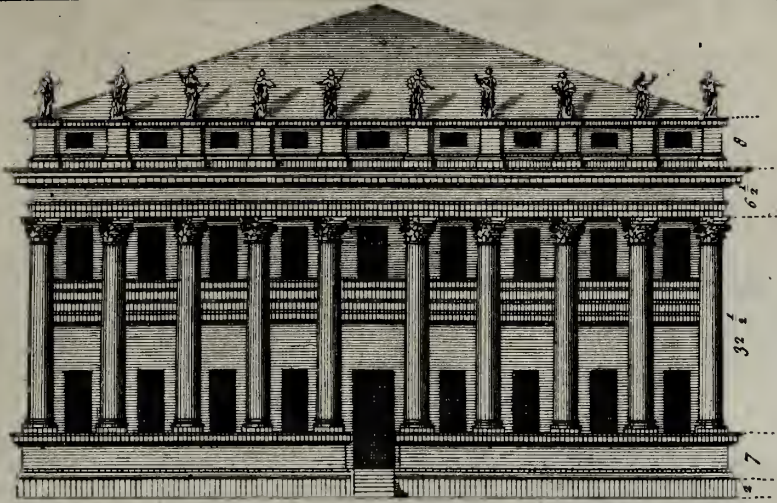




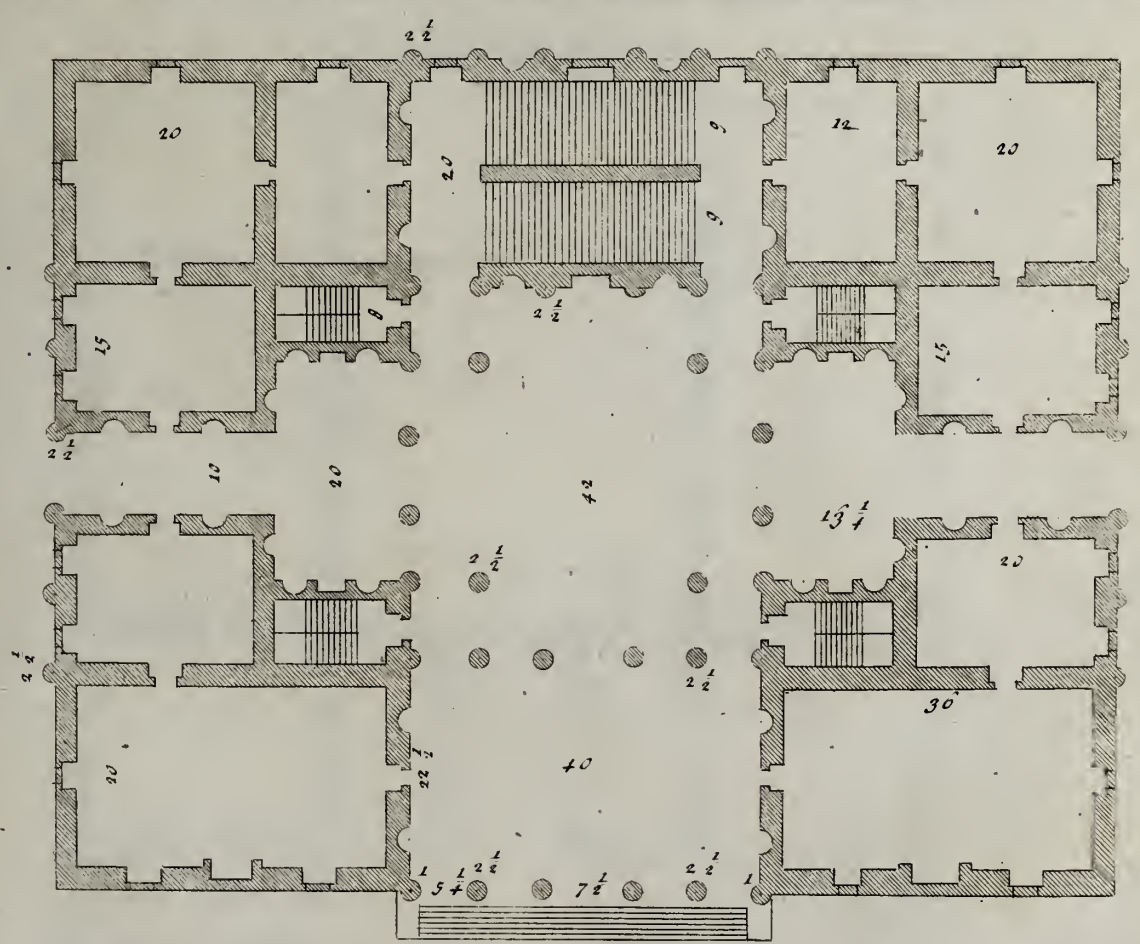
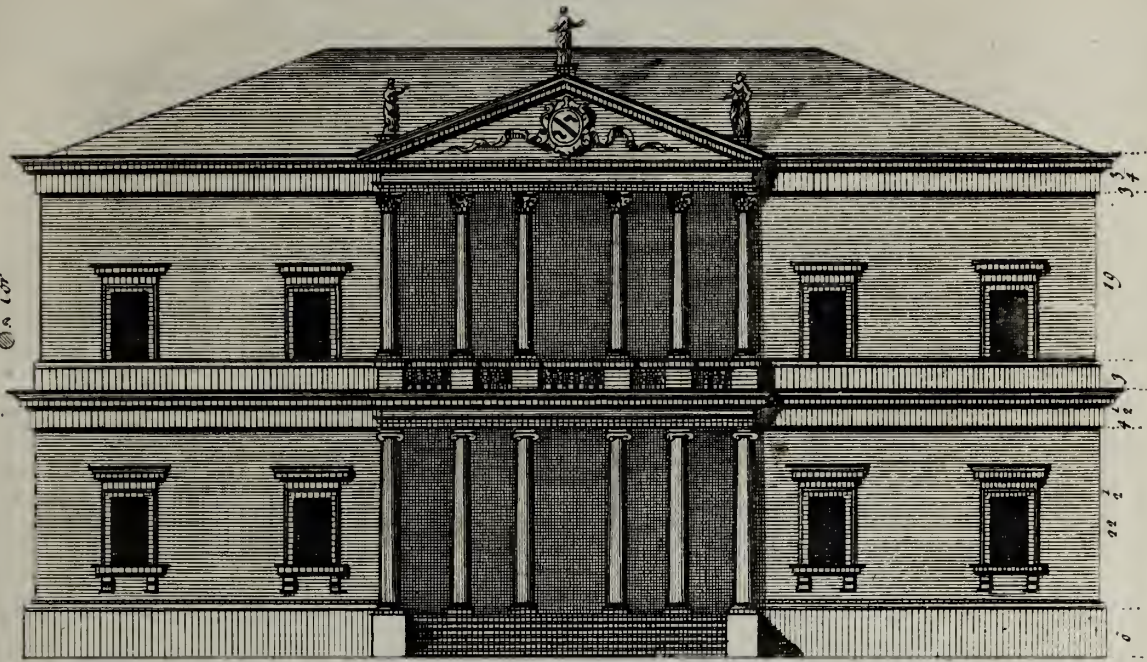










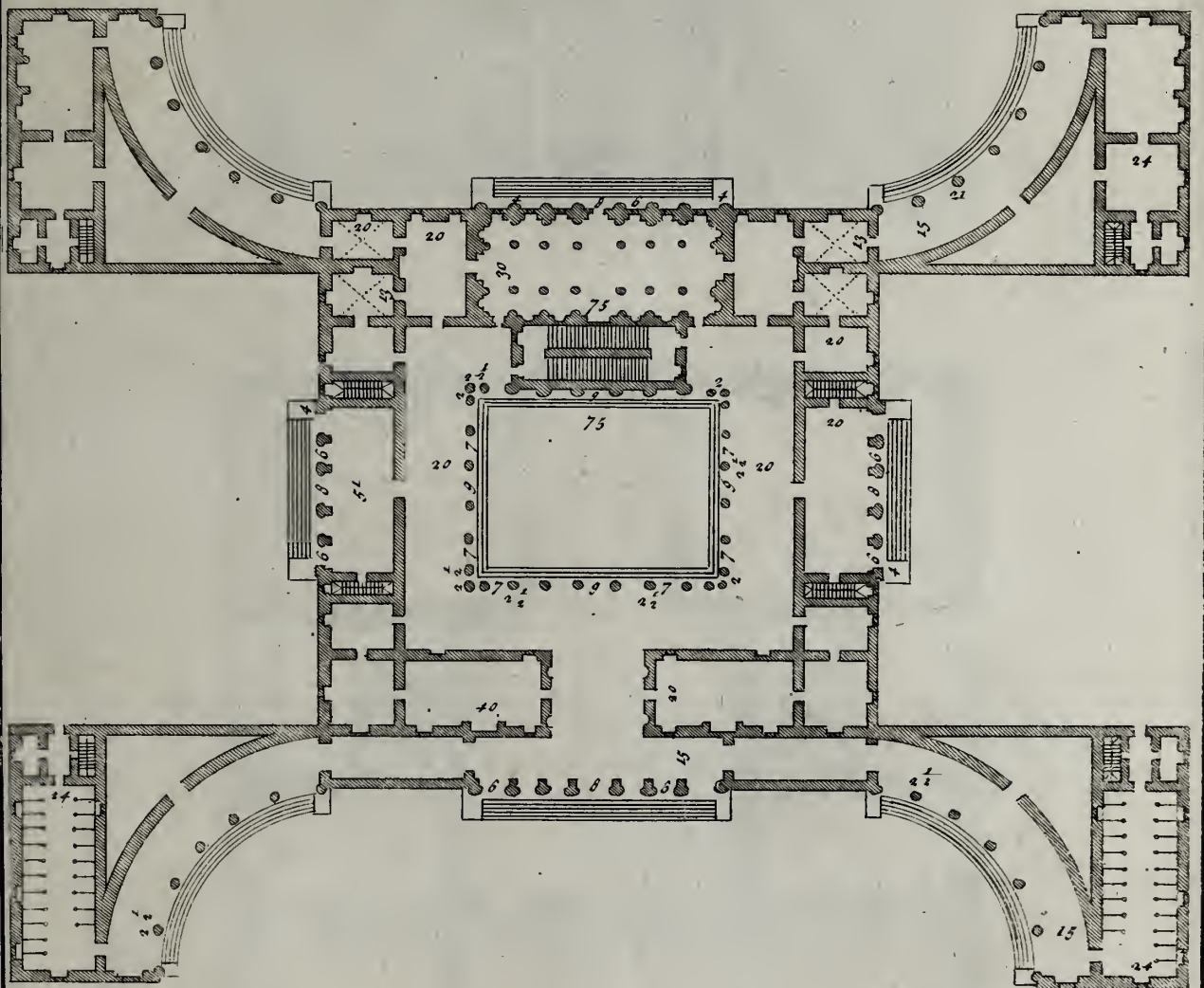




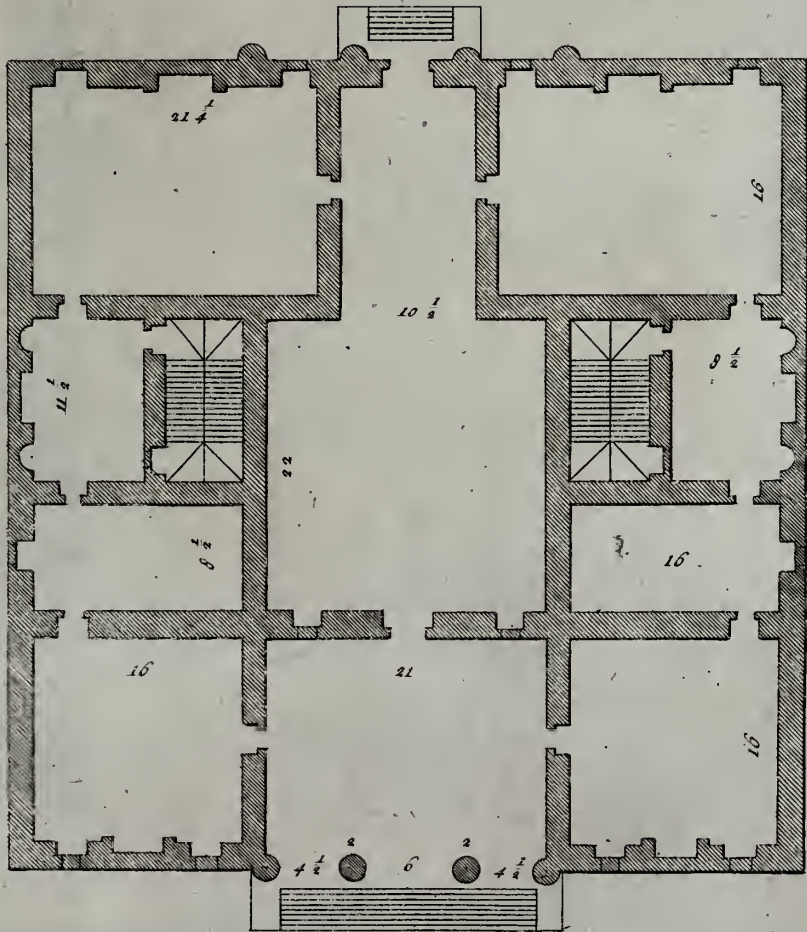
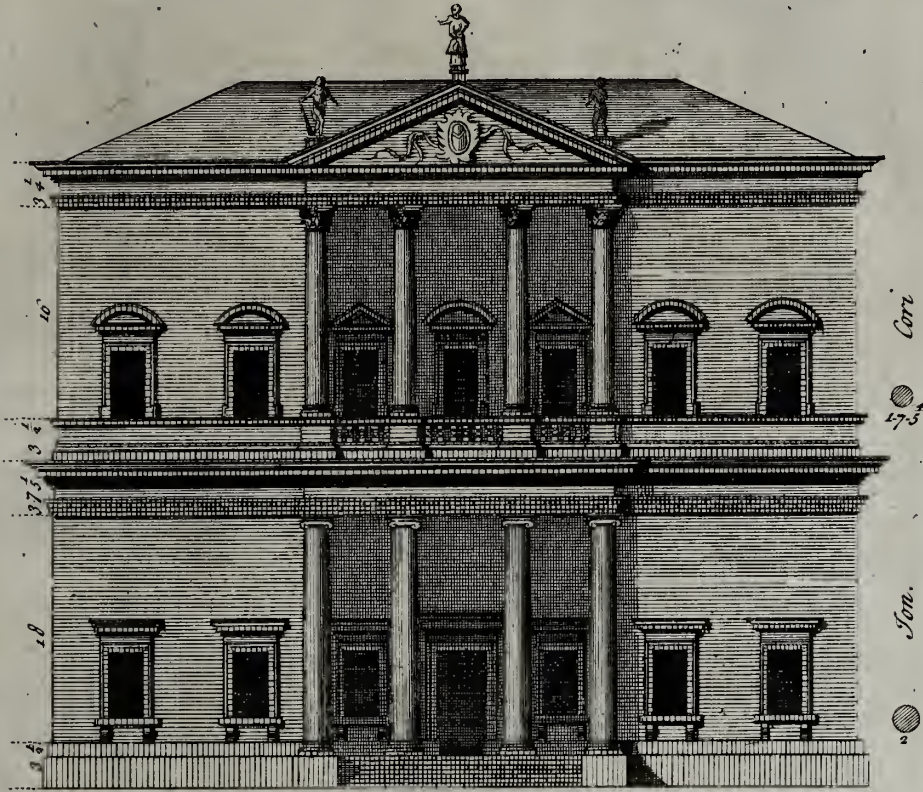




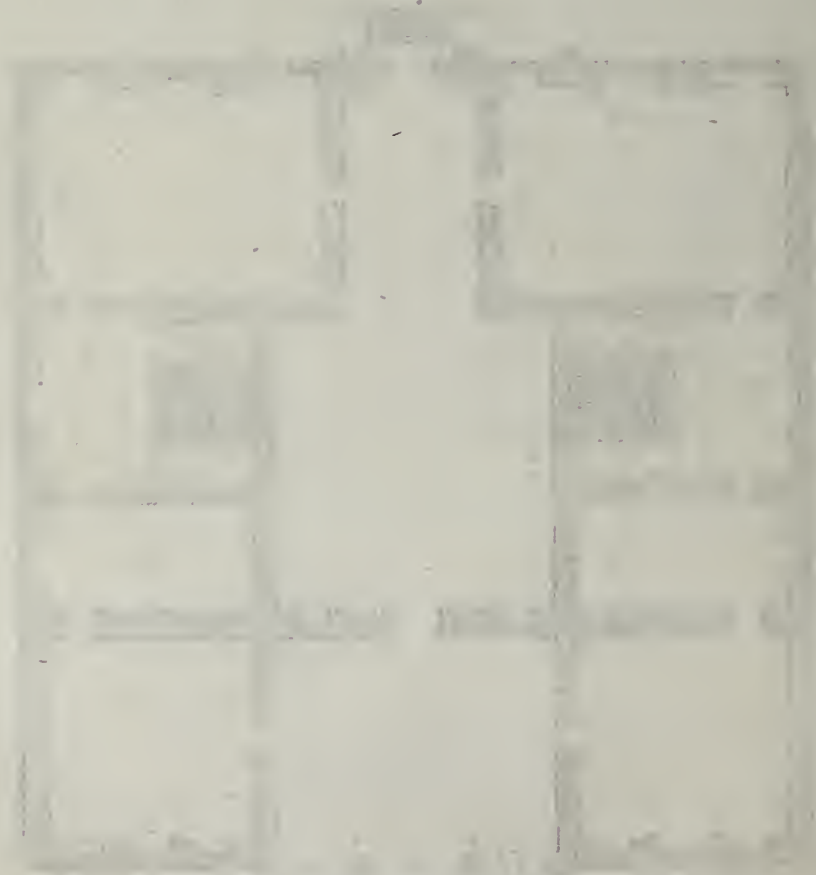
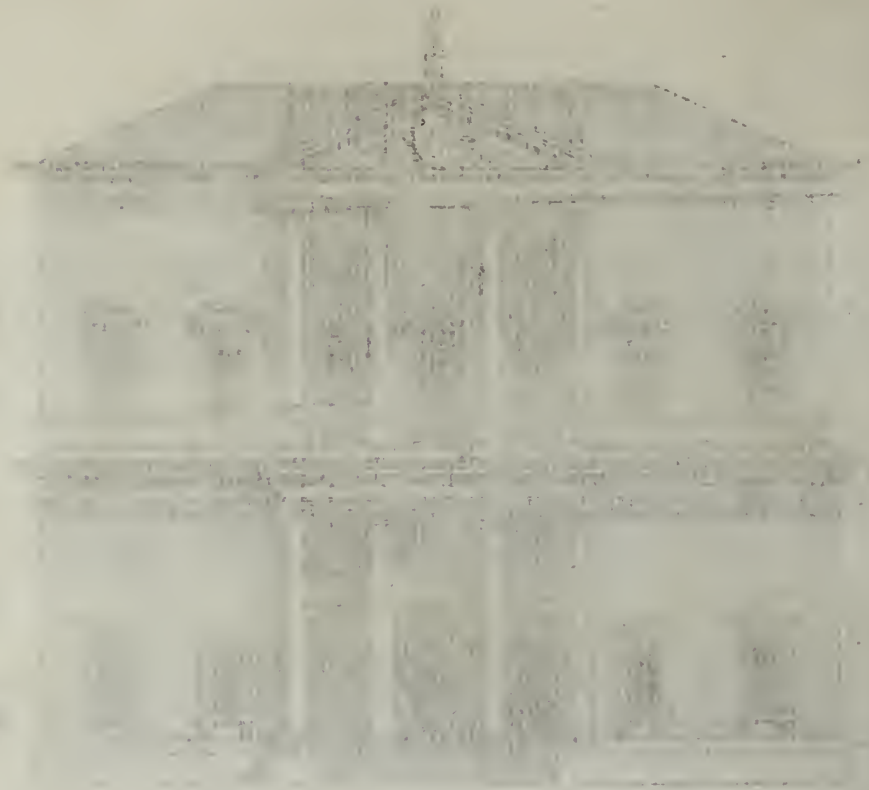




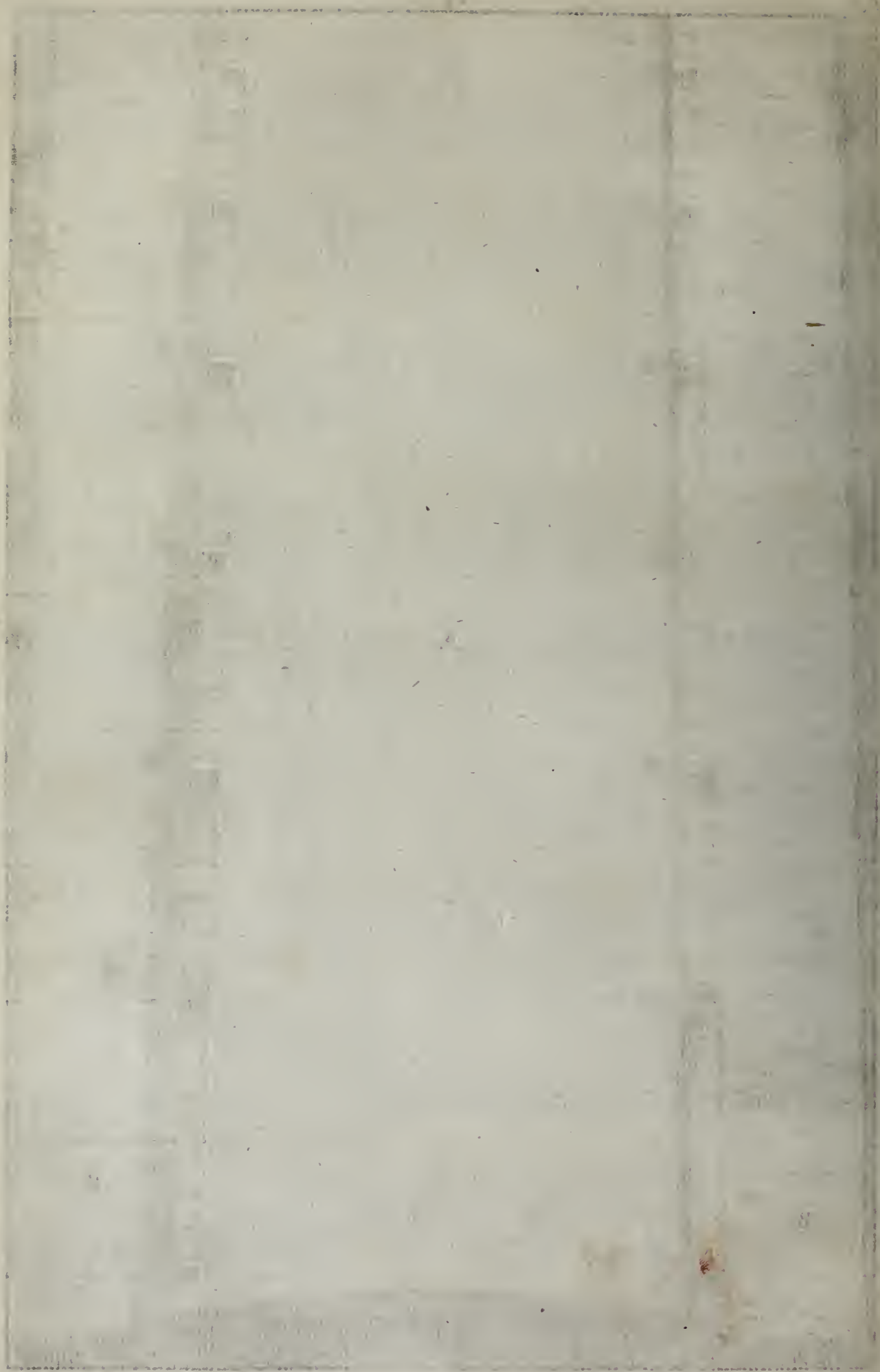




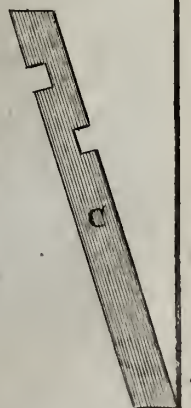
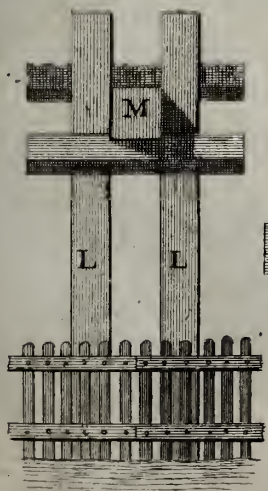
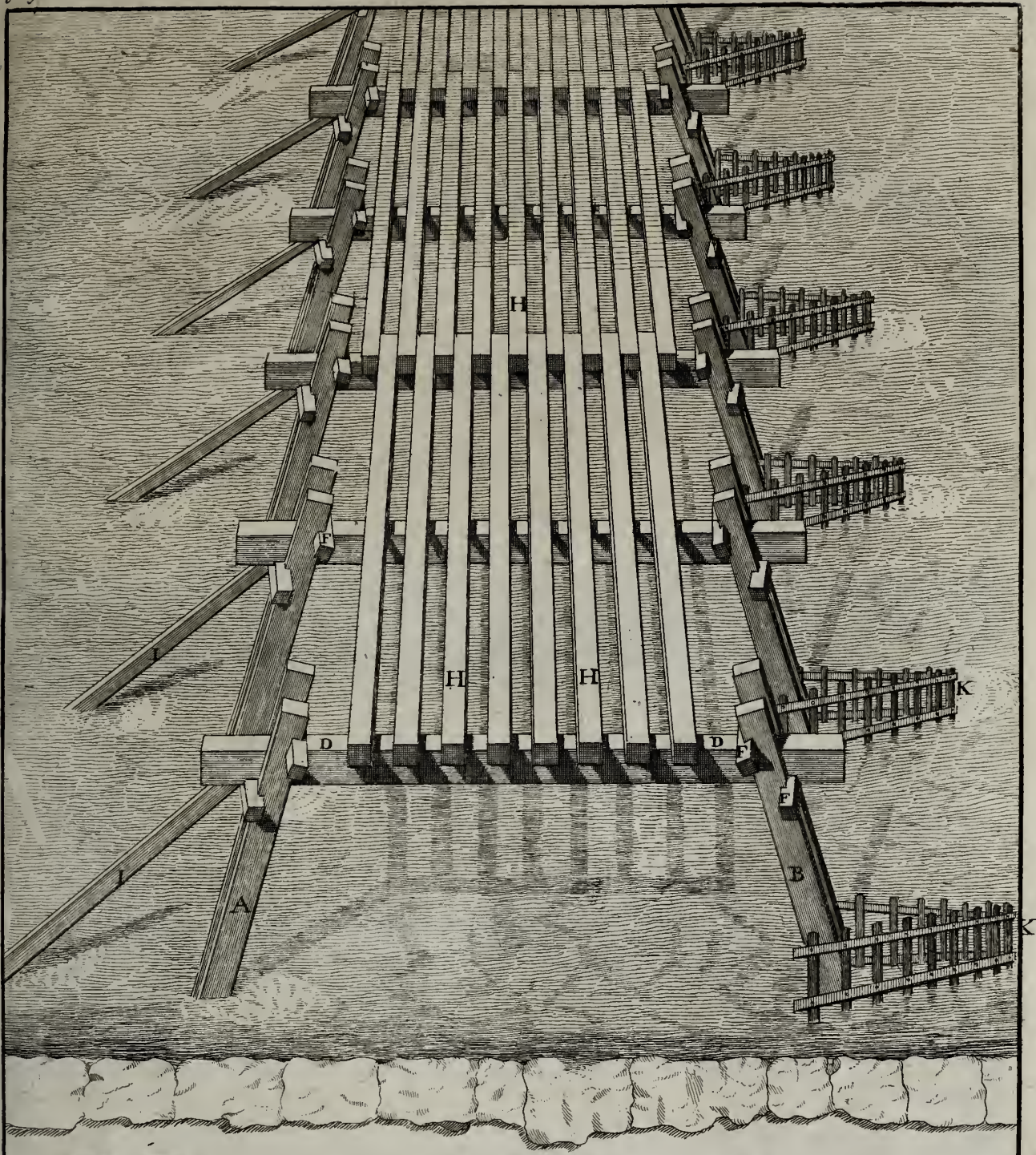
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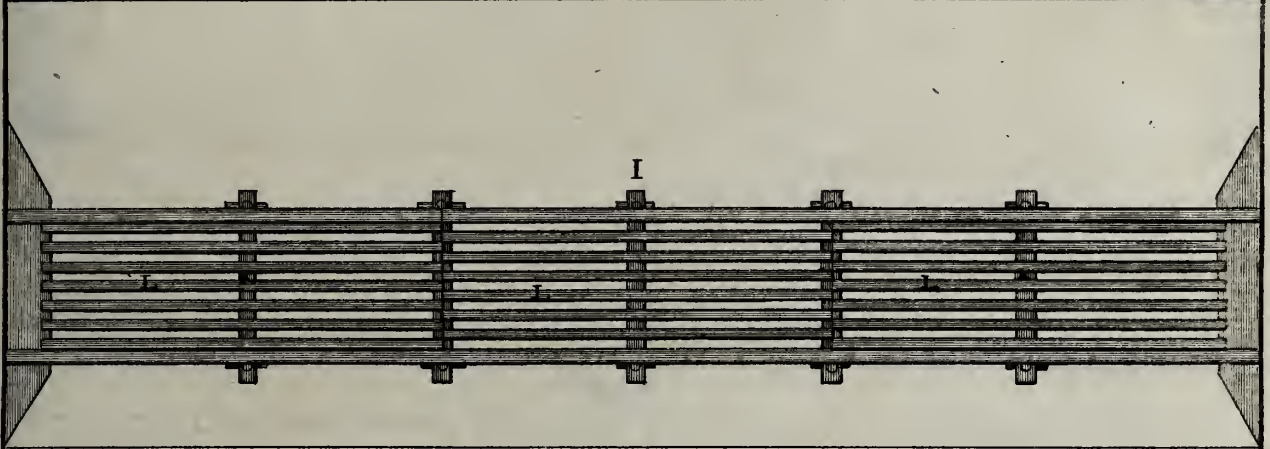
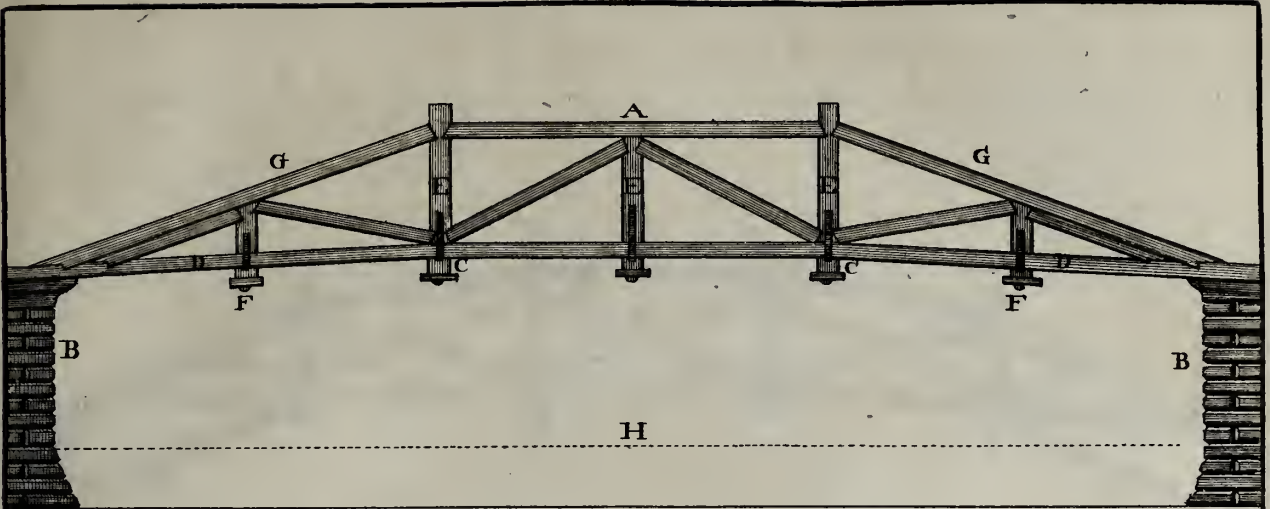




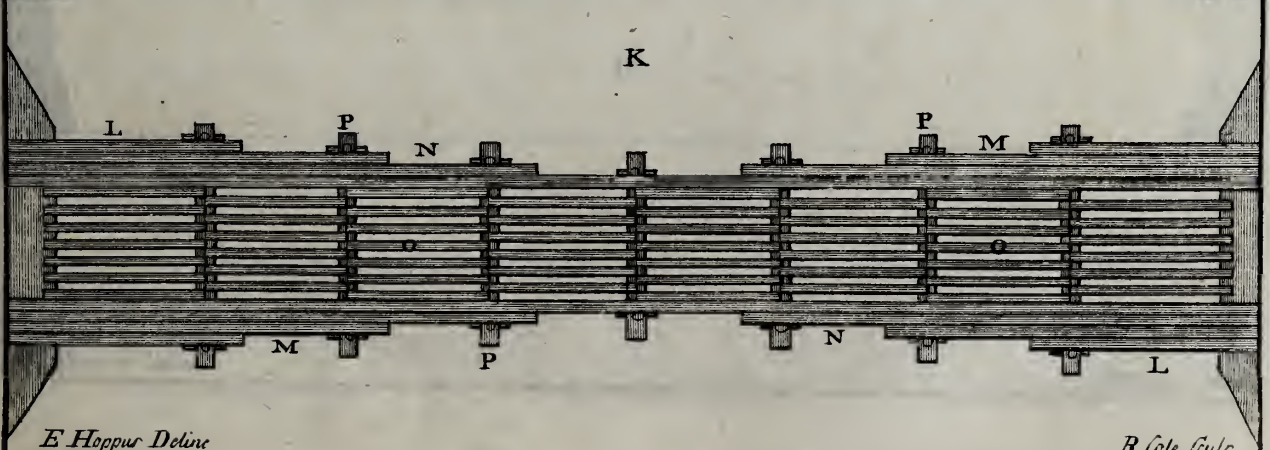
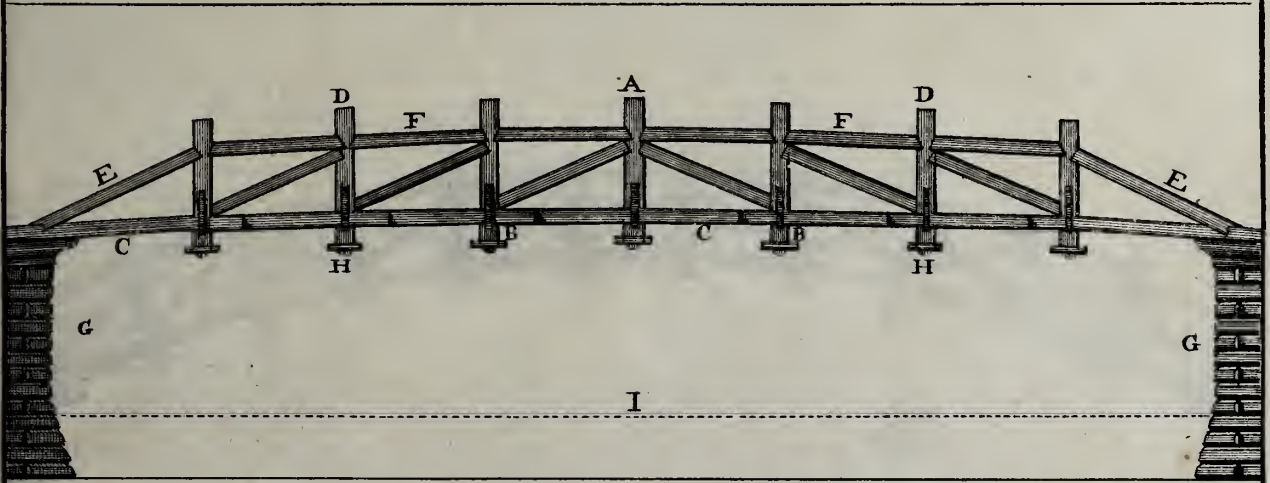


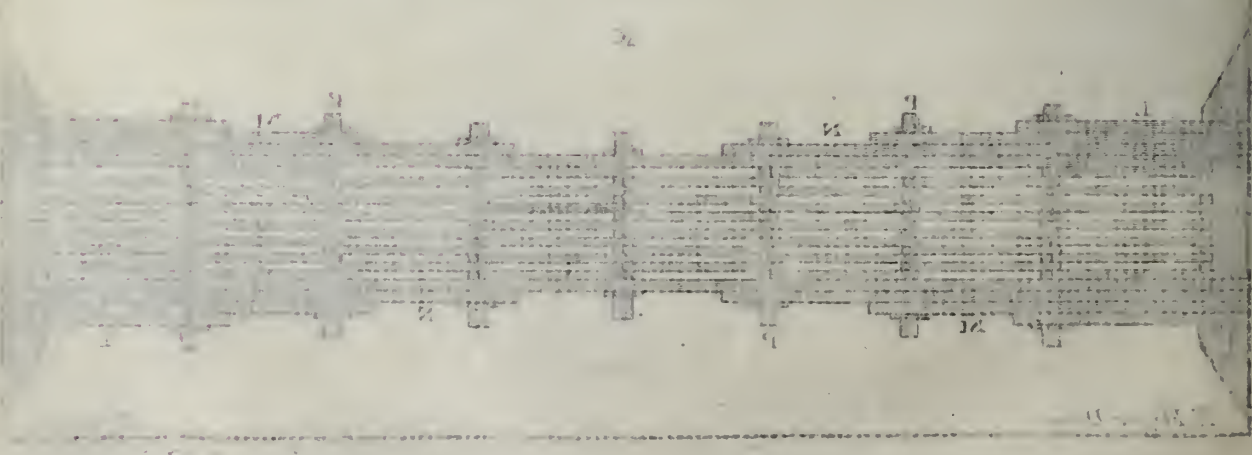
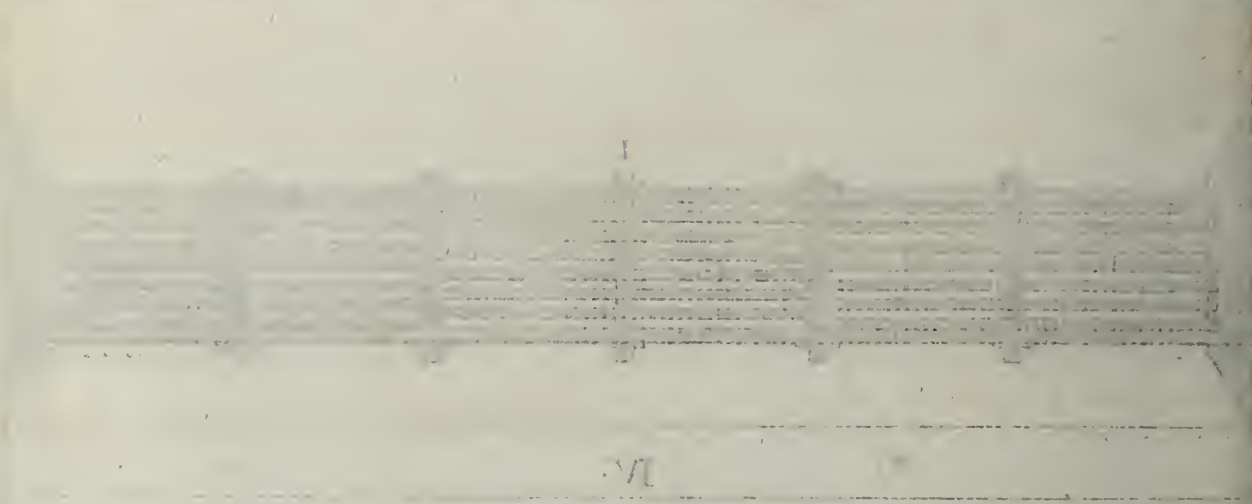
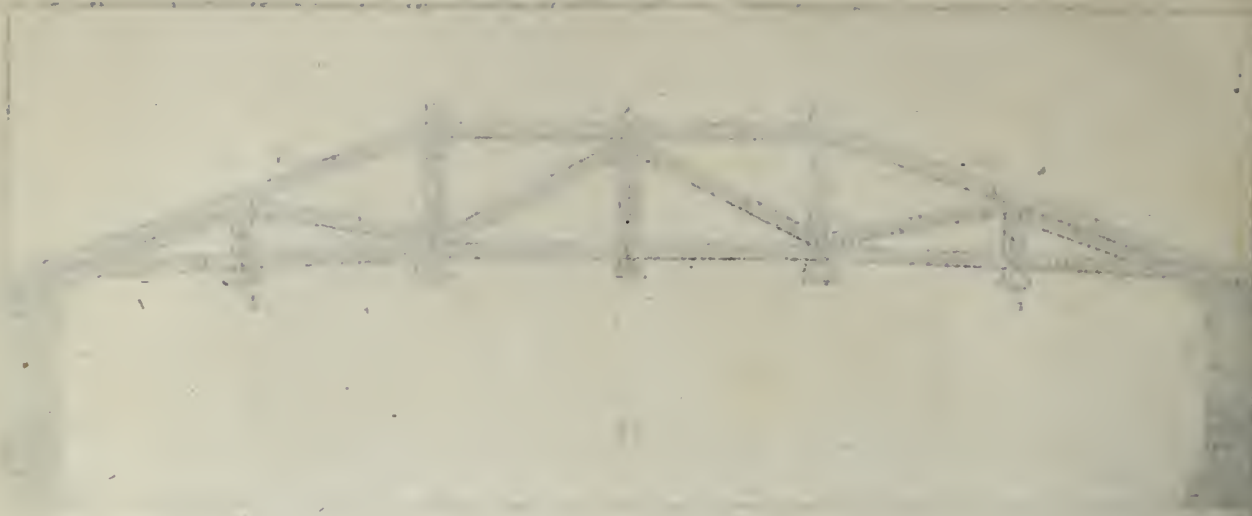


III

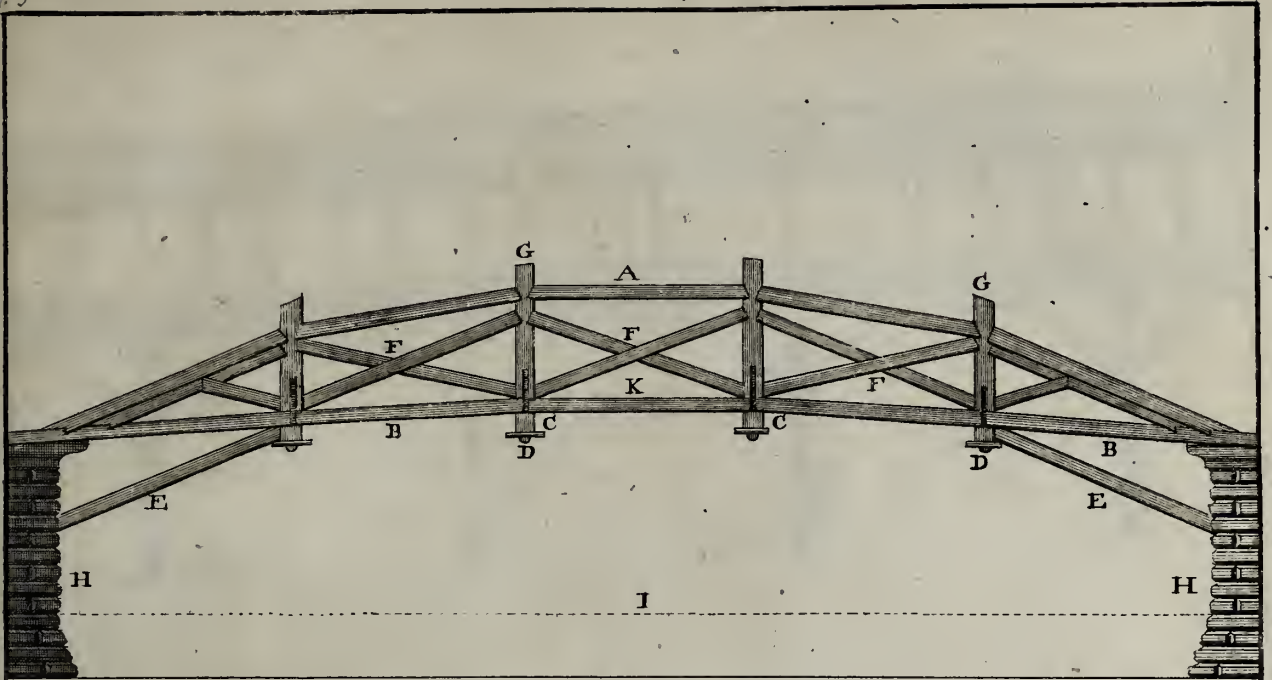


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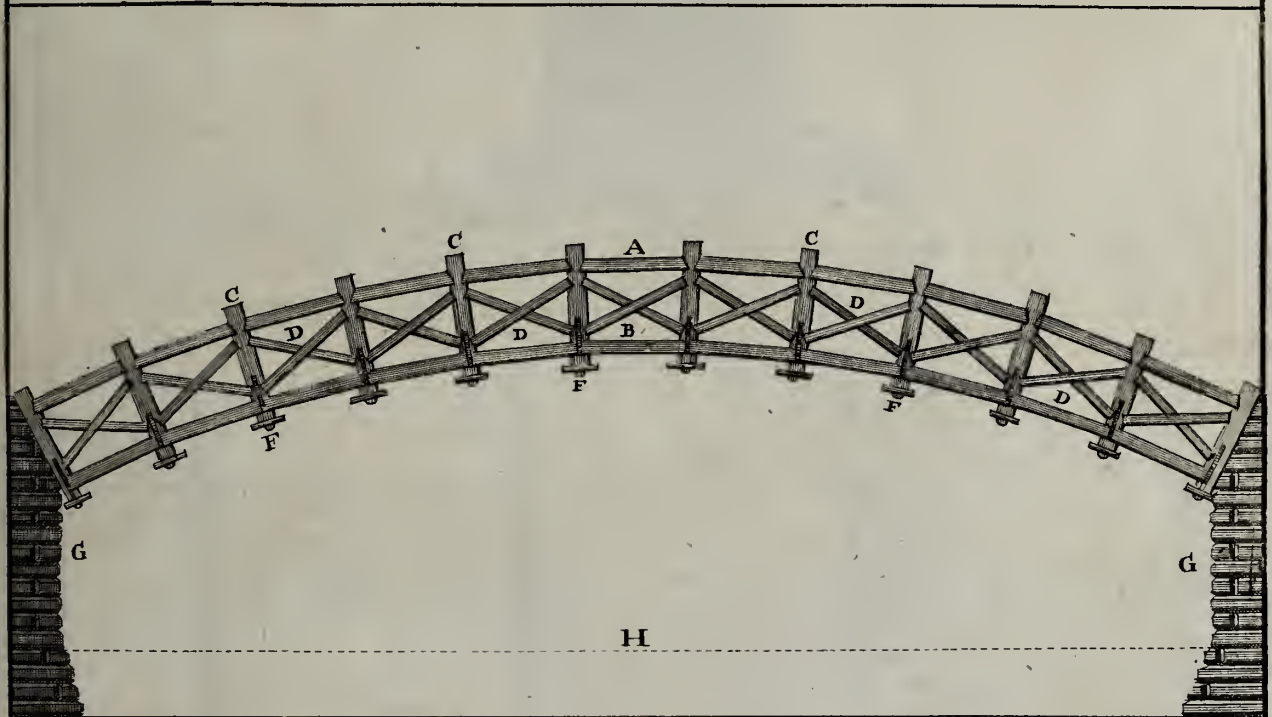




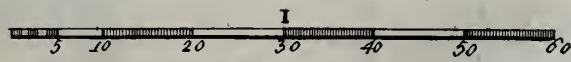
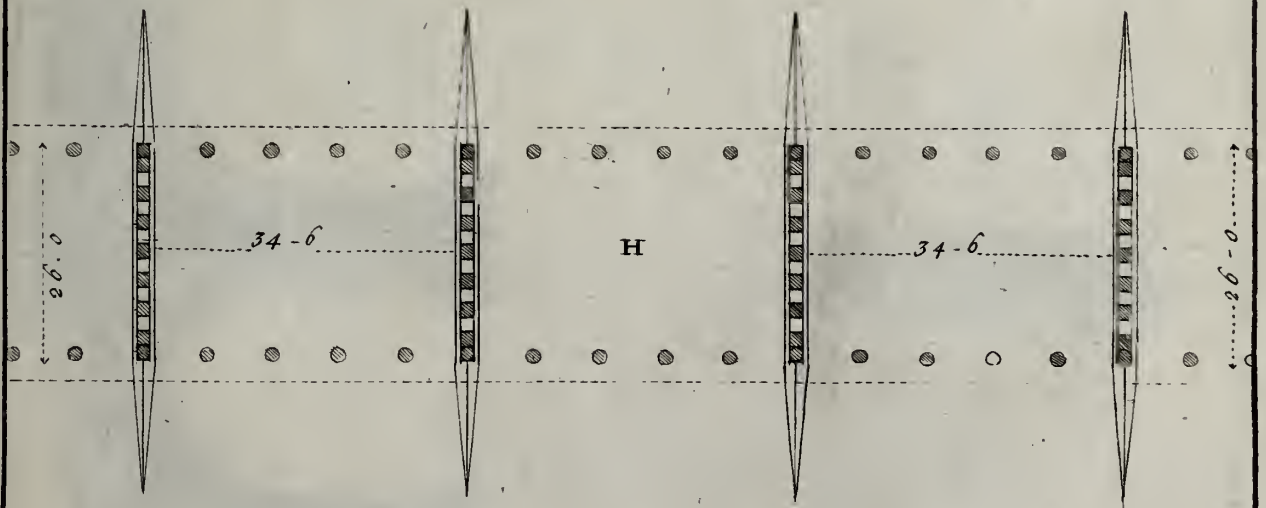
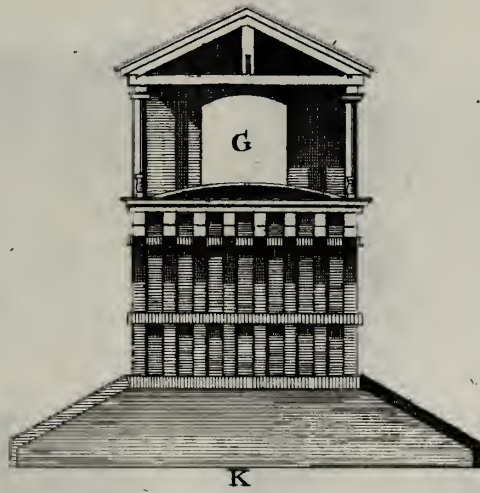
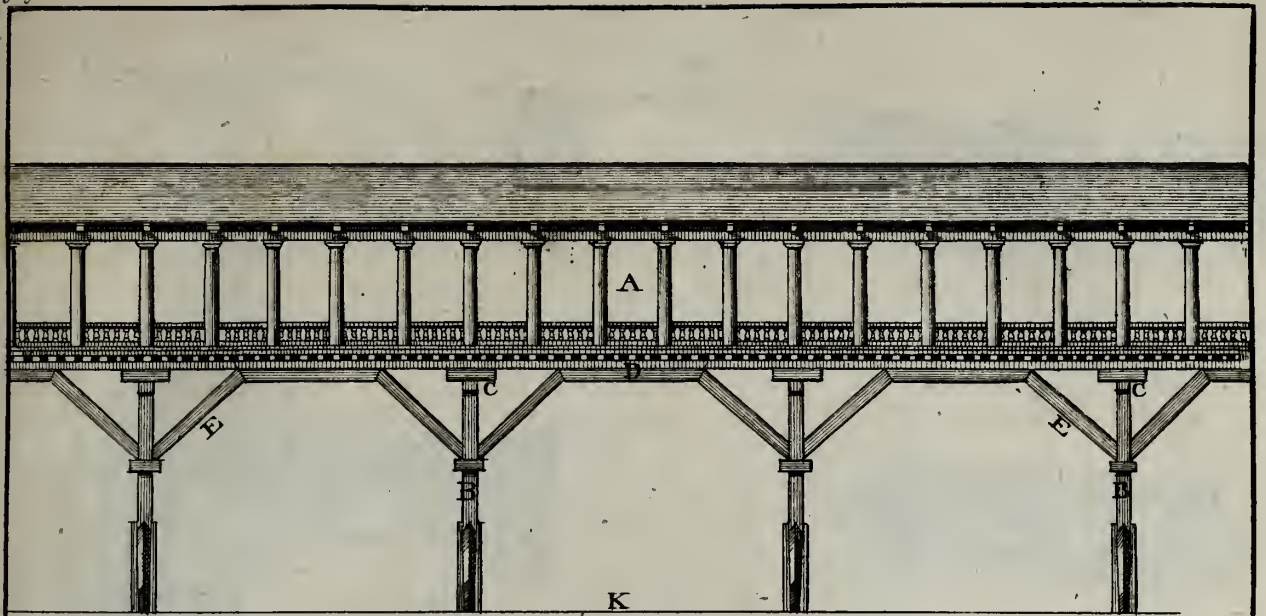
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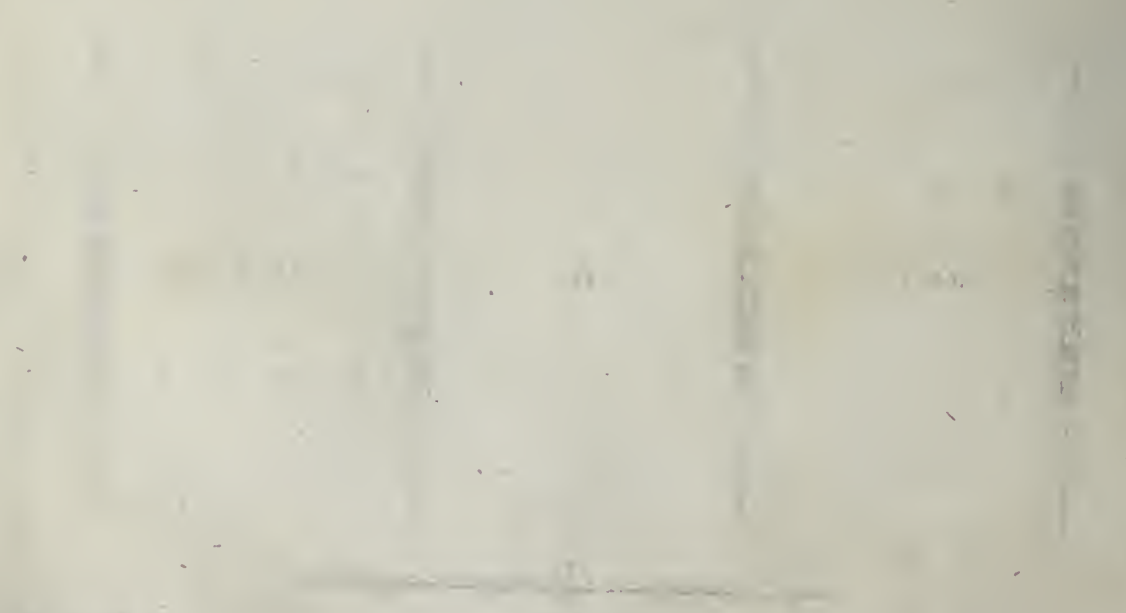


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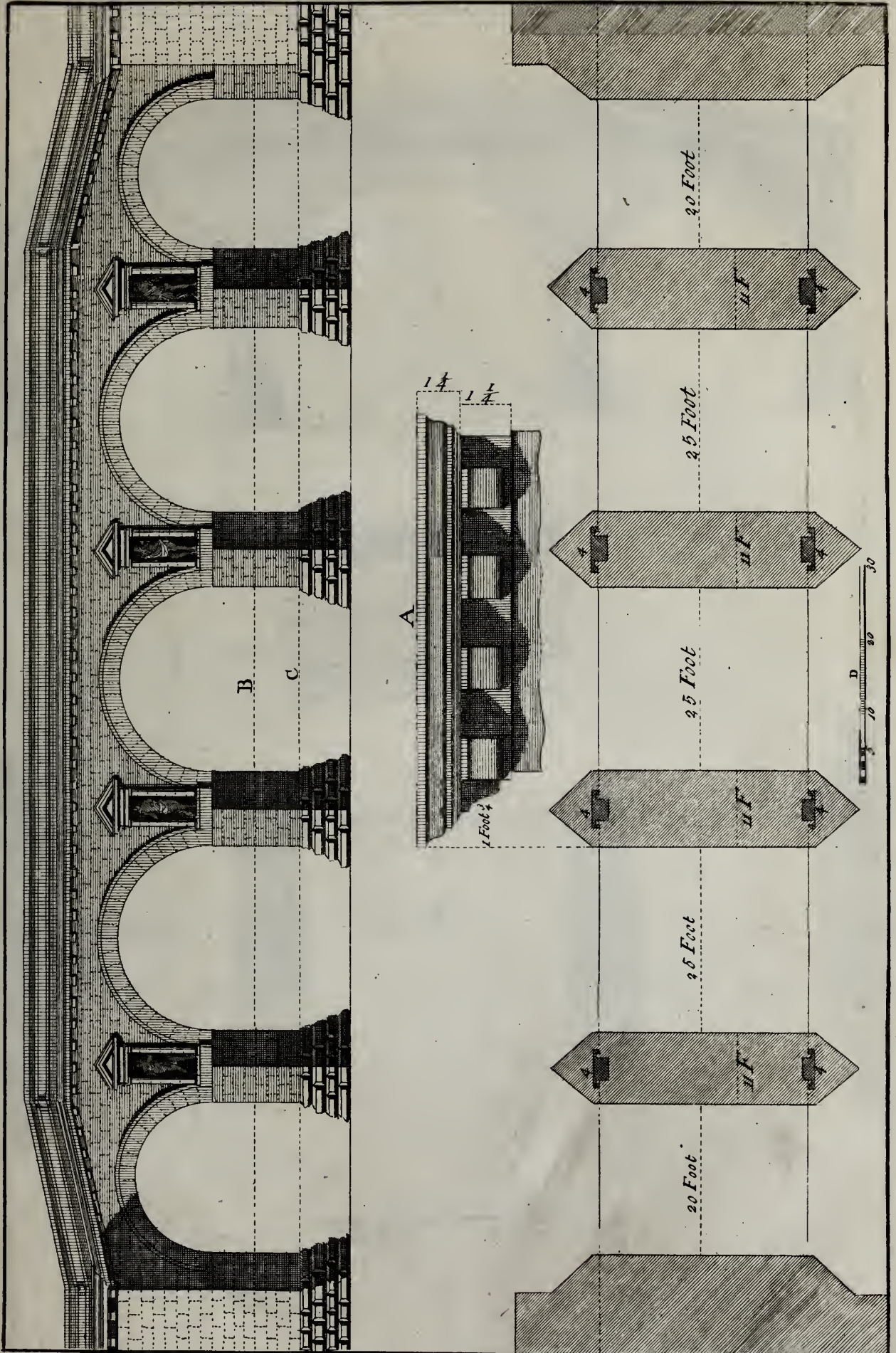








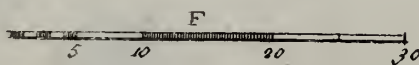
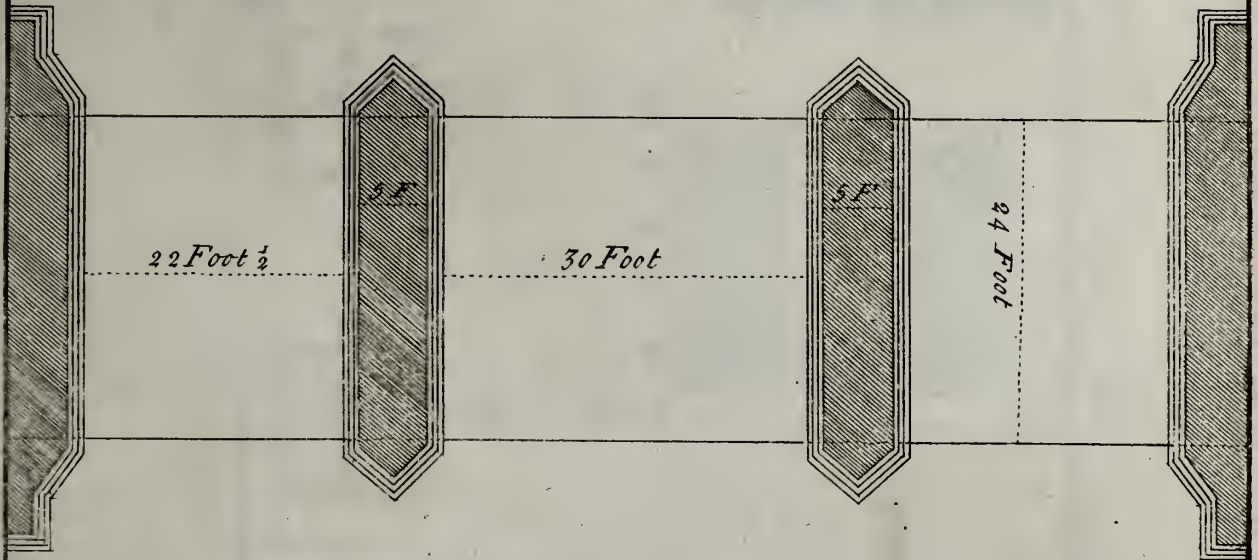
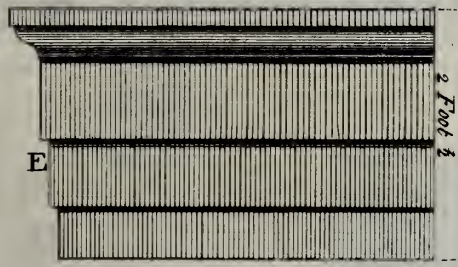
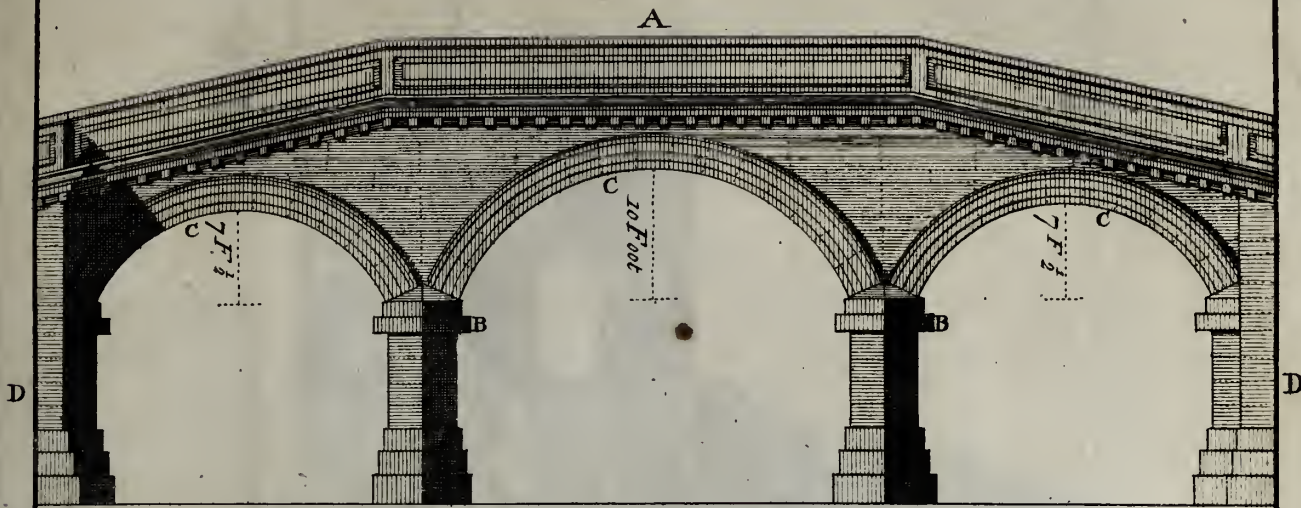


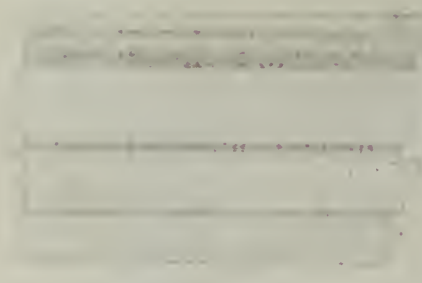


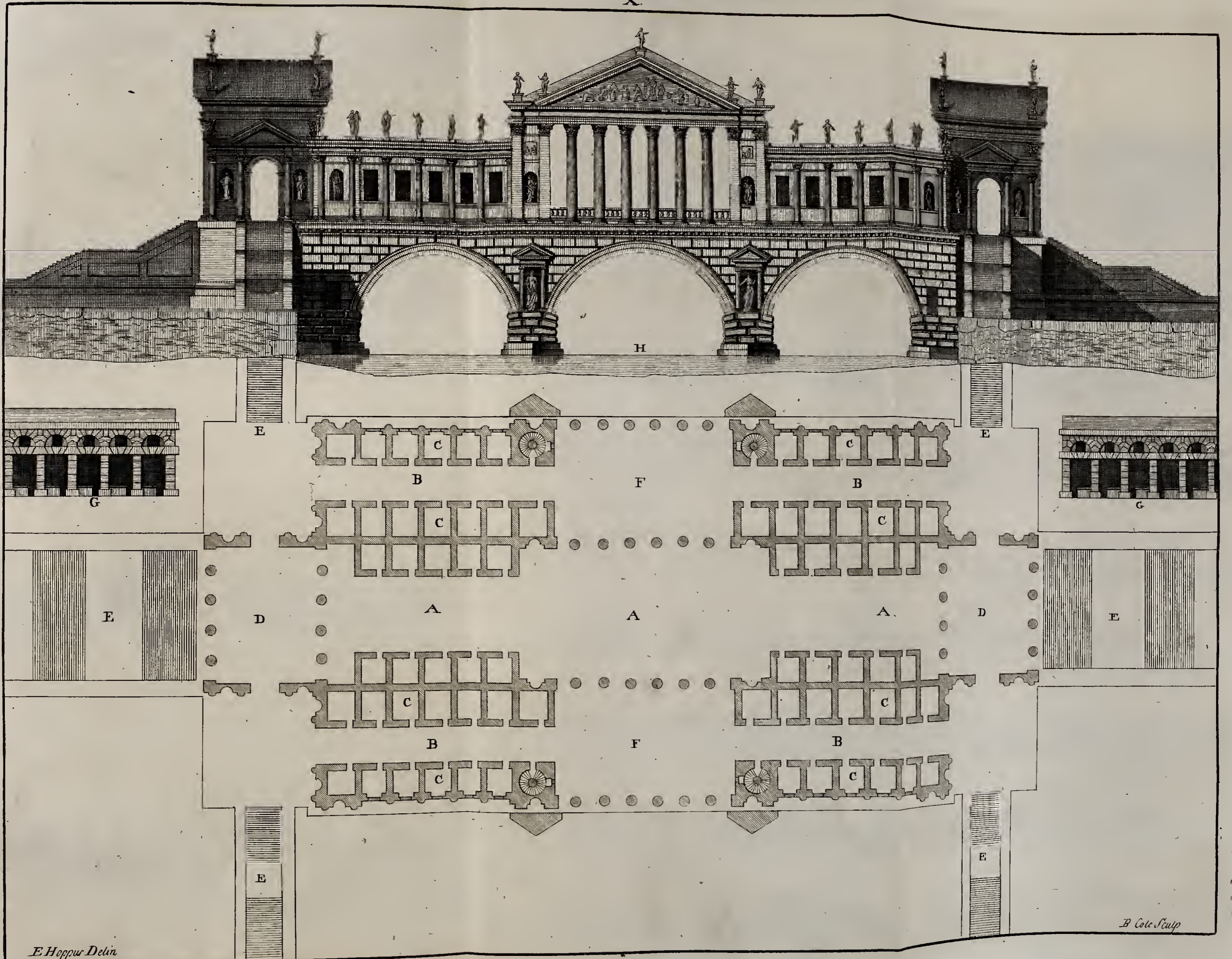
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B. Cole Sculp

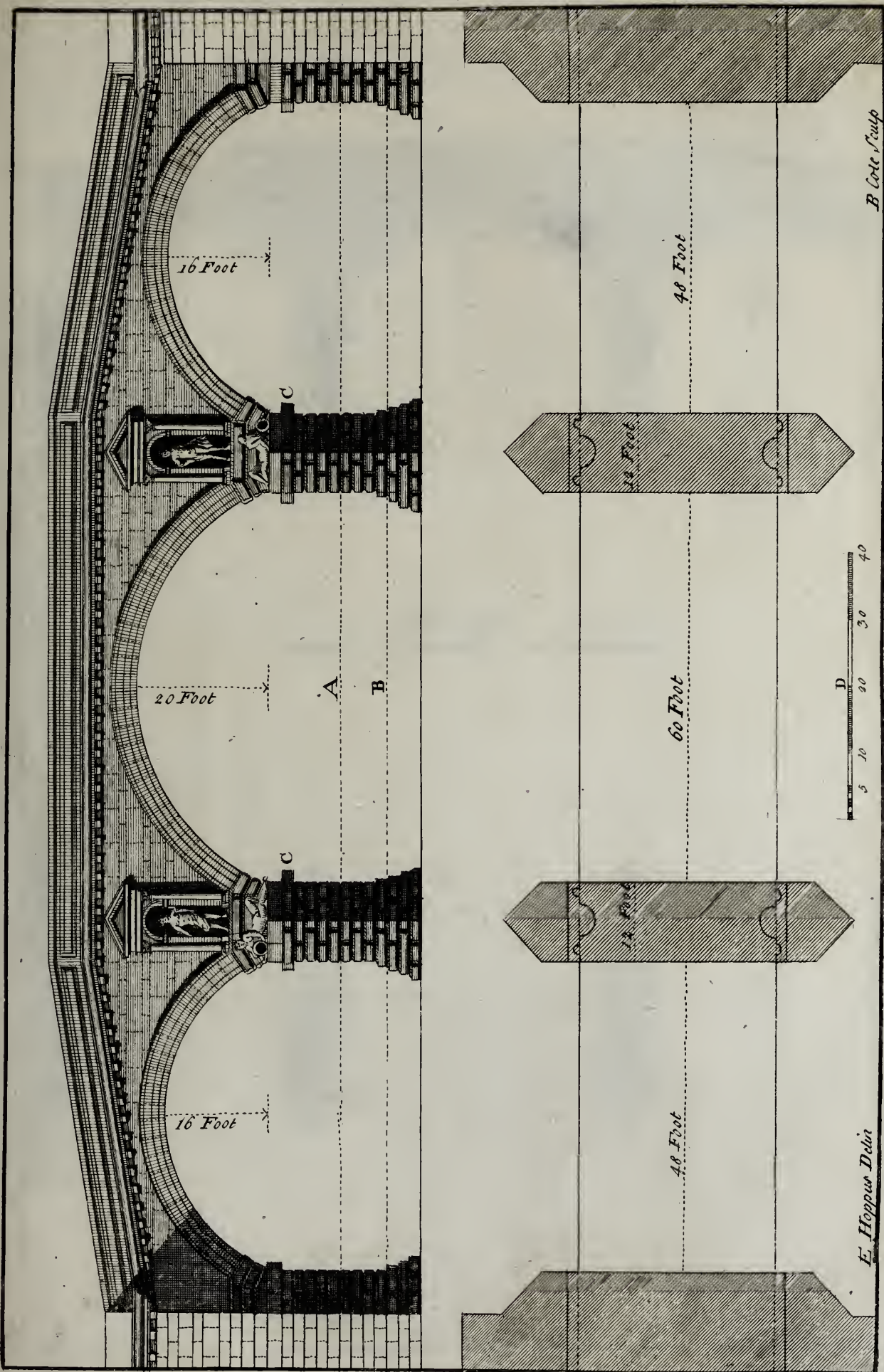












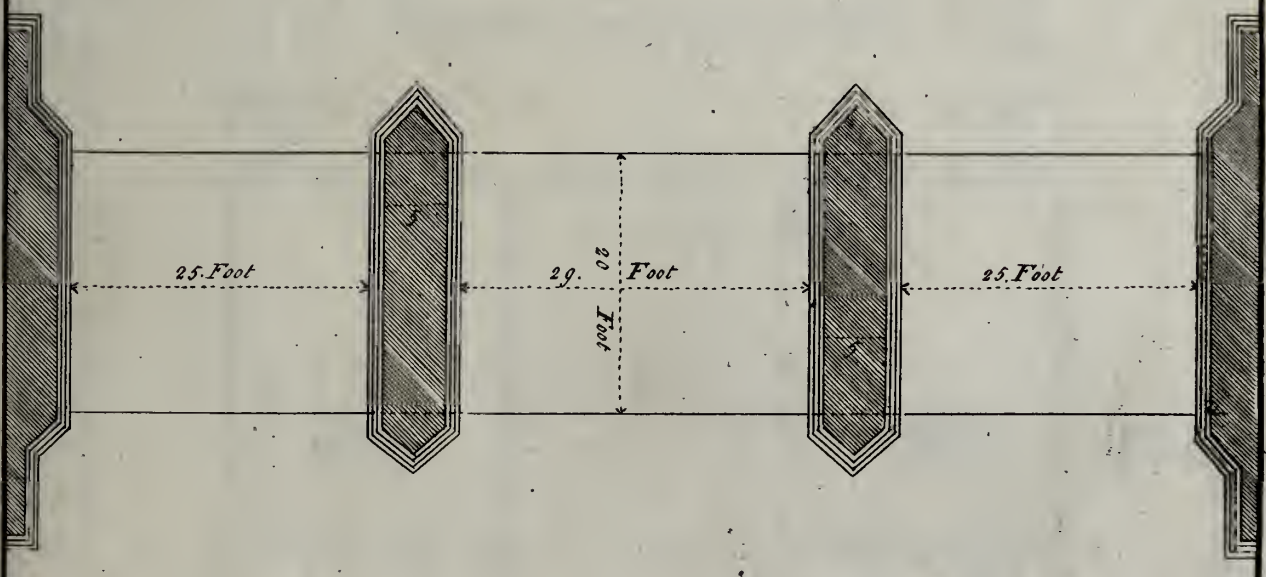
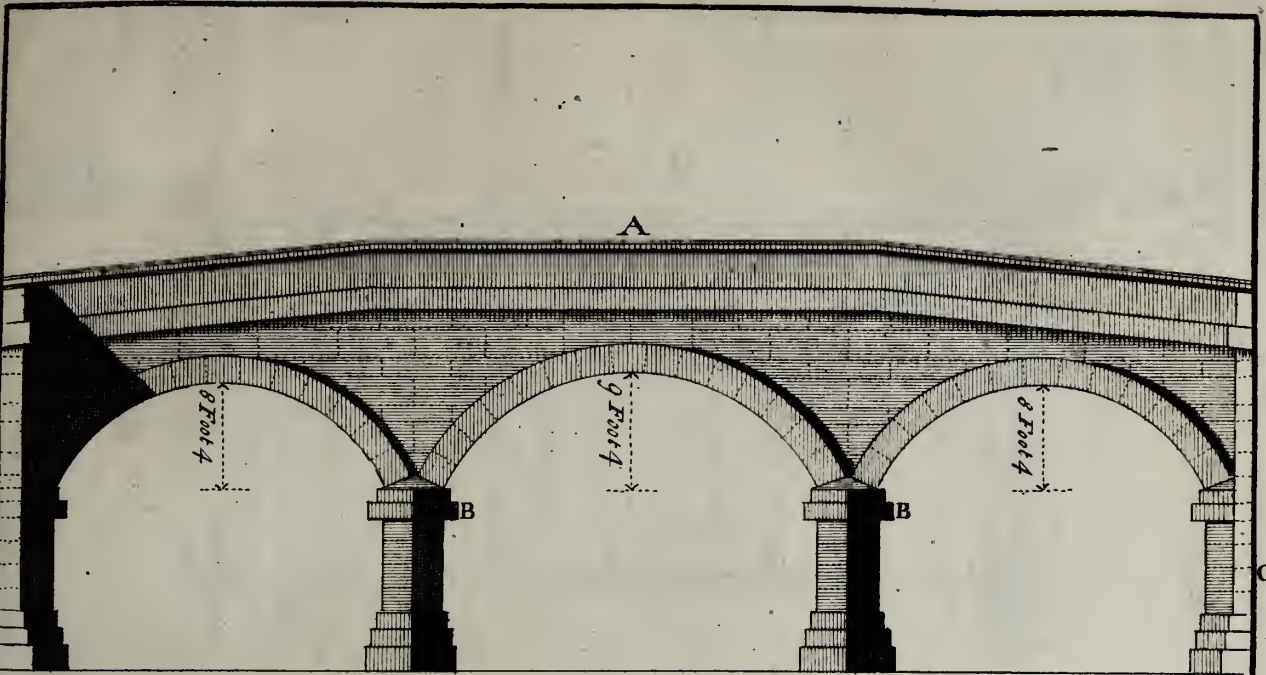
D  
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E. Hopper Delin

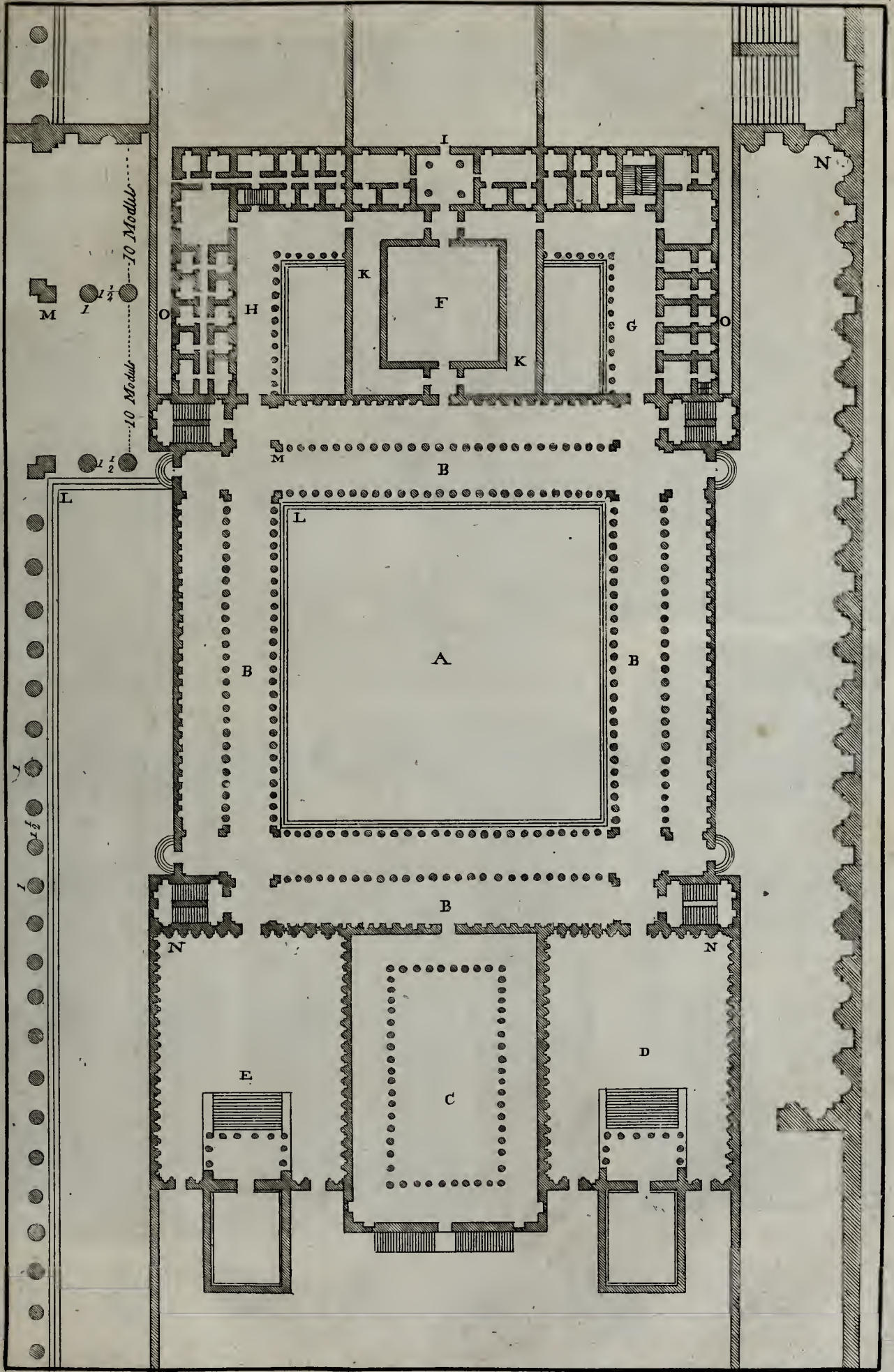
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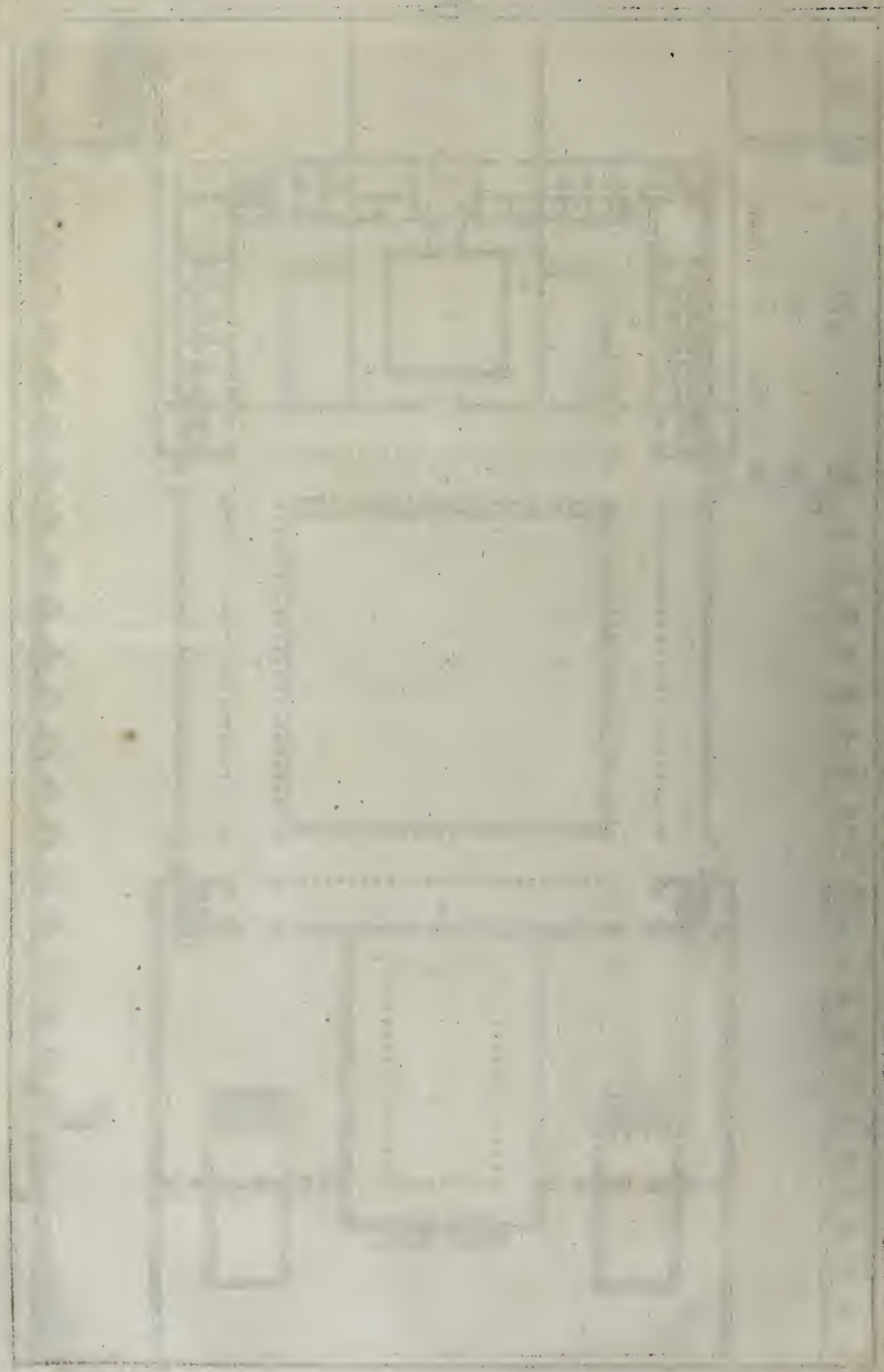












8 Mod 1/2

9 Mod 1

10 Mod 1/2

9 Mod

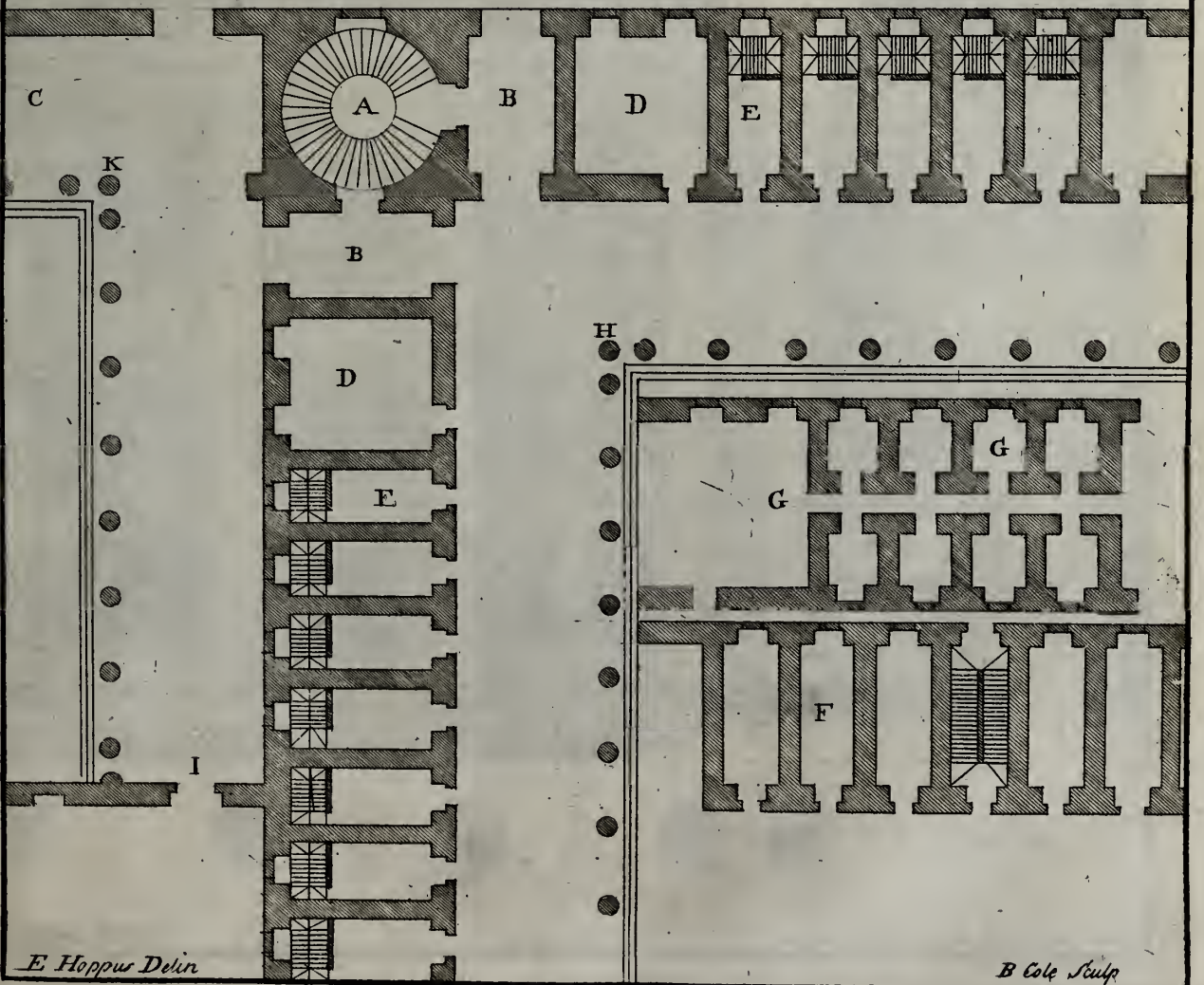
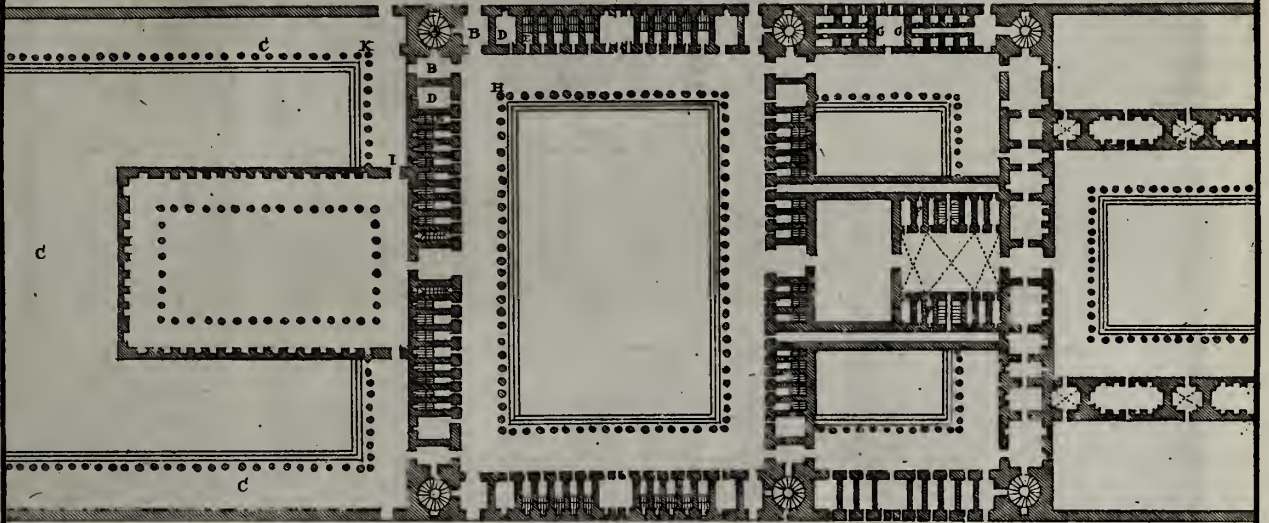
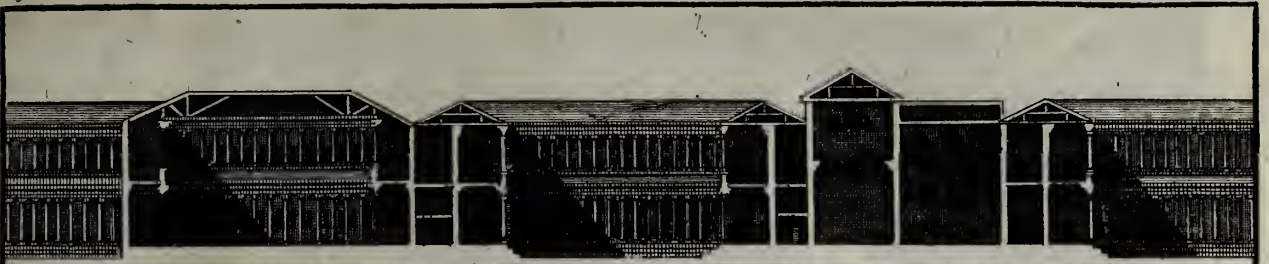
10 Mod



E Hoppus Delin

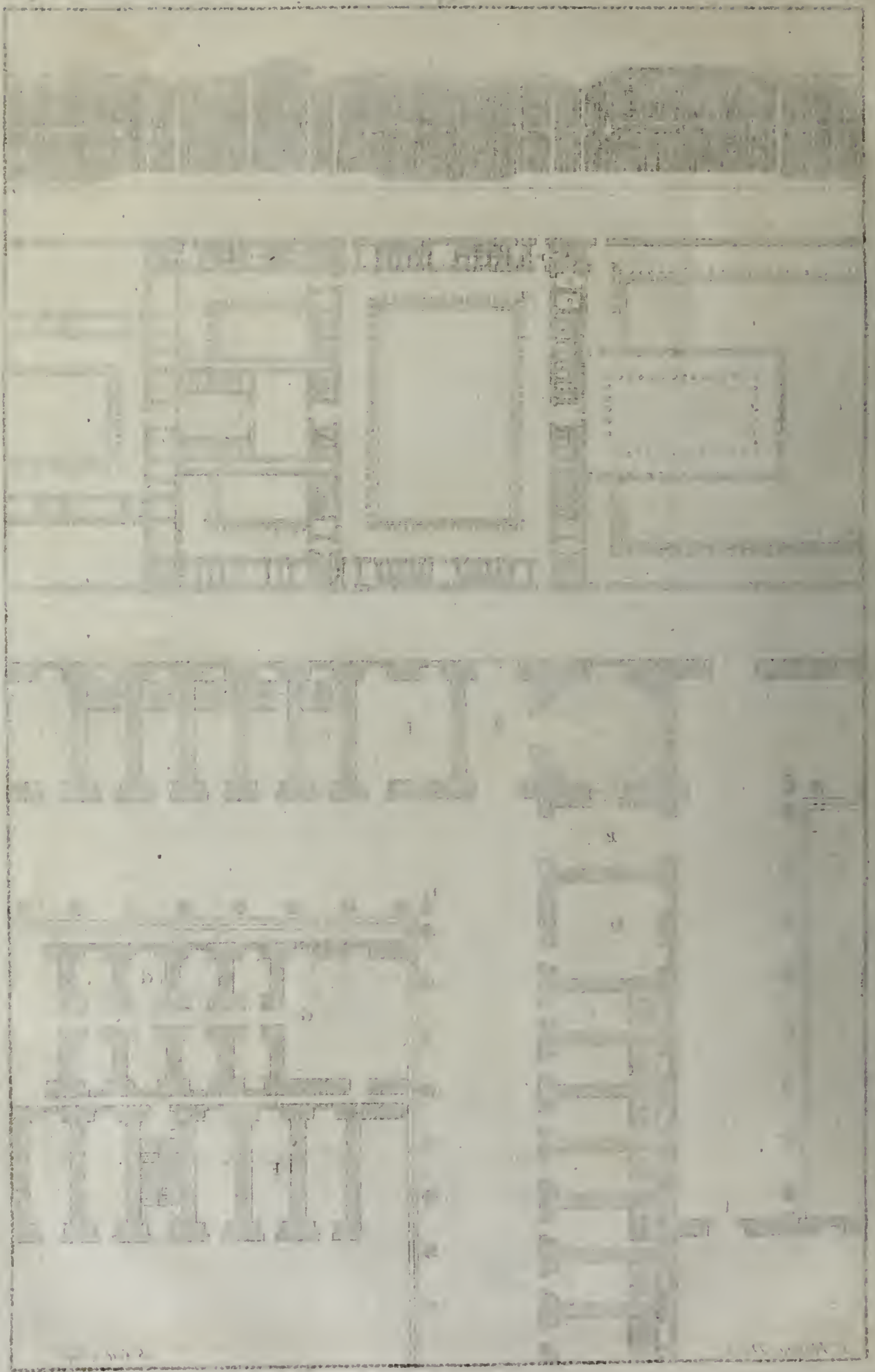
B Cola Sculp





E. Hoppus Delin

B Cole Sculp





8-3

1 M 4 5 M

9 Mod 5

1 M 5 M 1 M 4 5 M

9 Mod

3



2 Mod 4



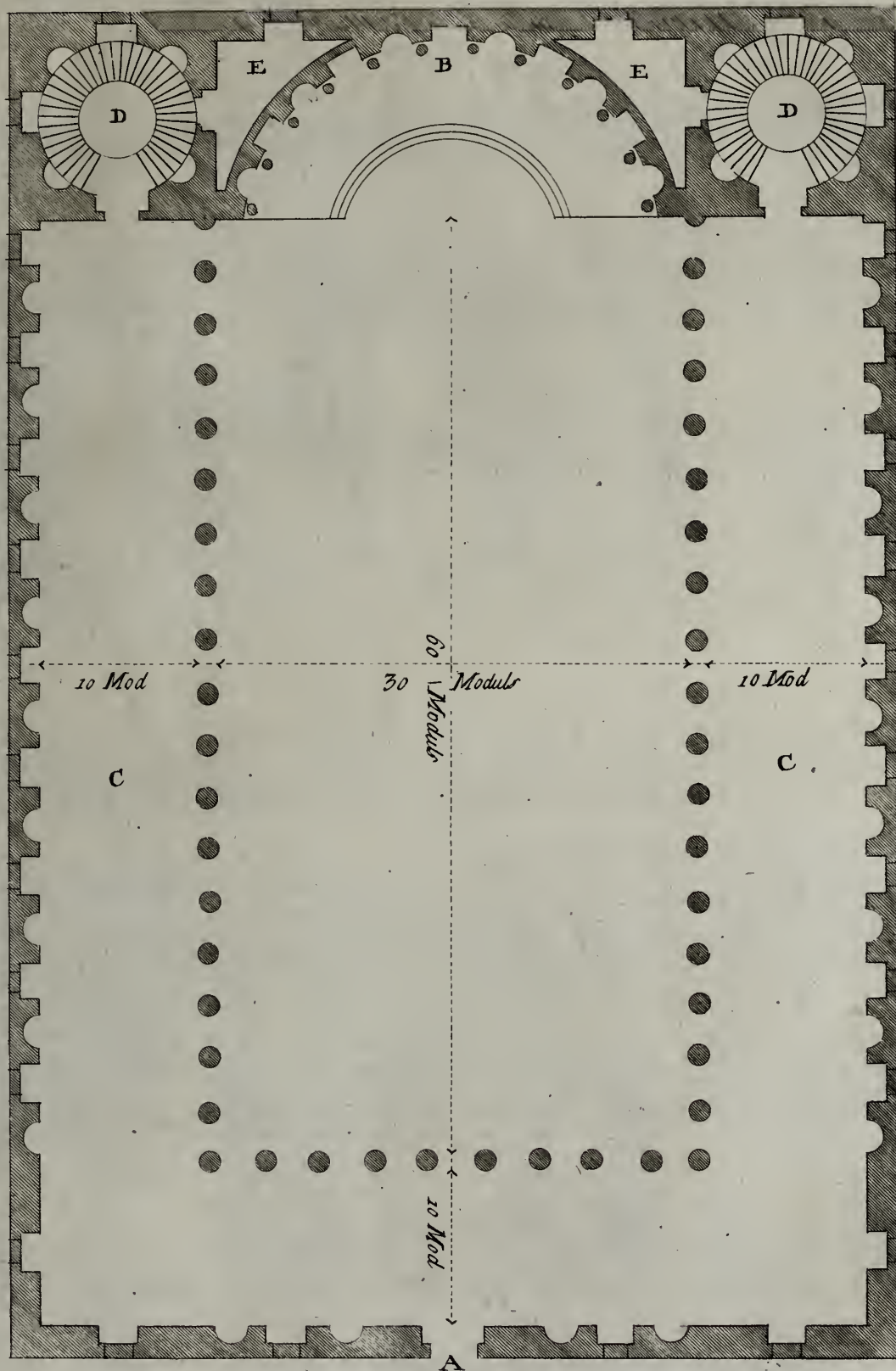
4 Mod 4

L

E. Hopper Delin

B Cole Sculp

| Date | Description | Debit  | Credit |
|------|-------------|--------|--------|
| 1880 | Jan 1       | 100.00 |        |
| 1880 | Feb 1       | 50.00  |        |
| 1880 | Mar 1       | 25.00  |        |
| 1880 | Apr 1       | 15.00  |        |
| 1880 | May 1       | 10.00  |        |
| 1880 | Jun 1       | 5.00   |        |
| 1880 | Jul 1       | 2.50   |        |
| 1880 | Aug 1       | 1.25   |        |
| 1880 | Sep 1       | 0.62   |        |
| 1880 | Oct 1       | 0.31   |        |
| 1880 | Nov 1       | 0.15   |        |
| 1880 | Dec 1       | 0.07   |        |



E. Hoppus. Delin.

B Cole Sculp





1 Mo 4

2 Mo 4

2 Mo

10 Mo

2 Mo 4

2 Mo 4

1 M

1 M

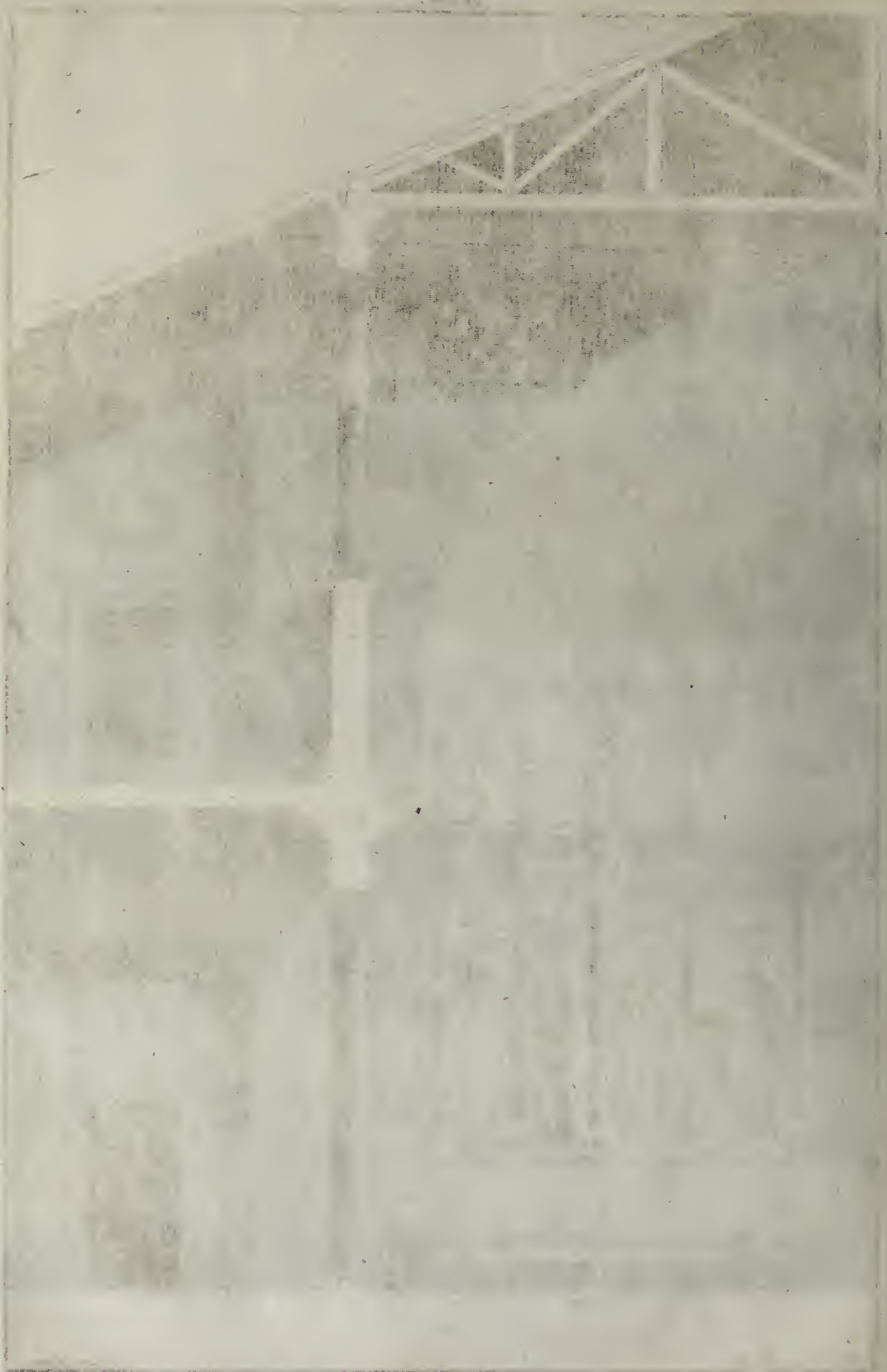
2 Mo 4



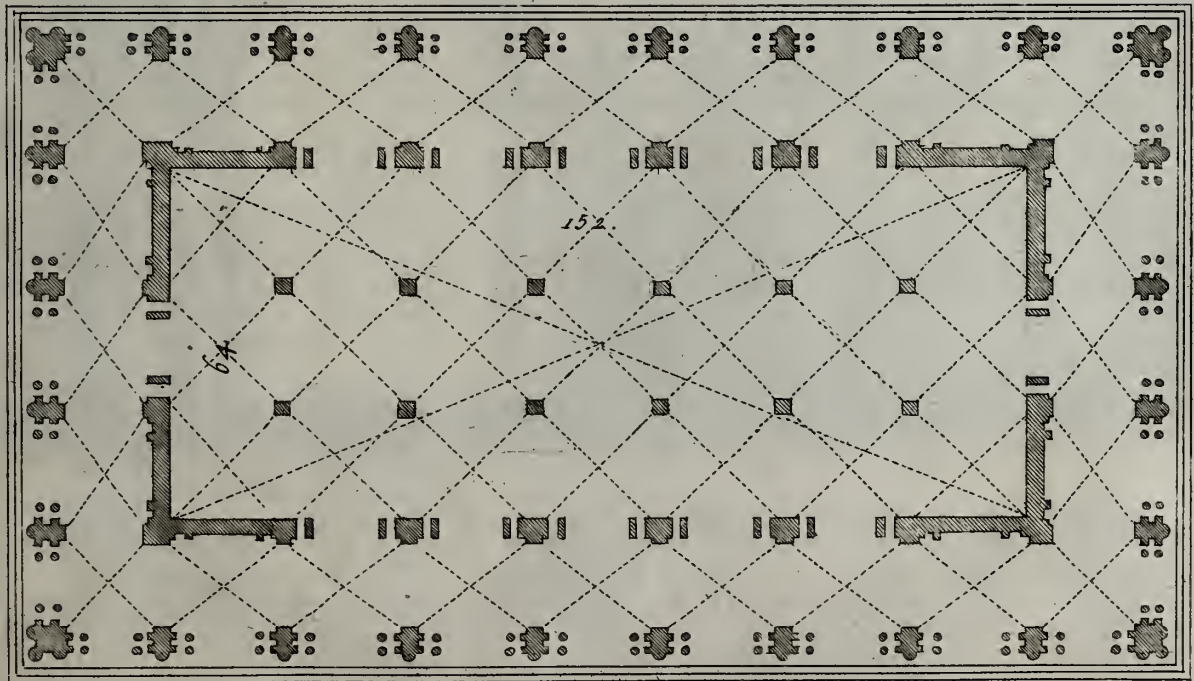


E Hoppus Delin

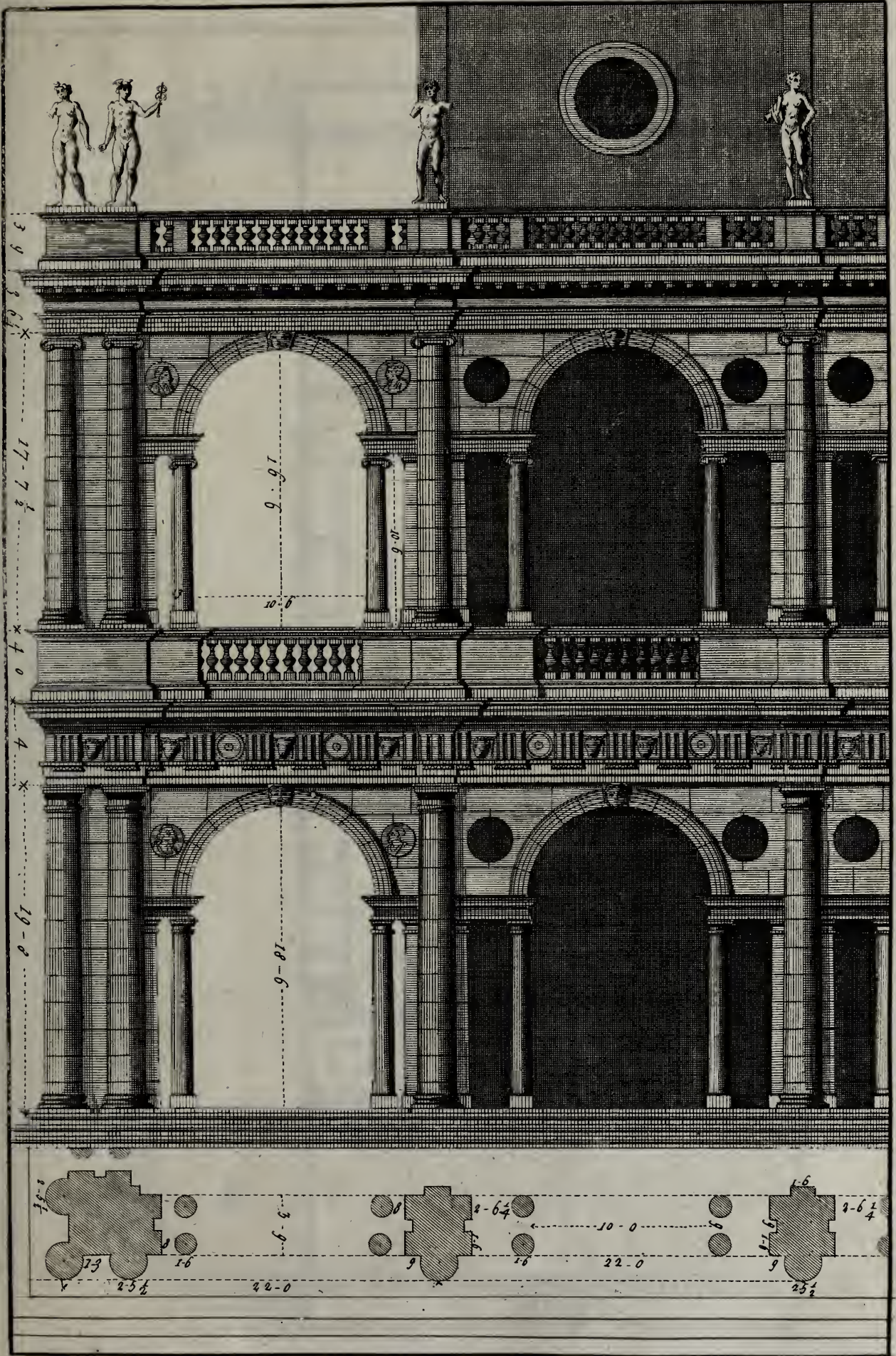
B Cole Sculp





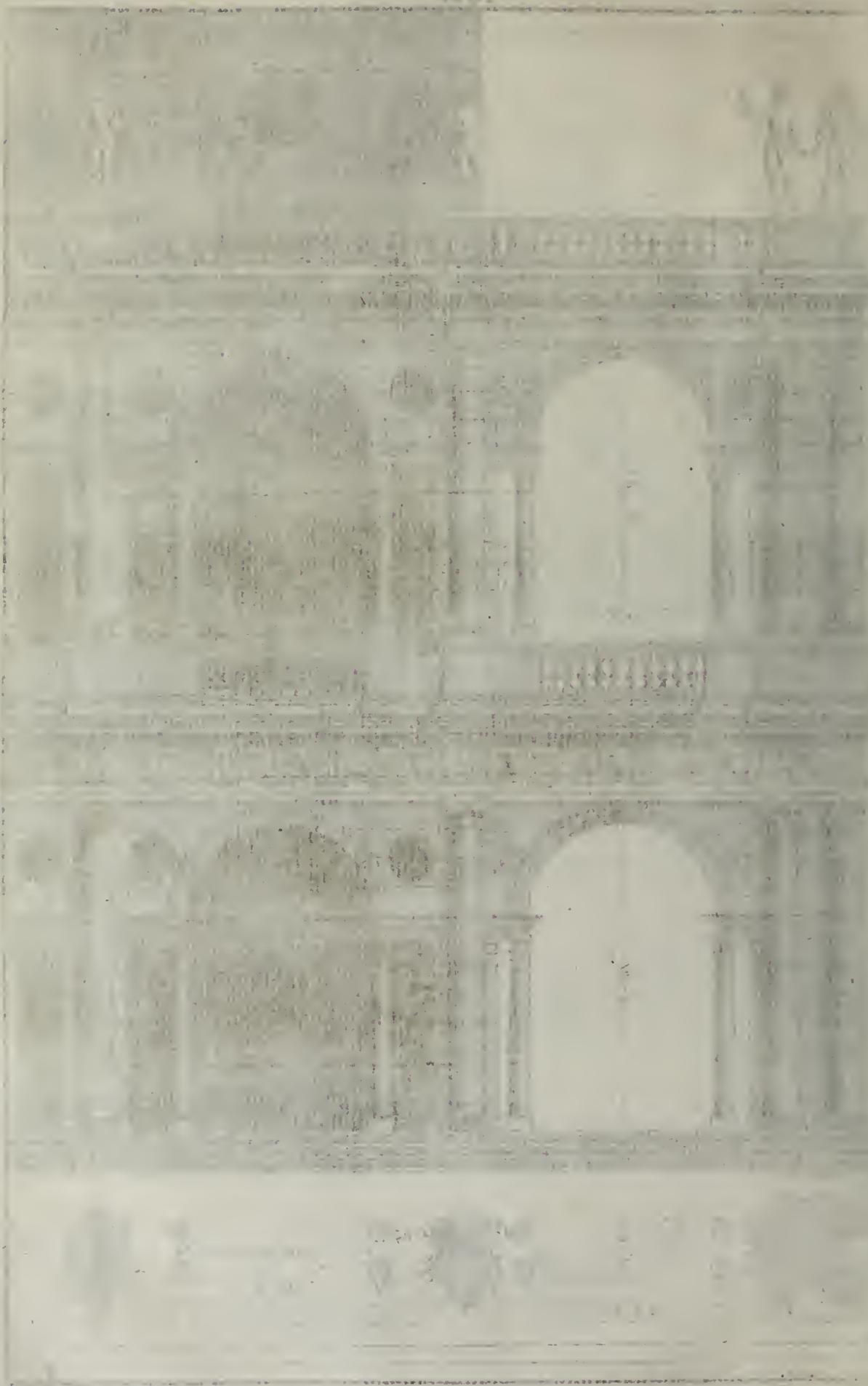


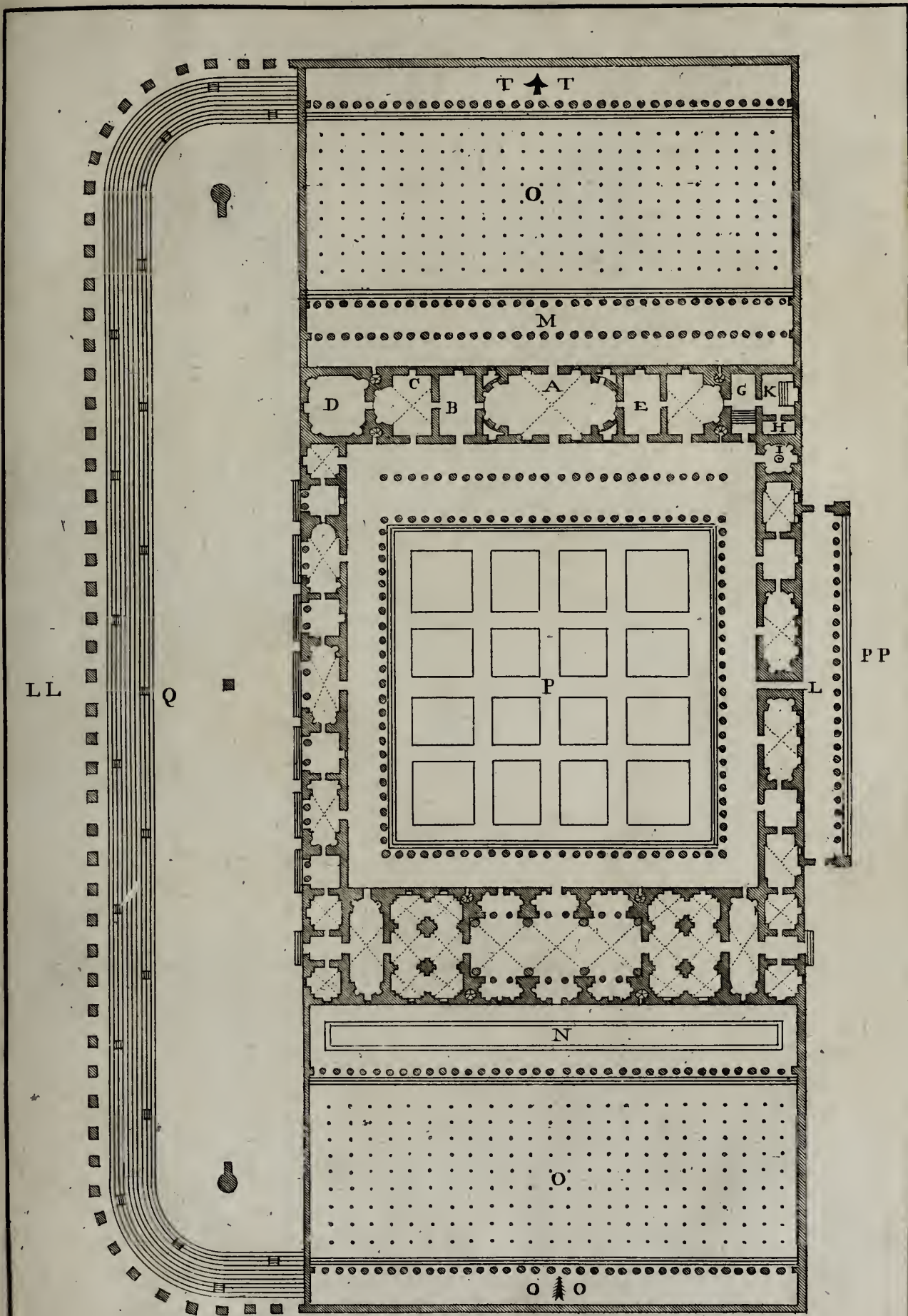




E Hoppus. Delin

B Cole Sculp





E. Hoppus Delin

B Cole Sculp

the End of *this* Book

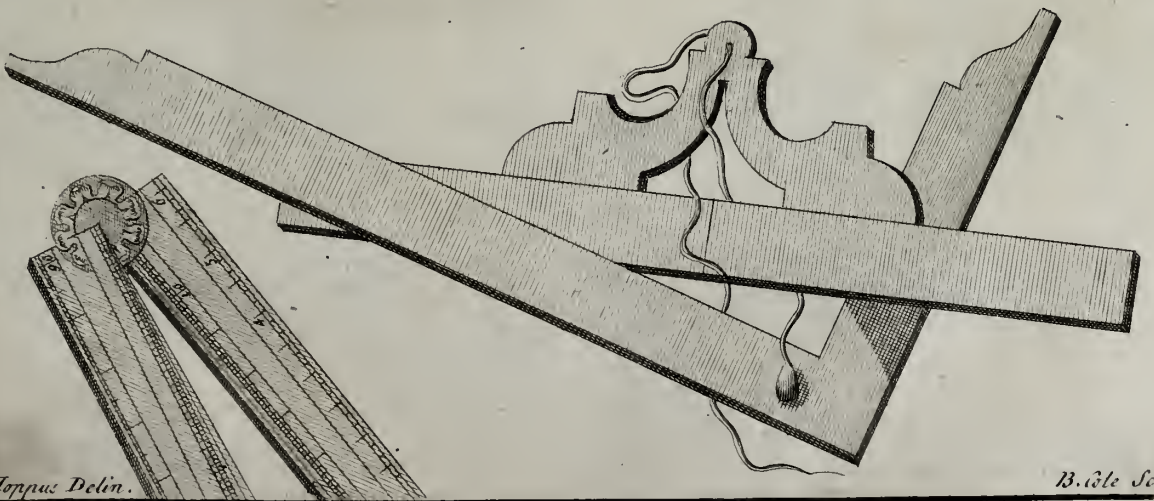




Scale of French Feet



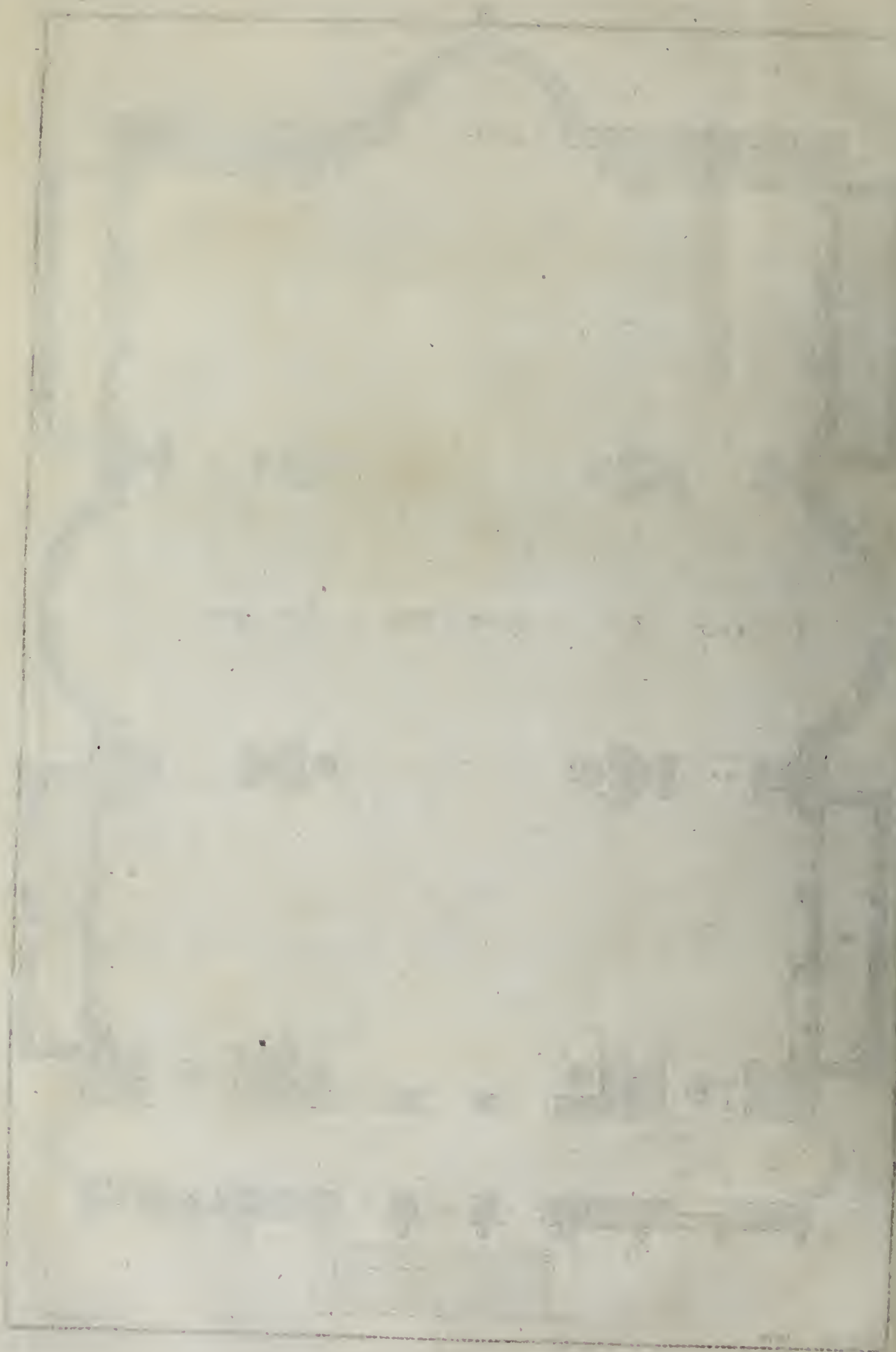
divided into 24 parts

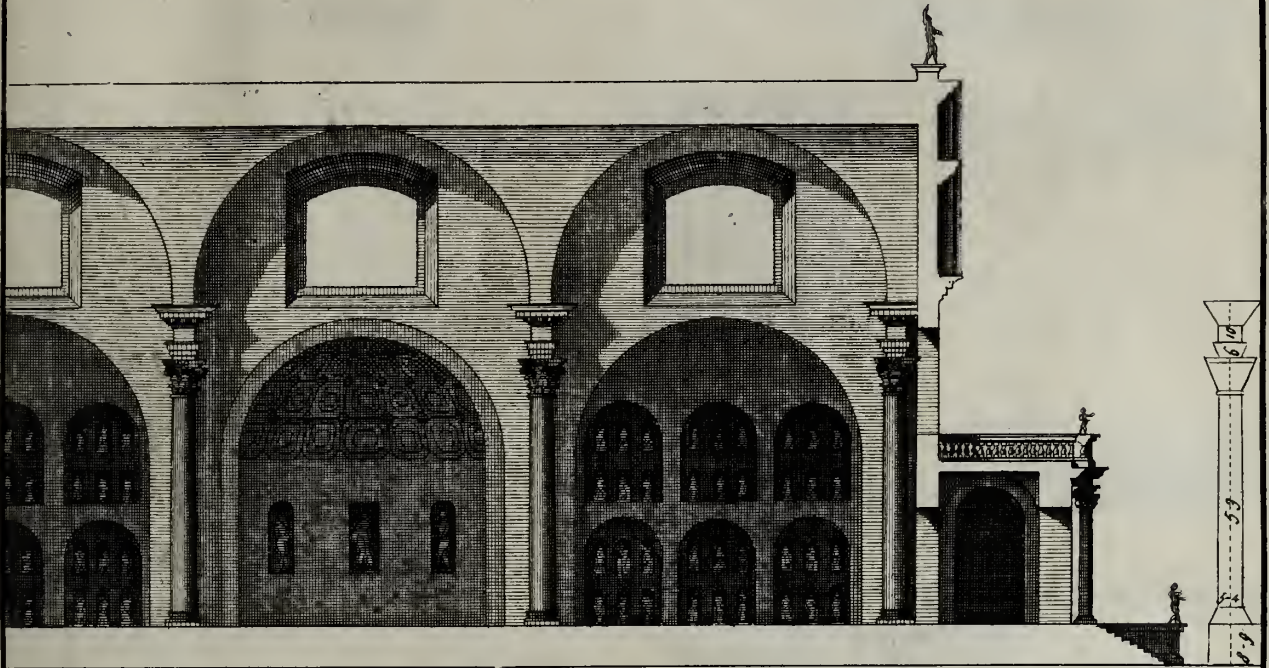












6 1/2 Foot

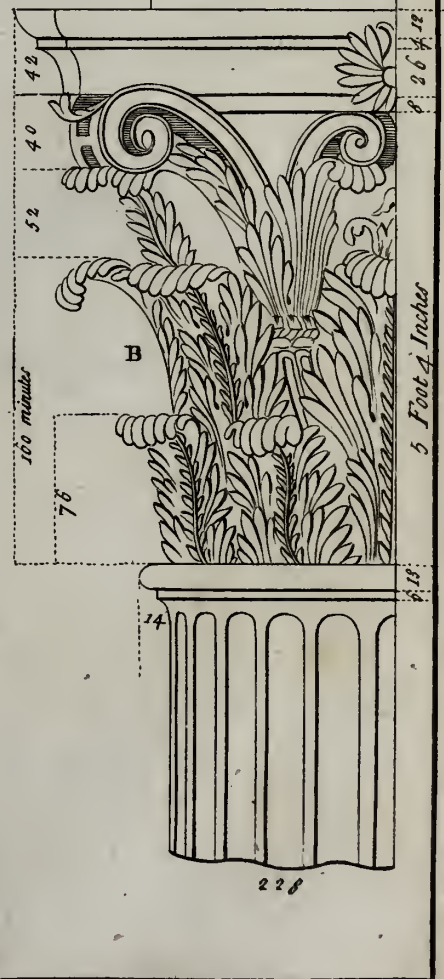
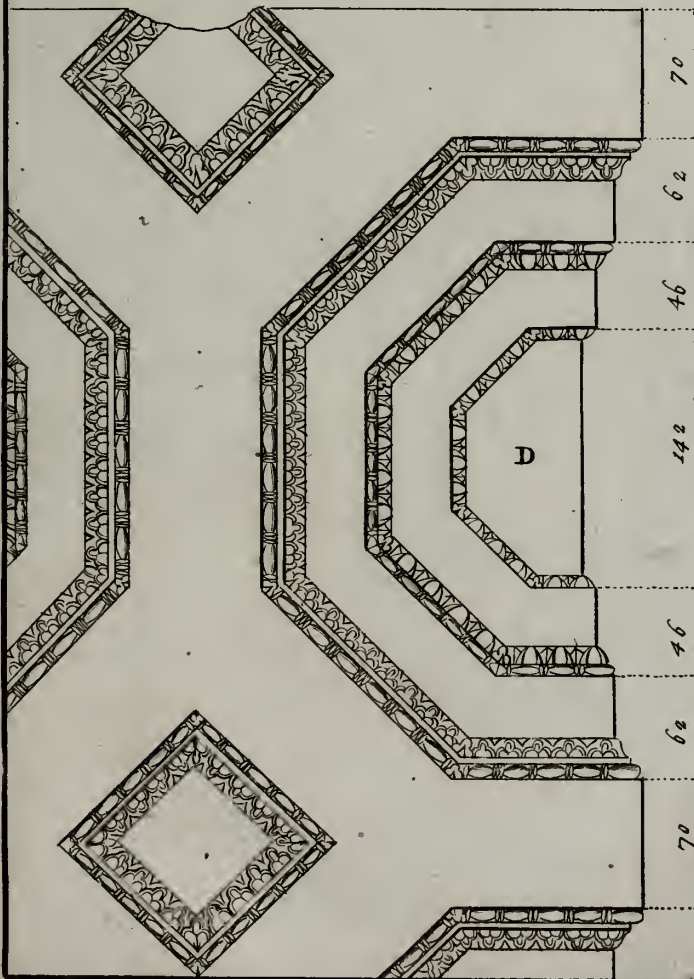
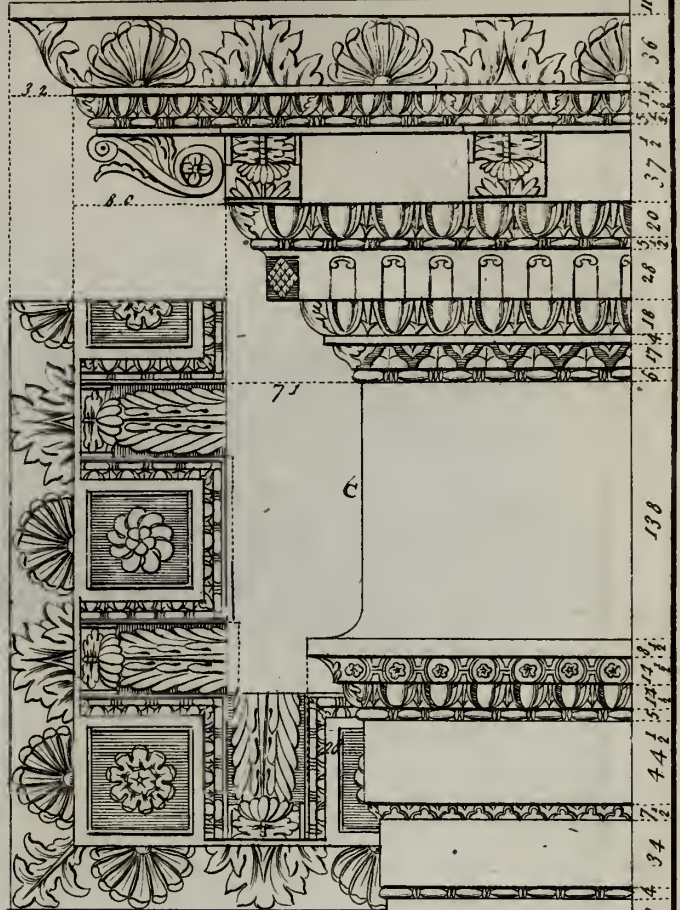
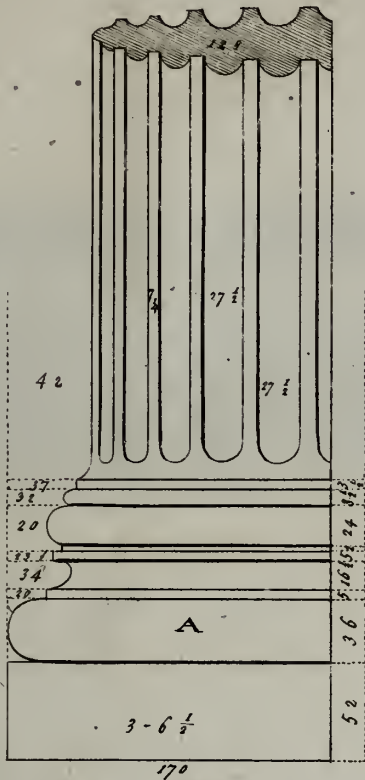
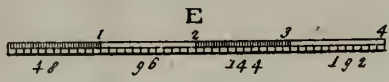


6 1/2 Foot



6 1/2 Foot 6 Inches

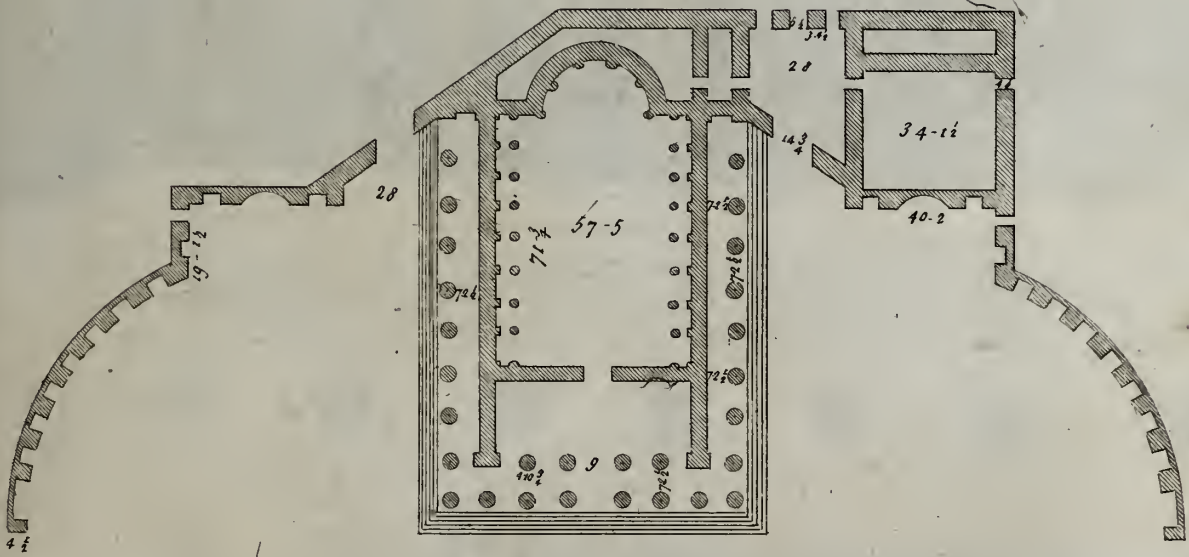


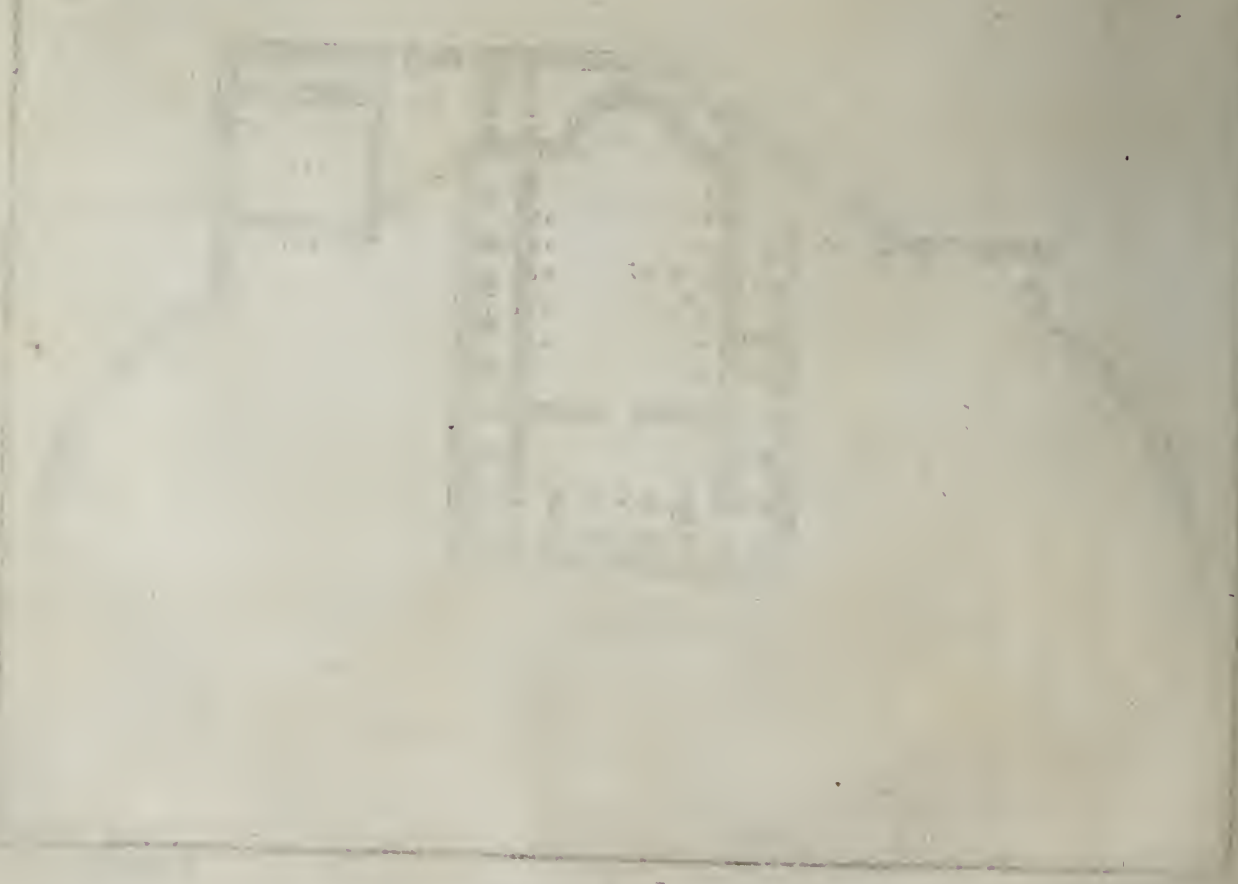


E Hopper Detail

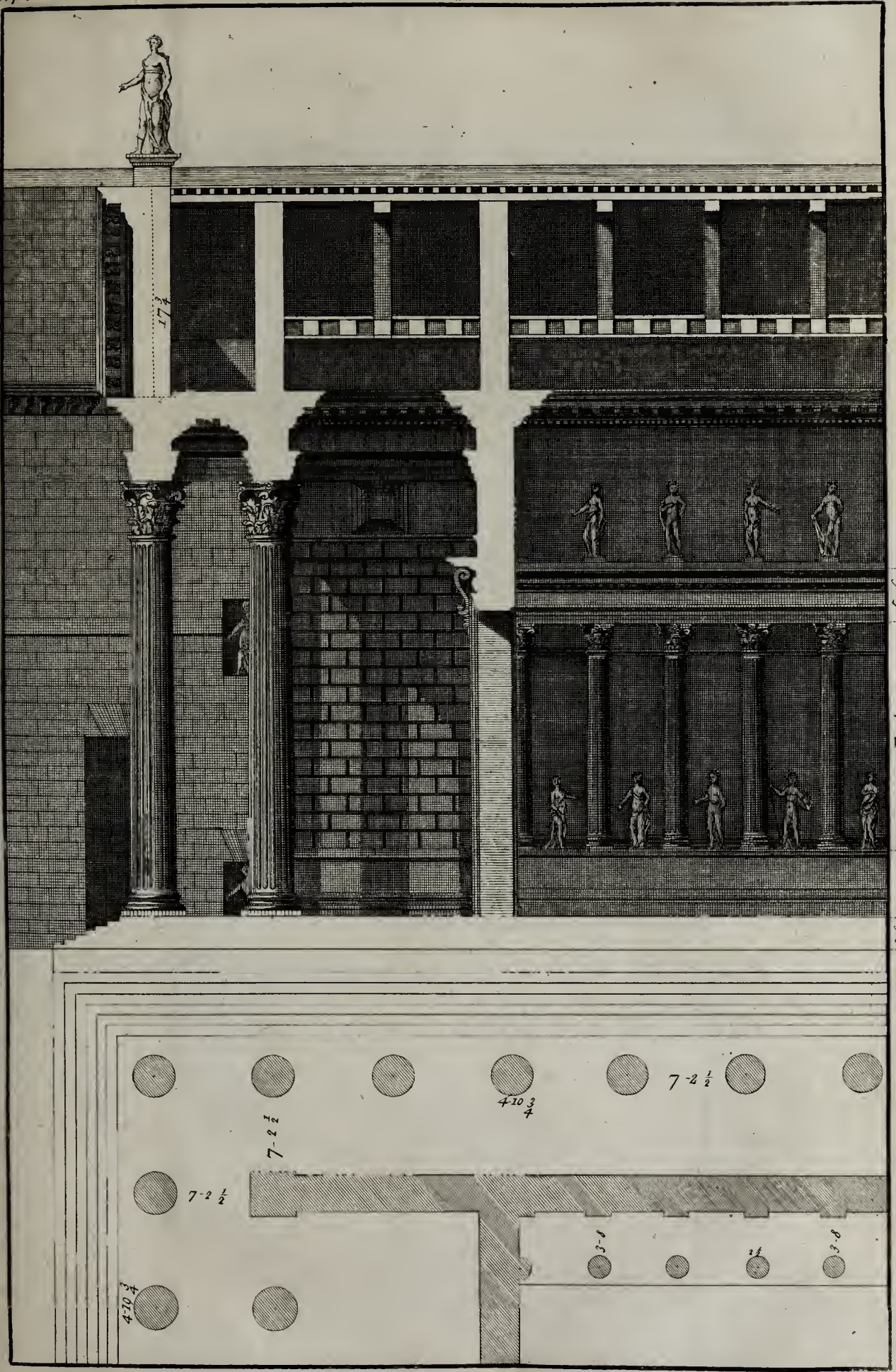
B Acanthus















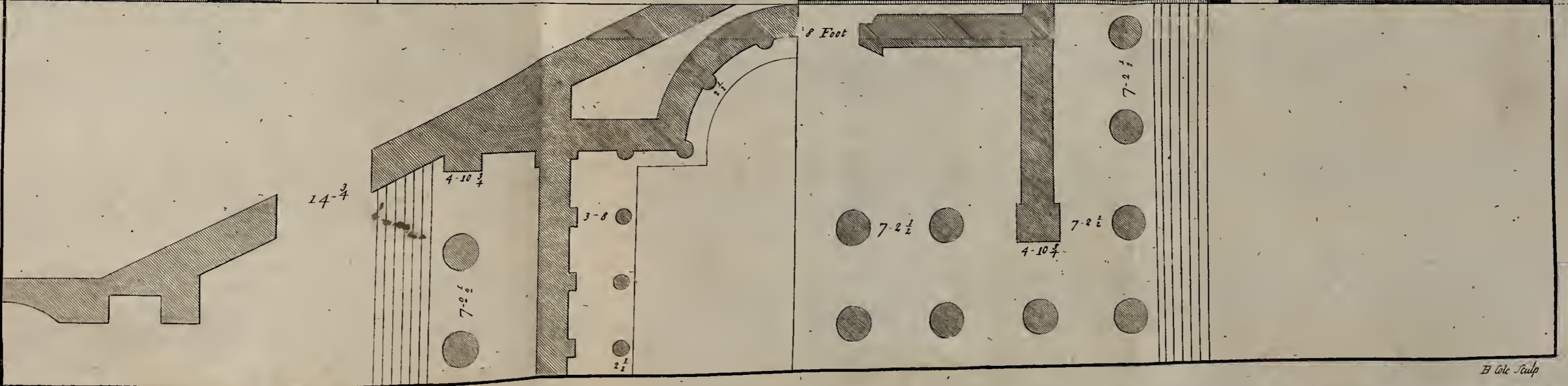
81 Foot 8 Inches

10.F

48 Foot

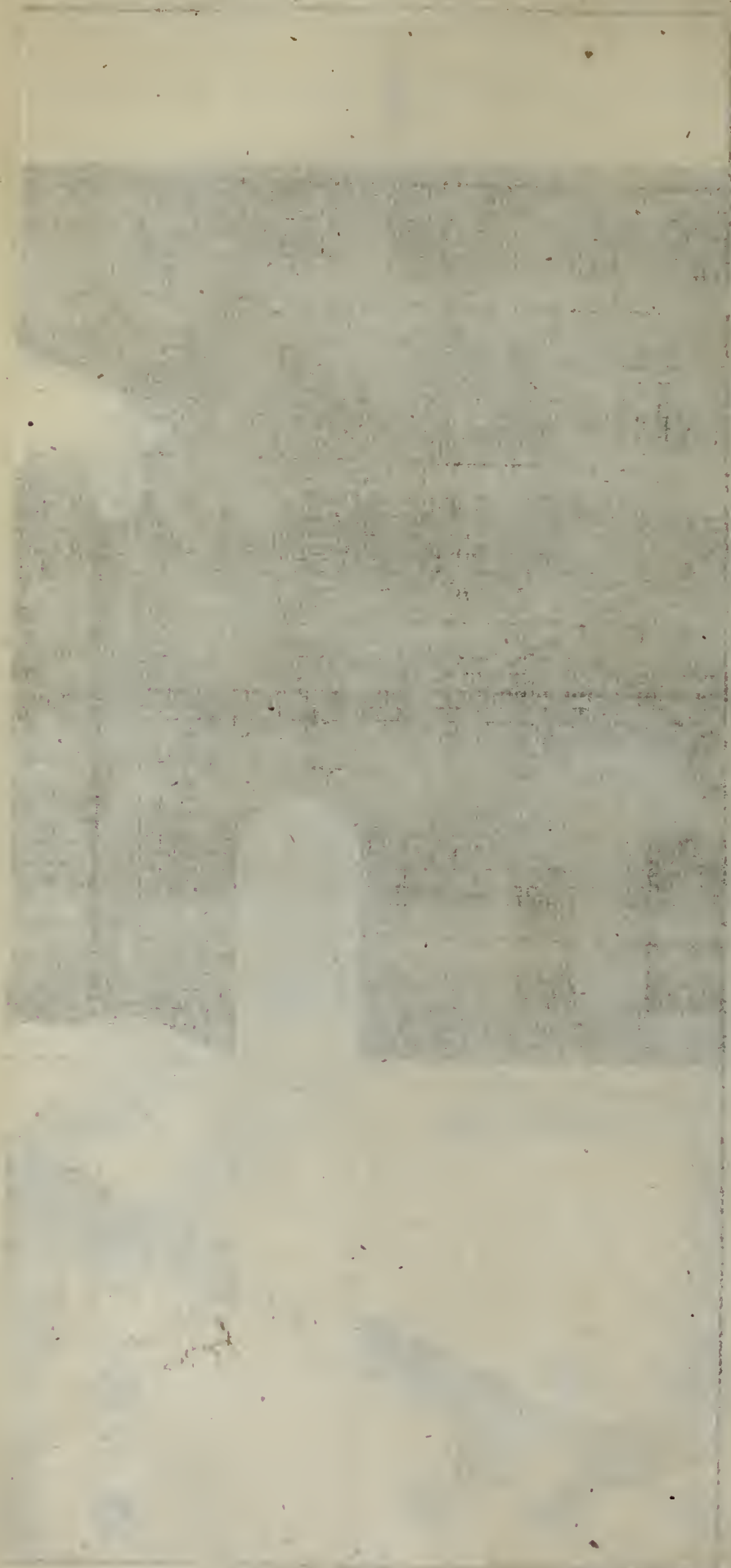
24

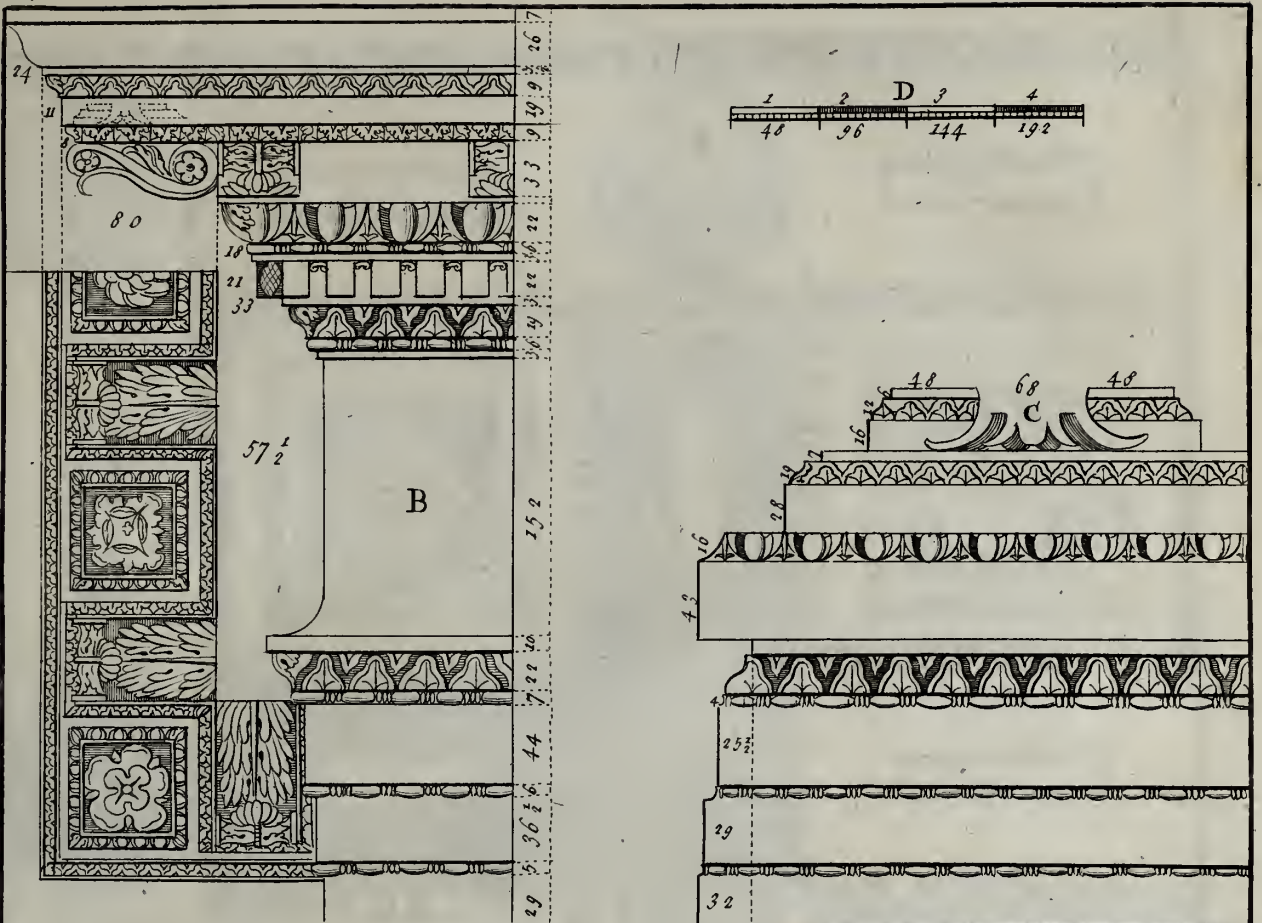
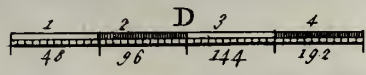
6-6



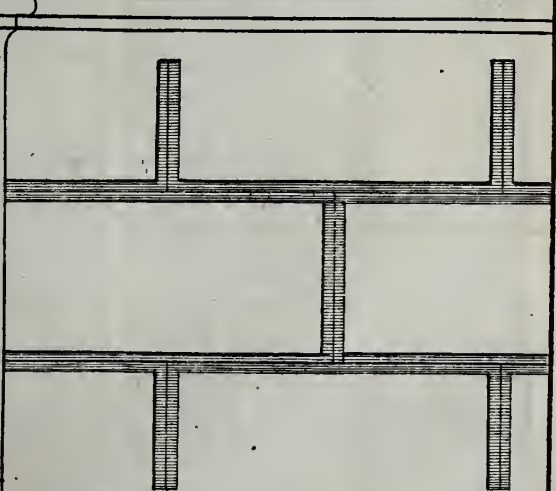
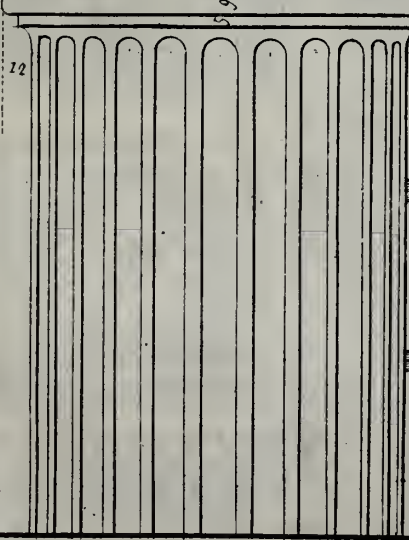
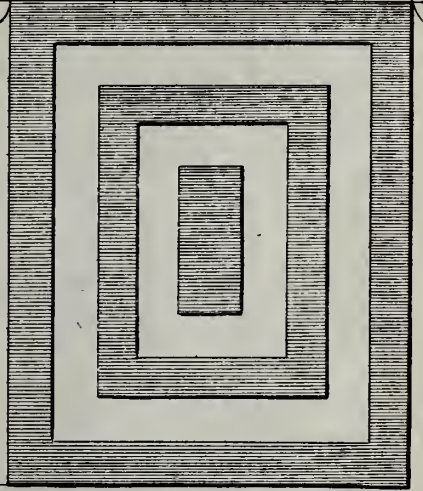
E. Hopper Delin

B Cole Sculp





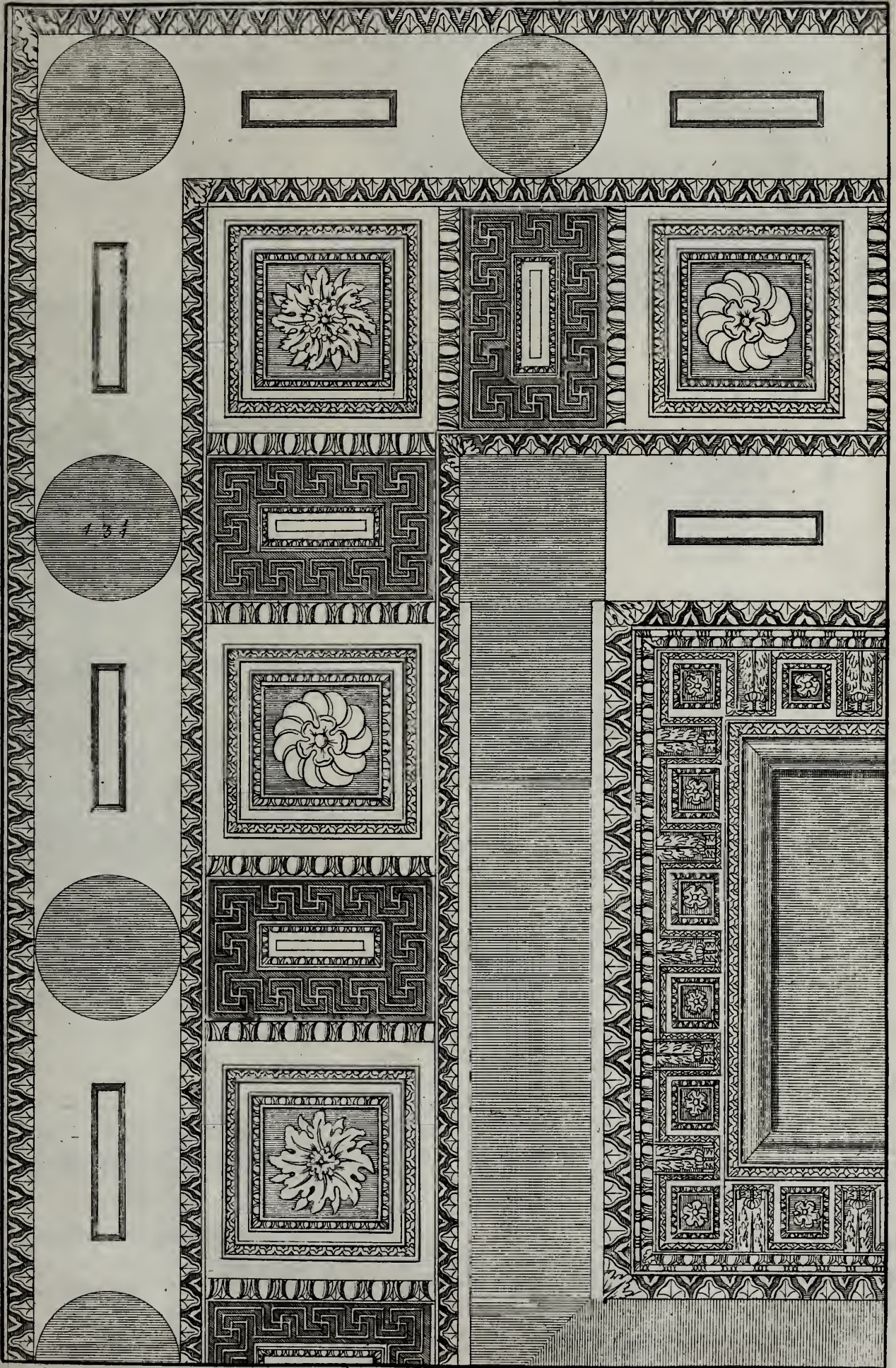
5 Foot 6 Inches



E. Hoppus Delin

B Cole Sculp

| Date | Description |
|------|-------------|
| 1890 | Jan 1       |
| 1890 | Feb 1       |
| 1890 | Mar 1       |
| 1890 | Apr 1       |
| 1890 | May 1       |
| 1890 | Jun 1       |
| 1890 | Jul 1       |
| 1890 | Aug 1       |
| 1890 | Sep 1       |
| 1890 | Oct 1       |
| 1890 | Nov 1       |
| 1890 | Dec 1       |
| 1891 | Jan 1       |
| 1891 | Feb 1       |
| 1891 | Mar 1       |
| 1891 | Apr 1       |
| 1891 | May 1       |
| 1891 | Jun 1       |
| 1891 | Jul 1       |
| 1891 | Aug 1       |
| 1891 | Sep 1       |
| 1891 | Oct 1       |



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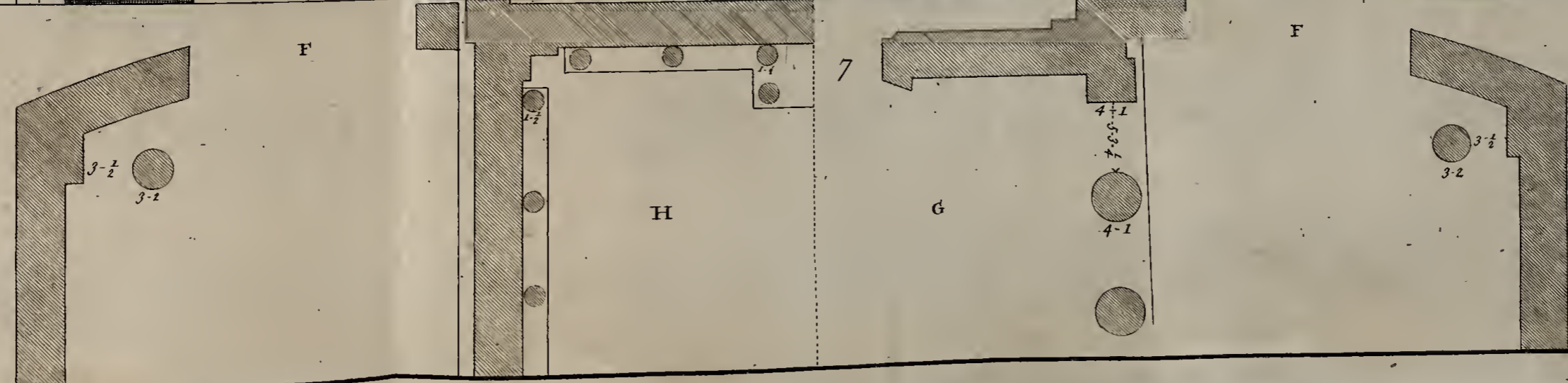


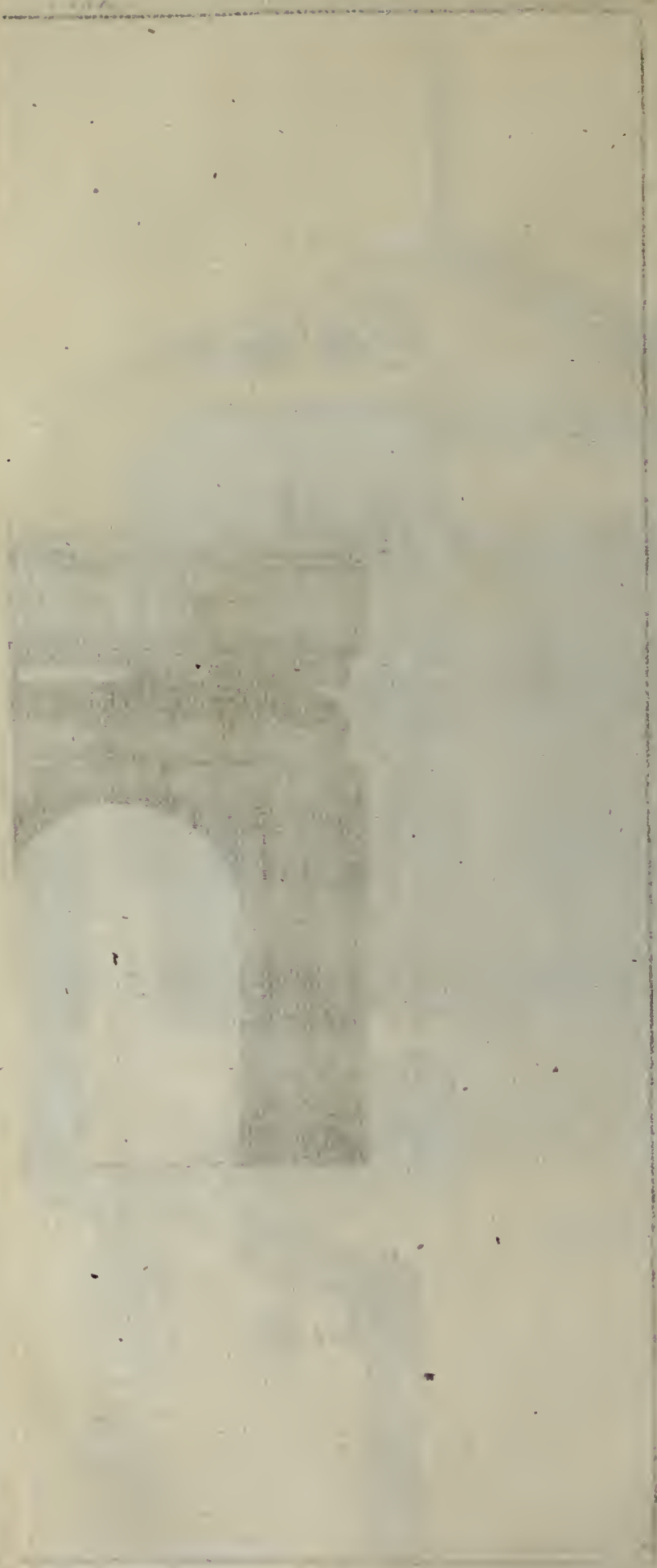


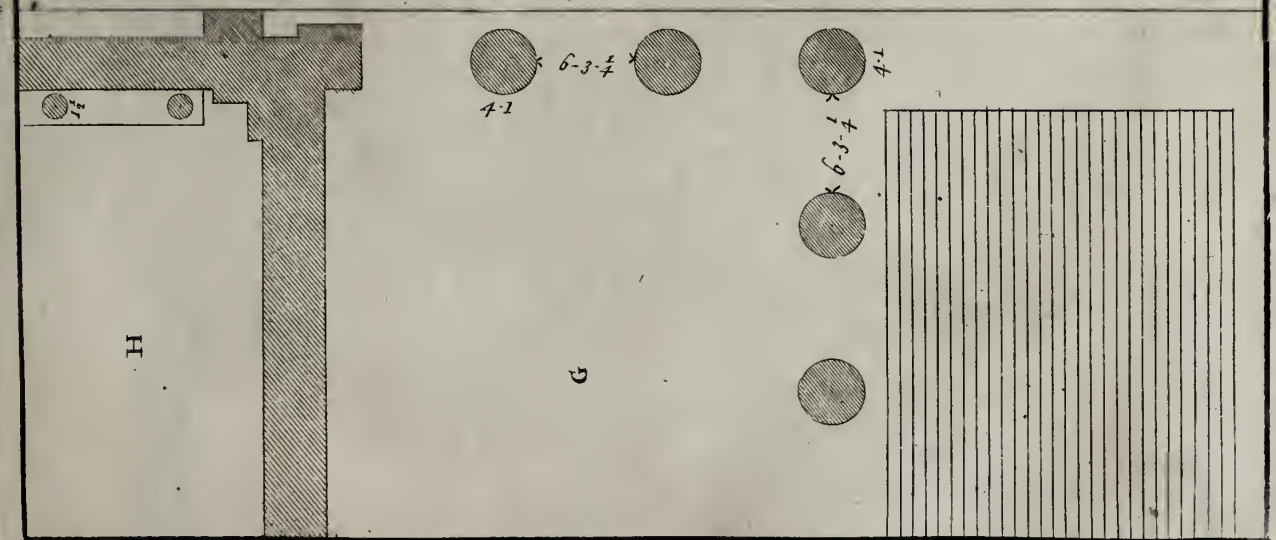
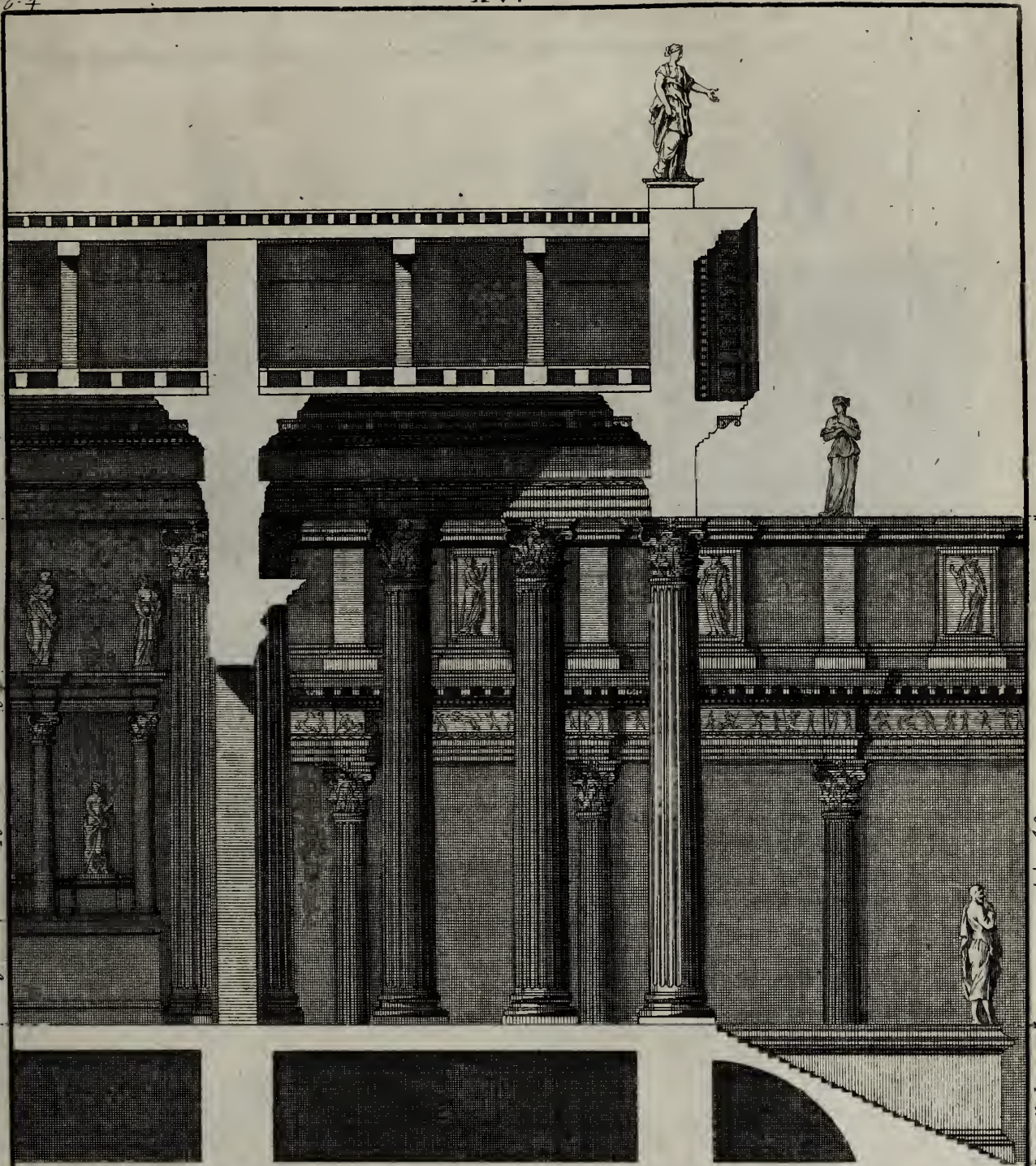










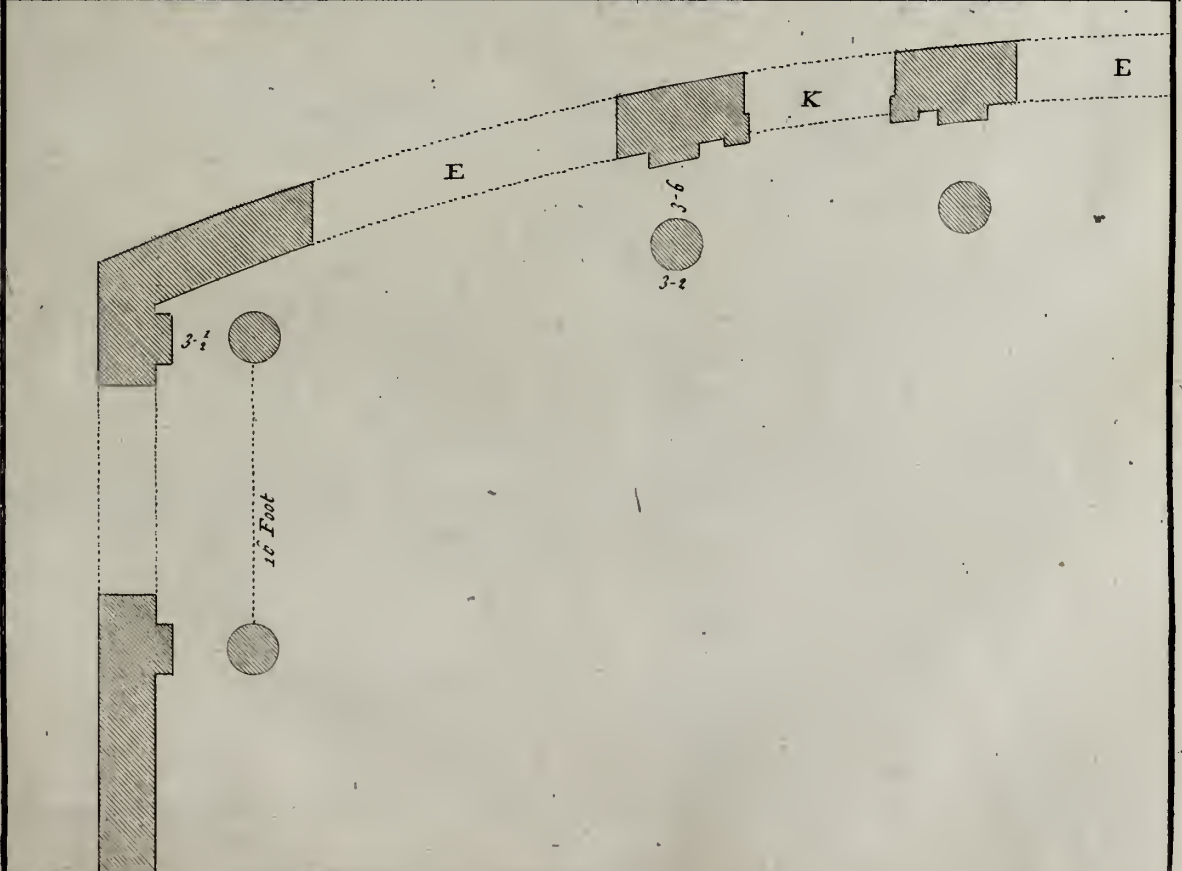
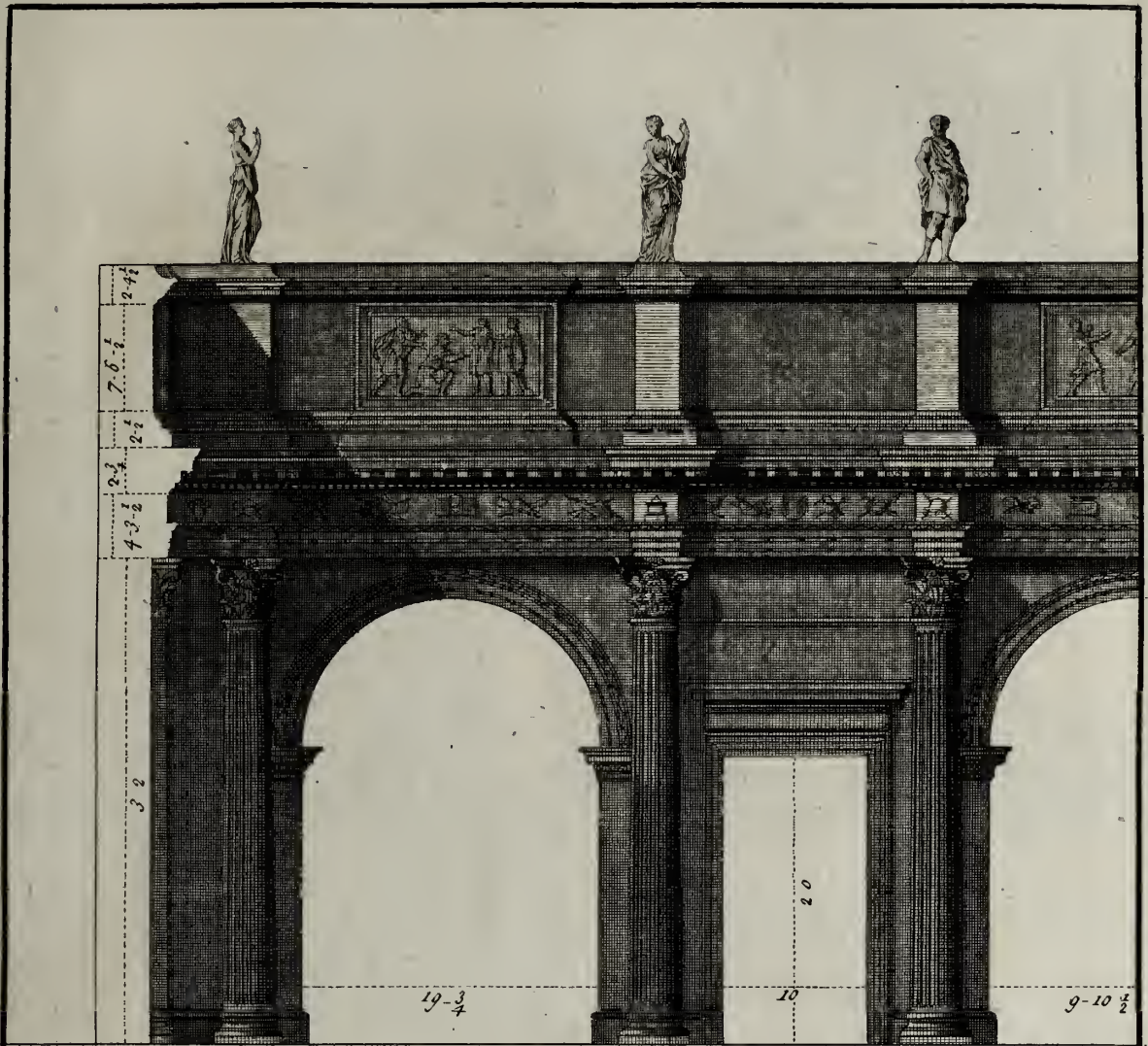


E. Hopper, Dein

B Cole Pulp

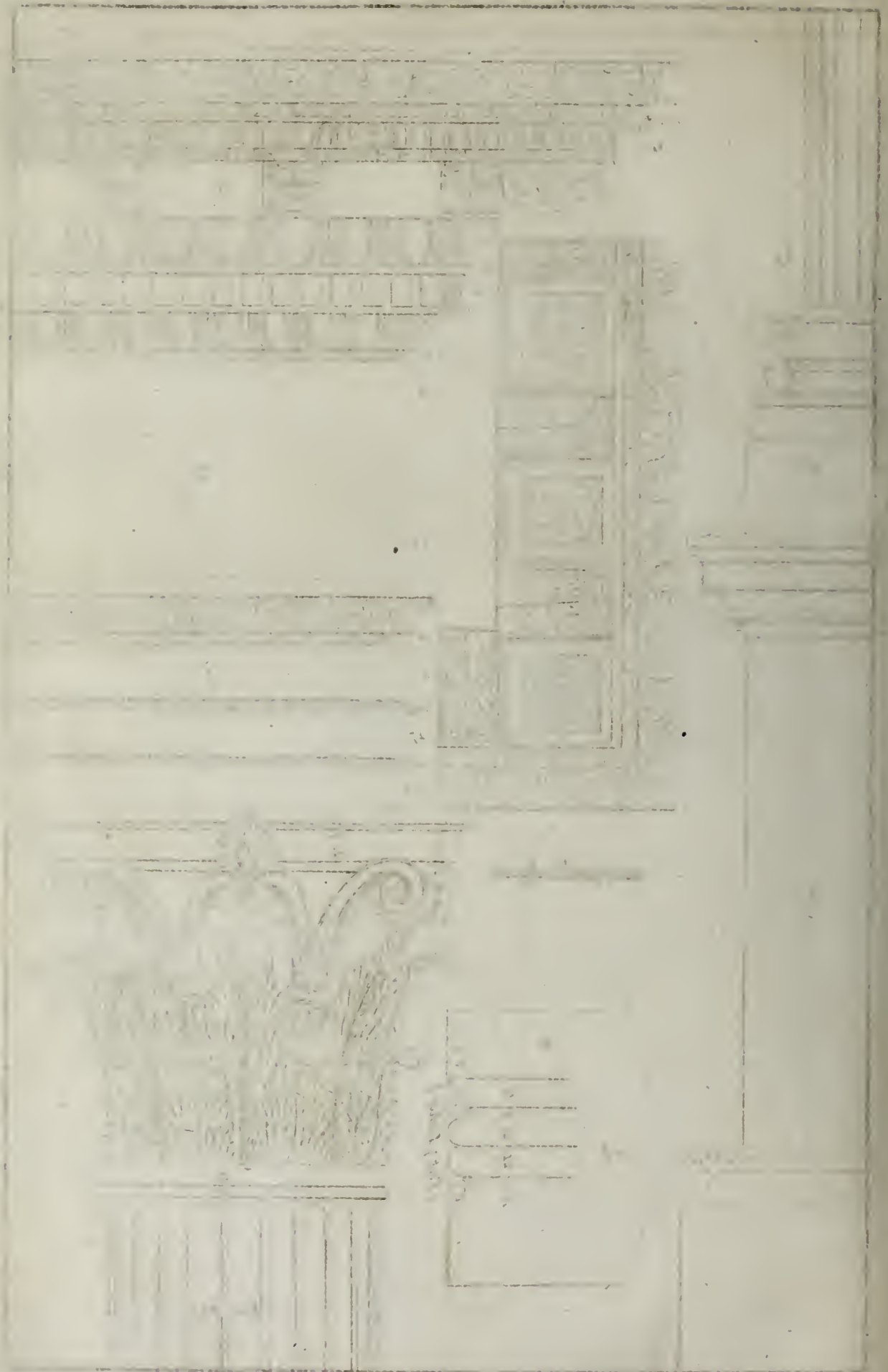




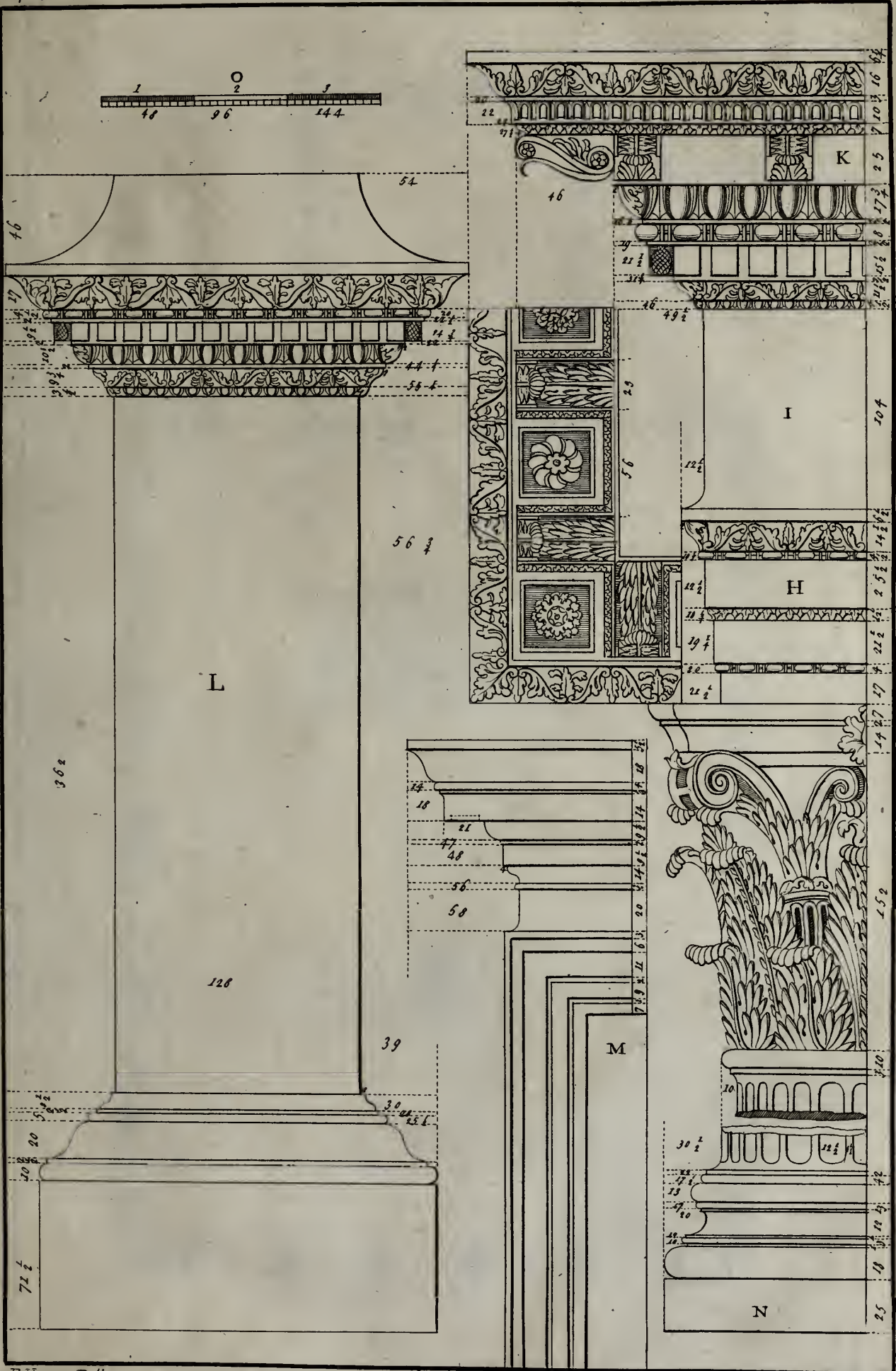






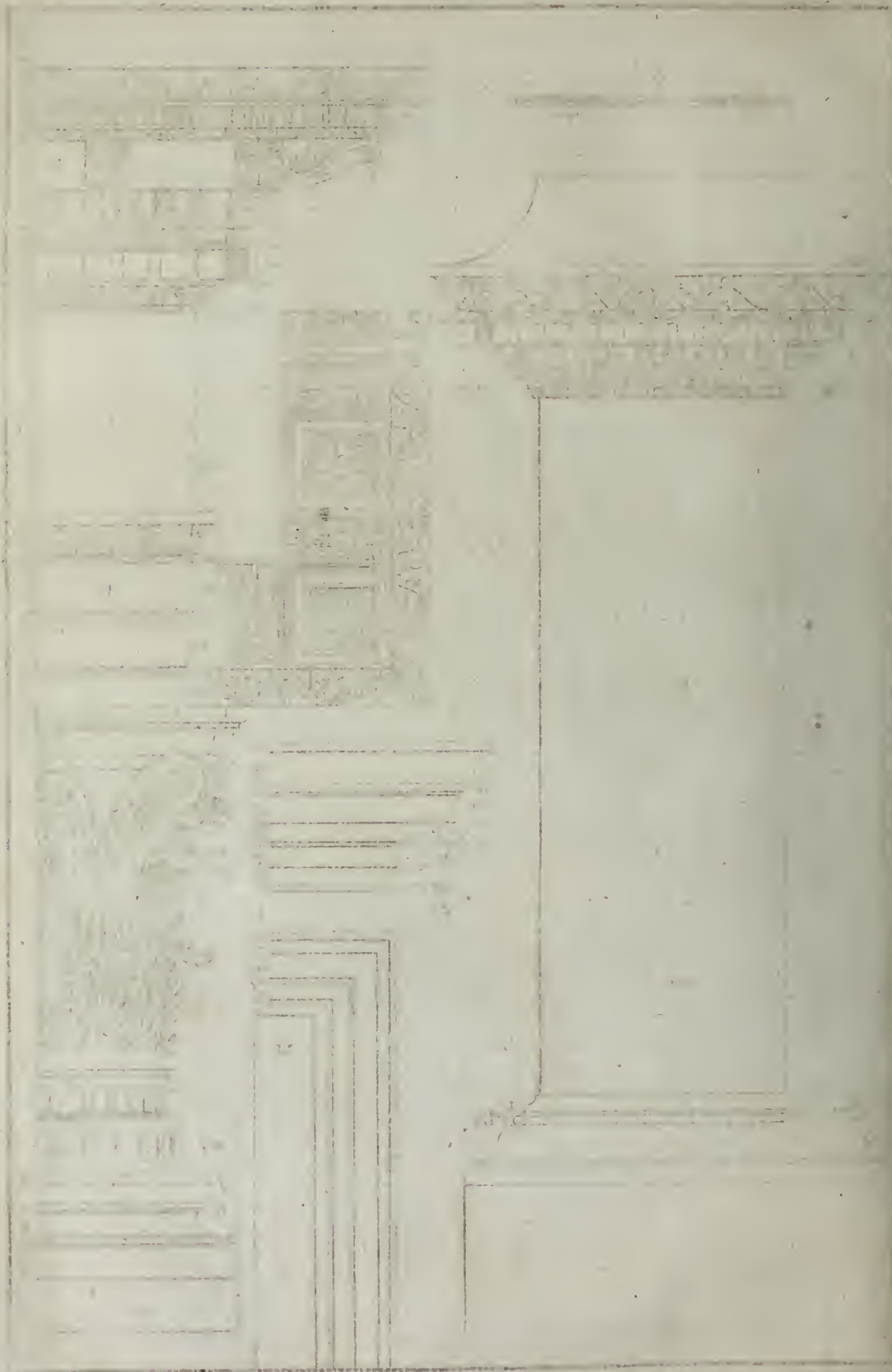


64.



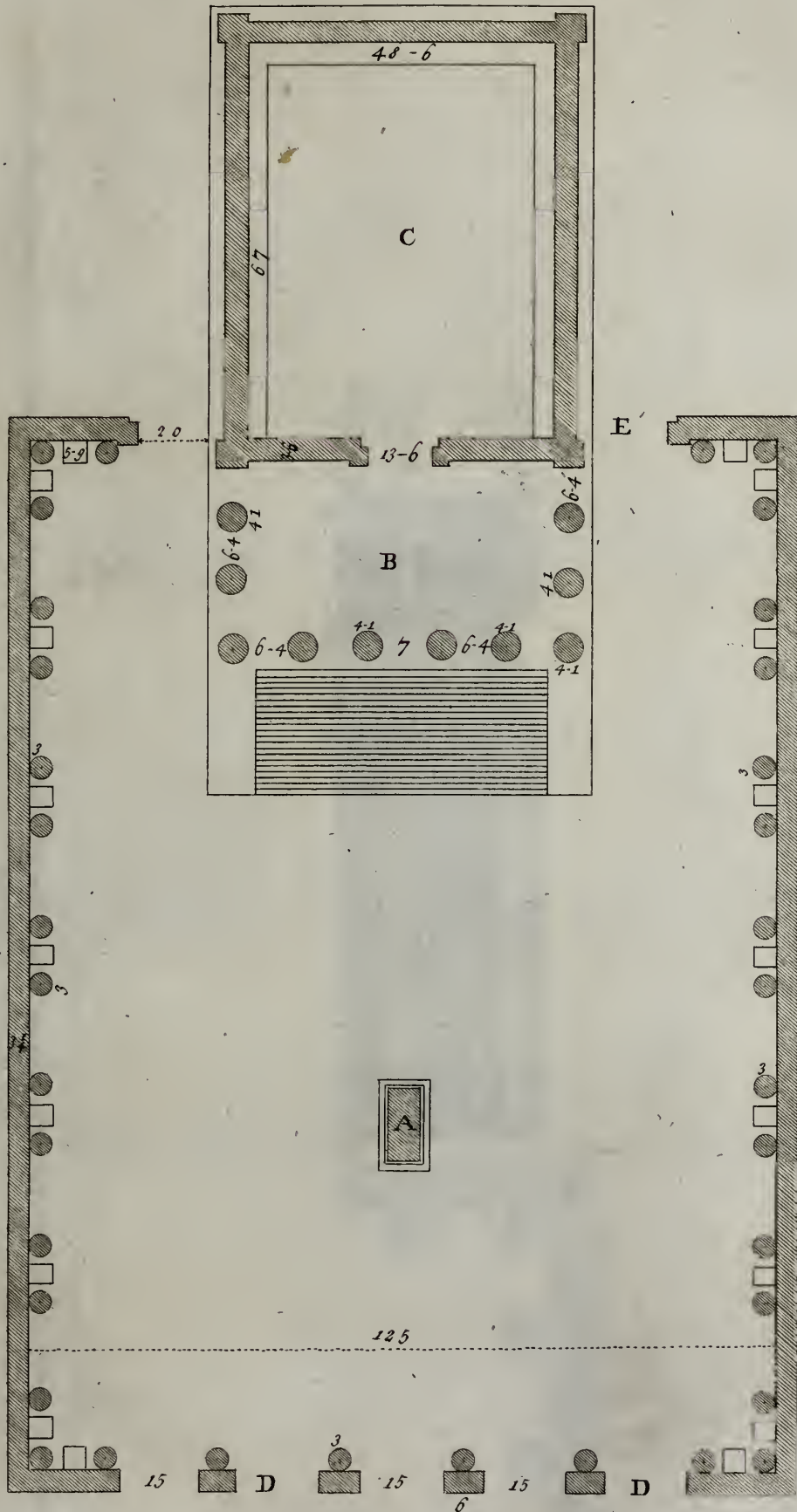
E Hopper Delin

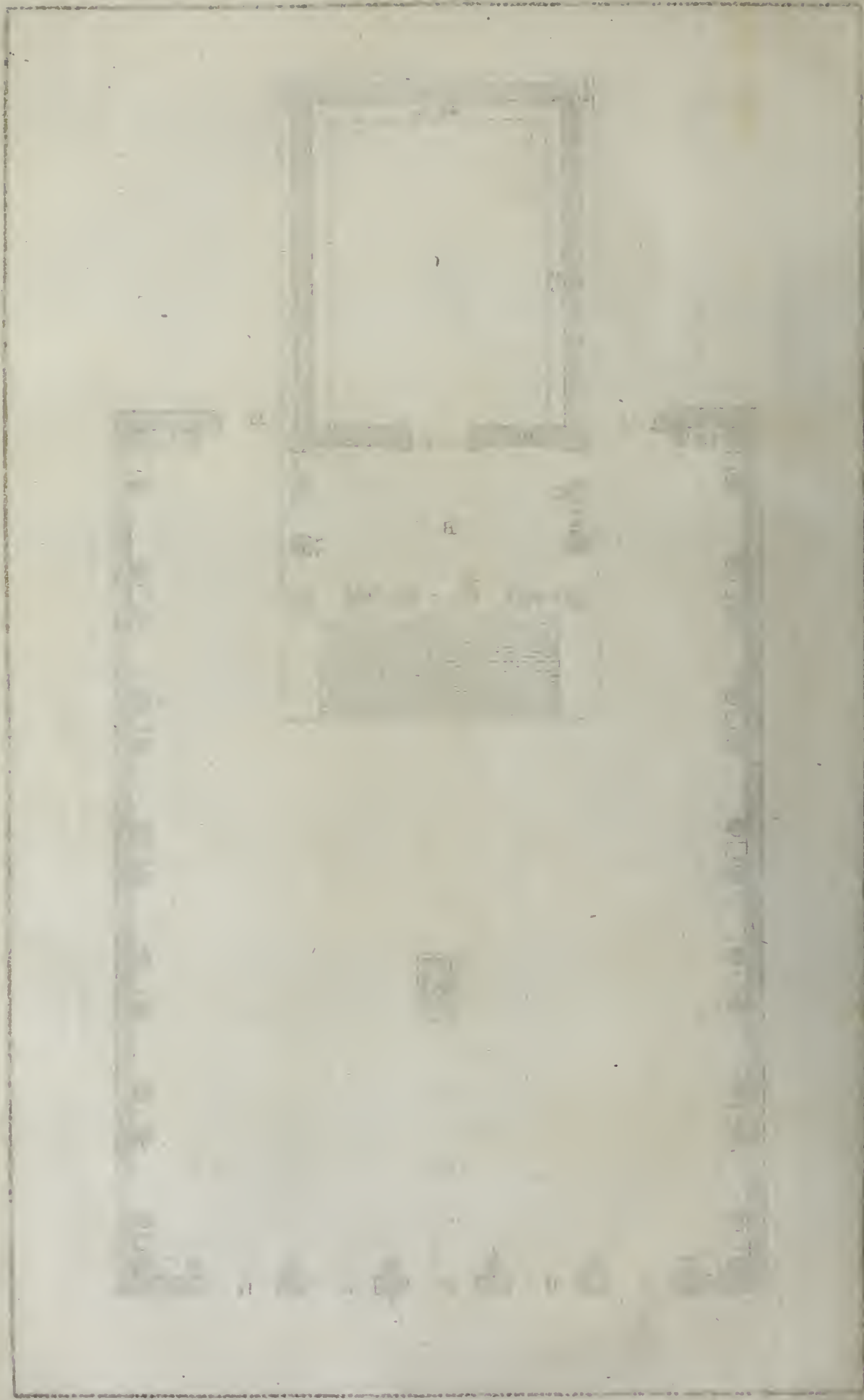
B Cole Sculp



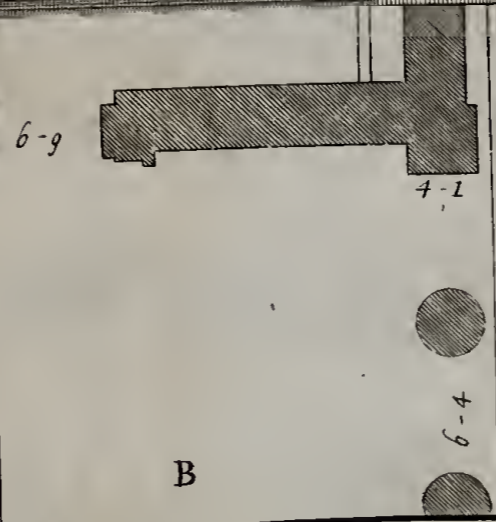
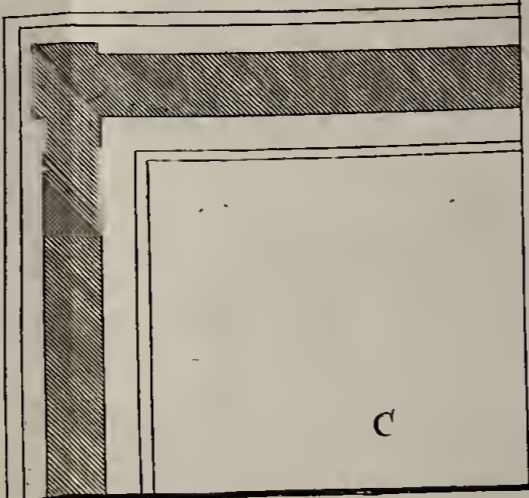
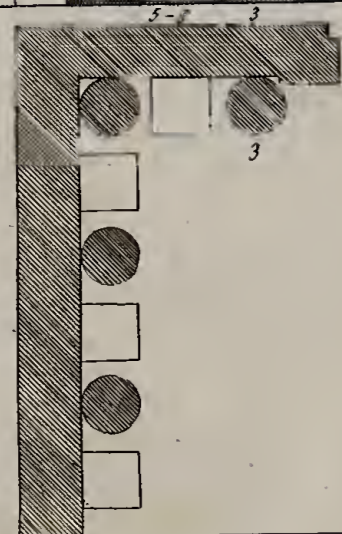
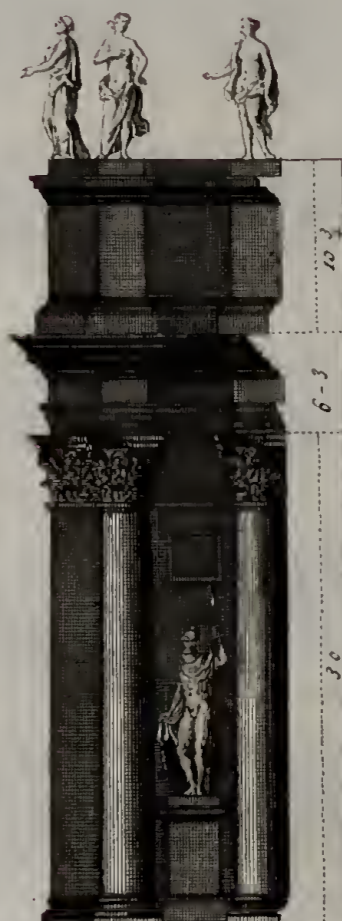
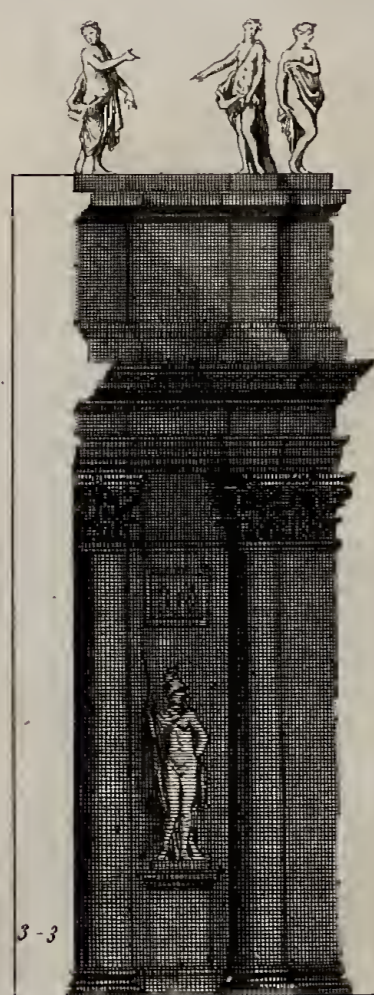
6.4

XIX

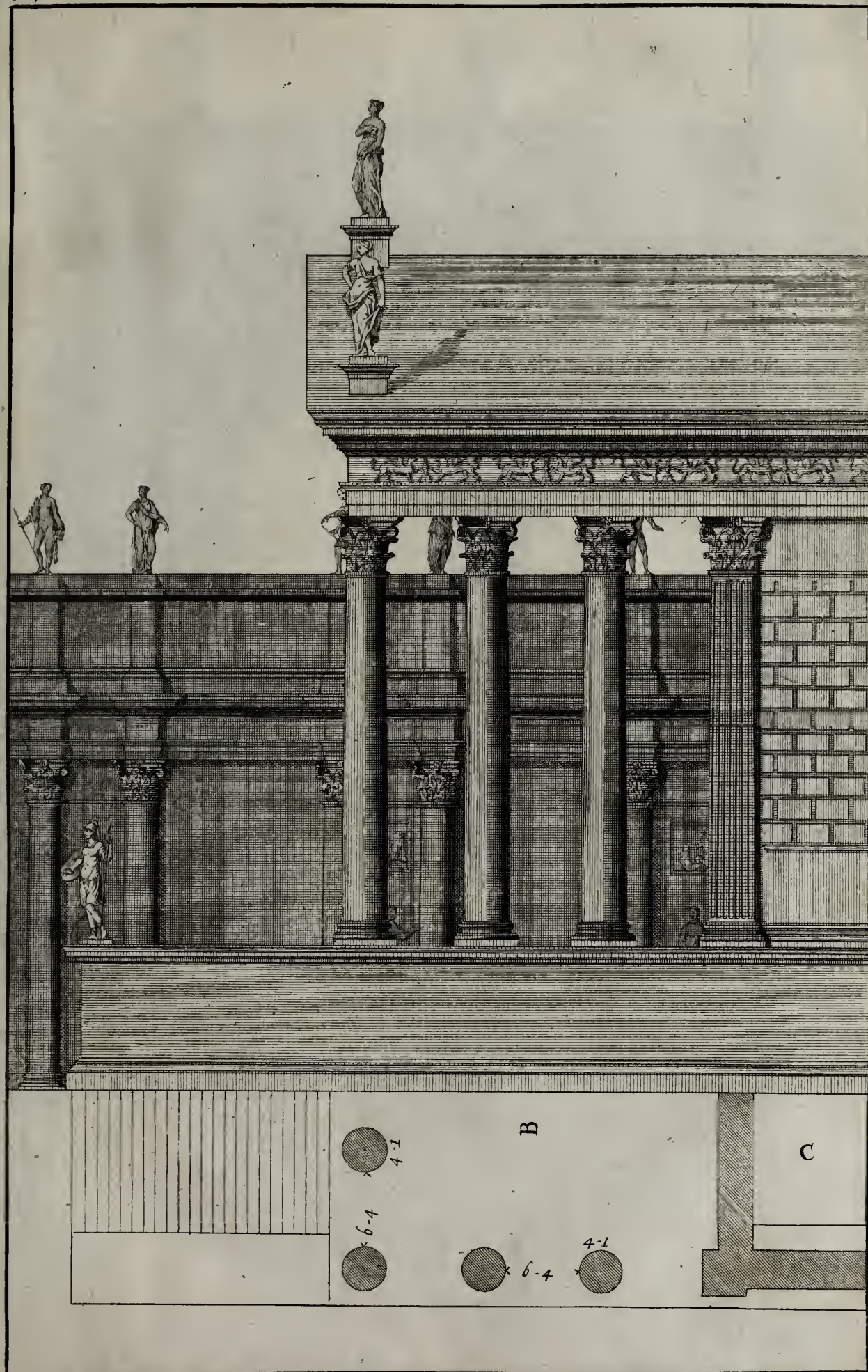














6-4

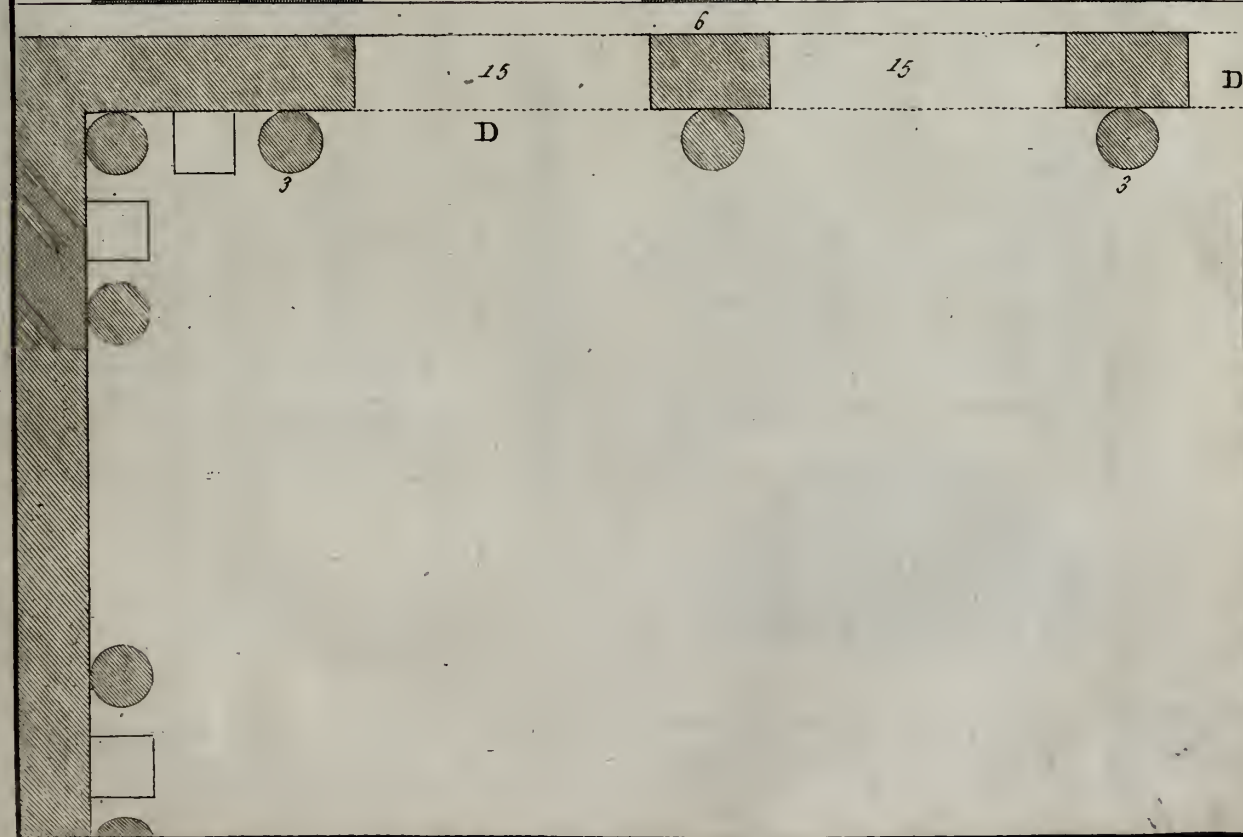


10-4

6-3

30

27-6



6

15

15

D

D

3

3





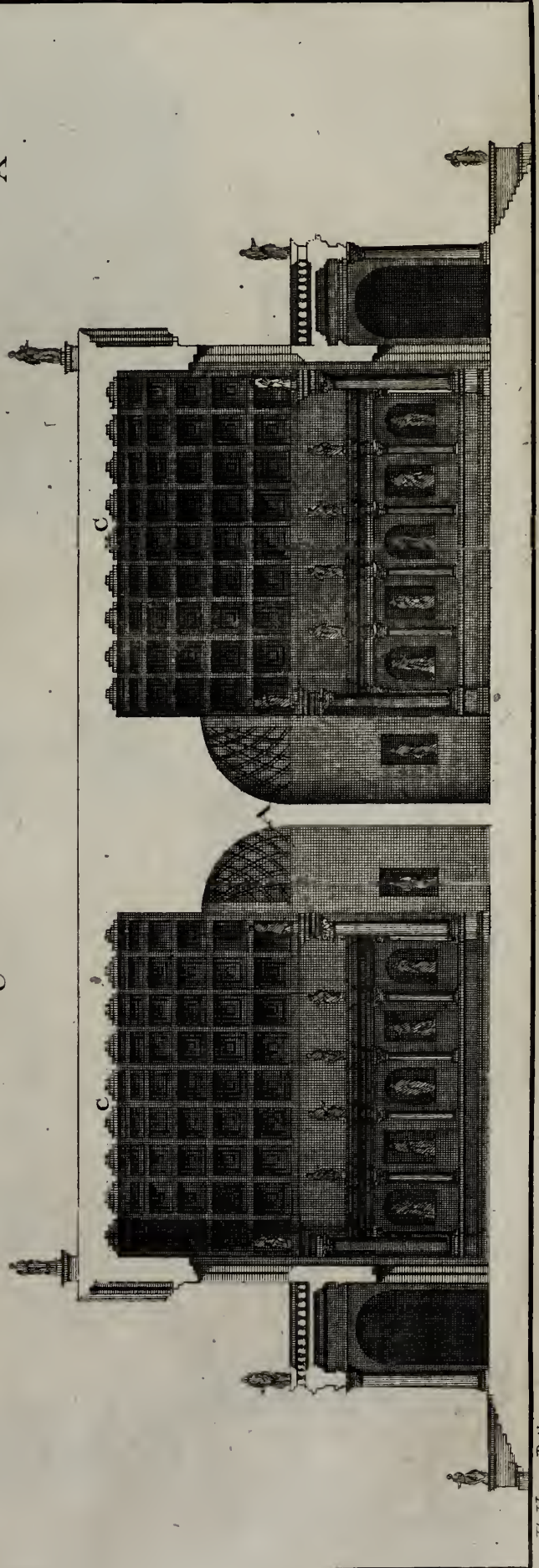
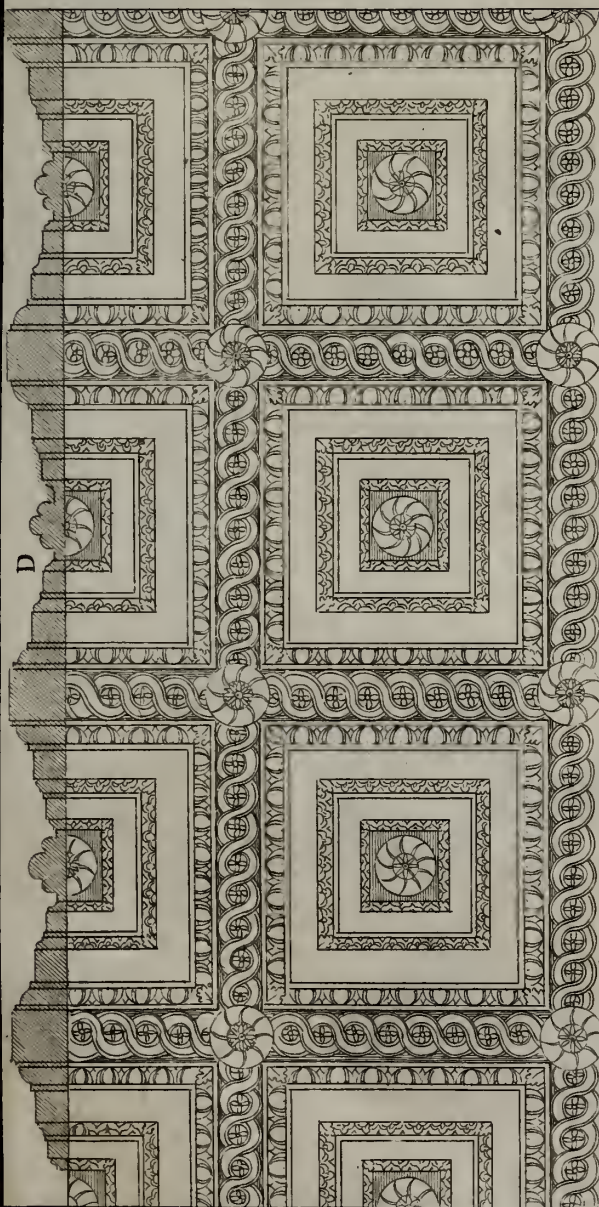
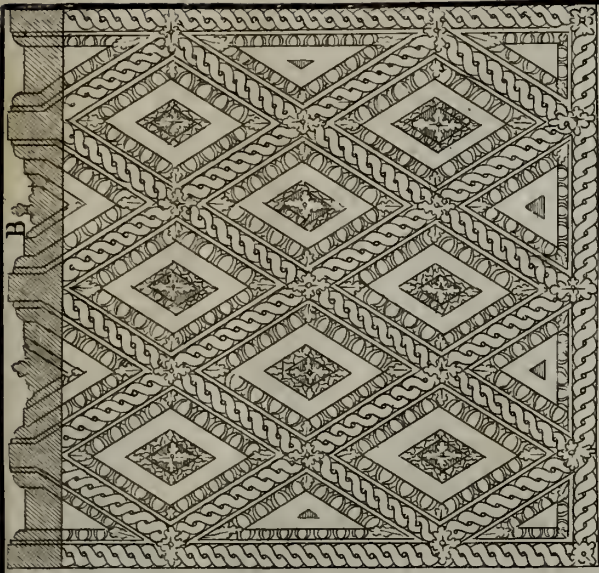








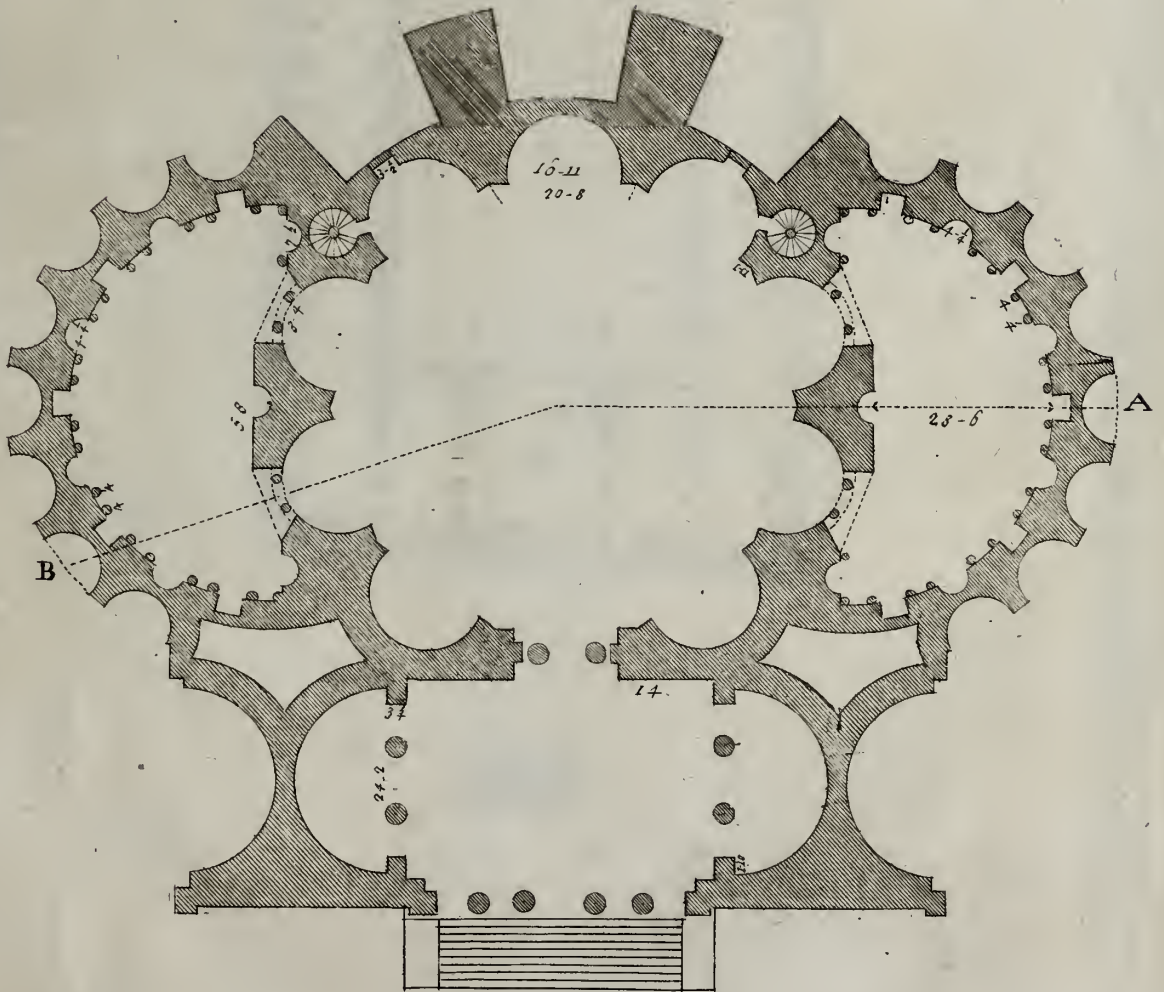
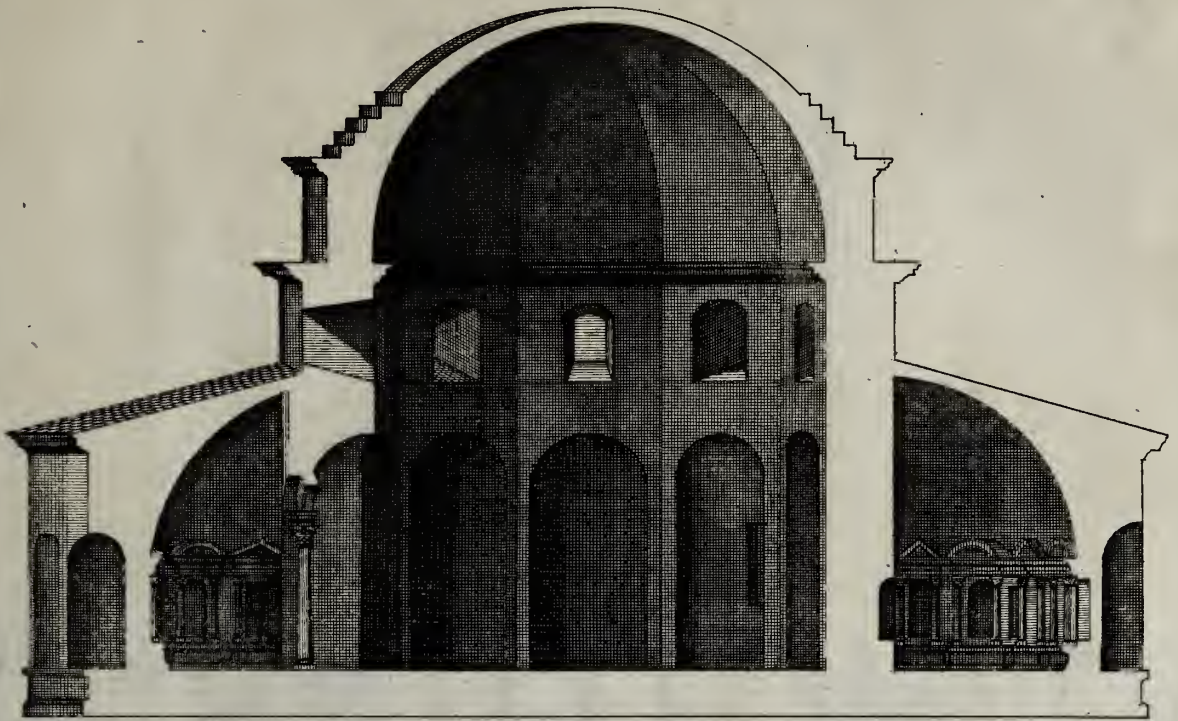
6.4



B. Cole, sculp.

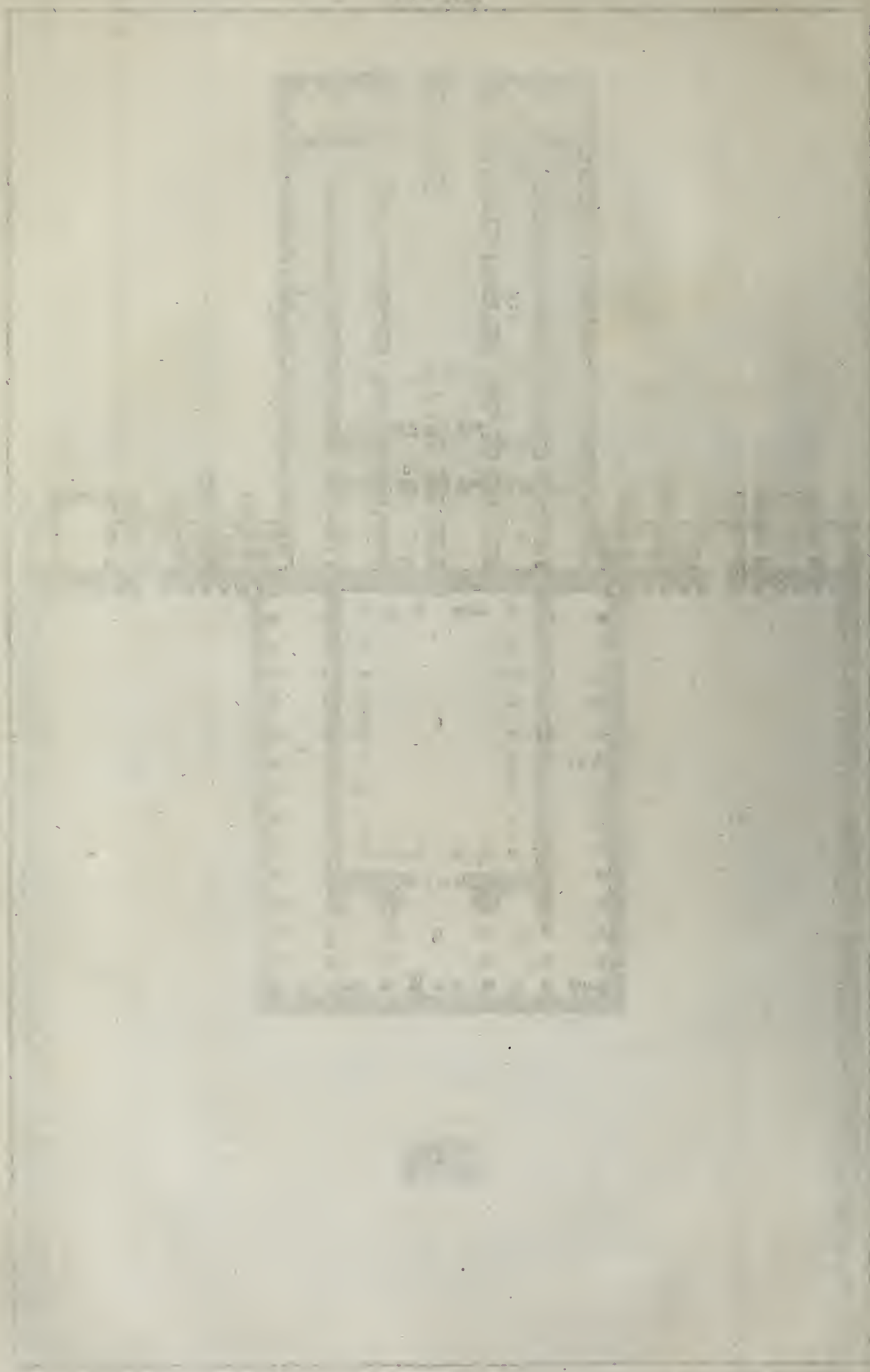
E. Hopper, Desin.







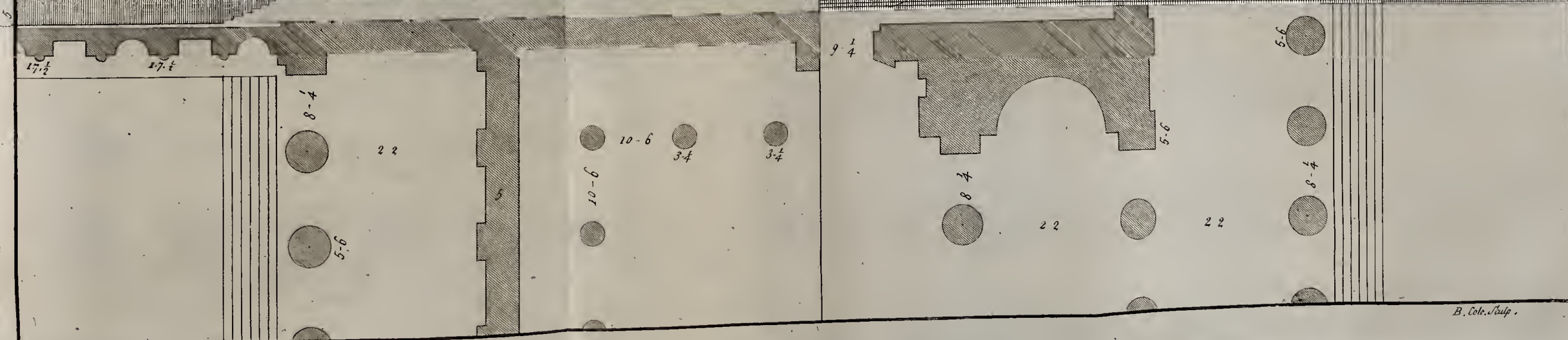






6-4

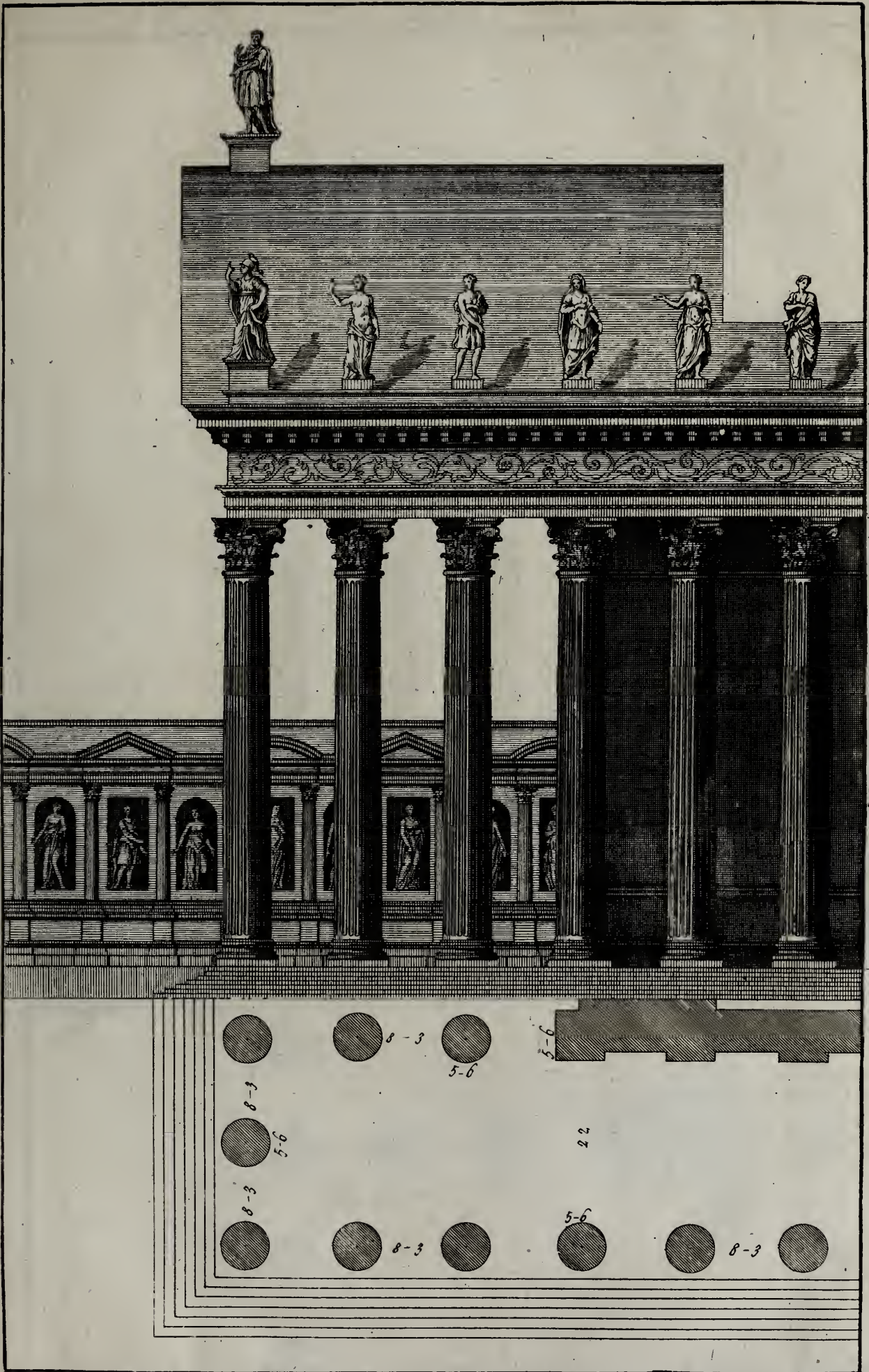
16  
5-3  
5



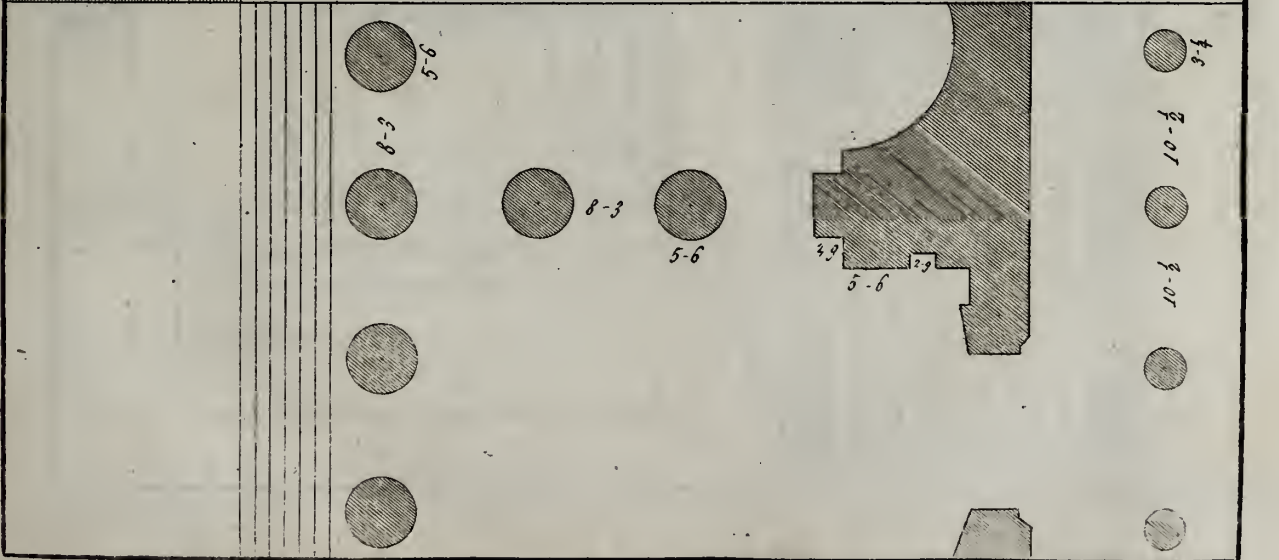
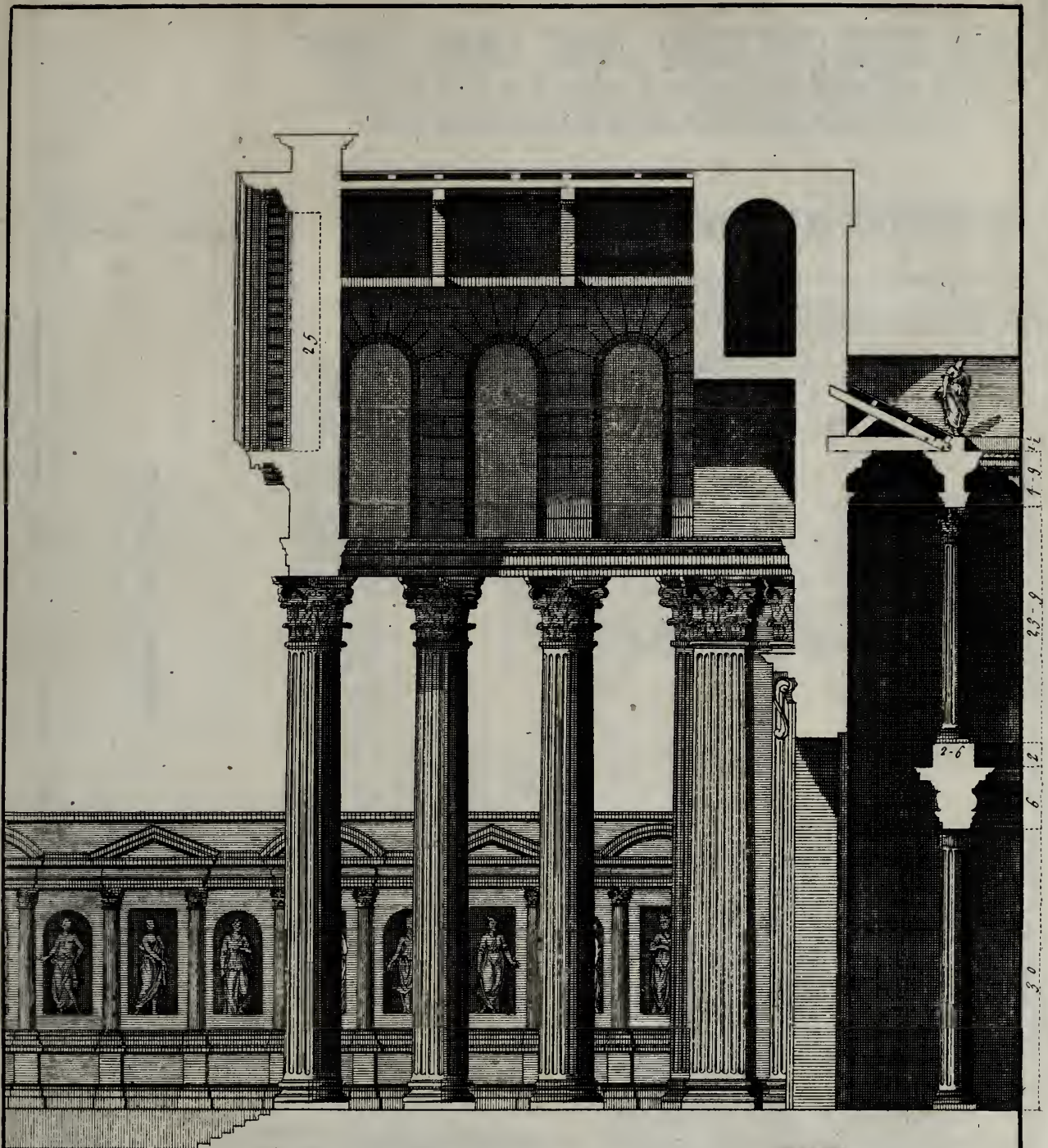
E. Hopper Delin

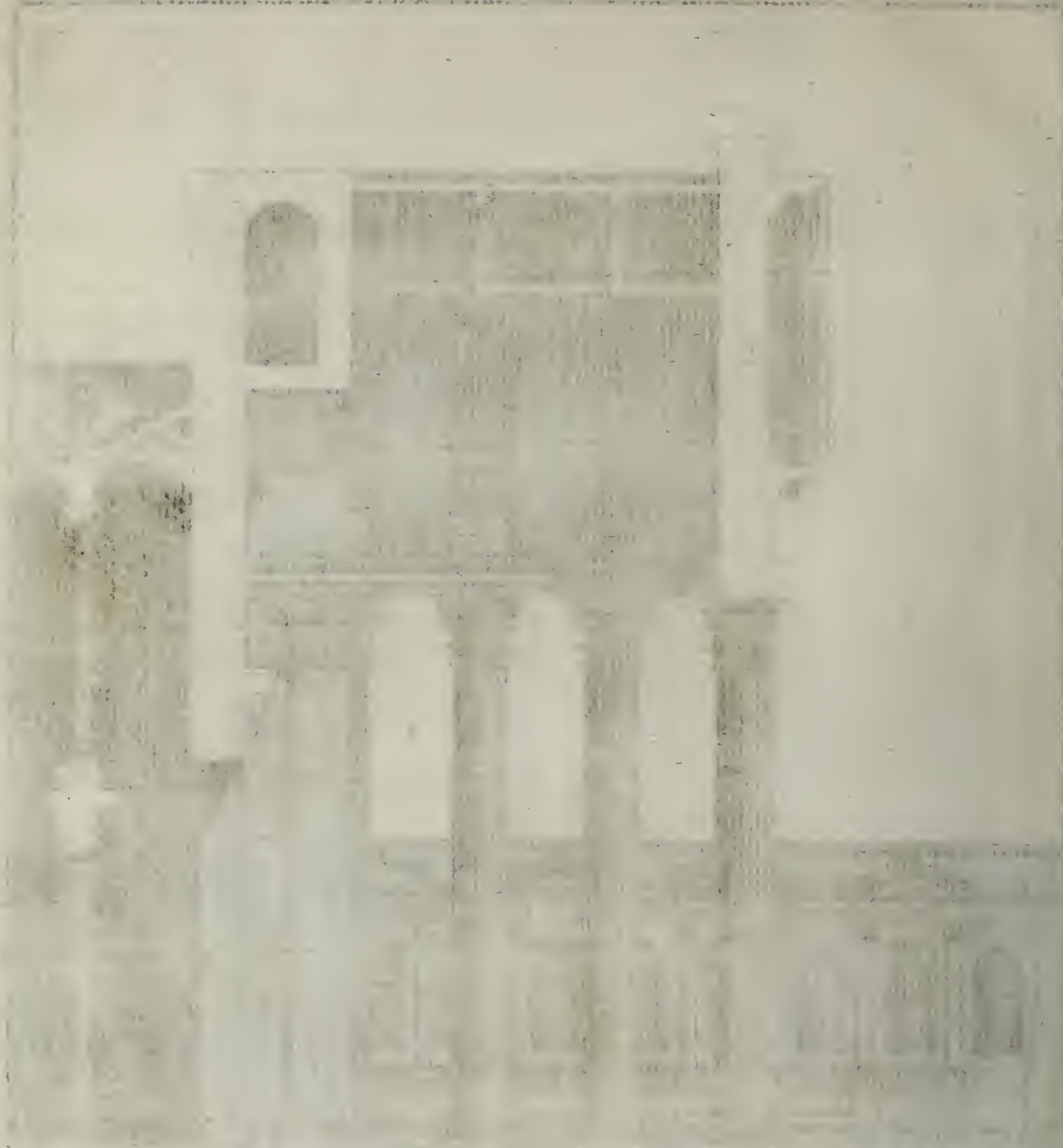
B. Cole Sculp.



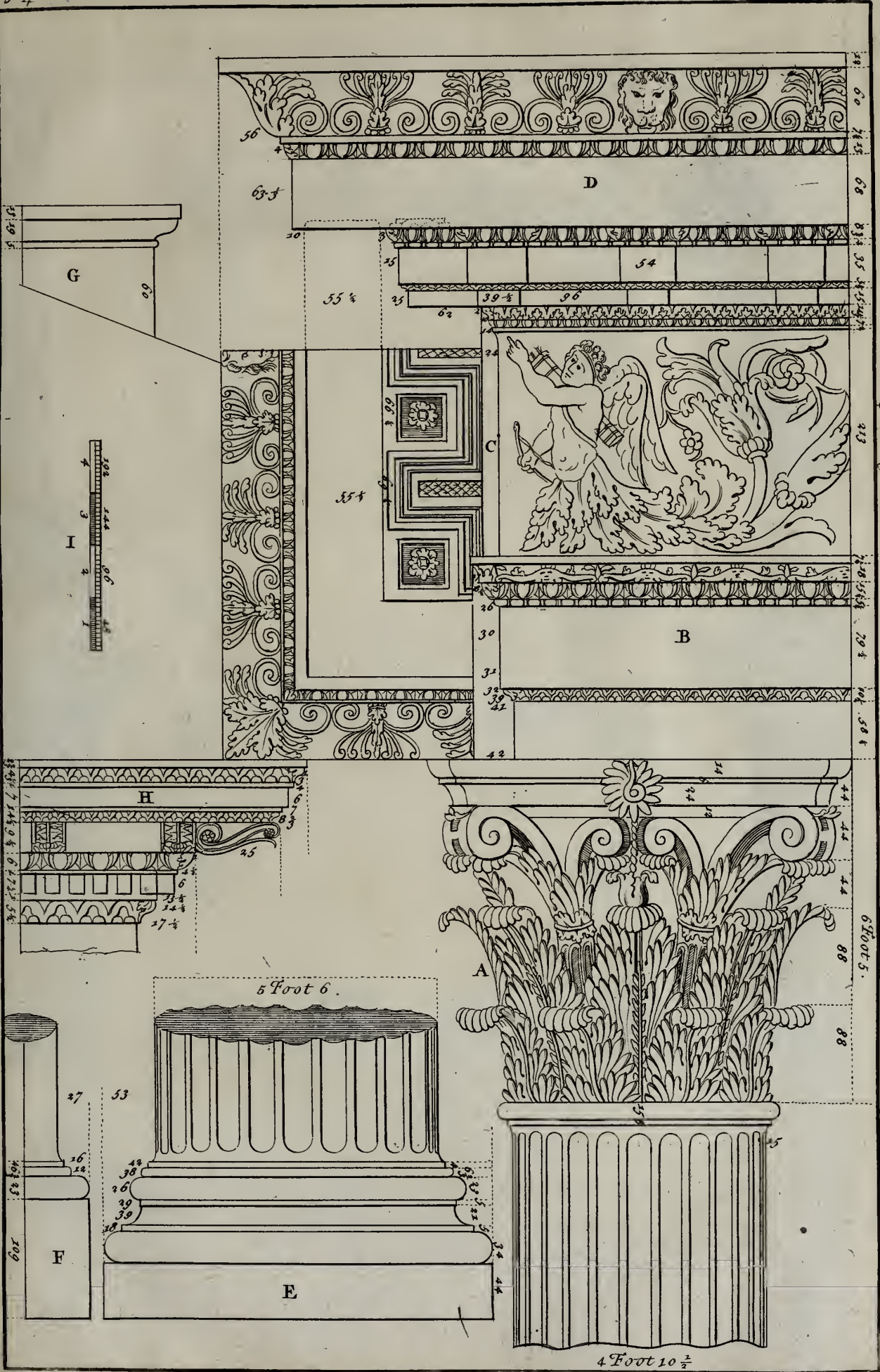








6.4



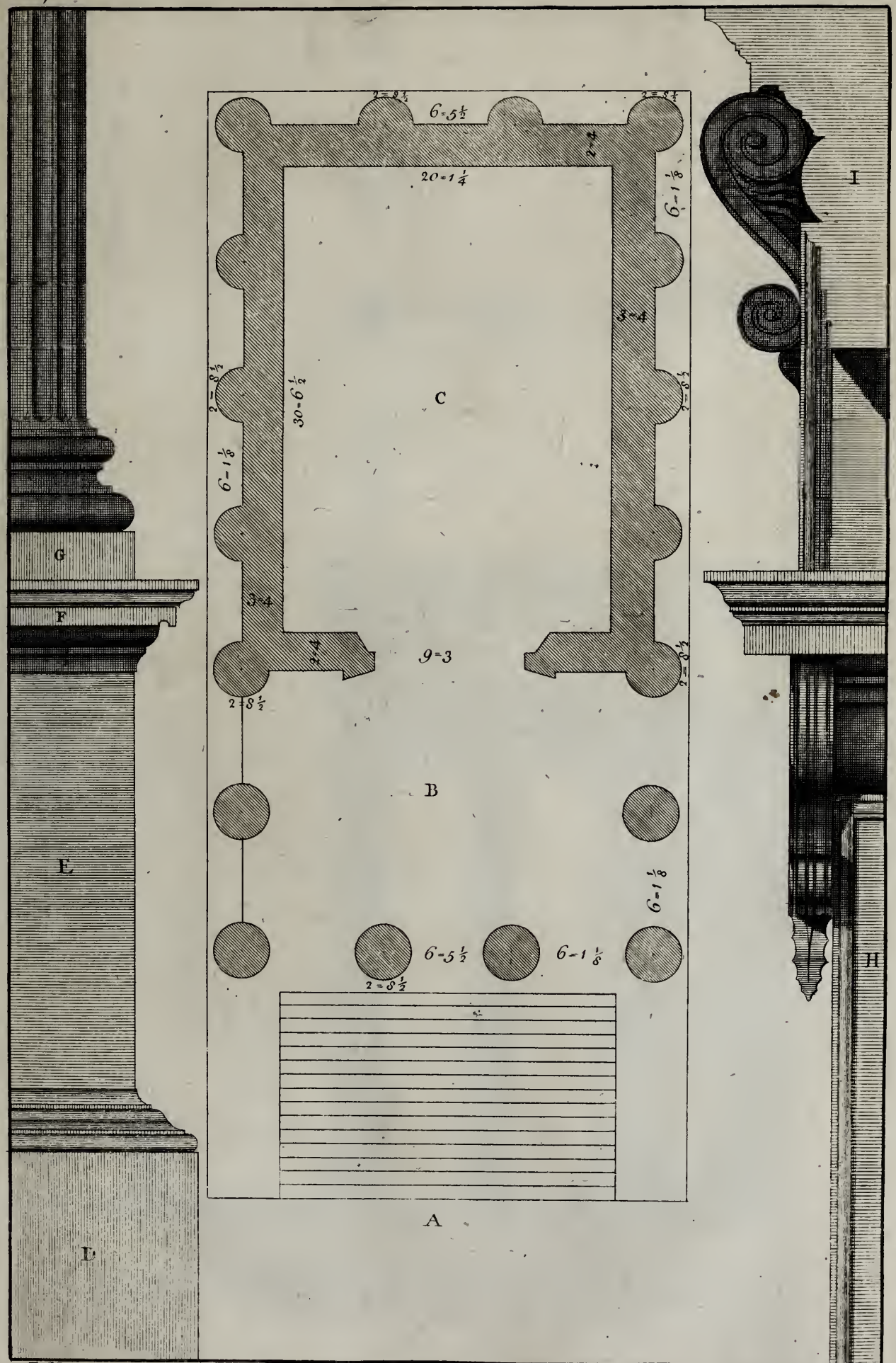
E. Hoppus Delin.

B. Cole Sculp.



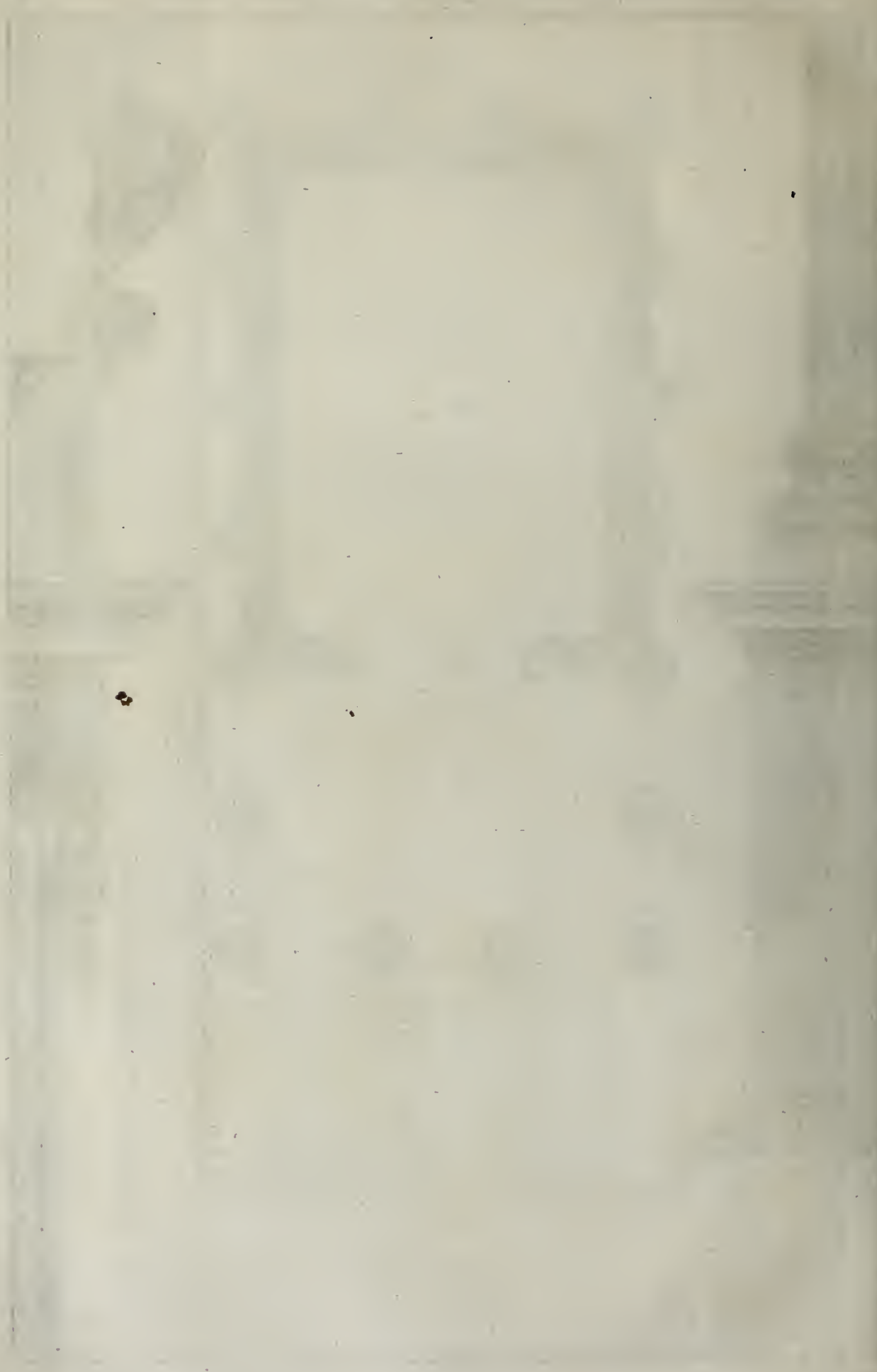


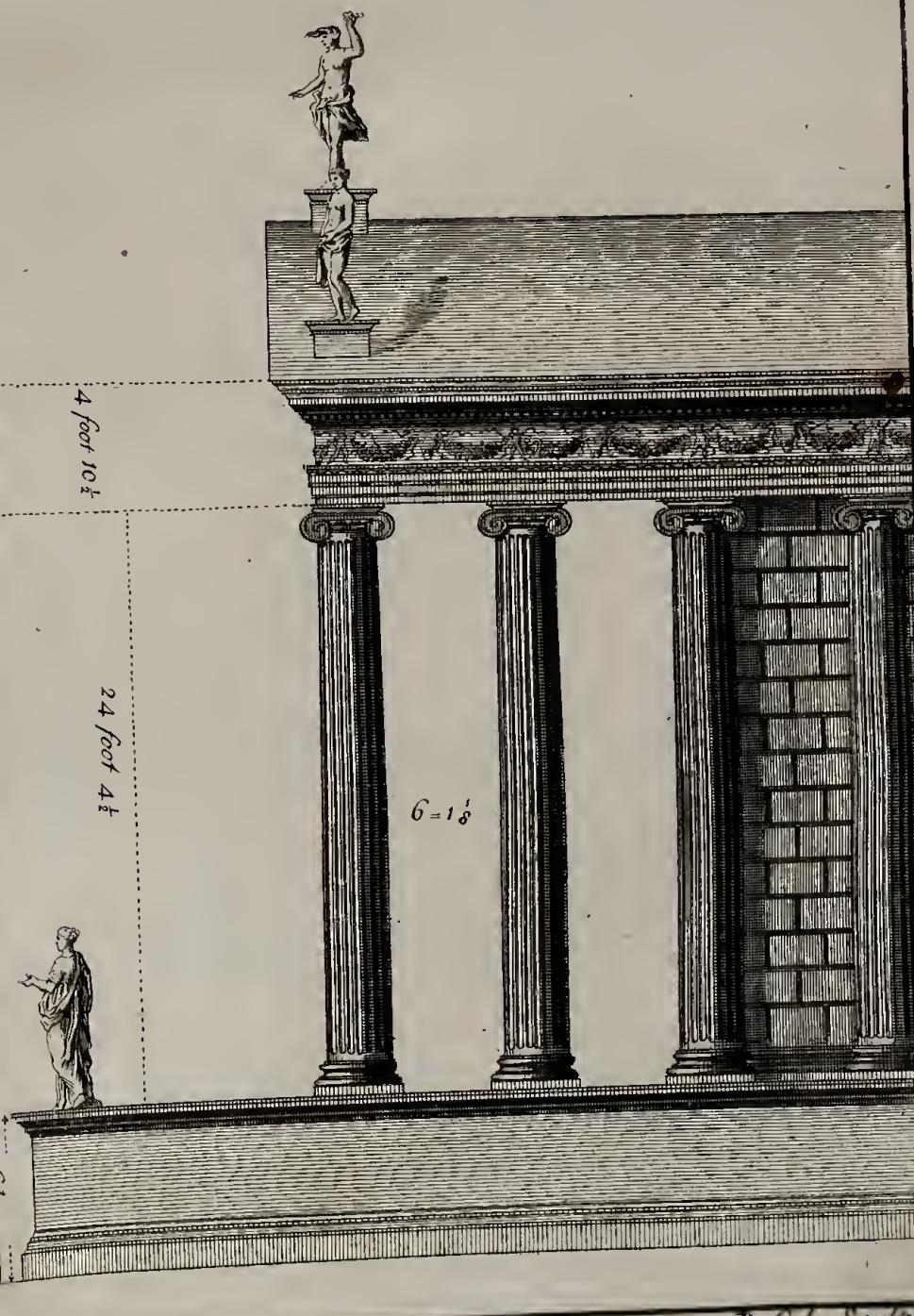
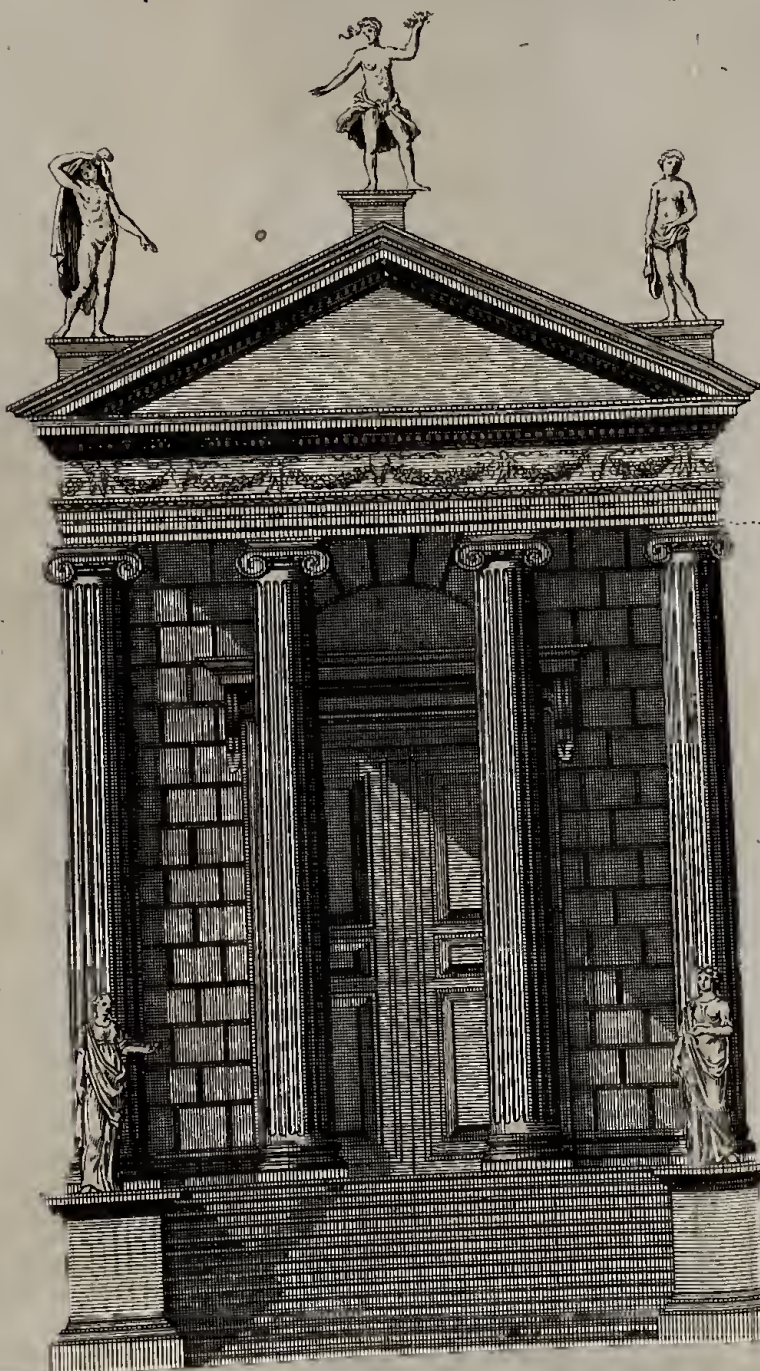
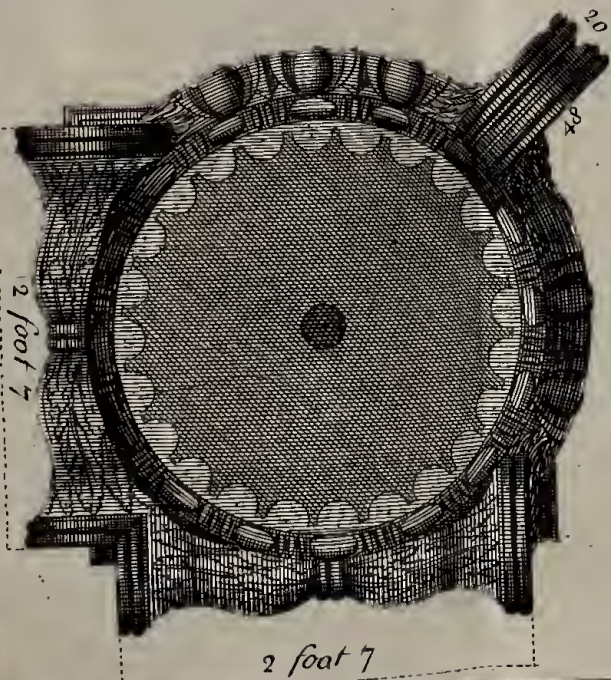
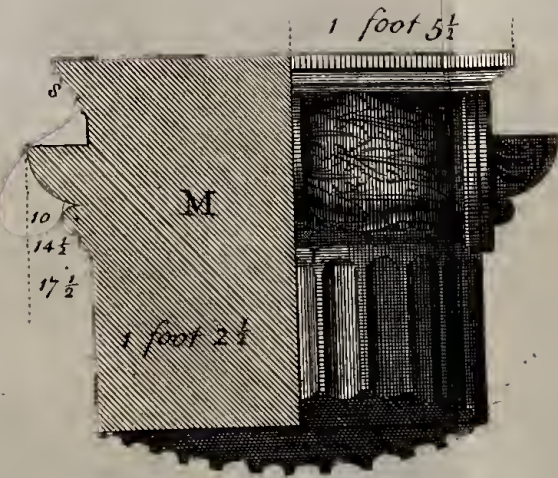
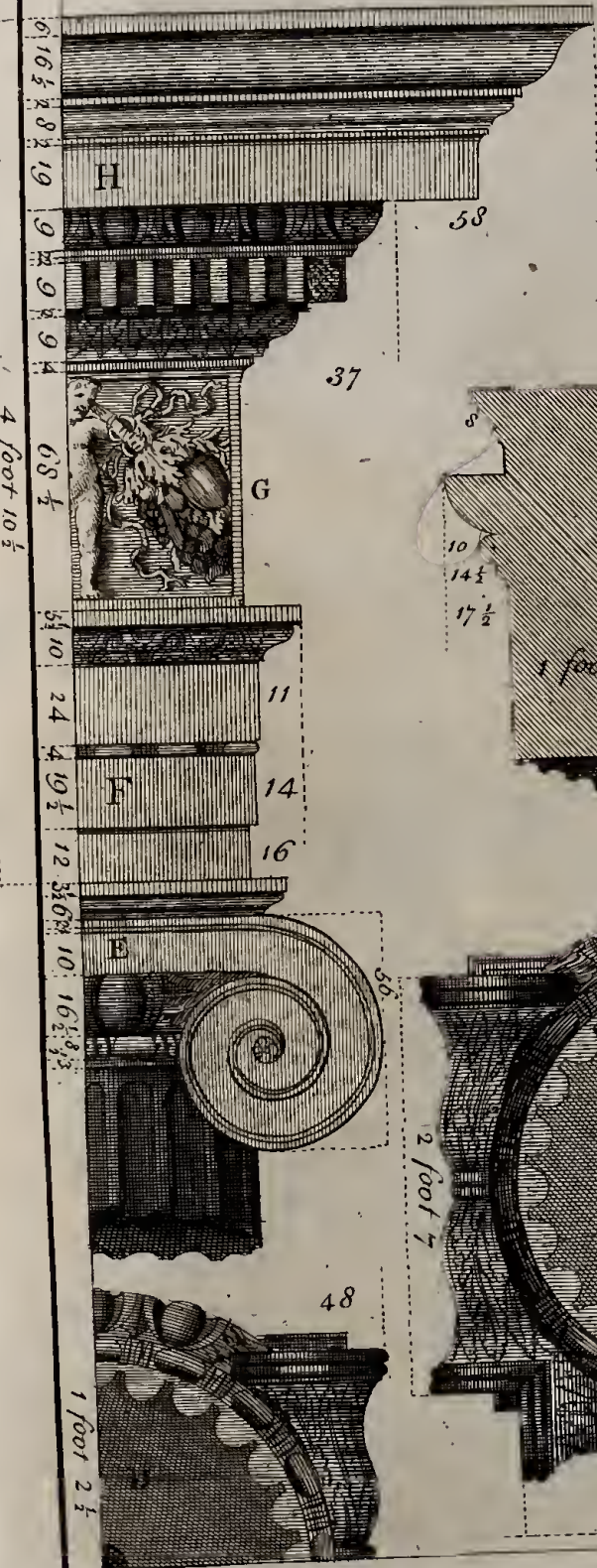
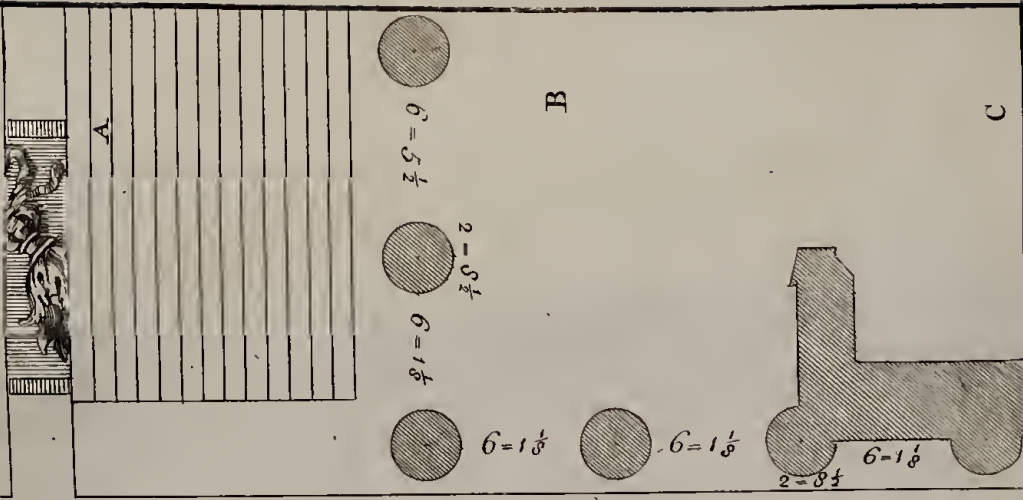
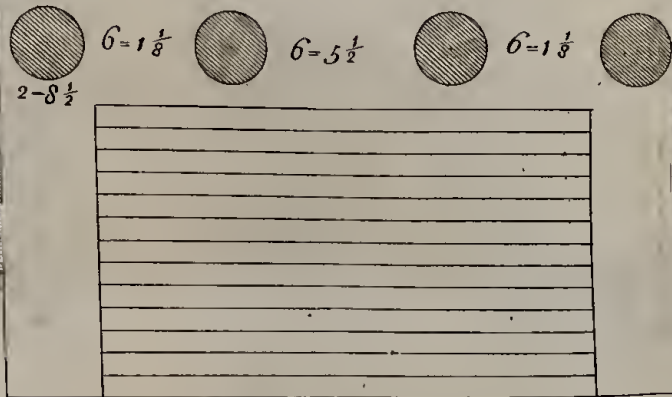
P. 4



E. Hoppfus, Delin.

B. Cole Sculp.

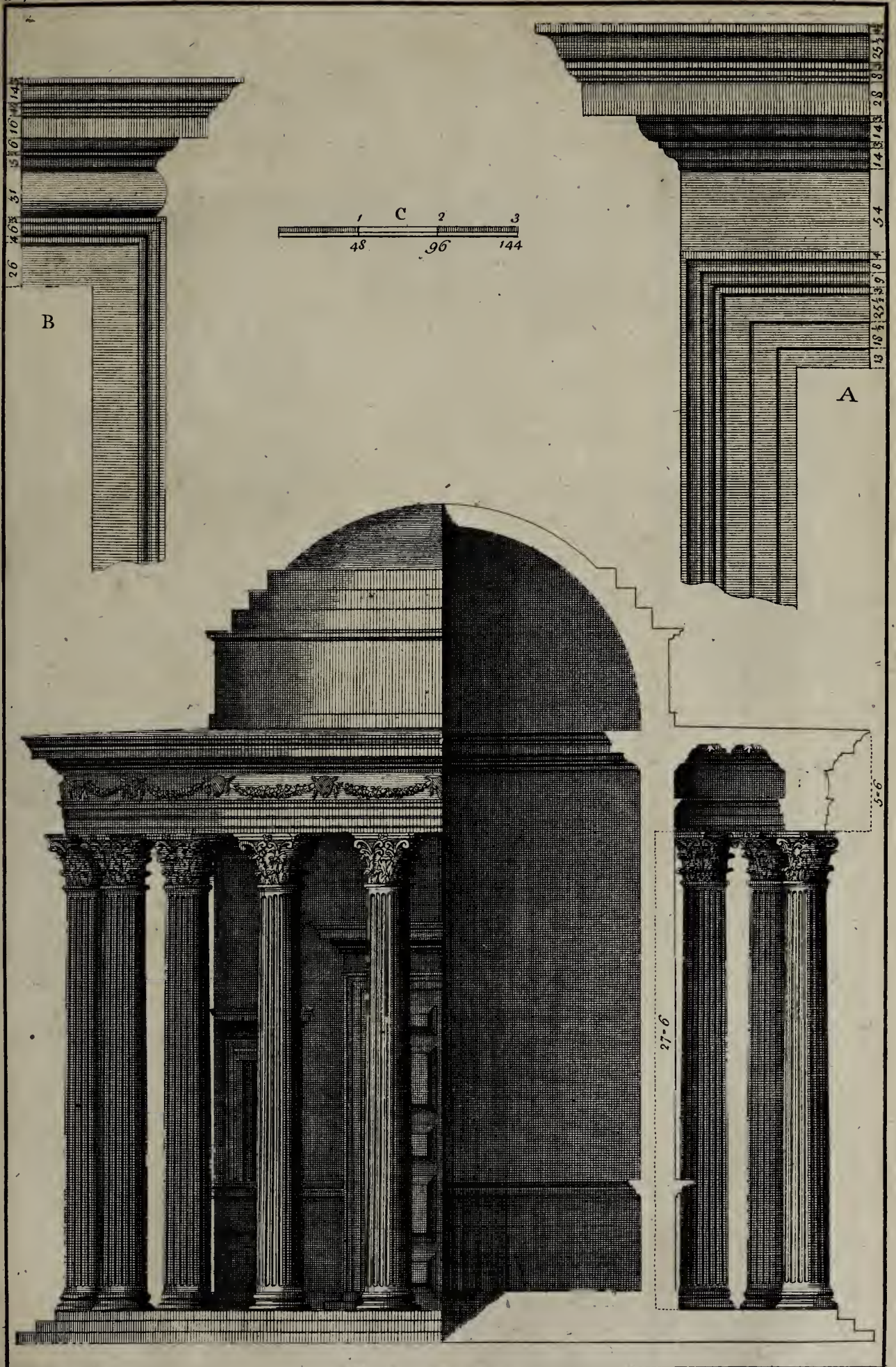










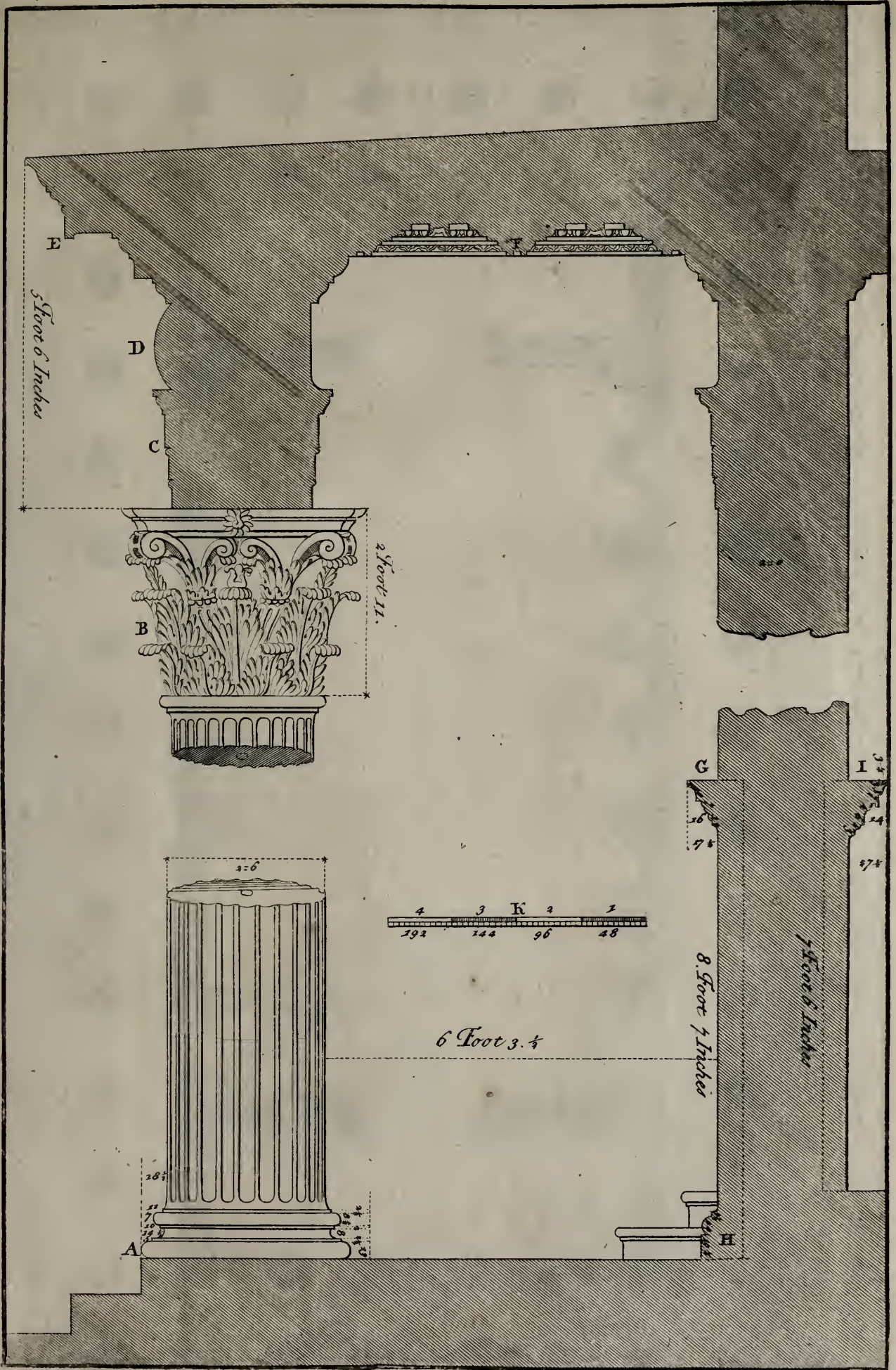


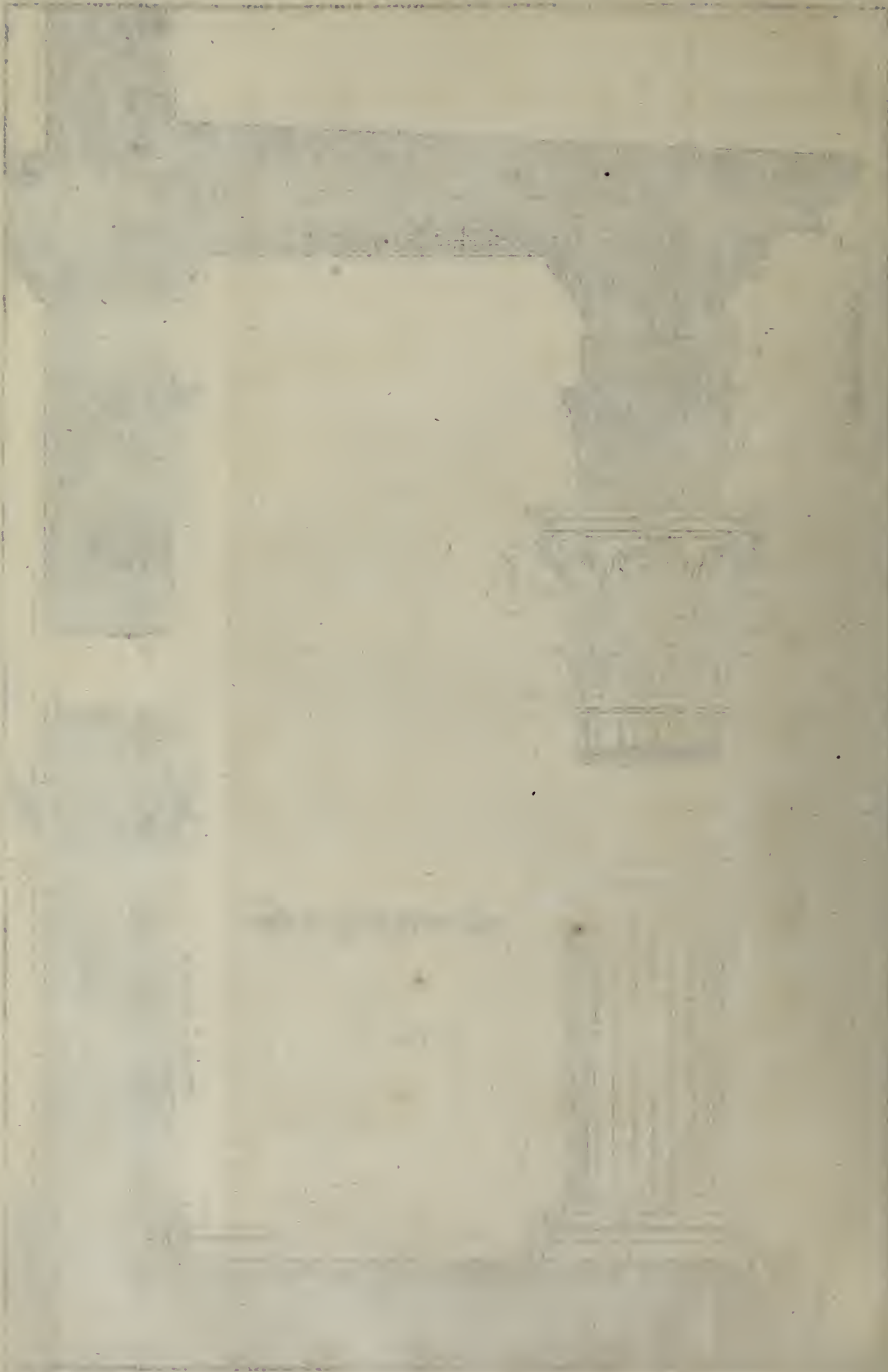
E. Hopfus Delin

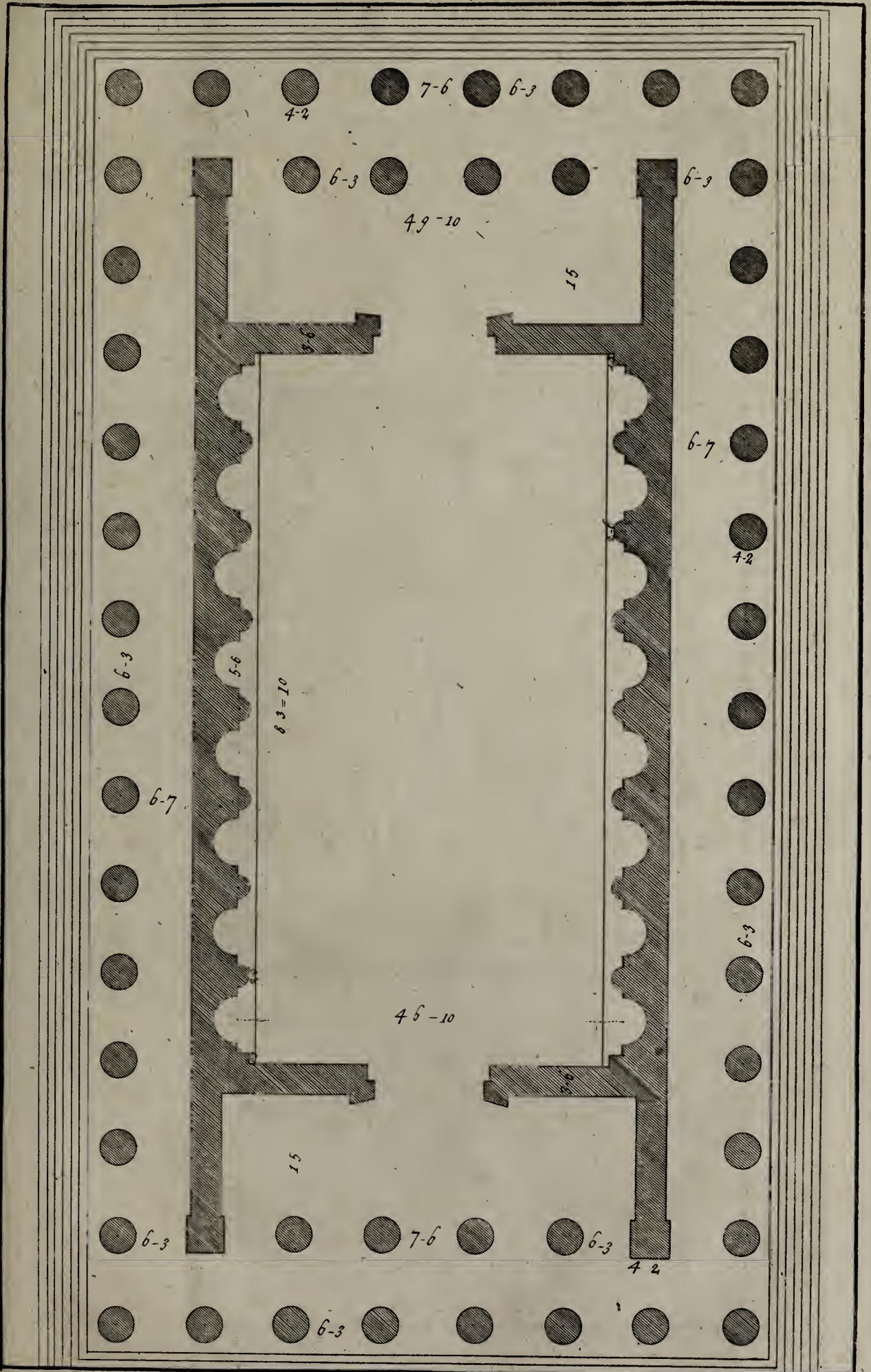
B. Cole Sculp.















7 Foot 2 1/2

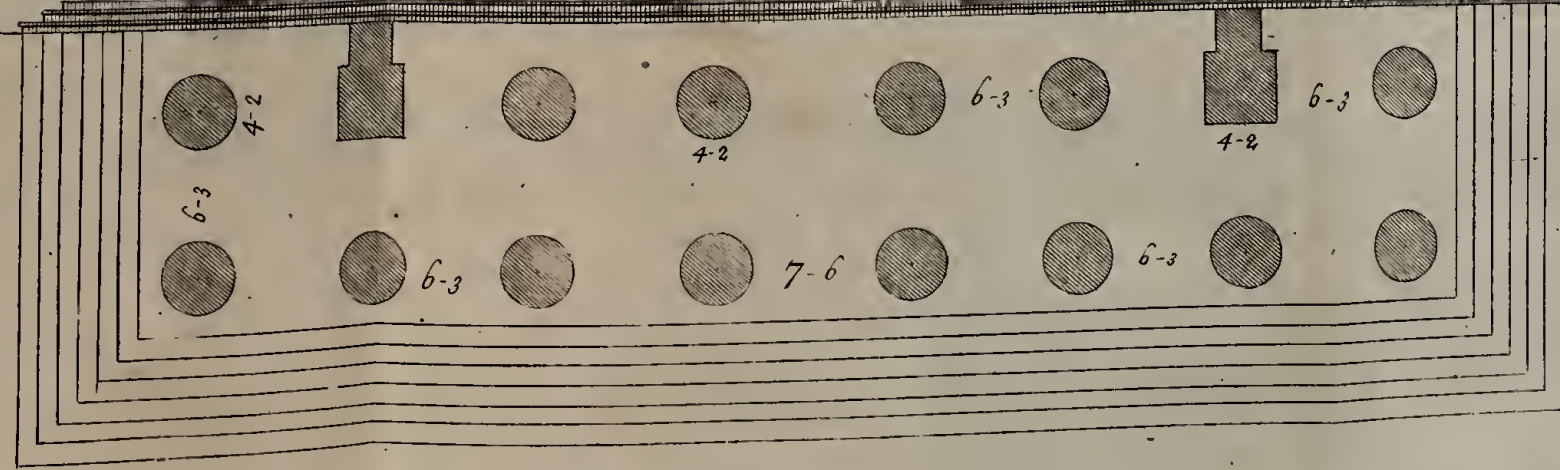
7 Foot 2 1/2

39 Foot 7 Inches

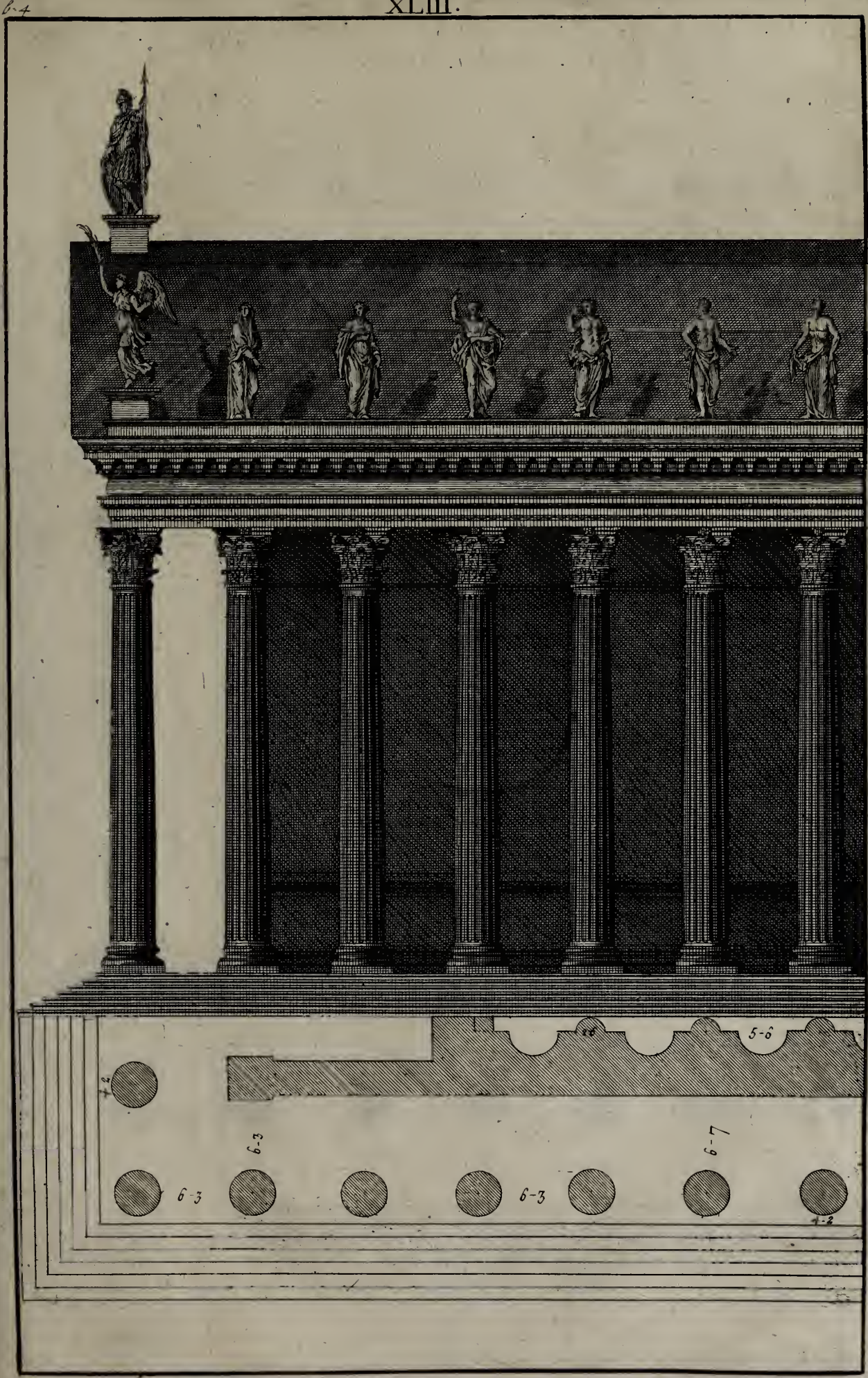
39 Foot 7 Inches

4-6

4-6







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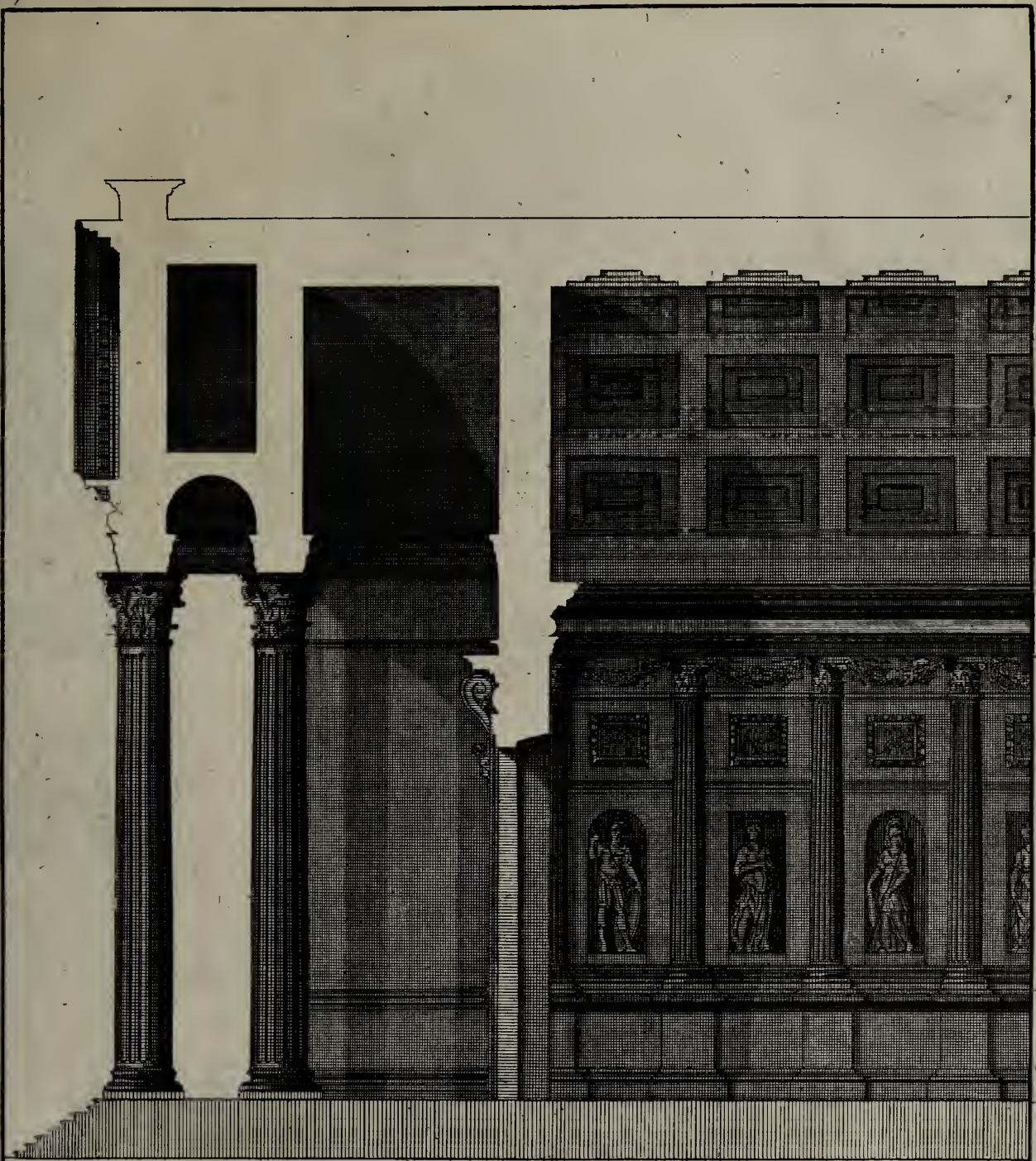
7 Feet 6 In.  
4 - 6 - 6  
3 1/2 Feet 7

E. Hopper Delin.

B. Cole Sculp.



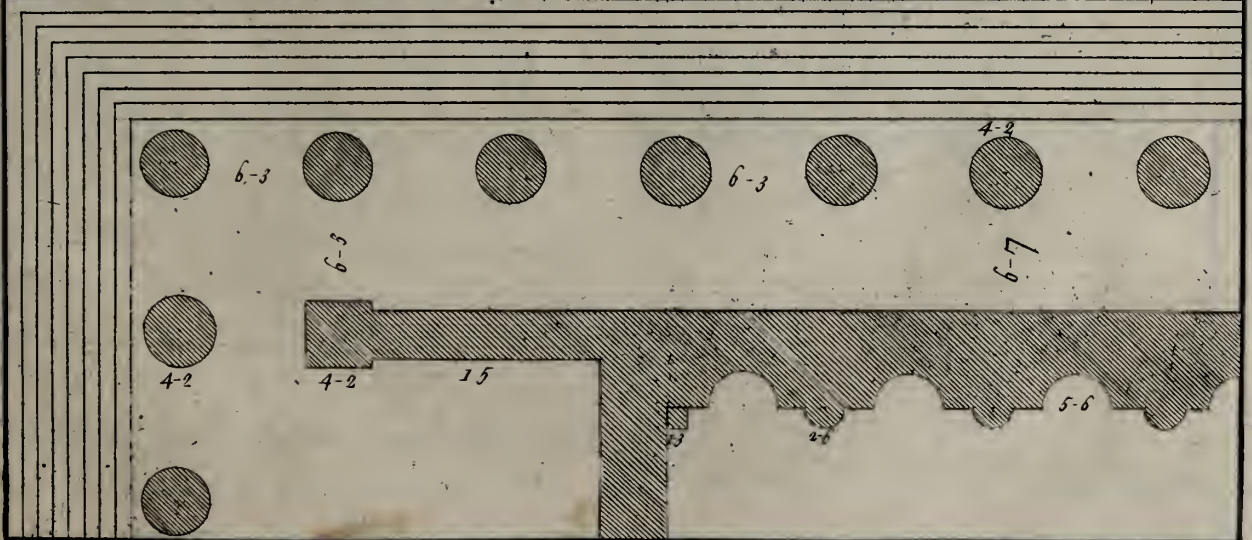




4-9

4-8-9

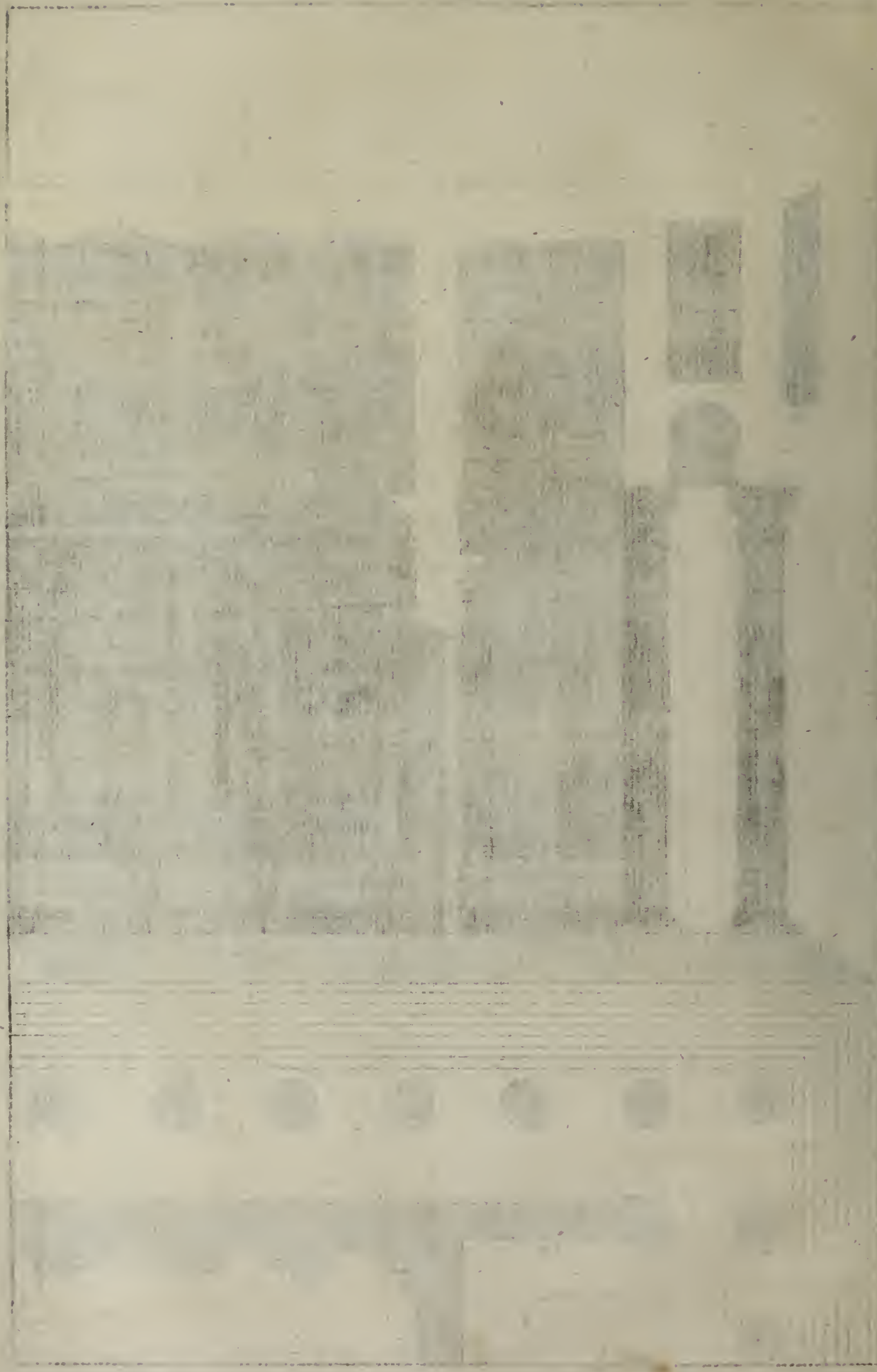
8-2



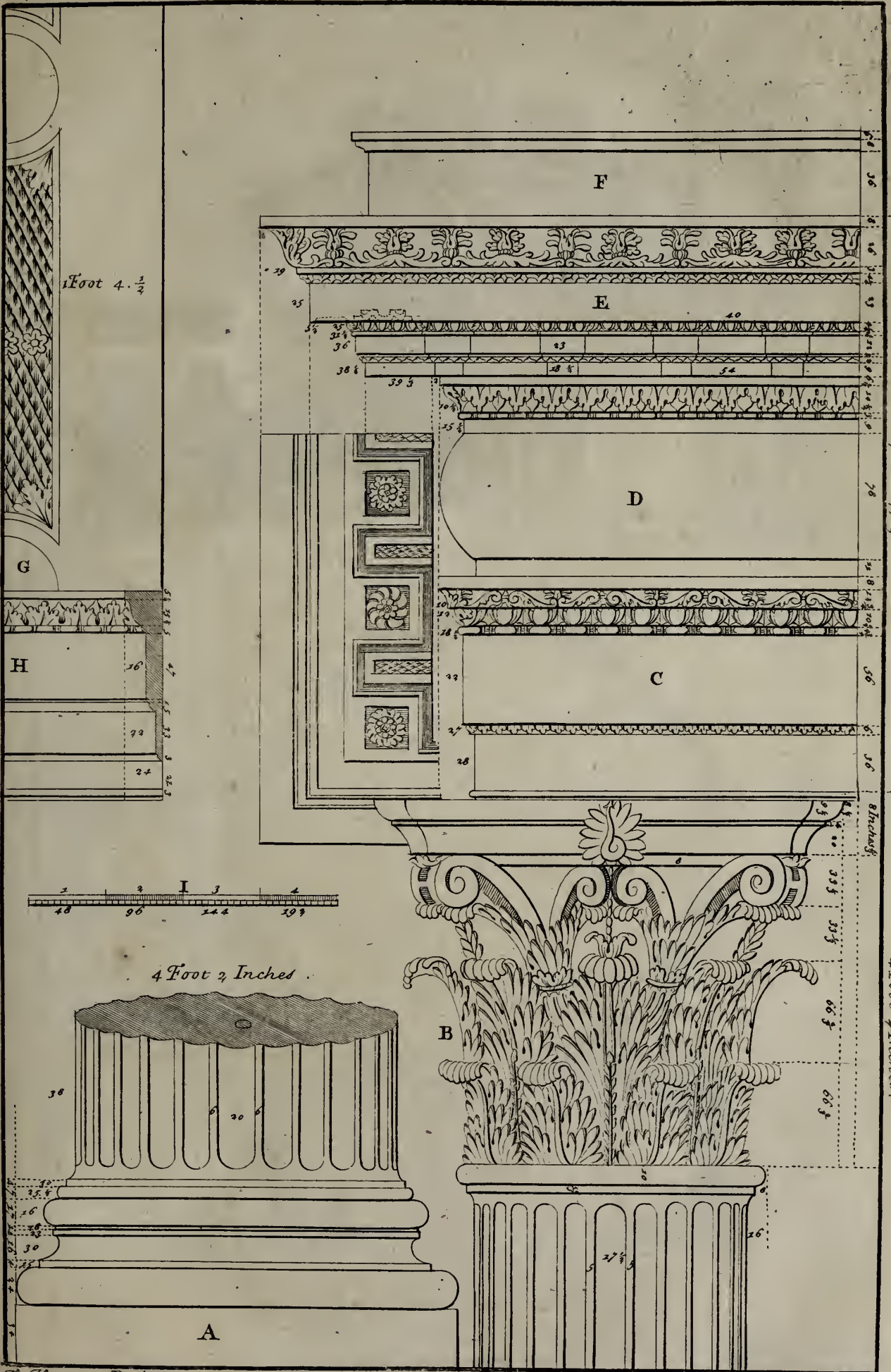
6-3      6-3      6-3      4-2

4-2      6-3      6-7

4-2      4-2      15      5-6



8 4

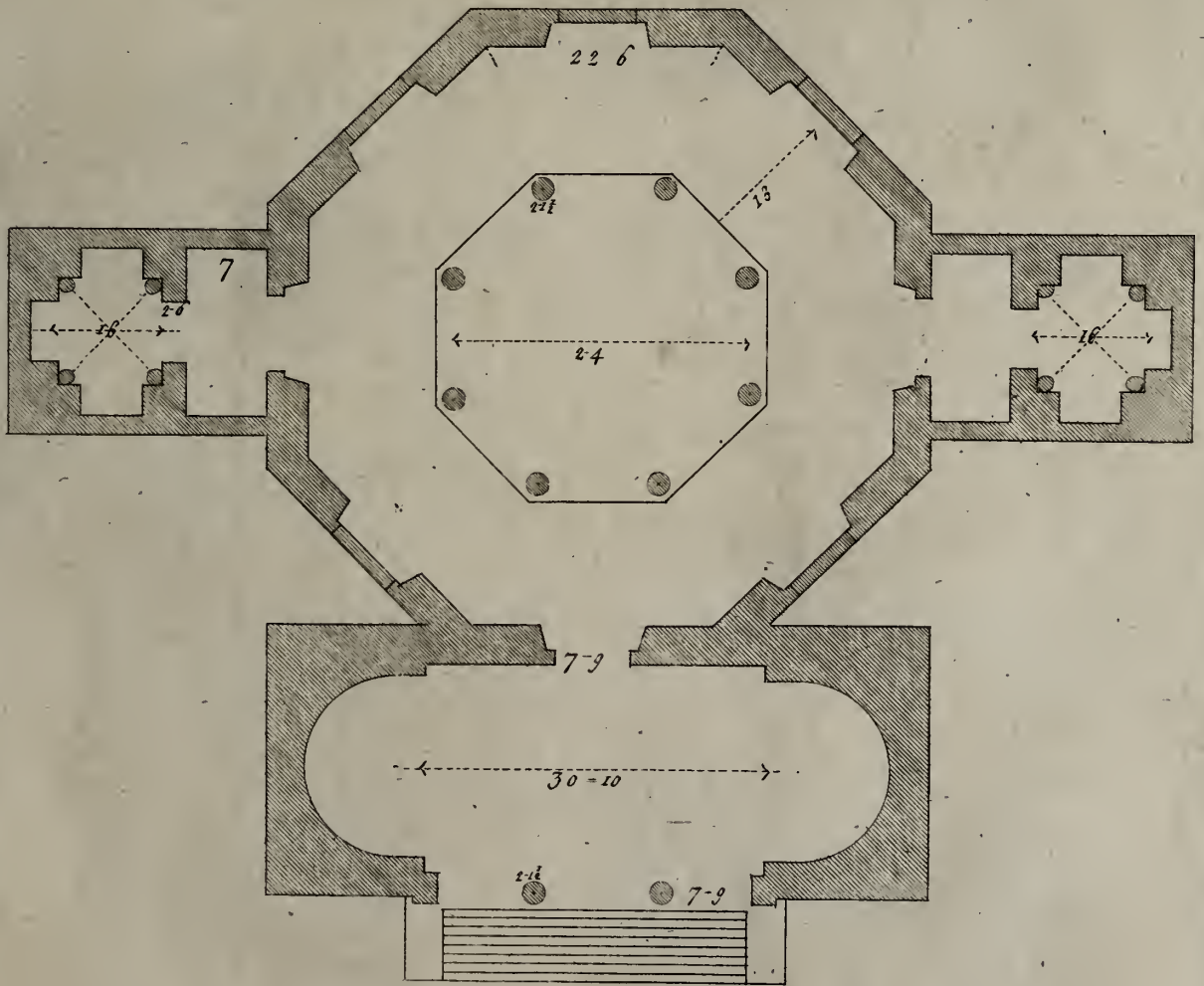
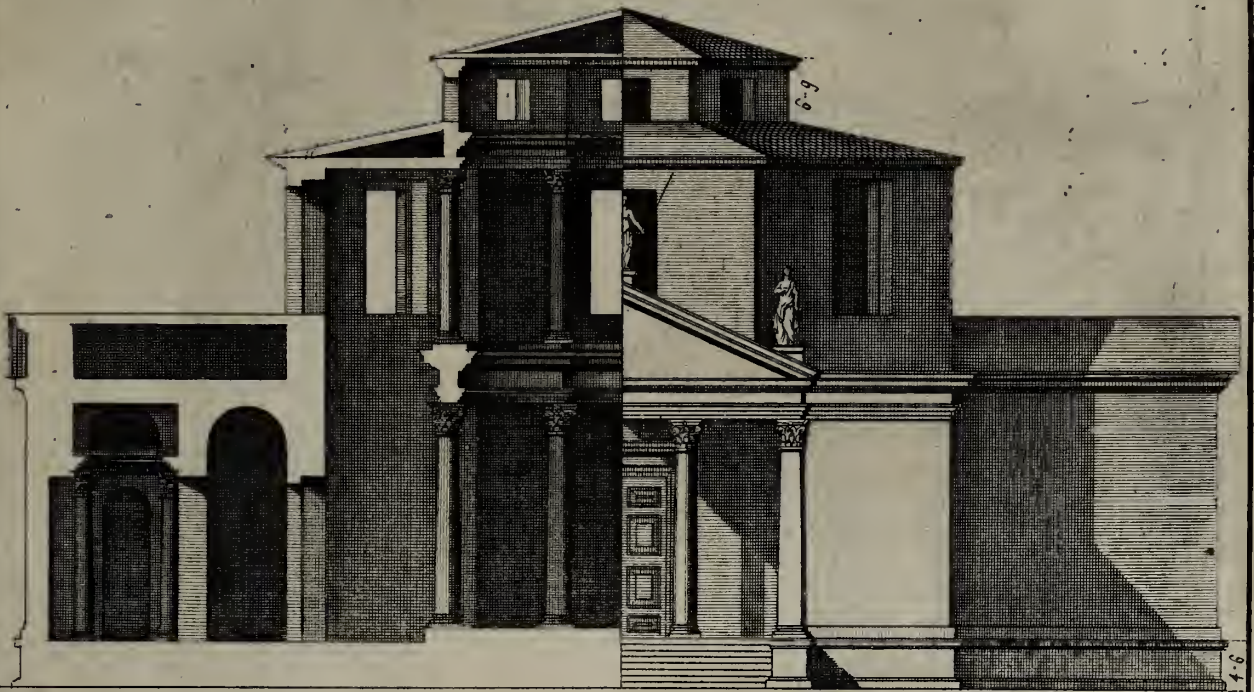


E. Hoppus Delin :

3 Foot 6 Inches .

B. Cole Sculp :

| Year | Month | Day | Event |
|------|-------|-----|-------|
| 1870 | Jan   | 1   | ...   |
| 1870 | Jan   | 2   | ...   |
| 1870 | Jan   | 3   | ...   |
| 1870 | Jan   | 4   | ...   |
| 1870 | Jan   | 5   | ...   |
| 1870 | Jan   | 6   | ...   |
| 1870 | Jan   | 7   | ...   |
| 1870 | Jan   | 8   | ...   |
| 1870 | Jan   | 9   | ...   |
| 1870 | Jan   | 10  | ...   |
| 1870 | Jan   | 11  | ...   |
| 1870 | Jan   | 12  | ...   |
| 1870 | Jan   | 13  | ...   |
| 1870 | Jan   | 14  | ...   |
| 1870 | Jan   | 15  | ...   |
| 1870 | Jan   | 16  | ...   |
| 1870 | Jan   | 17  | ...   |
| 1870 | Jan   | 18  | ...   |
| 1870 | Jan   | 19  | ...   |
| 1870 | Jan   | 20  | ...   |
| 1870 | Jan   | 21  | ...   |
| 1870 | Jan   | 22  | ...   |
| 1870 | Jan   | 23  | ...   |
| 1870 | Jan   | 24  | ...   |
| 1870 | Jan   | 25  | ...   |
| 1870 | Jan   | 26  | ...   |
| 1870 | Jan   | 27  | ...   |
| 1870 | Jan   | 28  | ...   |
| 1870 | Jan   | 29  | ...   |
| 1870 | Jan   | 30  | ...   |
| 1870 | Jan   | 31  | ...   |
| 1870 | Feb   | 1   | ...   |
| 1870 | Feb   | 2   | ...   |
| 1870 | Feb   | 3   | ...   |
| 1870 | Feb   | 4   | ...   |
| 1870 | Feb   | 5   | ...   |
| 1870 | Feb   | 6   | ...   |
| 1870 | Feb   | 7   | ...   |
| 1870 | Feb   | 8   | ...   |
| 1870 | Feb   | 9   | ...   |
| 1870 | Feb   | 10  | ...   |
| 1870 | Feb   | 11  | ...   |
| 1870 | Feb   | 12  | ...   |
| 1870 | Feb   | 13  | ...   |
| 1870 | Feb   | 14  | ...   |
| 1870 | Feb   | 15  | ...   |
| 1870 | Feb   | 16  | ...   |
| 1870 | Feb   | 17  | ...   |
| 1870 | Feb   | 18  | ...   |
| 1870 | Feb   | 19  | ...   |
| 1870 | Feb   | 20  | ...   |
| 1870 | Feb   | 21  | ...   |
| 1870 | Feb   | 22  | ...   |
| 1870 | Feb   | 23  | ...   |
| 1870 | Feb   | 24  | ...   |
| 1870 | Feb   | 25  | ...   |
| 1870 | Feb   | 26  | ...   |
| 1870 | Feb   | 27  | ...   |
| 1870 | Feb   | 28  | ...   |
| 1870 | Feb   | 29  | ...   |
| 1870 | Mar   | 1   | ...   |
| 1870 | Mar   | 2   | ...   |
| 1870 | Mar   | 3   | ...   |
| 1870 | Mar   | 4   | ...   |
| 1870 | Mar   | 5   | ...   |
| 1870 | Mar   | 6   | ...   |
| 1870 | Mar   | 7   | ...   |
| 1870 | Mar   | 8   | ...   |
| 1870 | Mar   | 9   | ...   |
| 1870 | Mar   | 10  | ...   |
| 1870 | Mar   | 11  | ...   |
| 1870 | Mar   | 12  | ...   |
| 1870 | Mar   | 13  | ...   |
| 1870 | Mar   | 14  | ...   |
| 1870 | Mar   | 15  | ...   |
| 1870 | Mar   | 16  | ...   |
| 1870 | Mar   | 17  | ...   |
| 1870 | Mar   | 18  | ...   |
| 1870 | Mar   | 19  | ...   |
| 1870 | Mar   | 20  | ...   |
| 1870 | Mar   | 21  | ...   |
| 1870 | Mar   | 22  | ...   |
| 1870 | Mar   | 23  | ...   |
| 1870 | Mar   | 24  | ...   |
| 1870 | Mar   | 25  | ...   |
| 1870 | Mar   | 26  | ...   |
| 1870 | Mar   | 27  | ...   |
| 1870 | Mar   | 28  | ...   |
| 1870 | Mar   | 29  | ...   |
| 1870 | Mar   | 30  | ...   |
| 1870 | Mar   | 31  | ...   |
| 1870 | Apr   | 1   | ...   |
| 1870 | Apr   | 2   | ...   |
| 1870 | Apr   | 3   | ...   |
| 1870 | Apr   | 4   | ...   |
| 1870 | Apr   | 5   | ...   |
| 1870 | Apr   | 6   | ...   |
| 1870 | Apr   | 7   | ...   |
| 1870 | Apr   | 8   | ...   |
| 1870 | Apr   | 9   | ...   |
| 1870 | Apr   | 10  | ...   |
| 1870 | Apr   | 11  | ...   |
| 1870 | Apr   | 12  | ...   |
| 1870 | Apr   | 13  | ...   |
| 1870 | Apr   | 14  | ...   |
| 1870 | Apr   | 15  | ...   |
| 1870 | Apr   | 16  | ...   |
| 1870 | Apr   | 17  | ...   |
| 1870 | Apr   | 18  | ...   |
| 1870 | Apr   | 19  | ...   |
| 1870 | Apr   | 20  | ...   |
| 1870 | Apr   | 21  | ...   |
| 1870 | Apr   | 22  | ...   |
| 1870 | Apr   | 23  | ...   |
| 1870 | Apr   | 24  | ...   |
| 1870 | Apr   | 25  | ...   |
| 1870 | Apr   | 26  | ...   |
| 1870 | Apr   | 27  | ...   |
| 1870 | Apr   | 28  | ...   |
| 1870 | Apr   | 29  | ...   |
| 1870 | Apr   | 30  | ...   |
| 1870 | Apr   | 30  | ...   |



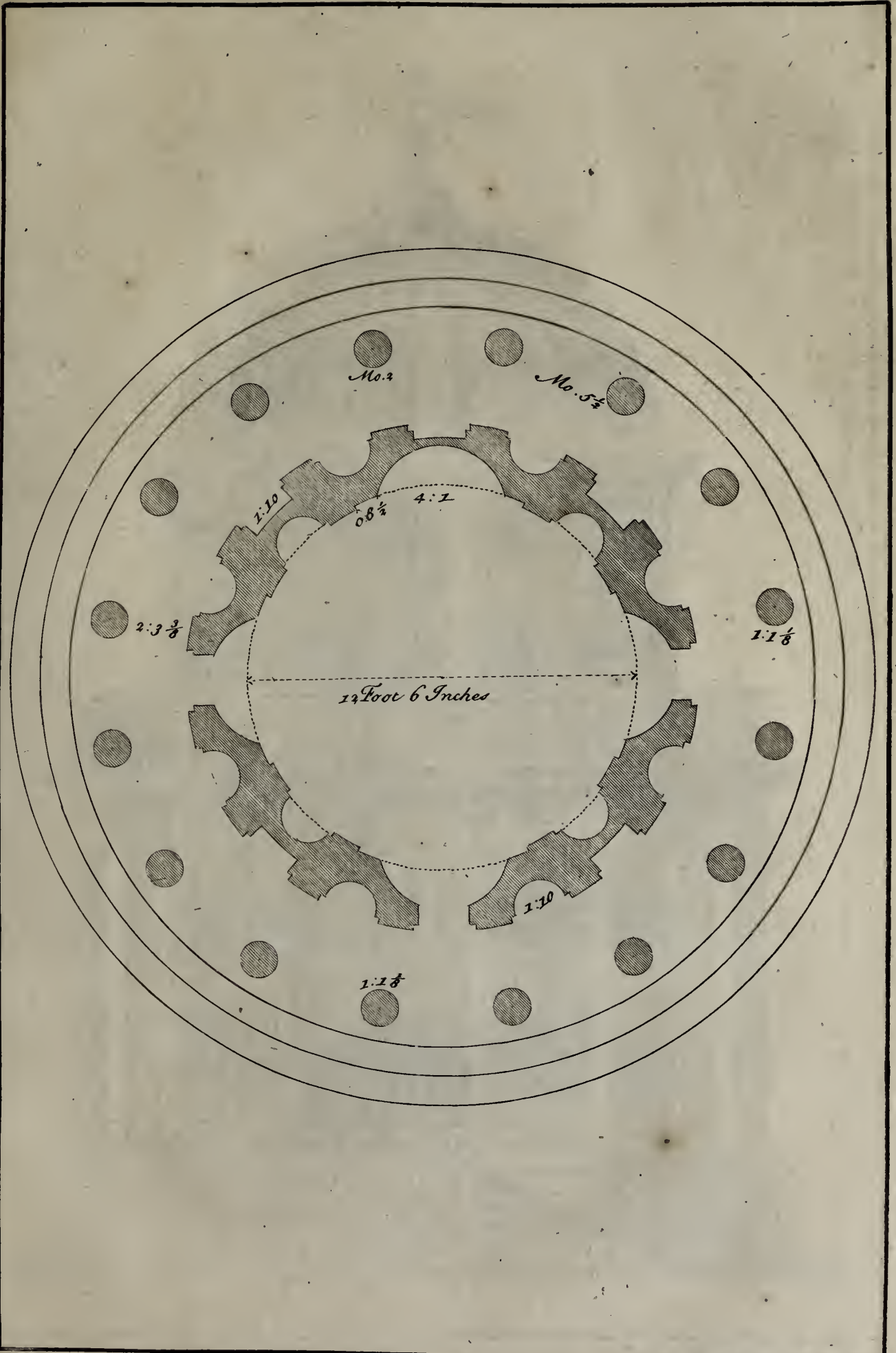




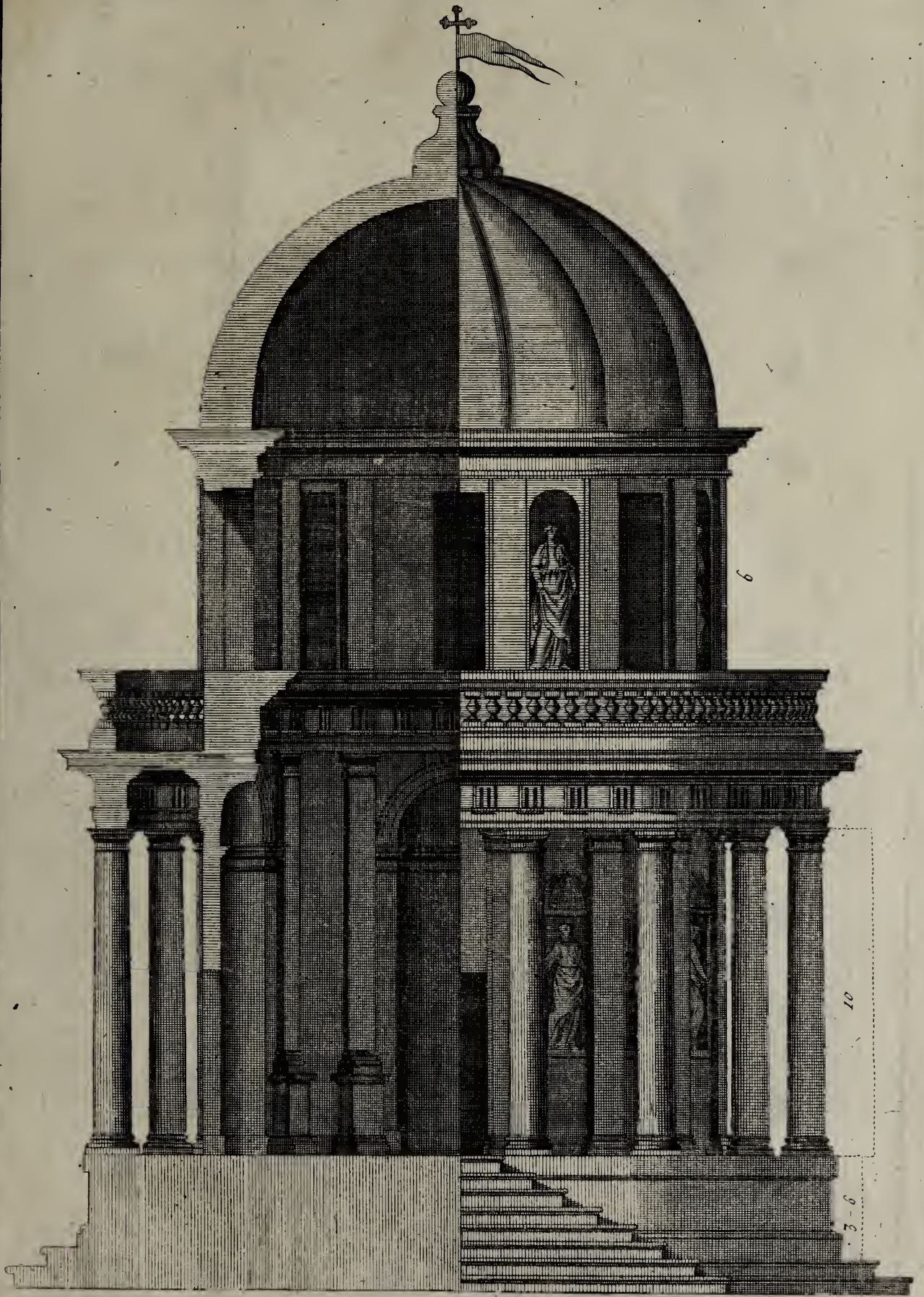


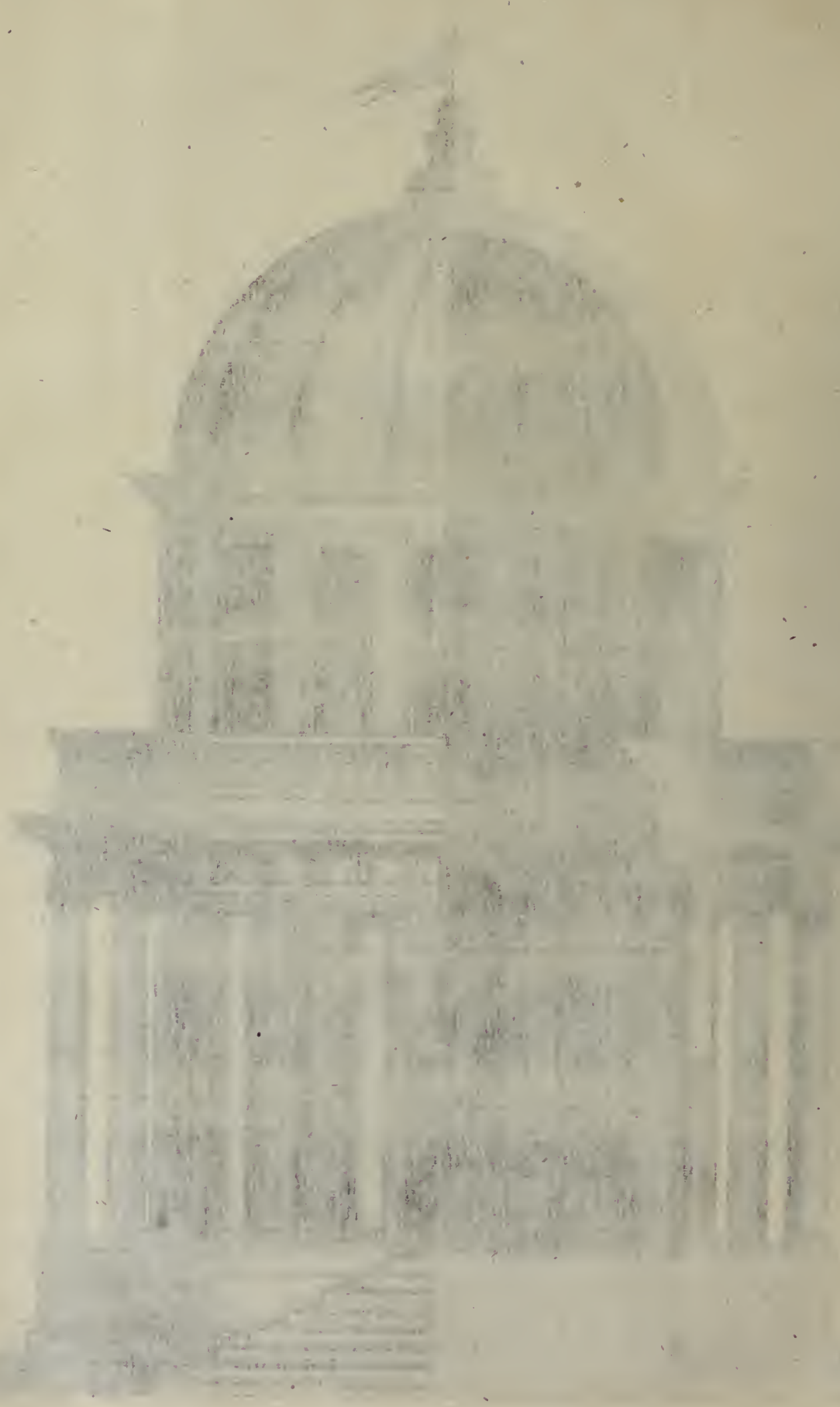


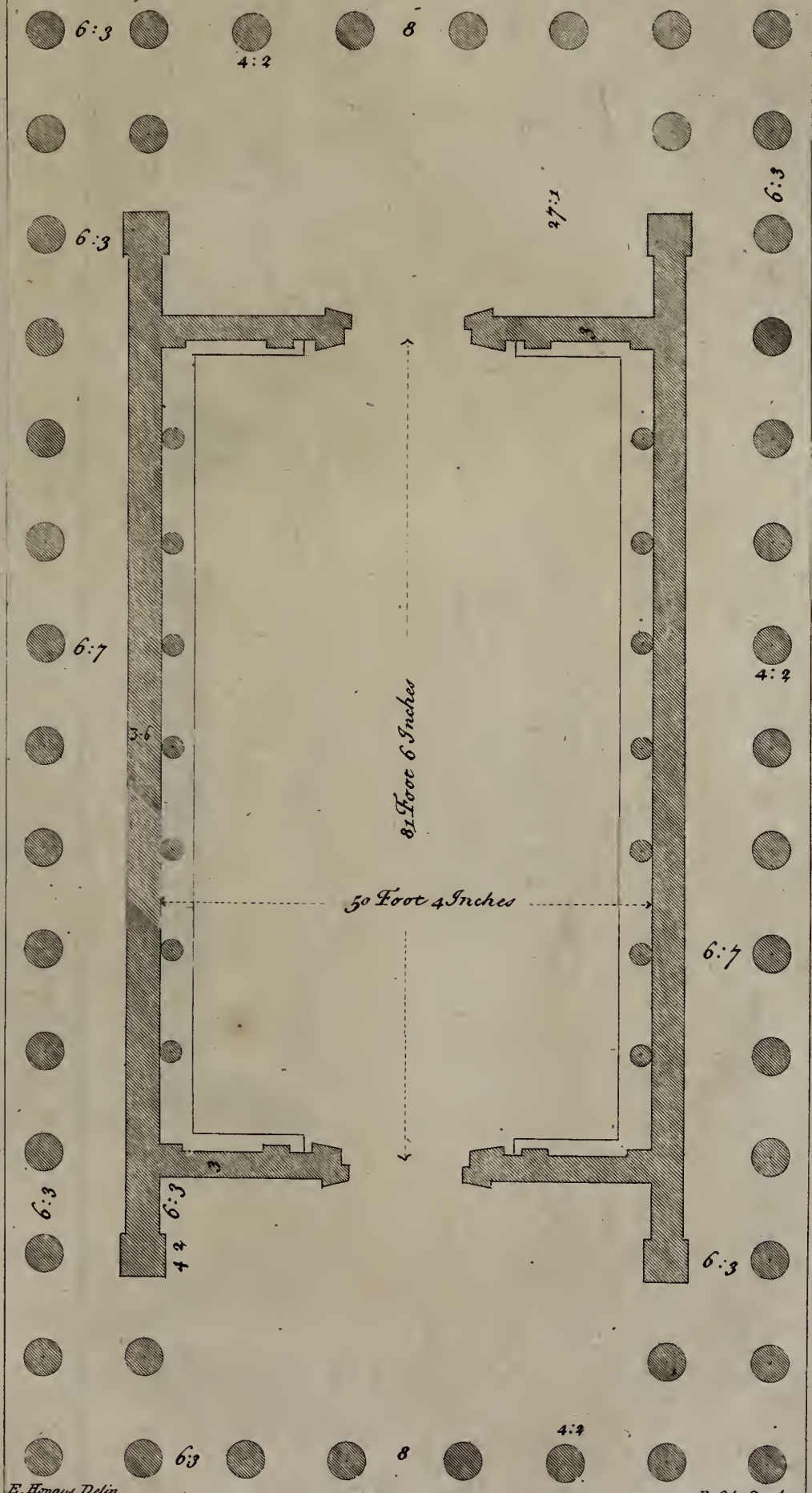
XLVIII.





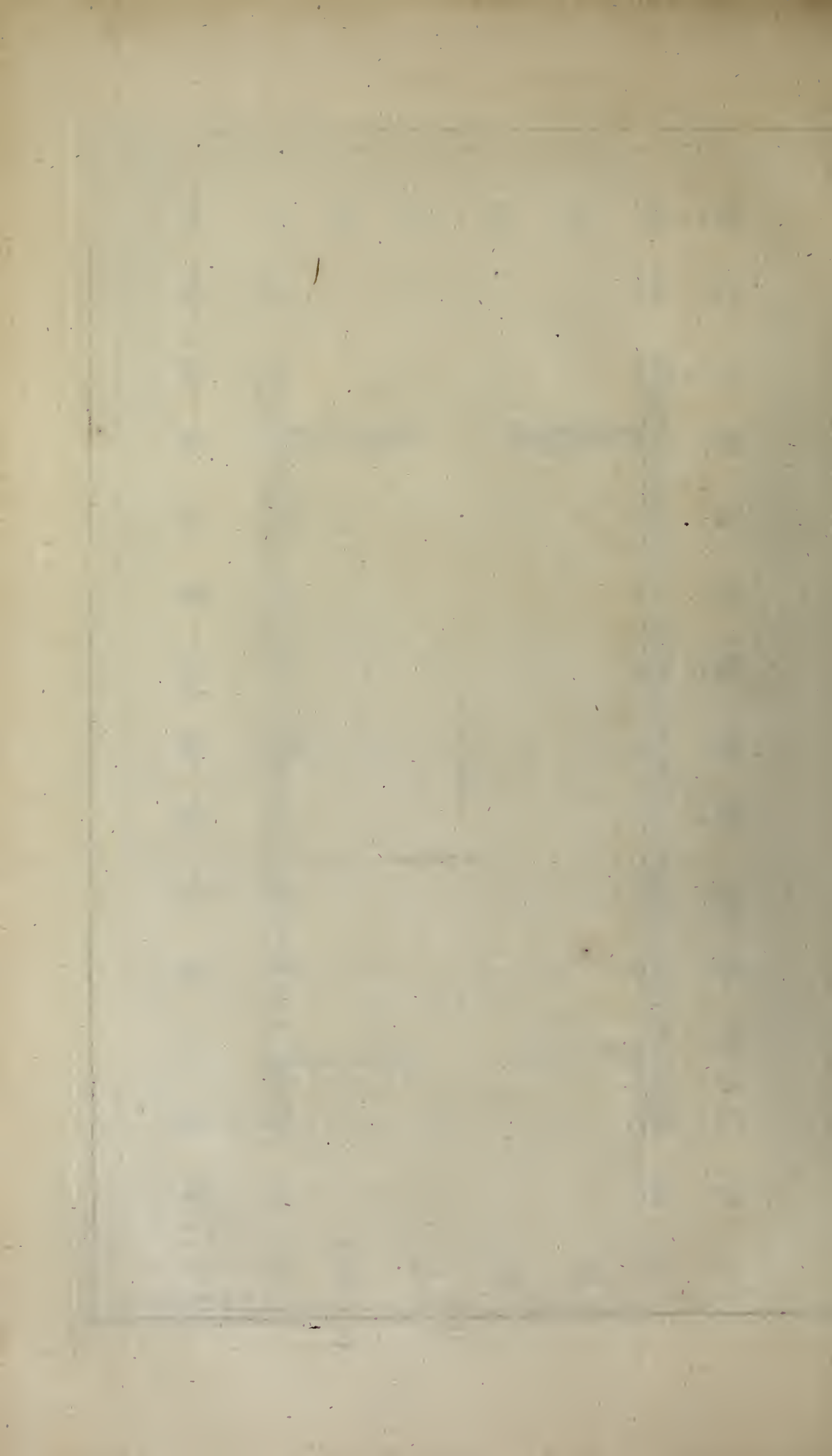


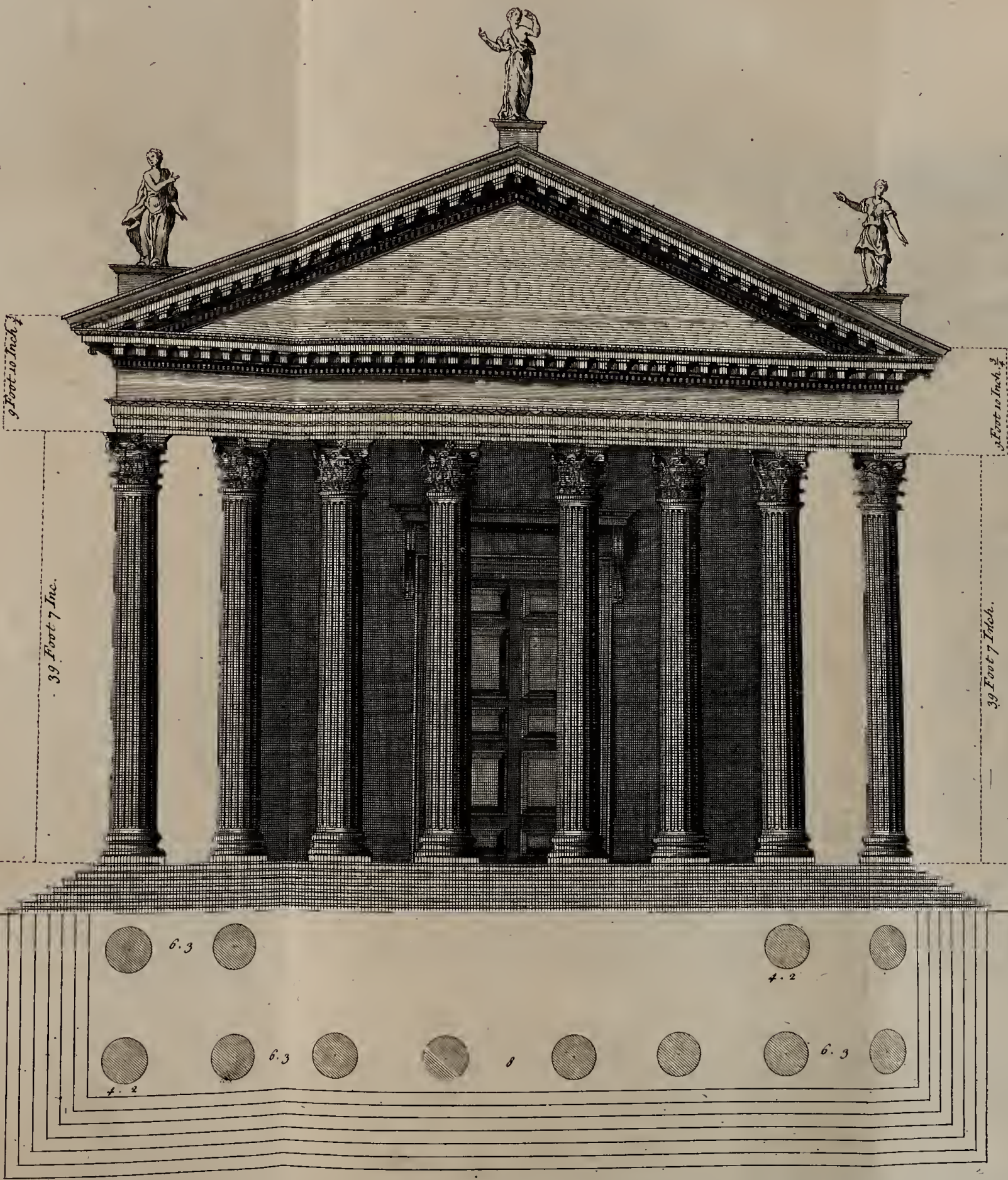


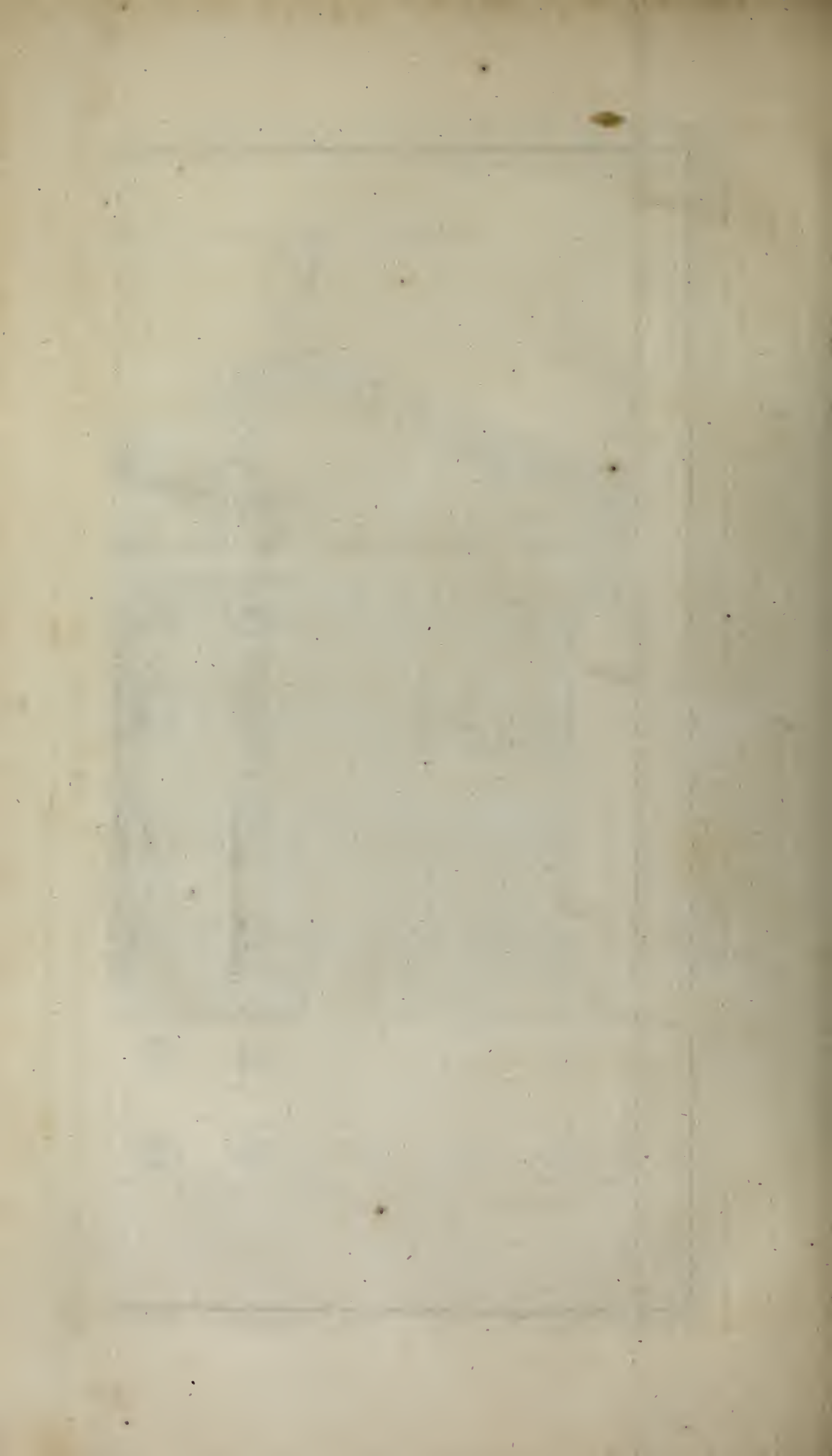


E. Hoppus Delin

B. Cole Sculp

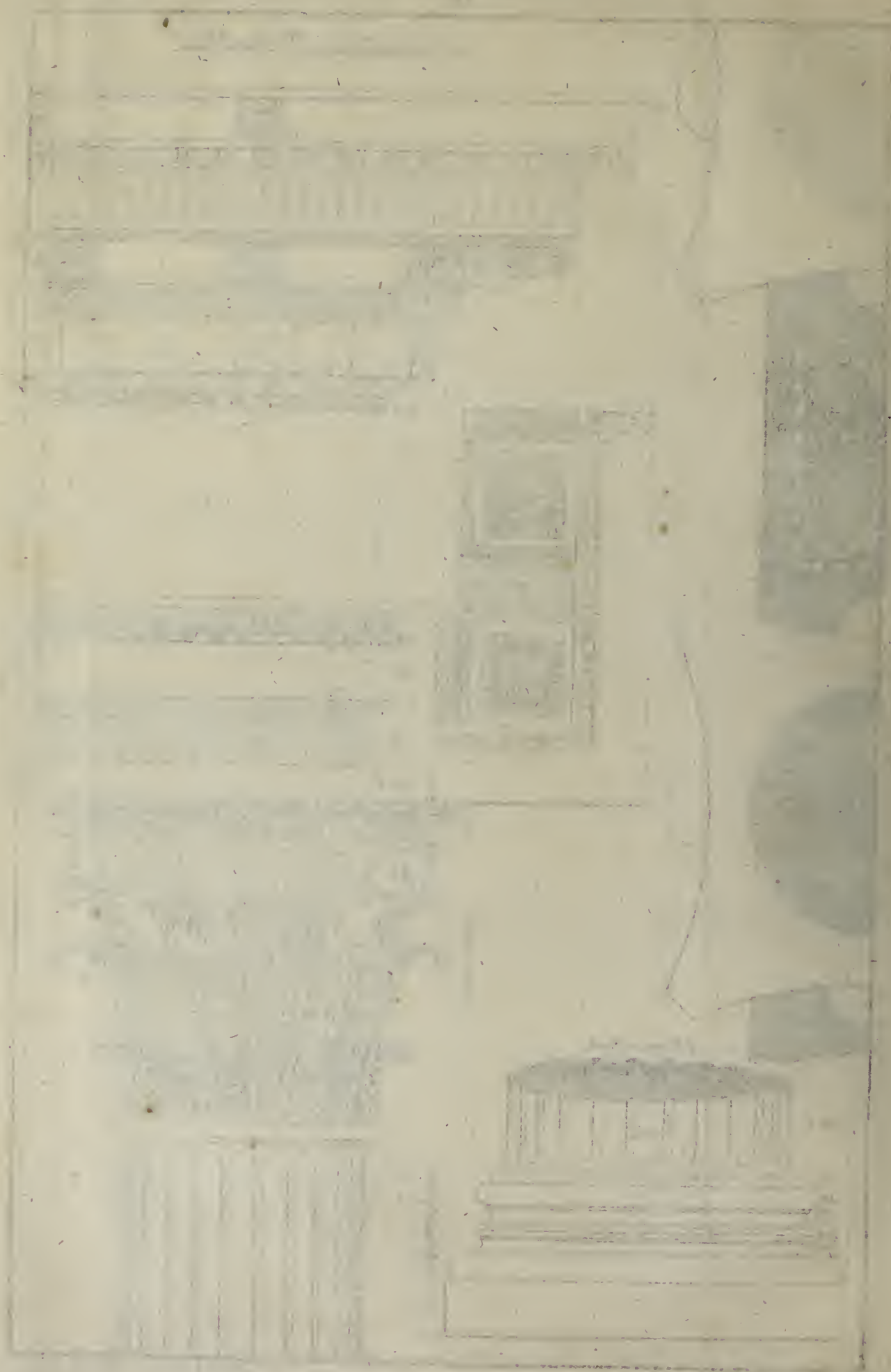


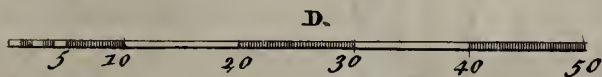
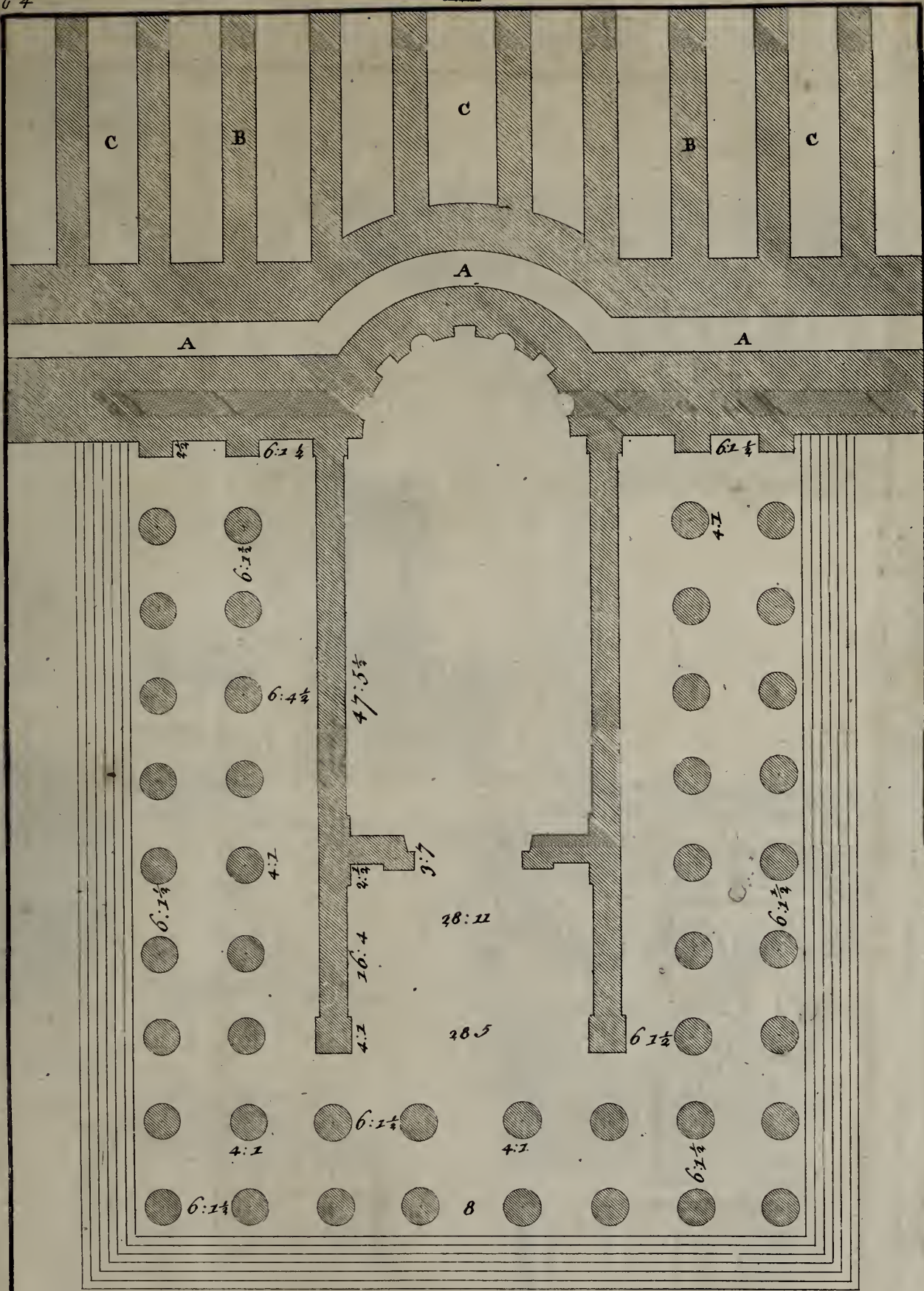




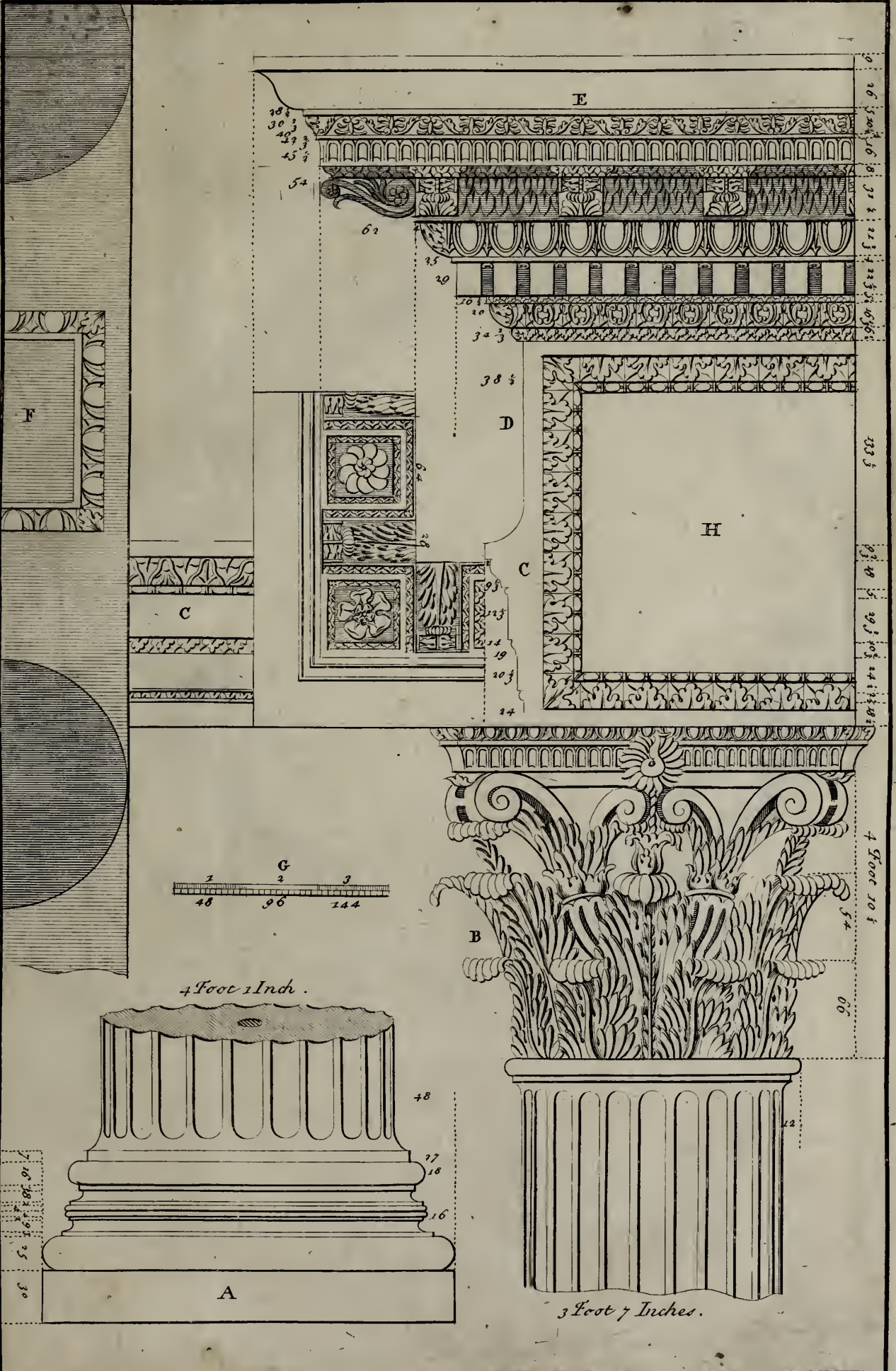












E. Hoppus Delin.

B. Cole Sculp.

| Date | Description | Amount |
|------|-------------|--------|
| 1870 | Jan 1       | 100    |
| 1870 | Feb 1       | 200    |
| 1870 | Mar 1       | 300    |
| 1870 | Apr 1       | 400    |
| 1870 | May 1       | 500    |
| 1870 | Jun 1       | 600    |
| 1870 | Jul 1       | 700    |
| 1870 | Aug 1       | 800    |
| 1870 | Sep 1       | 900    |
| 1870 | Oct 1       | 1000   |
| 1870 | Nov 1       | 1100   |
| 1870 | Dec 1       | 1200   |
| 1871 | Jan 1       | 1300   |
| 1871 | Feb 1       | 1400   |
| 1871 | Mar 1       | 1500   |







LVI.

LVI.

37 Foot  $\frac{1}{2}$

37 Foot  $\frac{1}{2}$

23 Foot

23 Foot

28 Foot  $\frac{1}{4}$

28 Foot  $\frac{1}{4}$

37 Foot  $\frac{1}{2}$

37 Foot  $\frac{1}{2}$

3  $\frac{1}{2}$

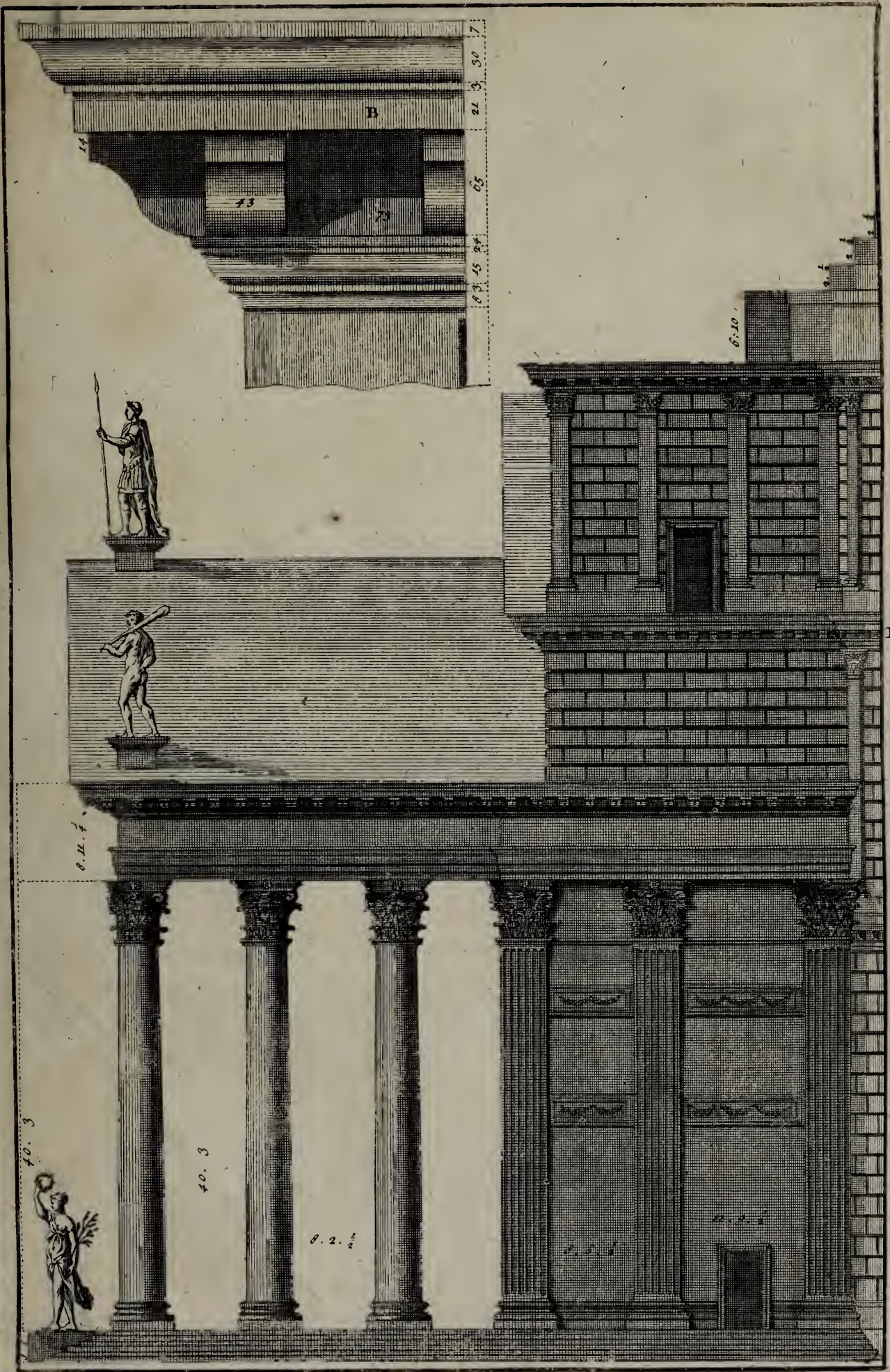
3  $\frac{1}{2}$

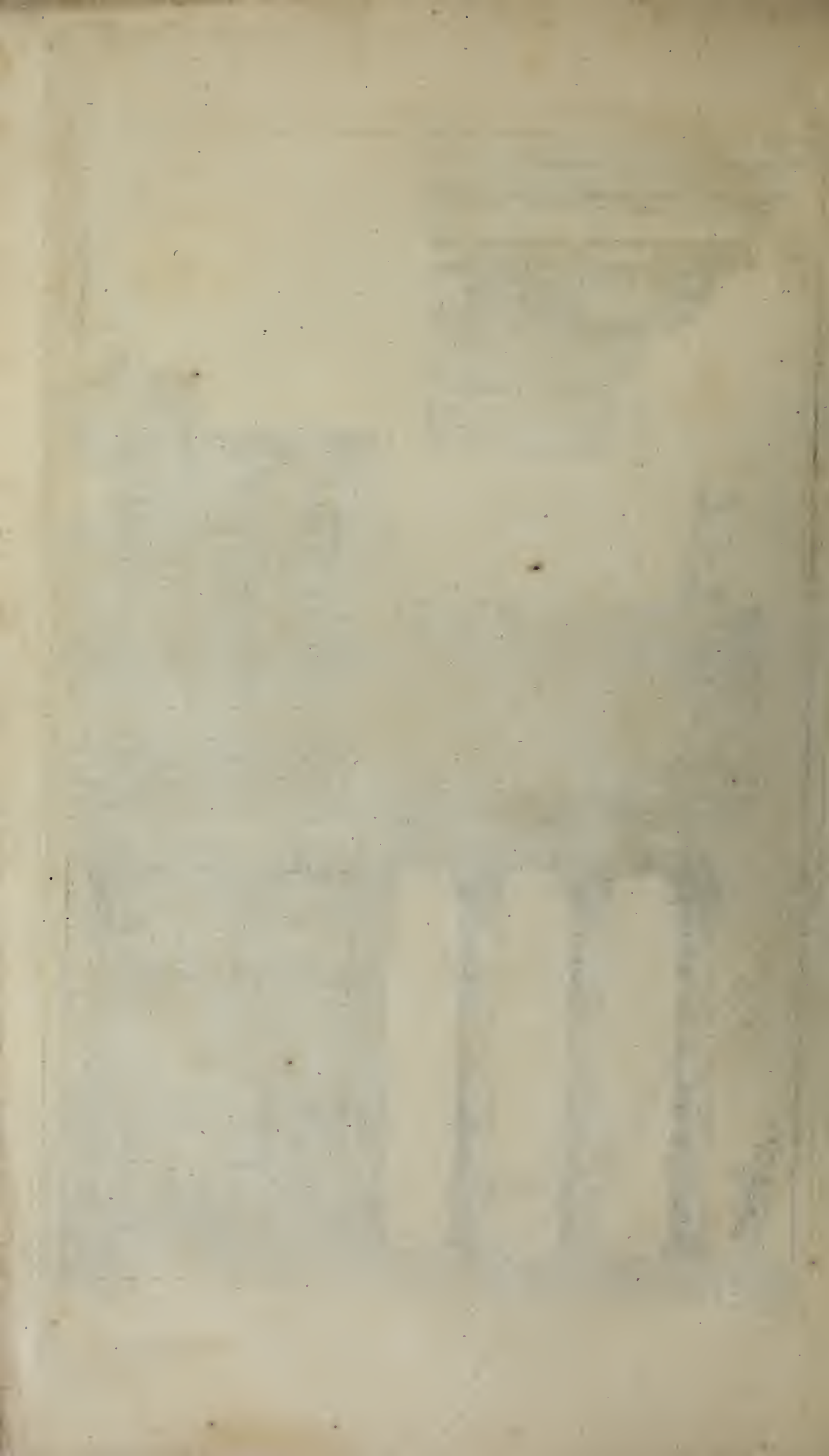


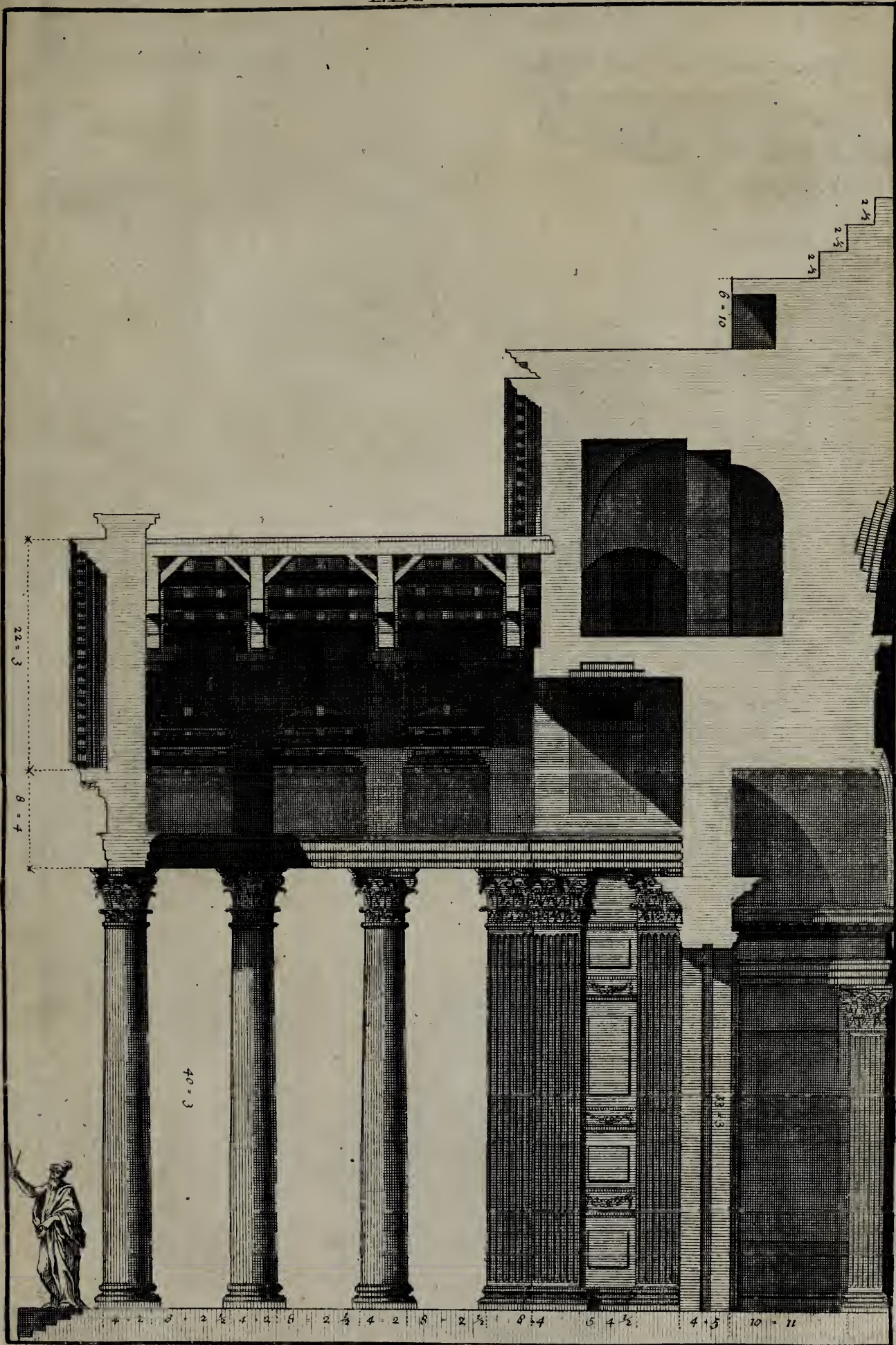
E. Hoppus Delin

B. Cole Sculp









E. Hoppus delin:

B. Cole Sculp

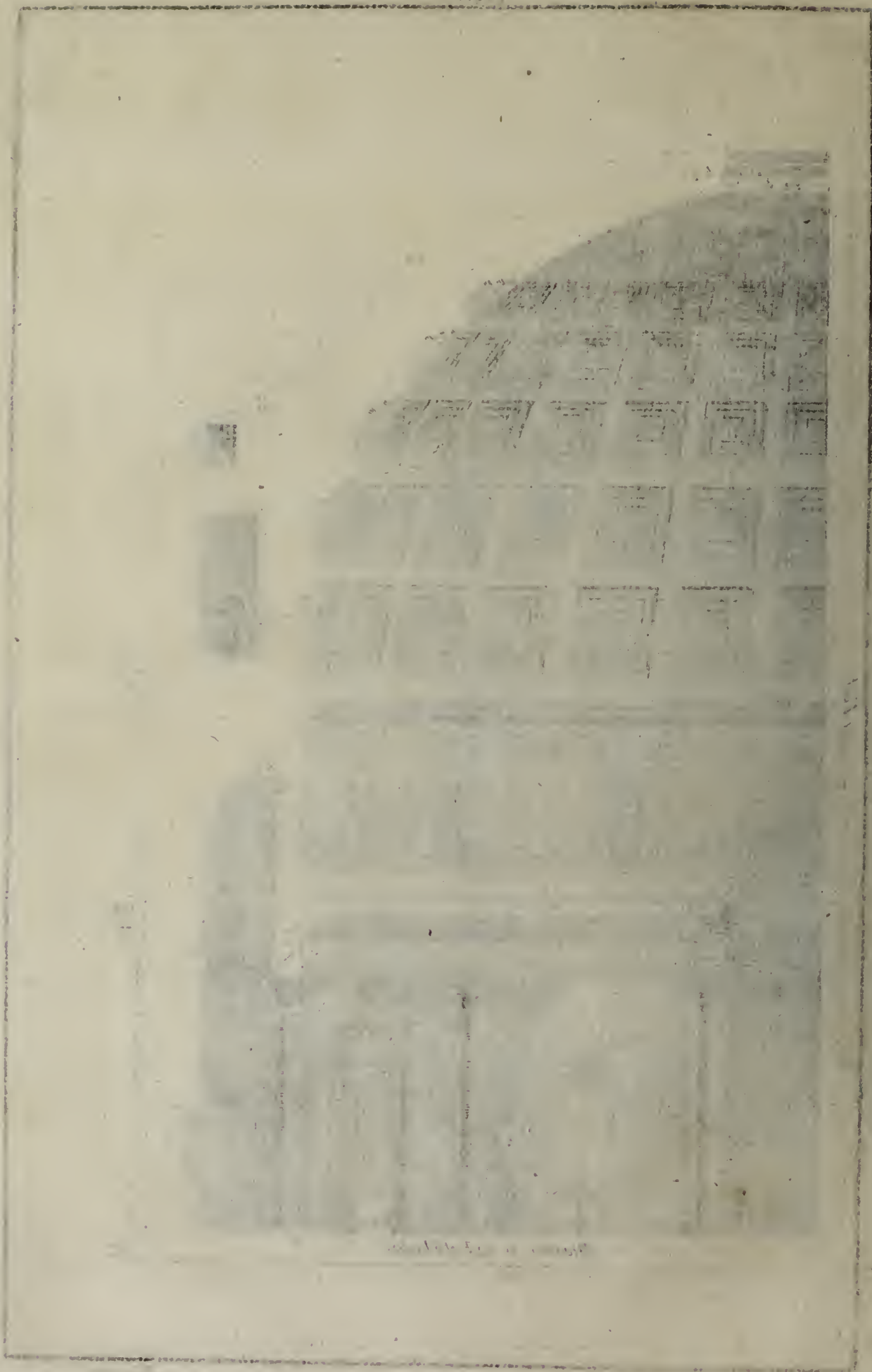




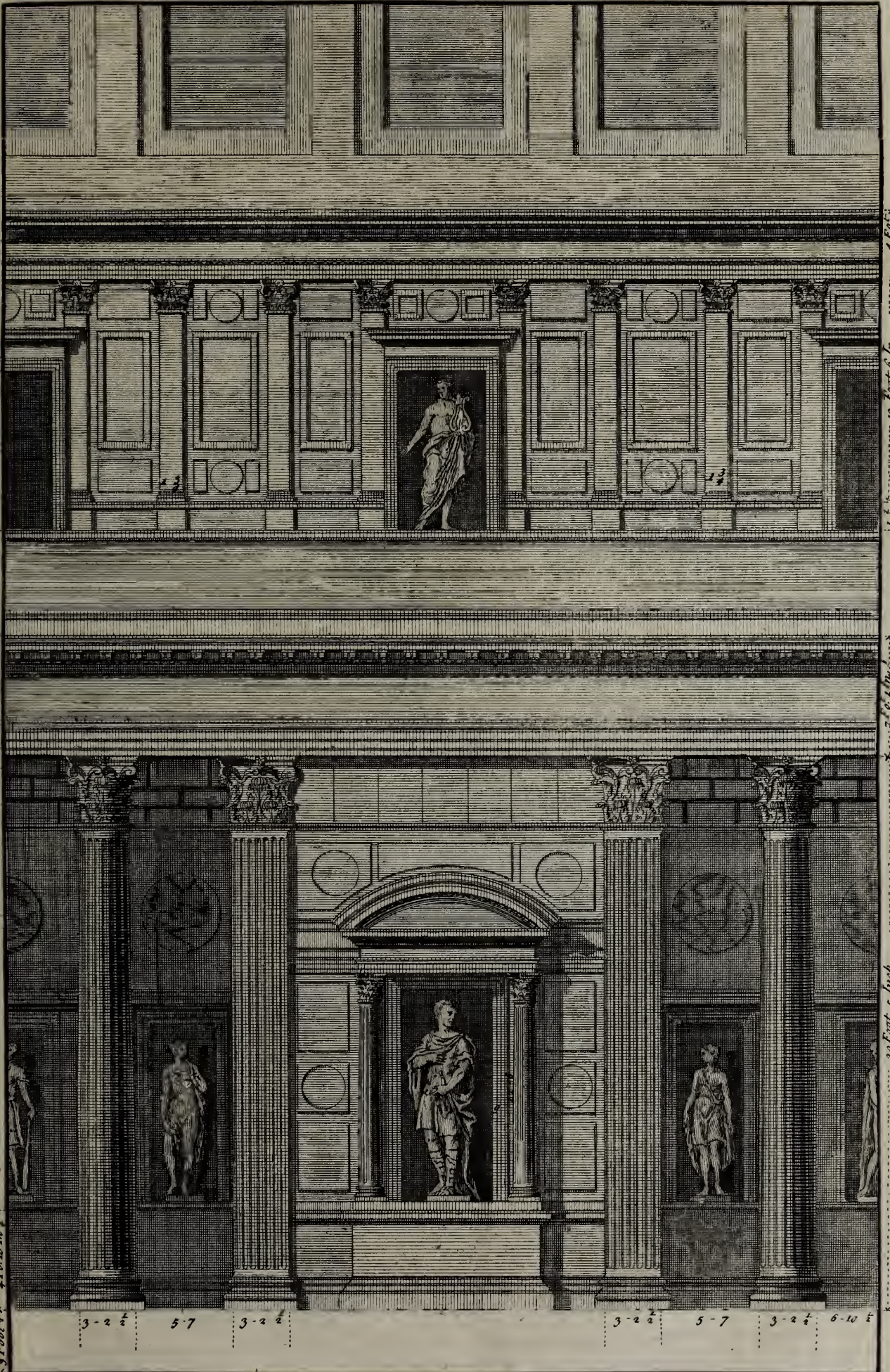








Architectural drawing of a building facade.



5 Ft. 9 In.

4 Ft. 3

12 Feet 6 In.

7 Ft. 6 In.

30 Feet 5 In.

3-2 1/2

5-7

3-2 1/2

3-2 1/2

5-7

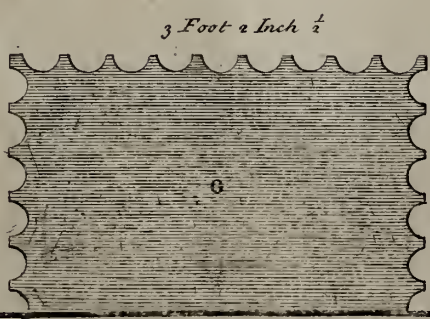
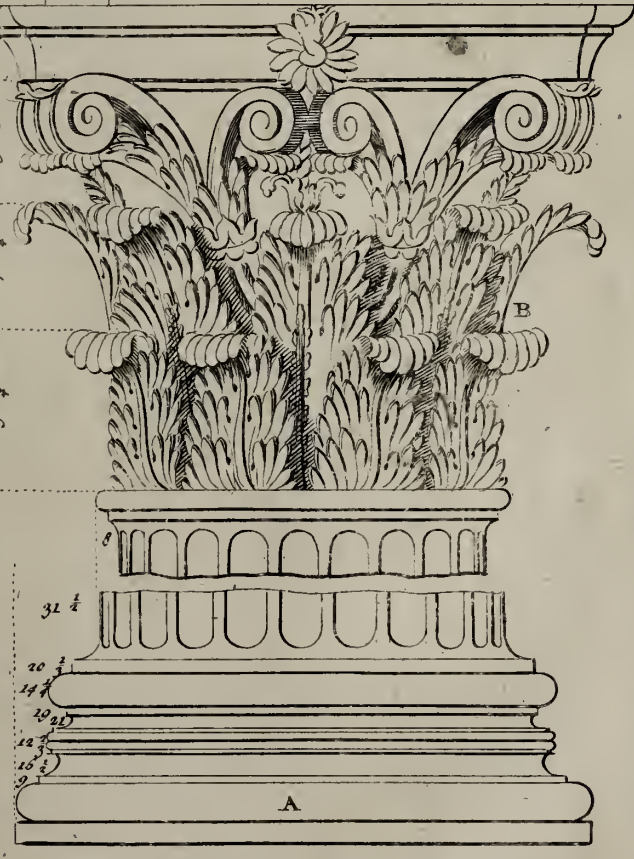
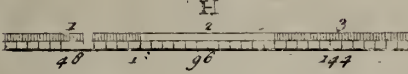
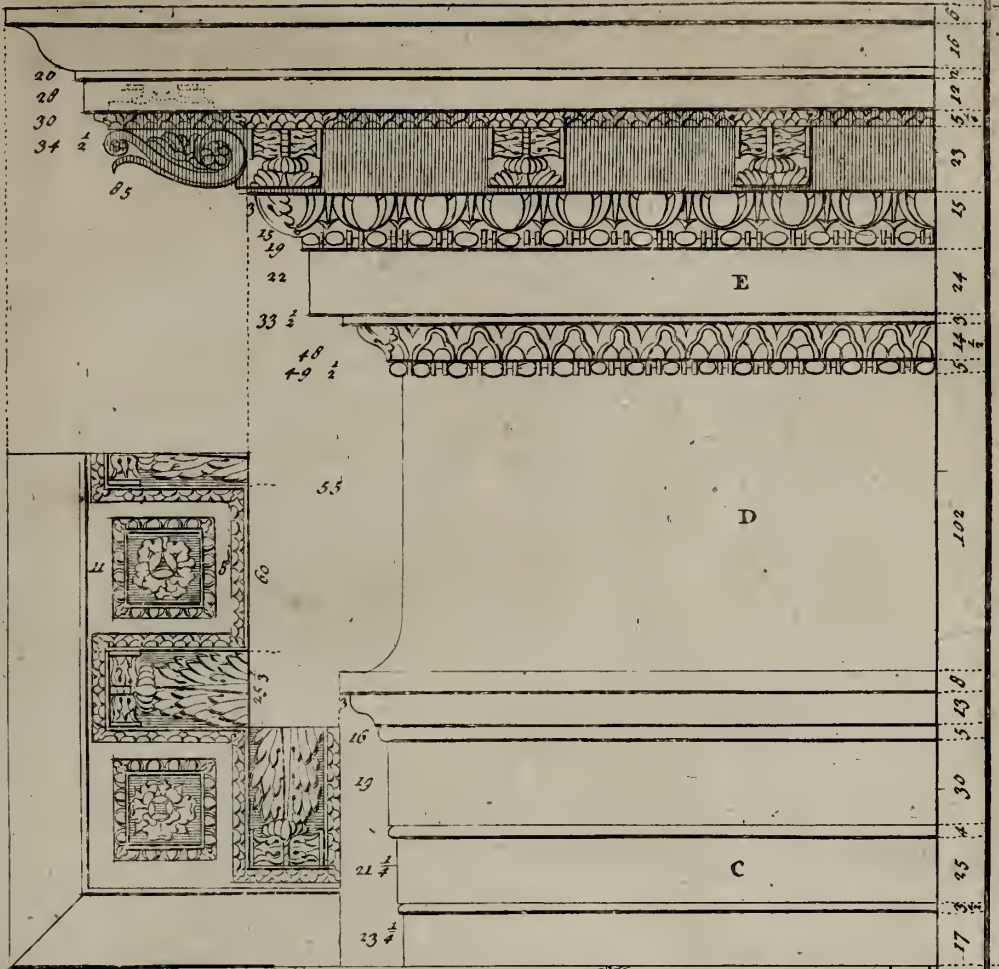
3-2 1/2

6-10 1/2

E. Hoppus Delin

B. Cole Sculp

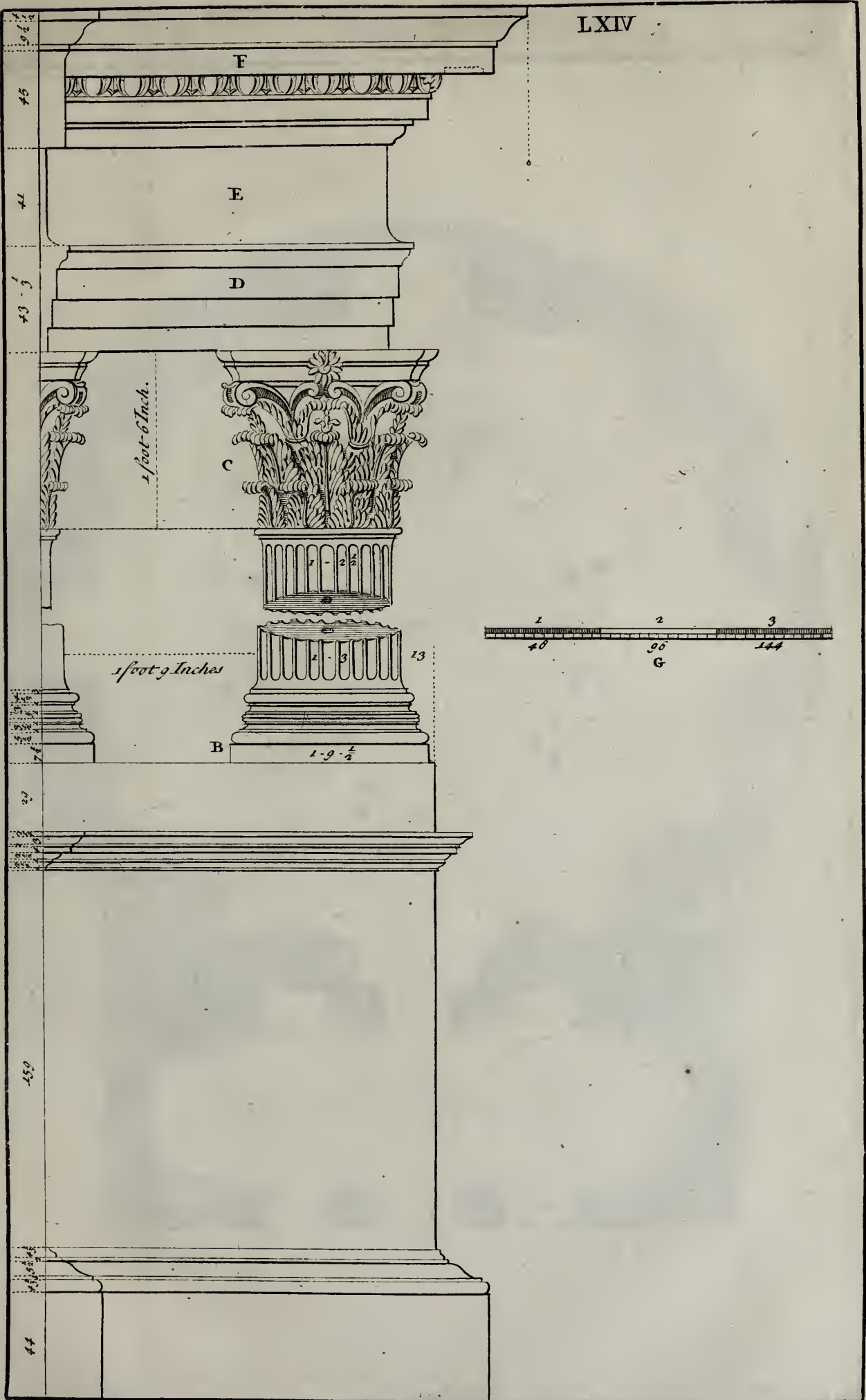
|    |    |    |    |    |    |
|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  |
| 7  | 8  | 9  | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 |



3 Foot 2 Inch 1/2

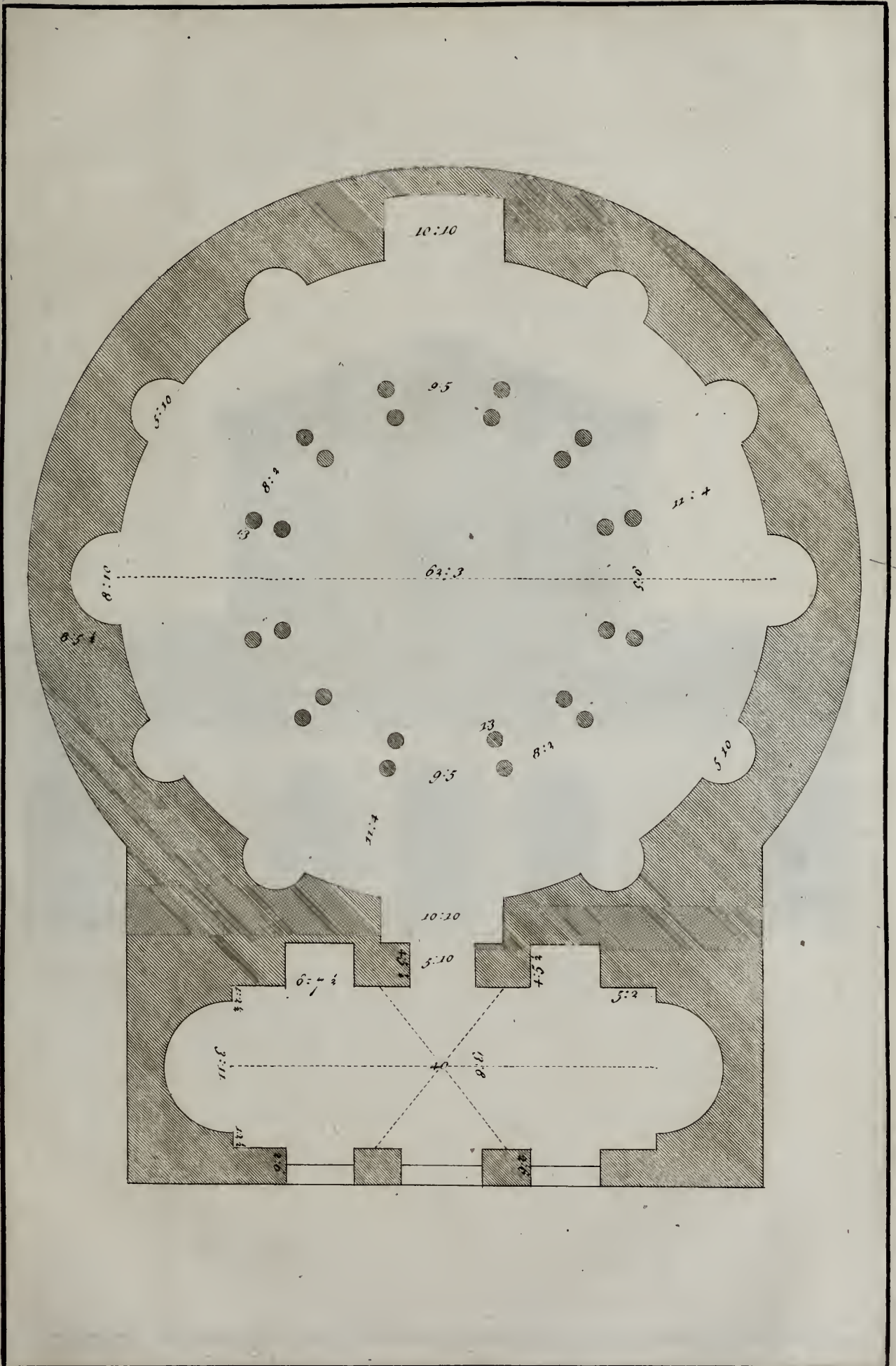
7 Foot 4 1/4

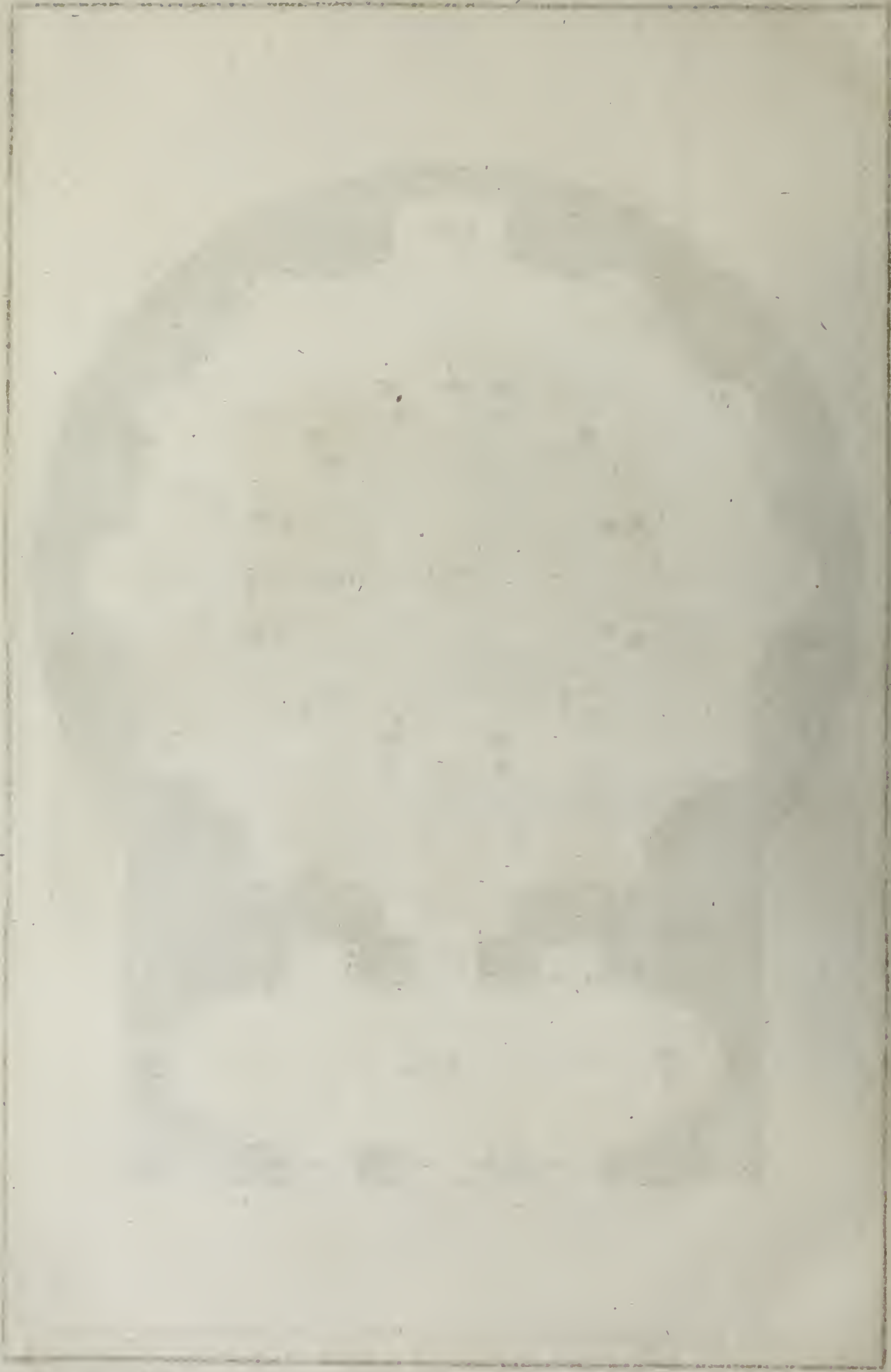


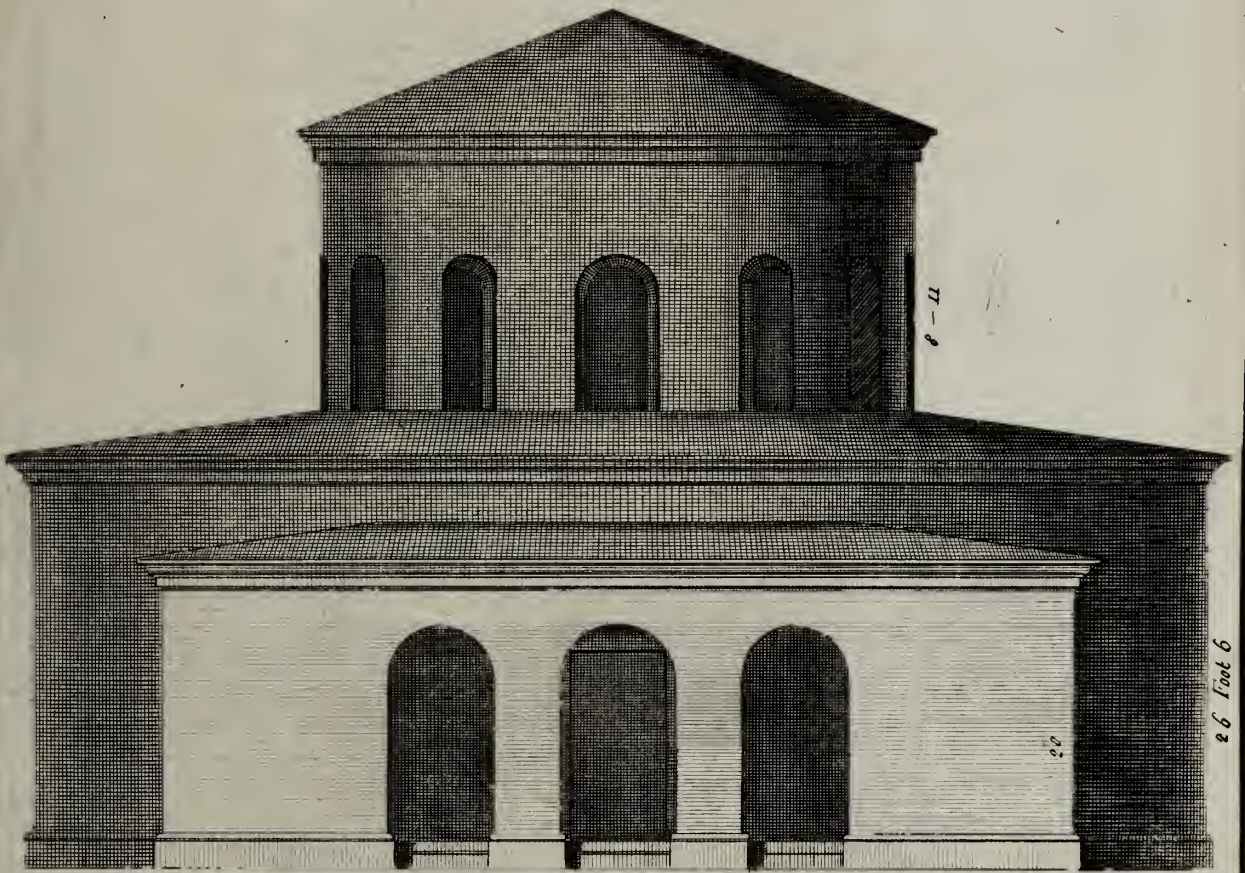




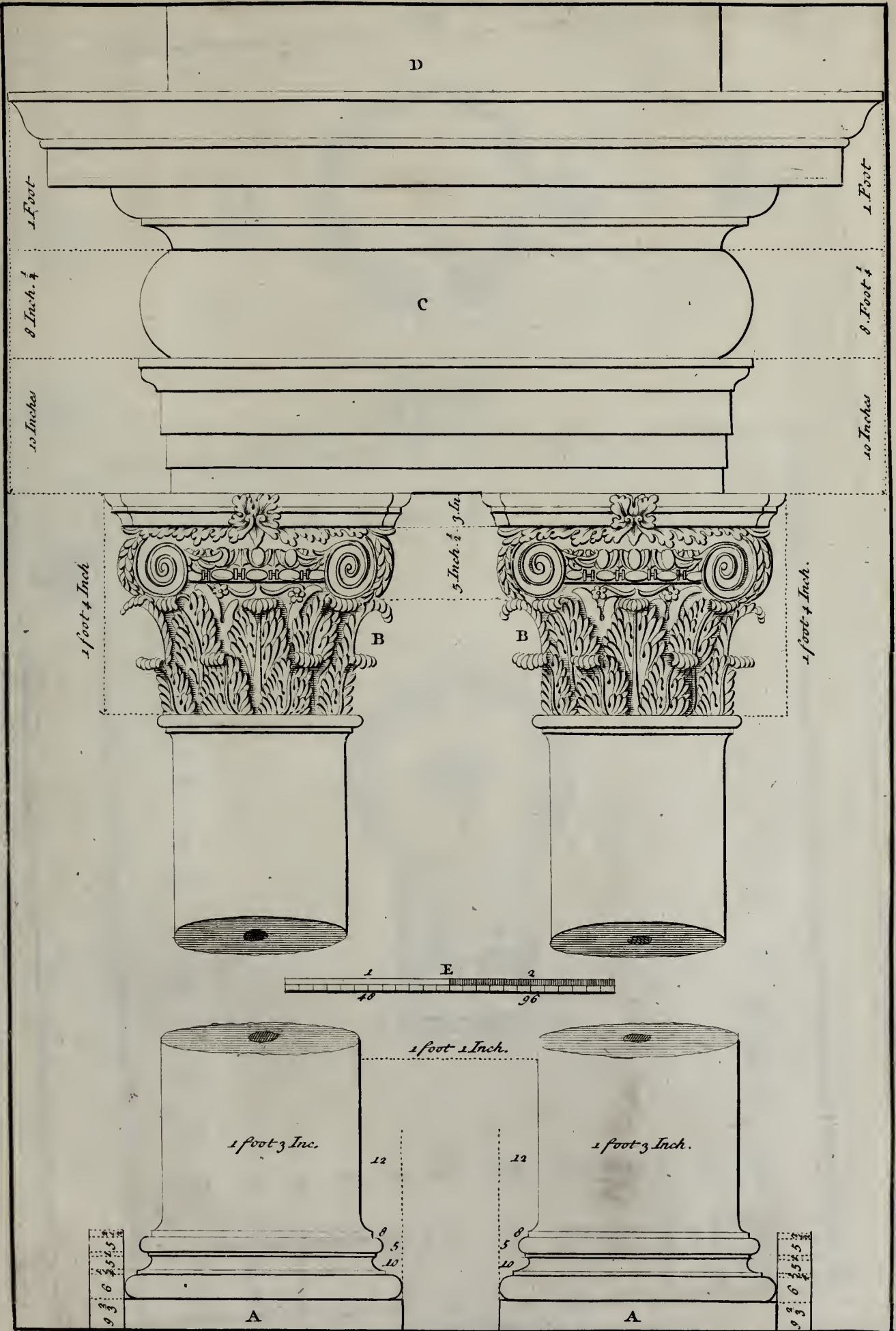




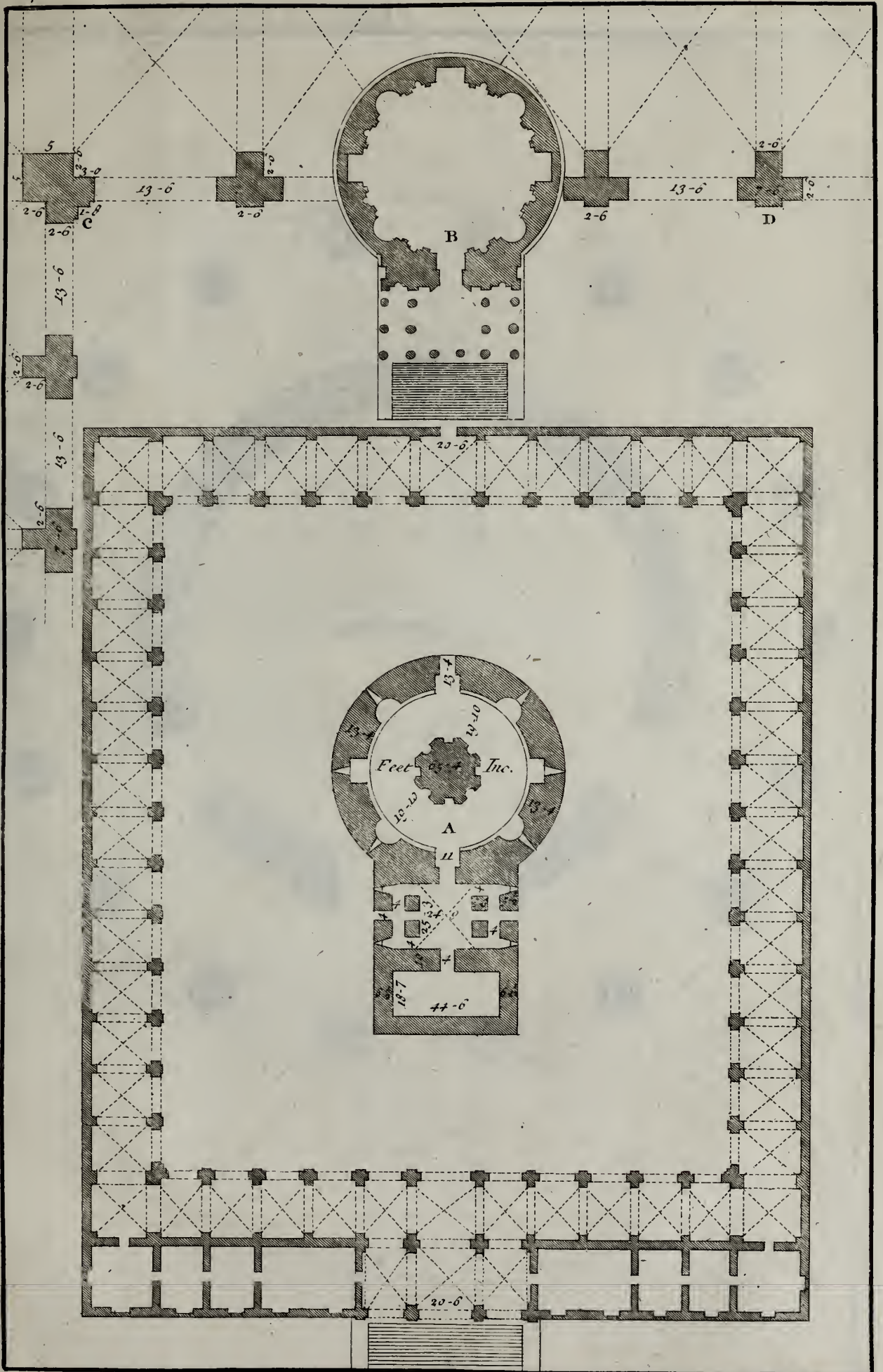


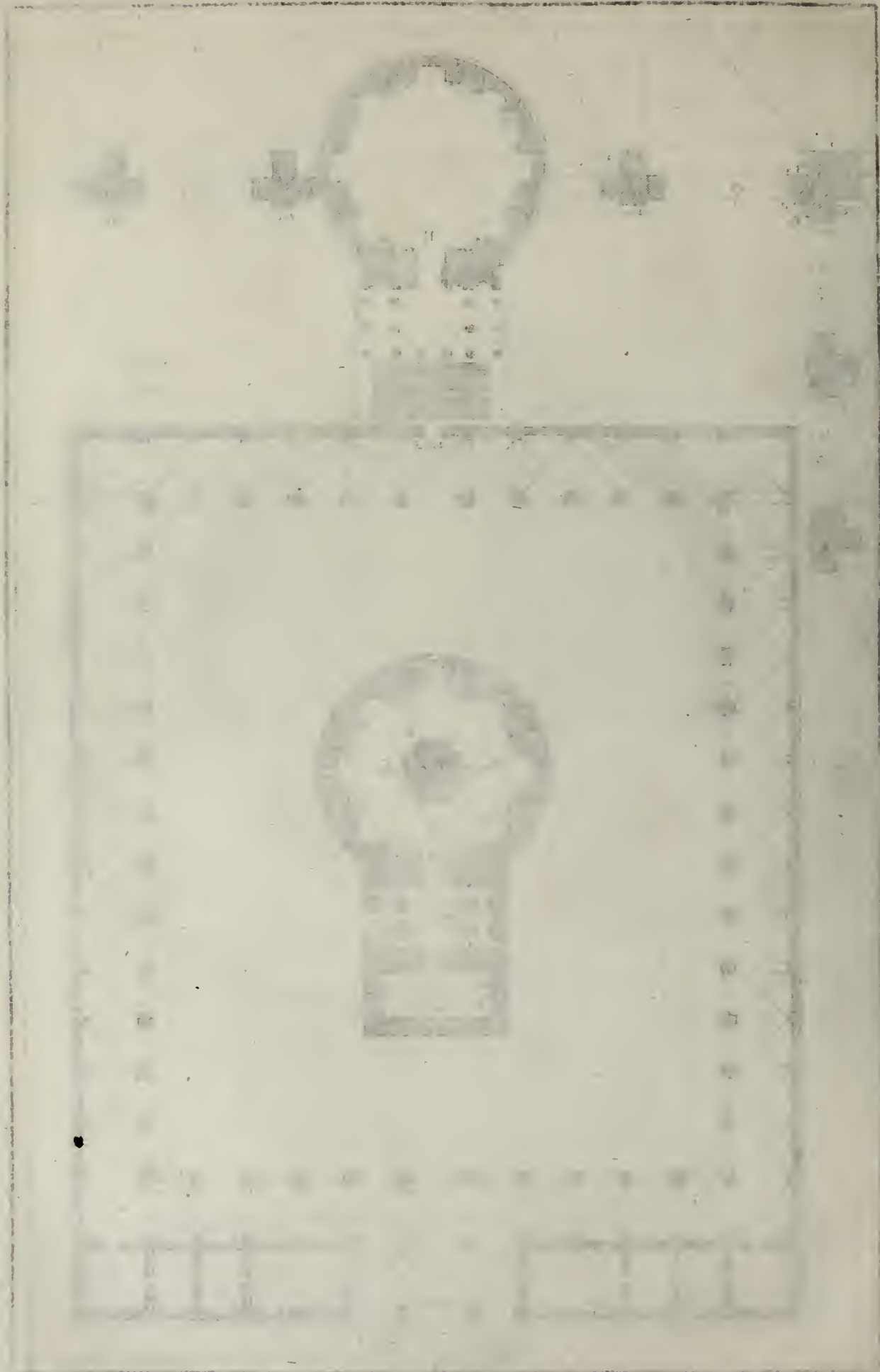




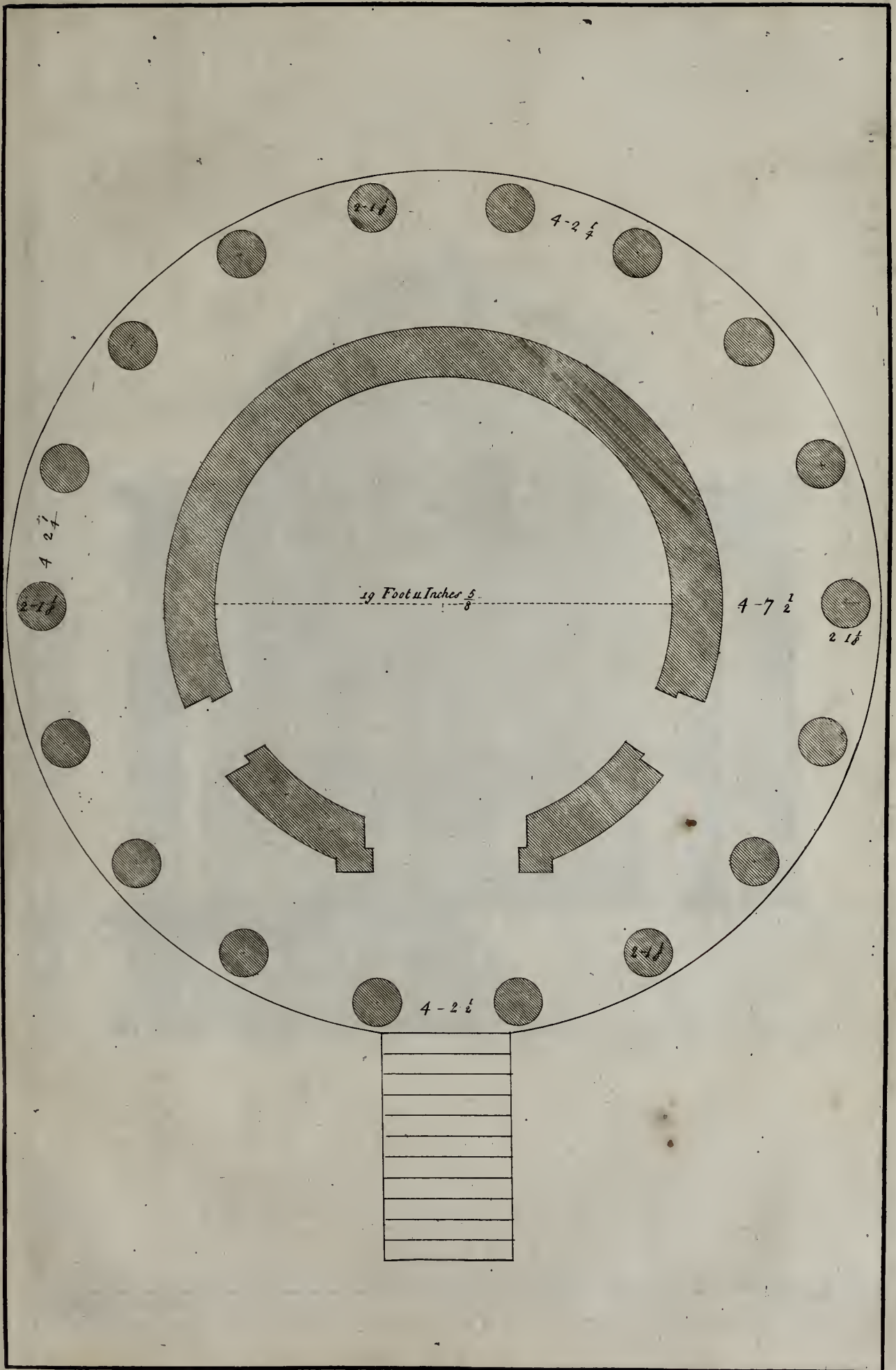




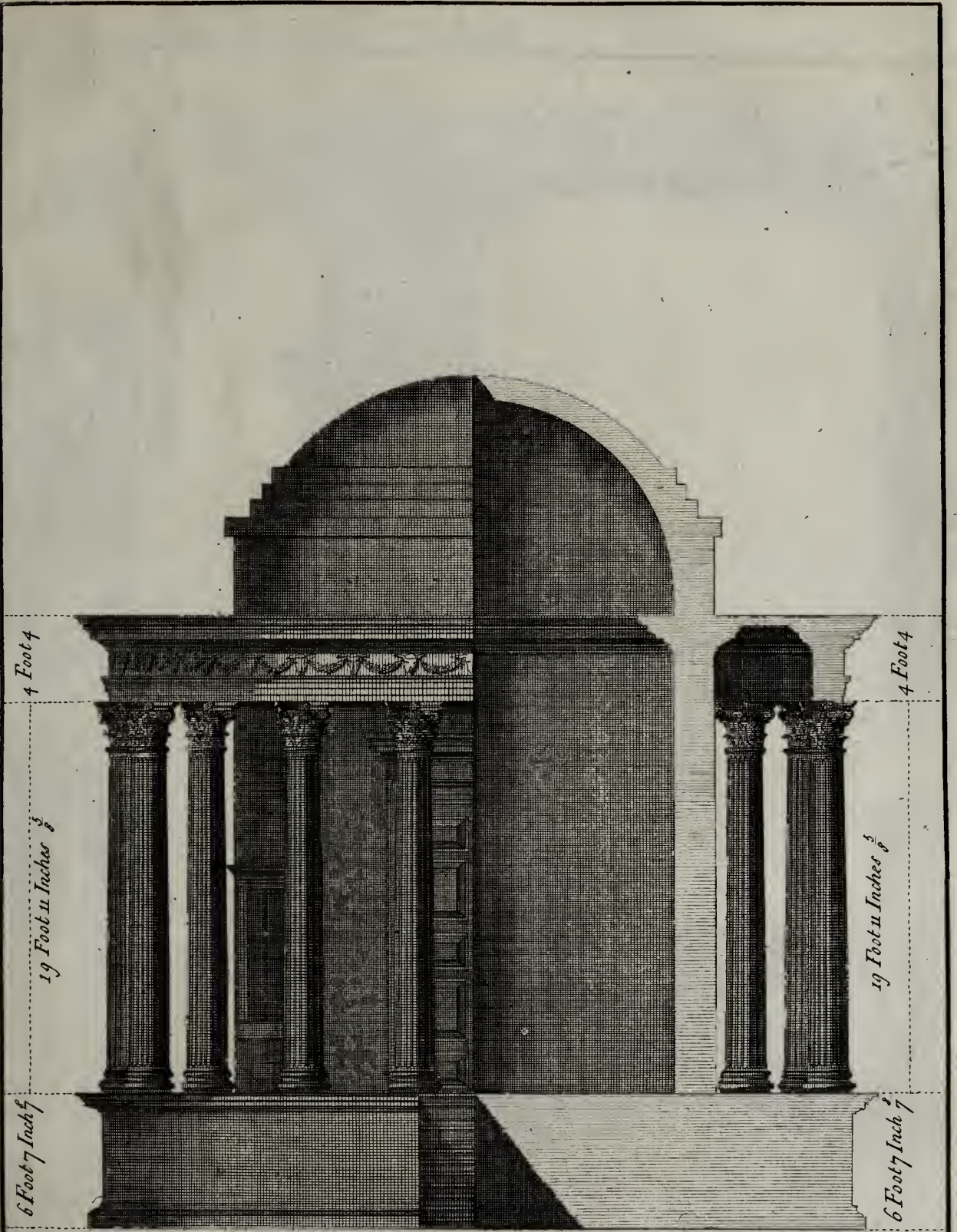






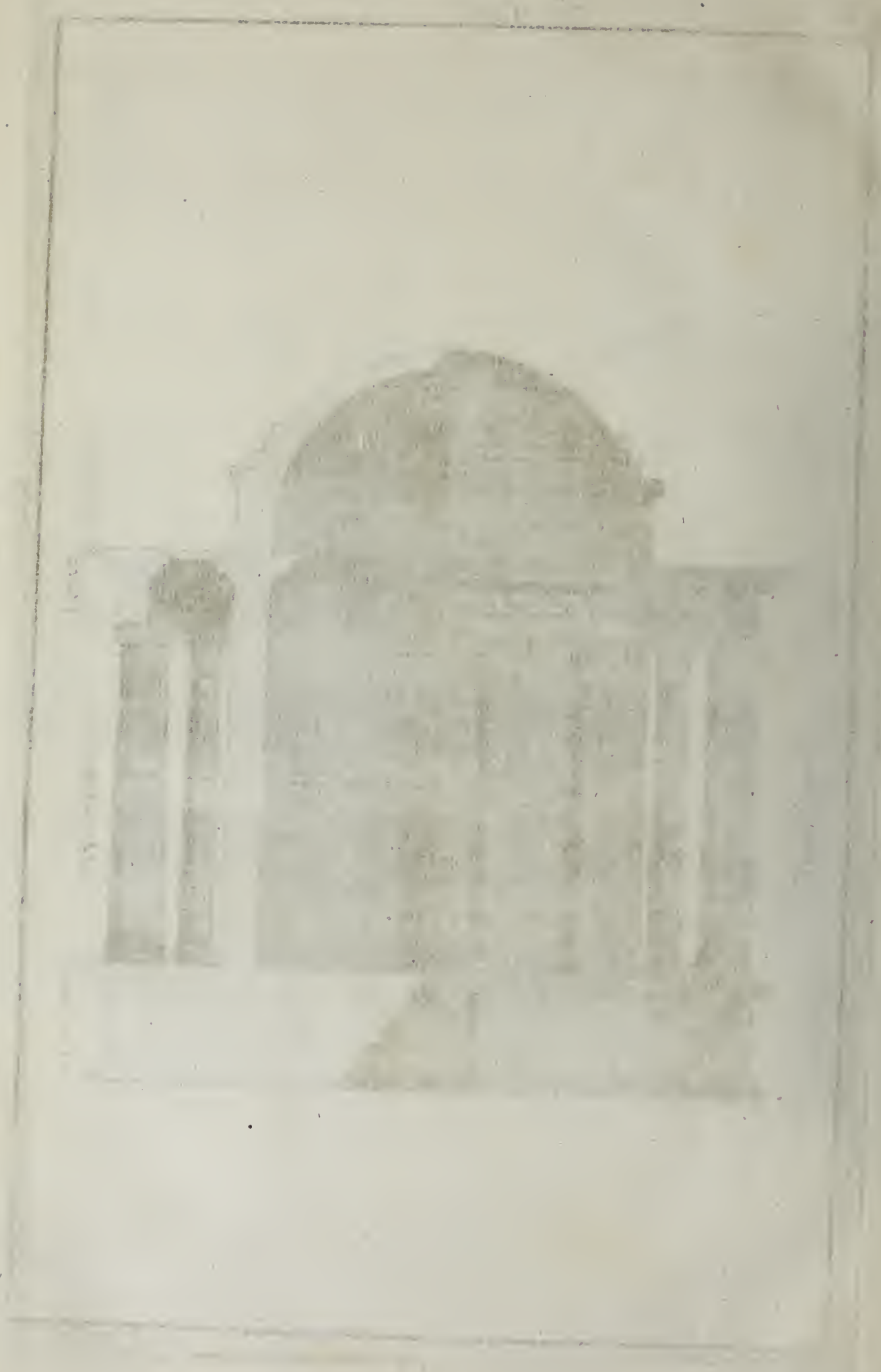






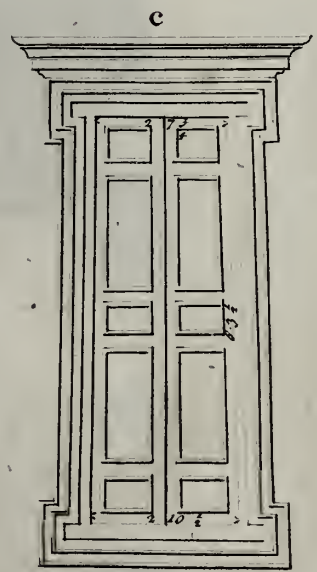
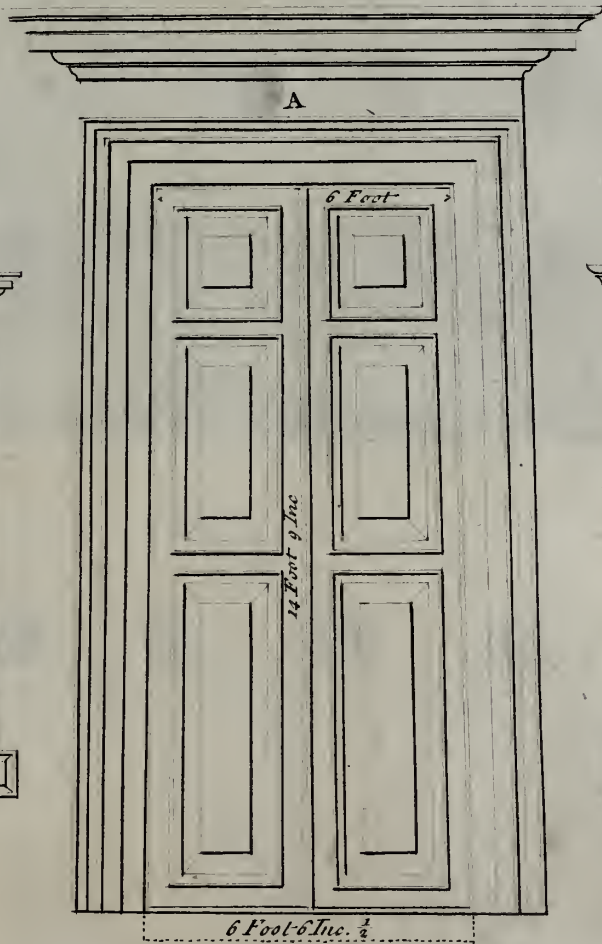
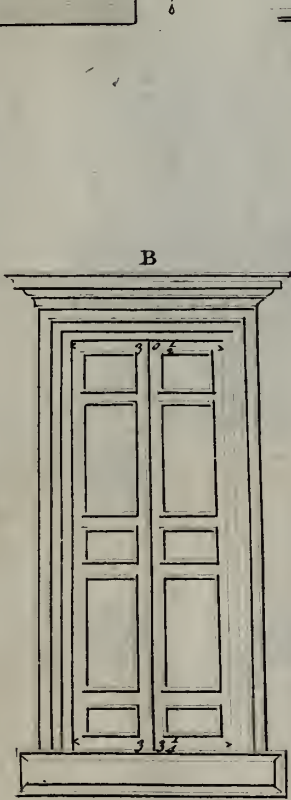
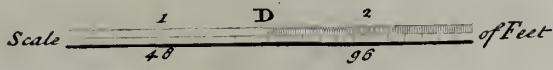
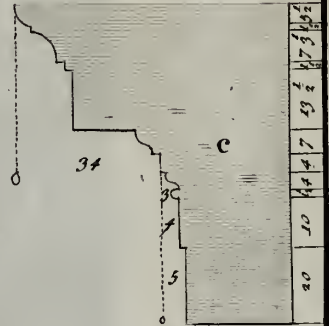
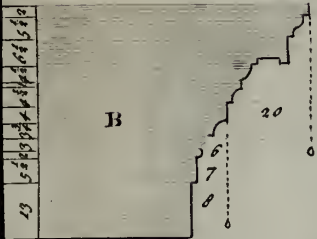
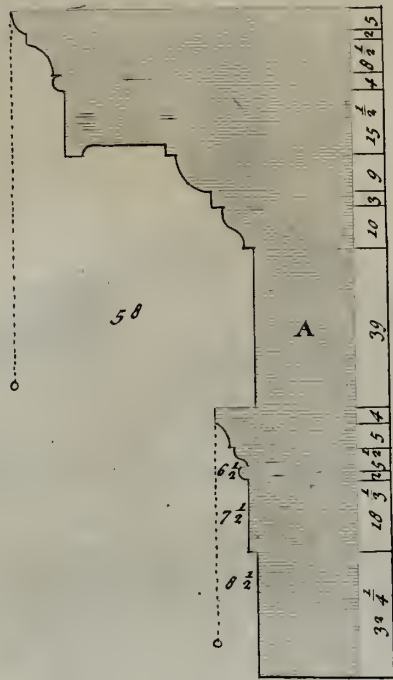
E. Hoppus Delin

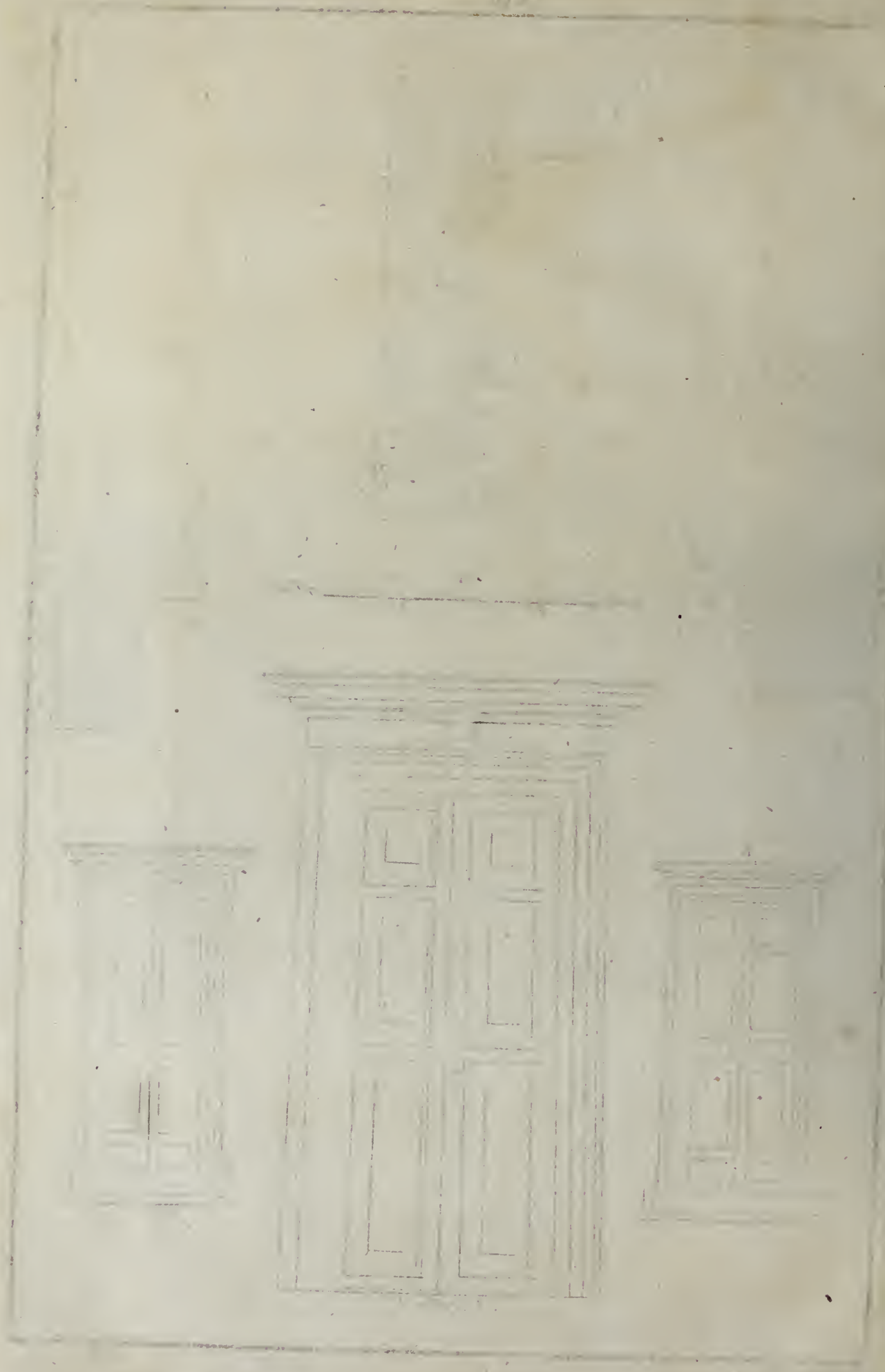
B. Cole Sculp





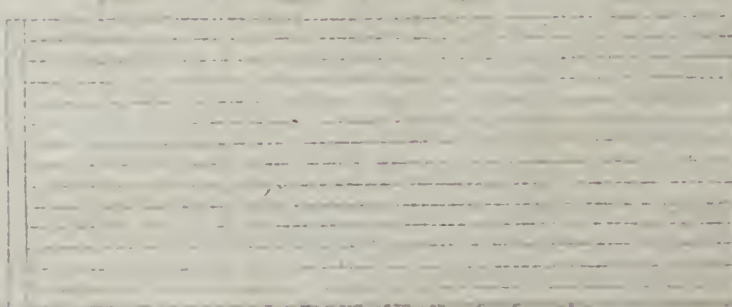


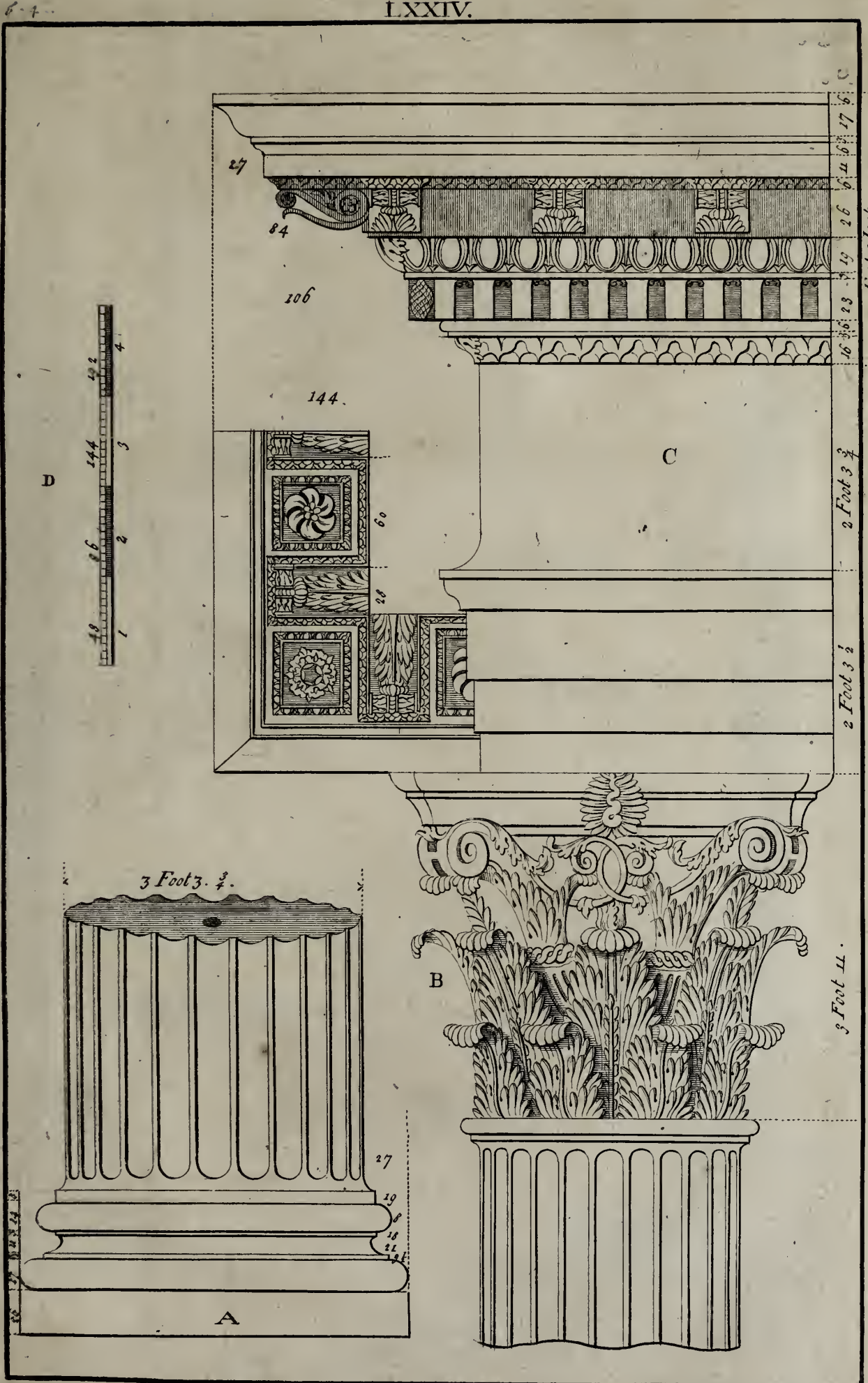












E Hoppur Delin

B Cole Sculp



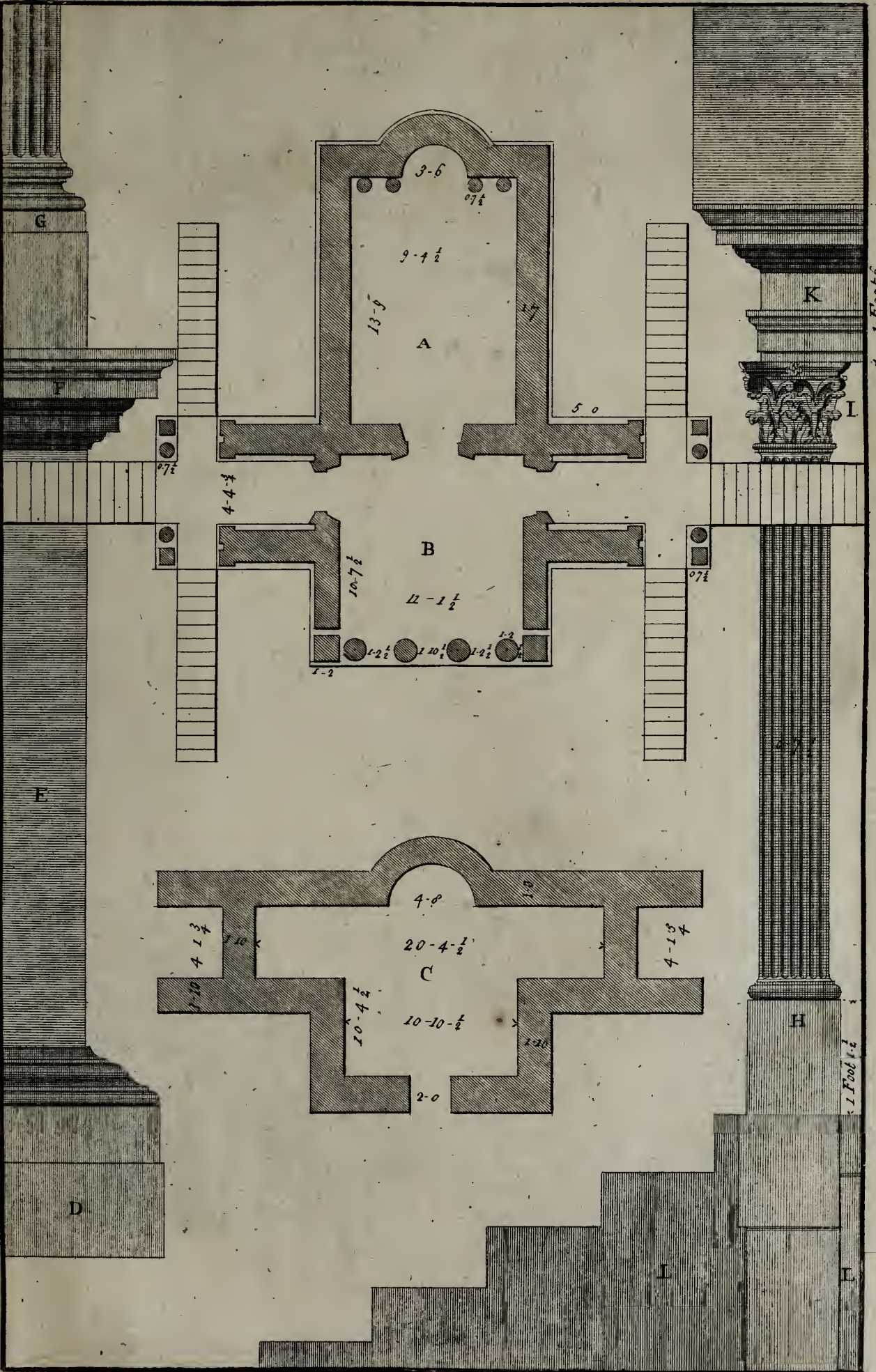
7 Inch  
1 Foot 1 1/2  
1 Foot 1

1 Foot 6  
1 Foot 1 1/2

5 Foot 4 1/4

11 Inches  
1 Foot 1 1/2

1 Foot 1 1/2



E Hoppus Delin

B Cole Sculp





9-7

6

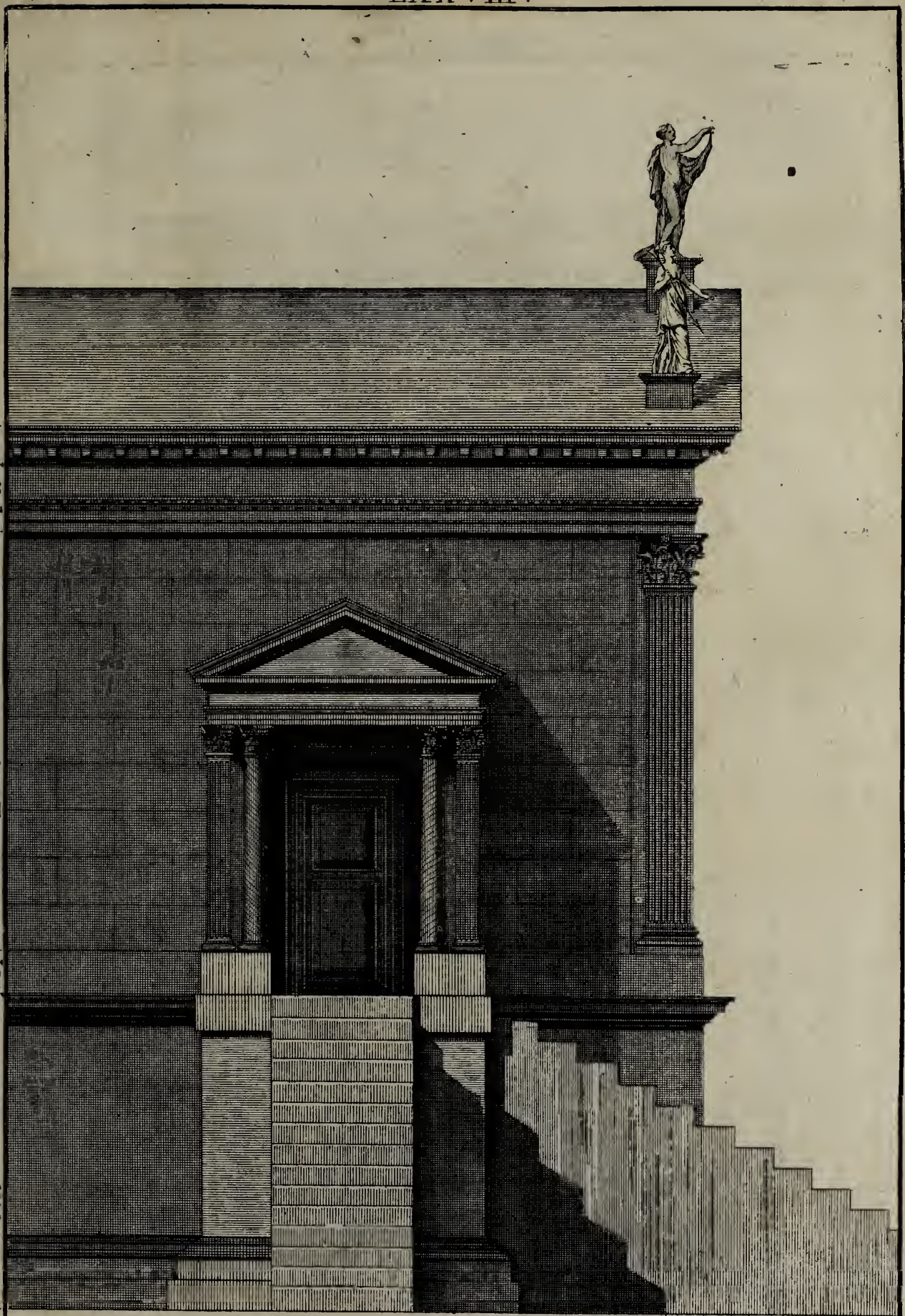
117

2-6





0.4.

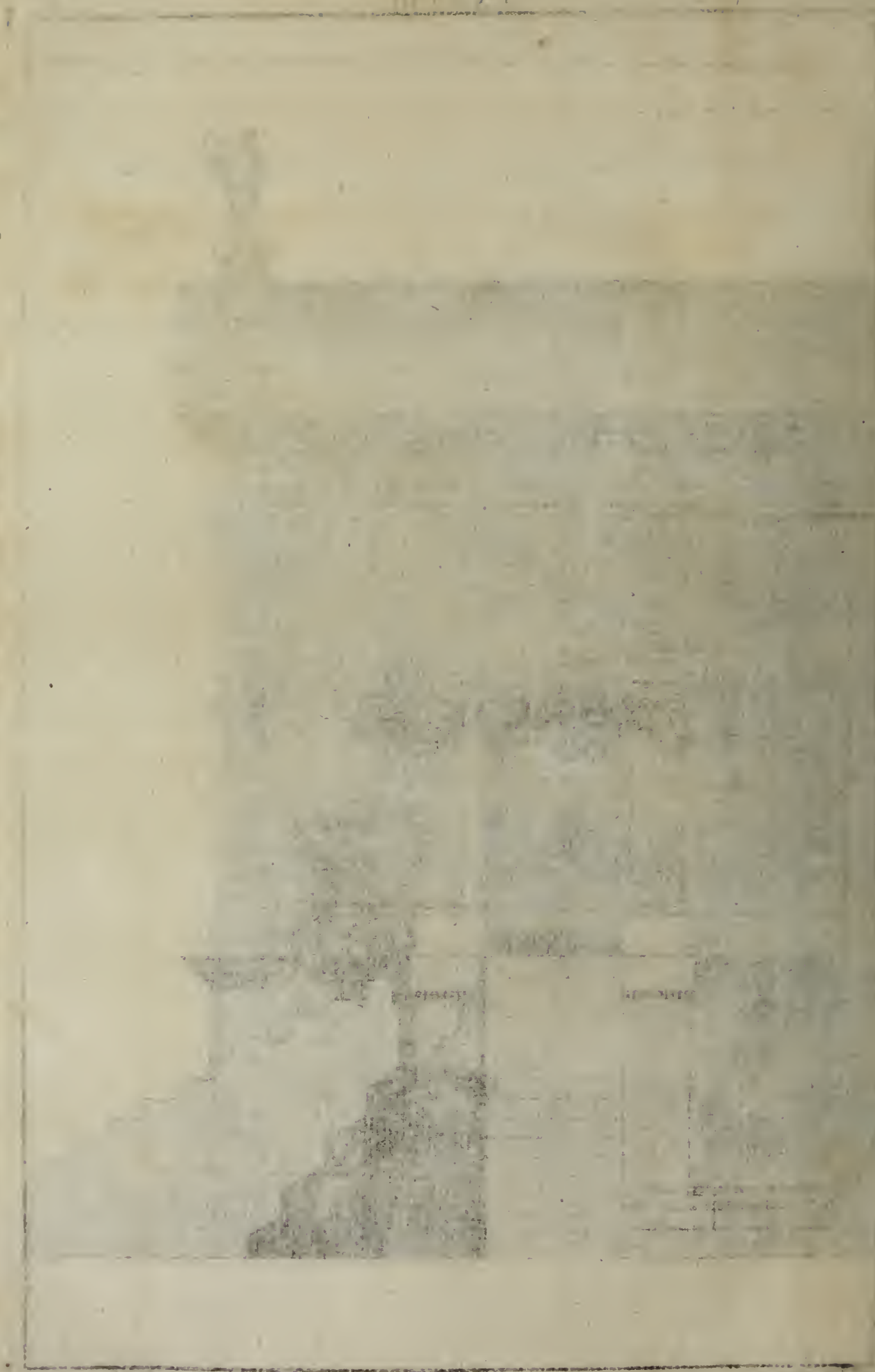


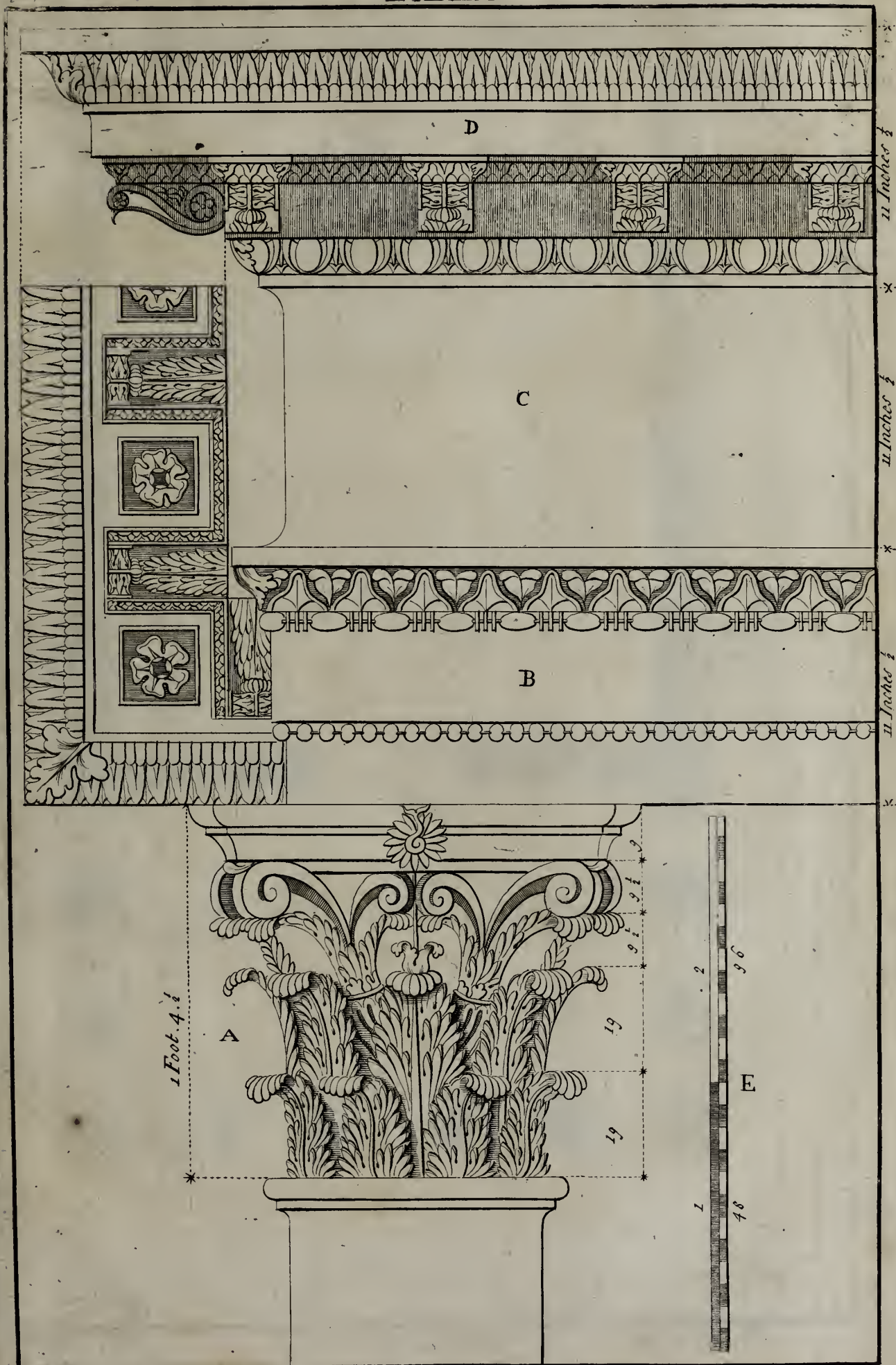
\* 2-10-1/2

11 Foot

1-1-1/2

8 Foot 6





D

C

B

A

1 Foot 4 1/2

19

19

9 1/2

2

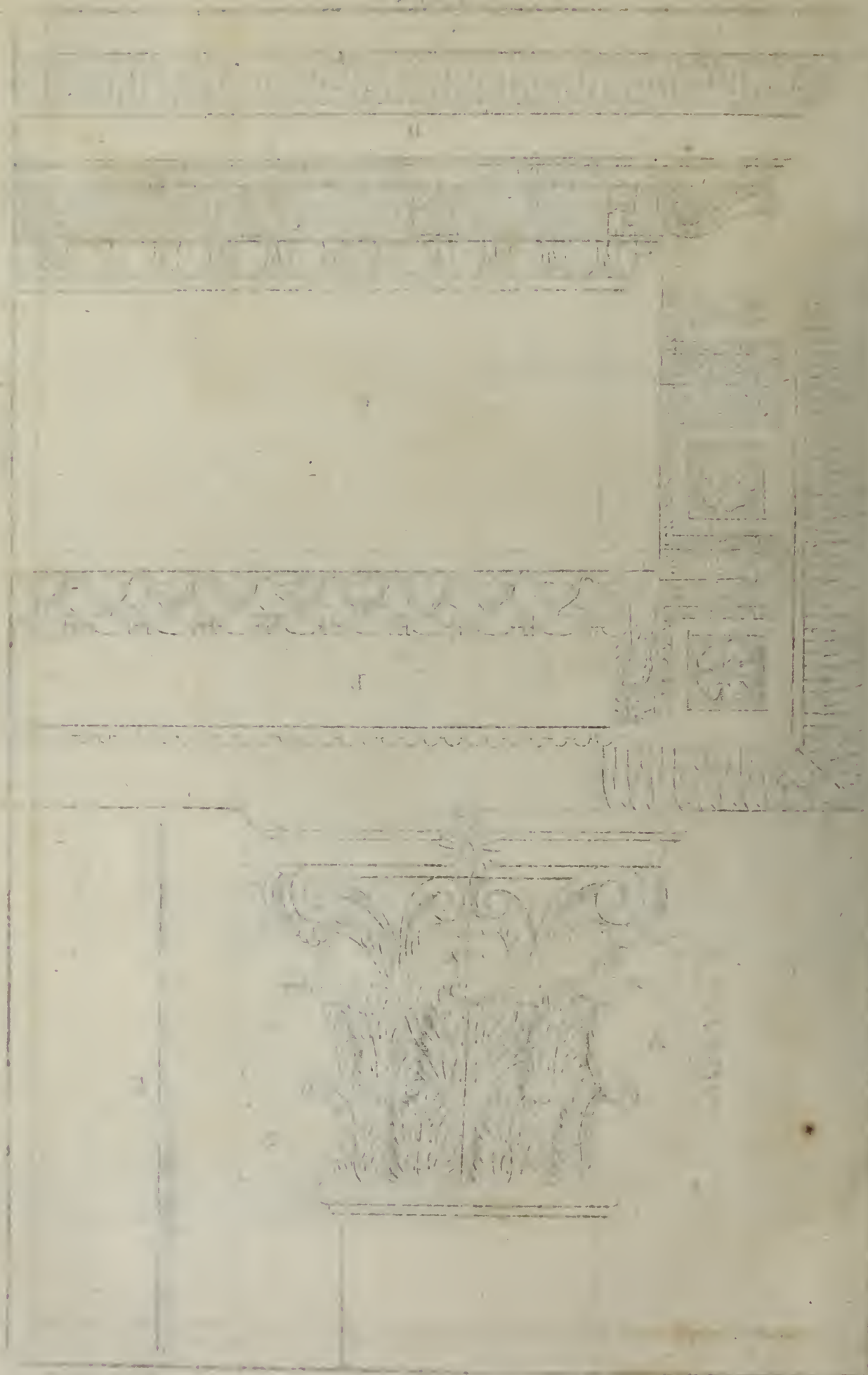
96

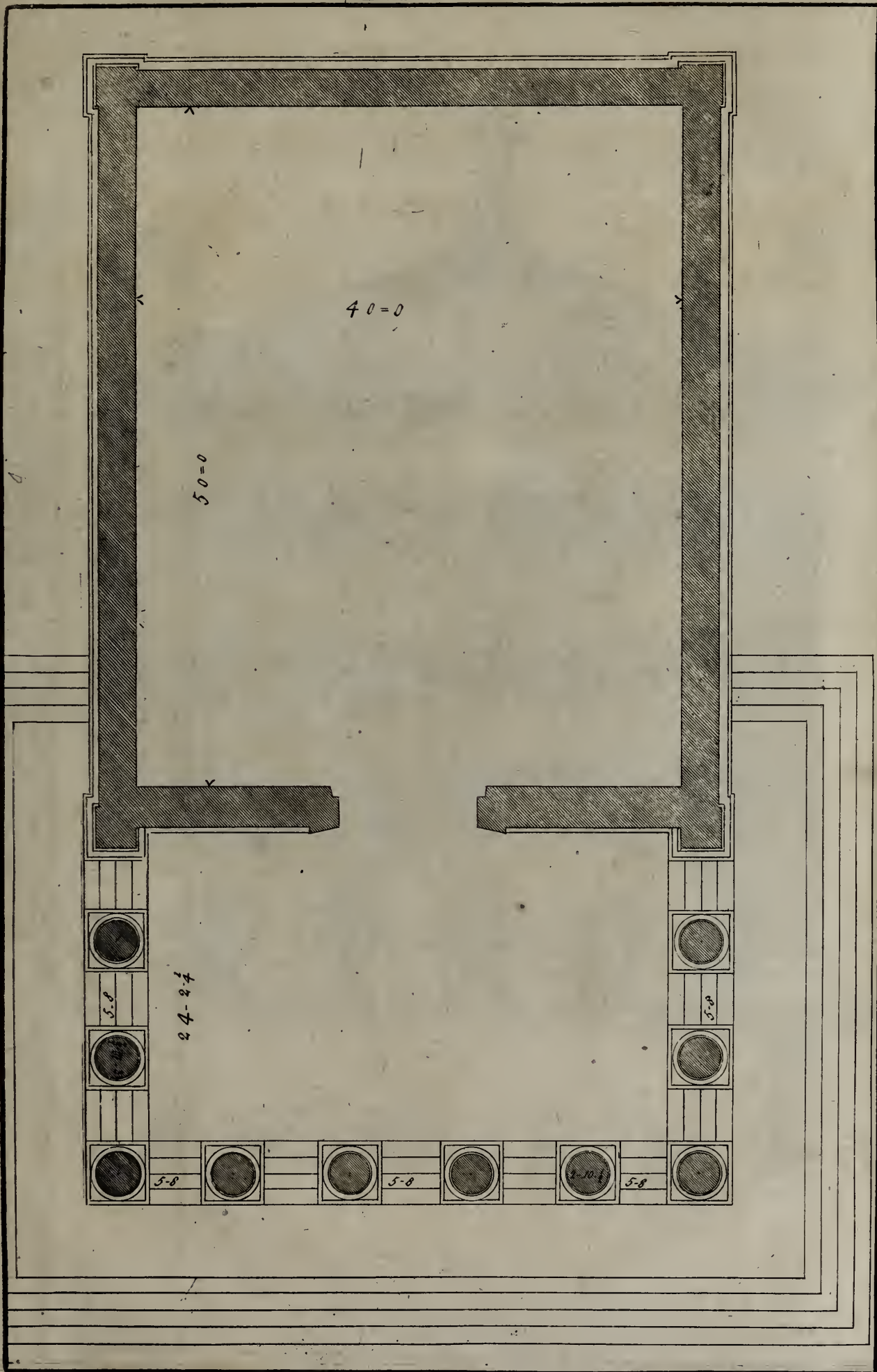
E

1

48

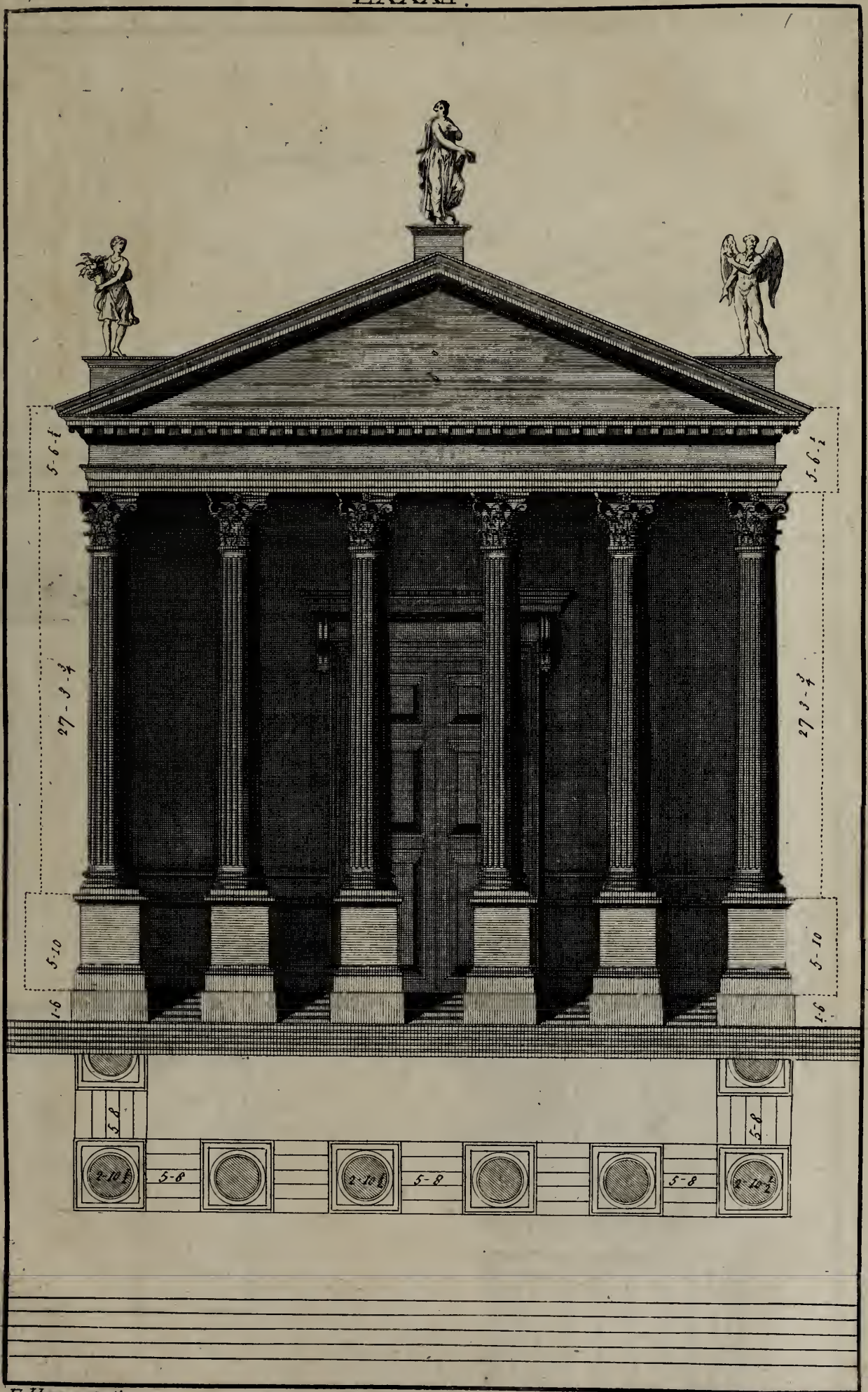
1/2 Inches  
1/2 Inches  
1/2 Inches  
1/2 Inches







64

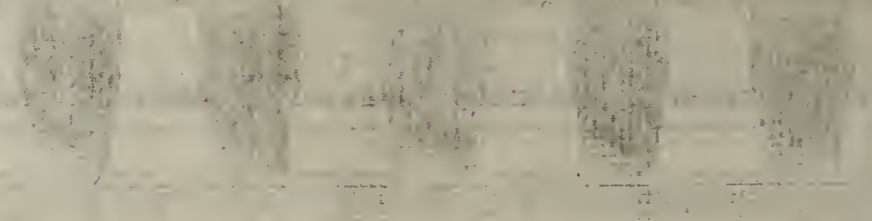


E. Hopper Delin.

B. Cole Sculp.



*[Faint, illegible text, possibly bleed-through from the reverse side of the page.]*





1 Foot 5 1/4

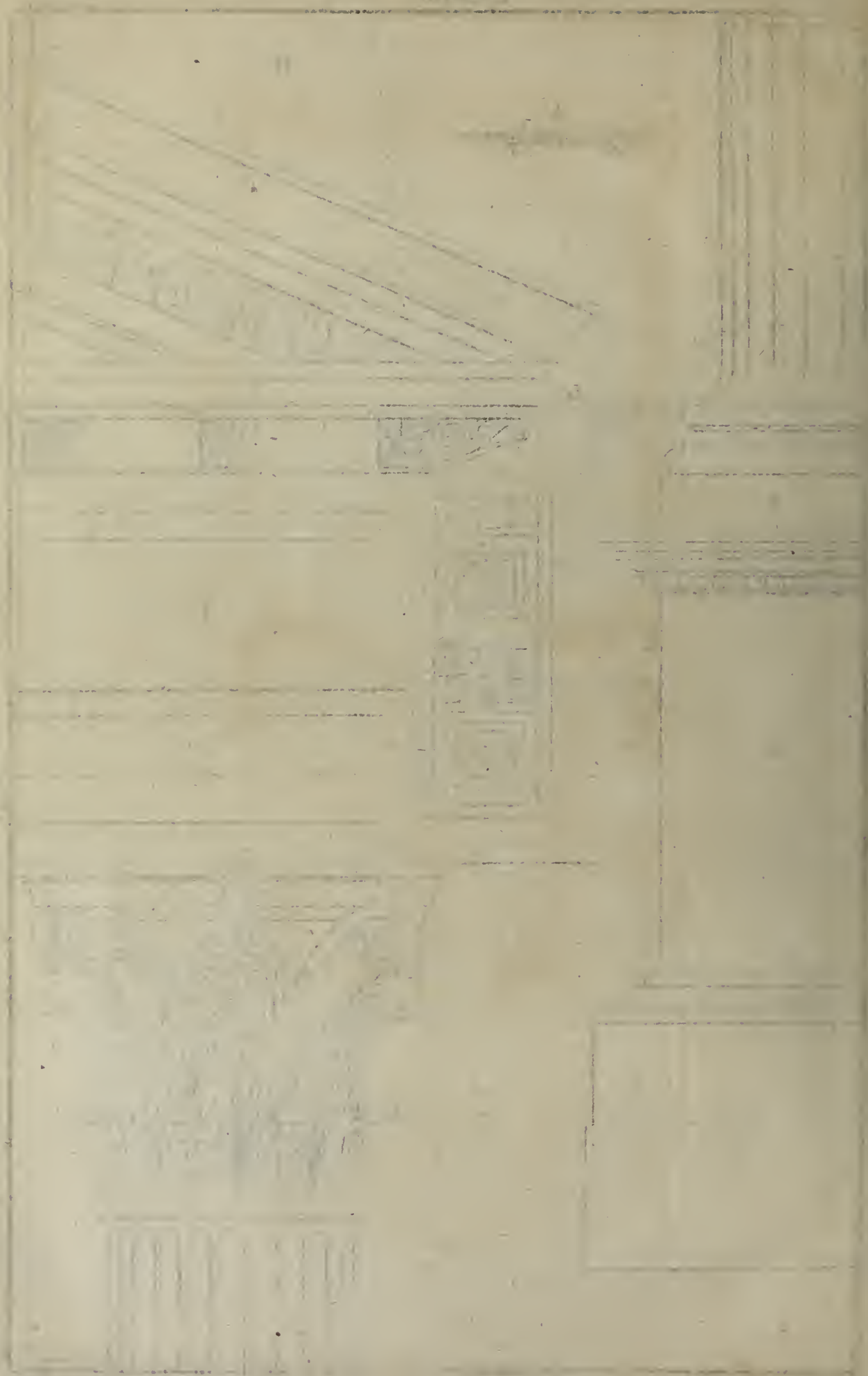
64

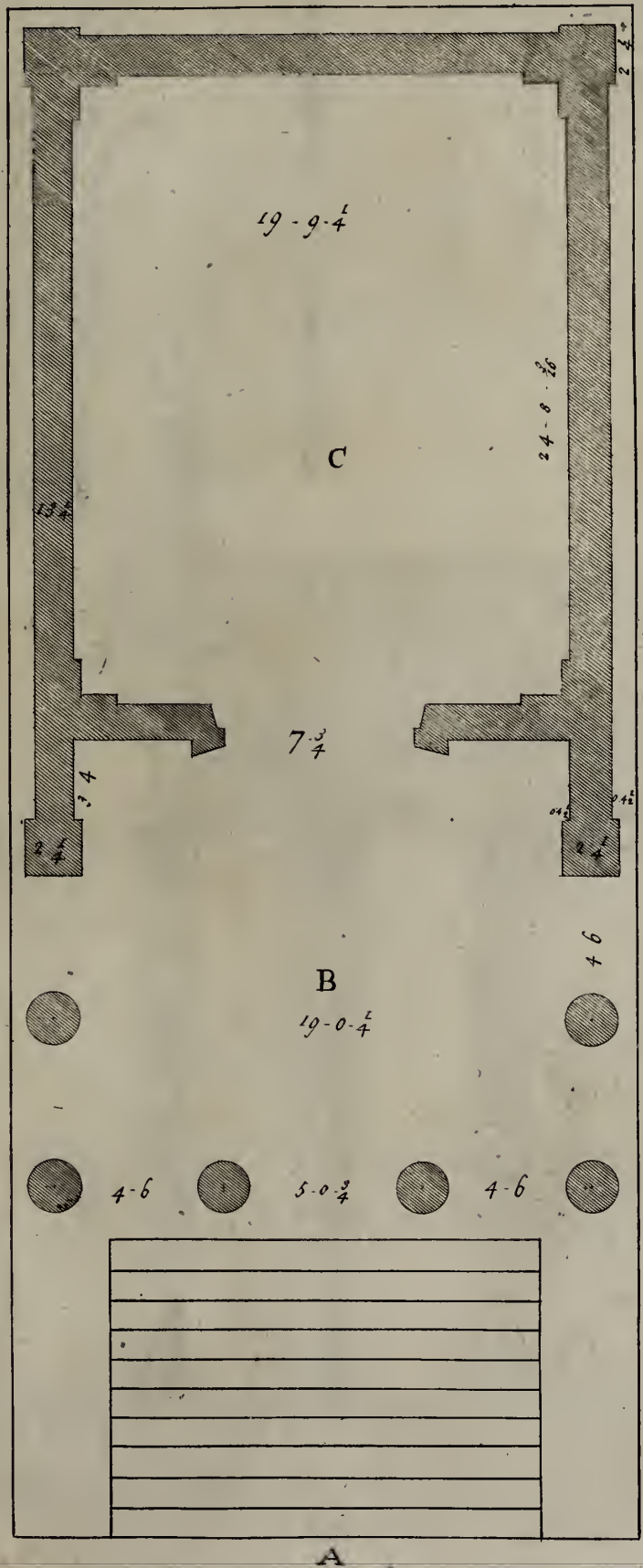


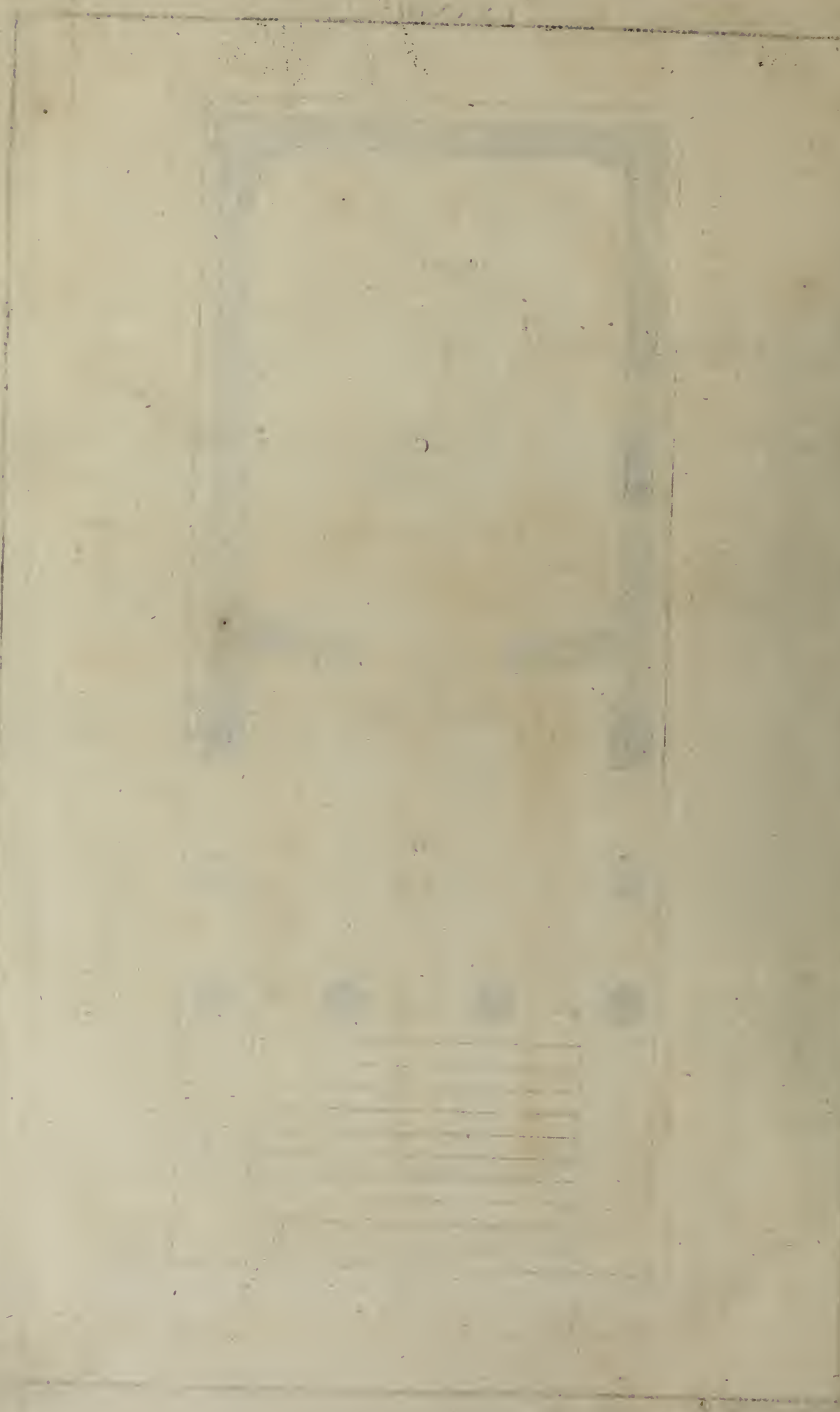
E Hopper Delin

2 Foot 5 1/2

B Cole Sculp







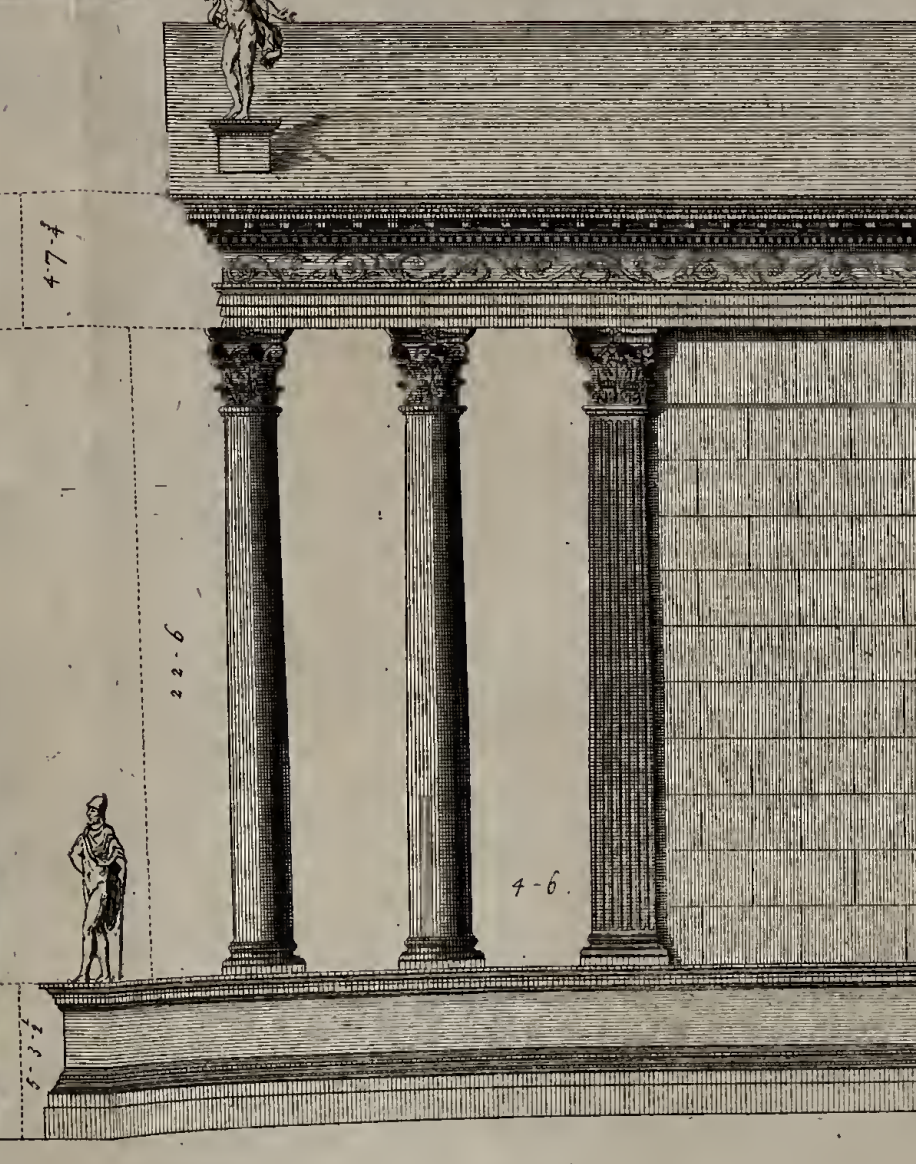
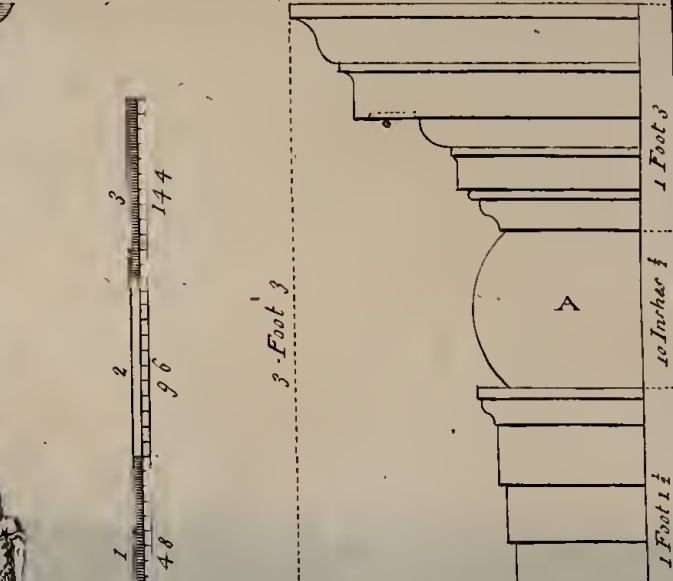
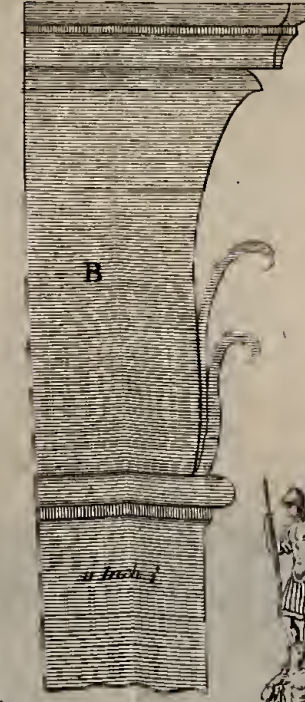
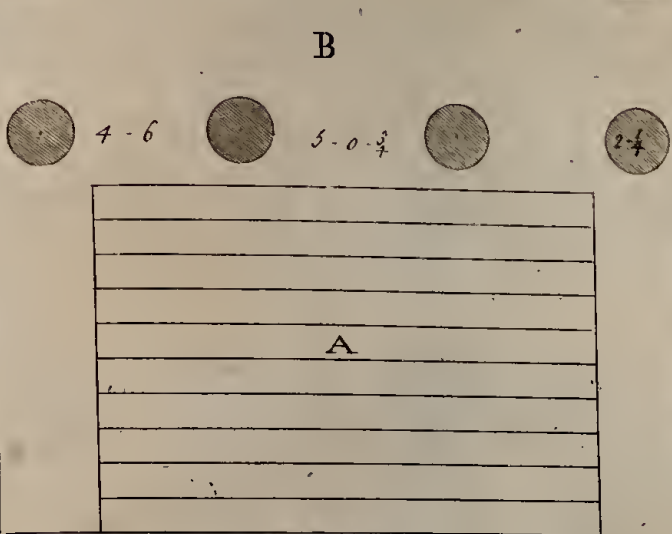
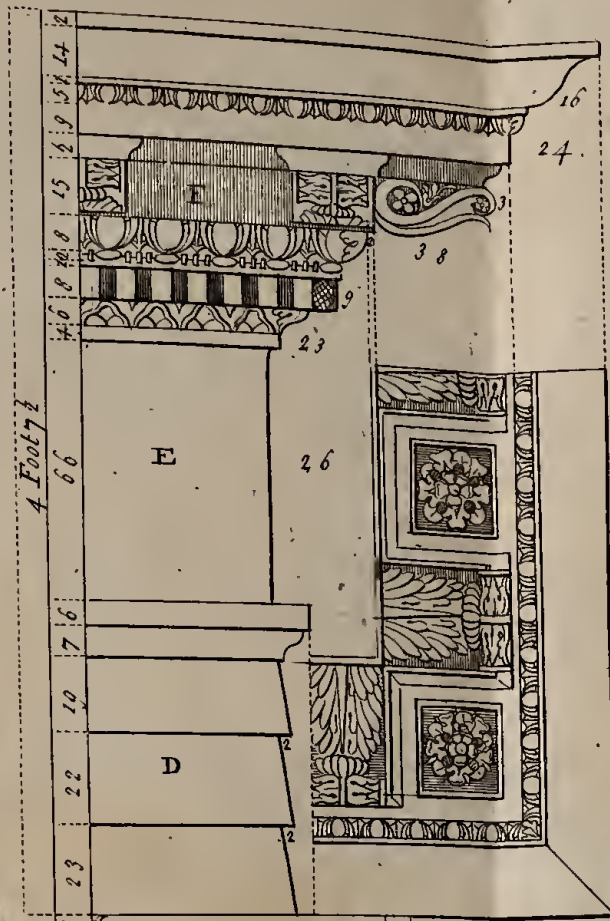
1 Foot 1 1/2

12 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

1 Foot 11

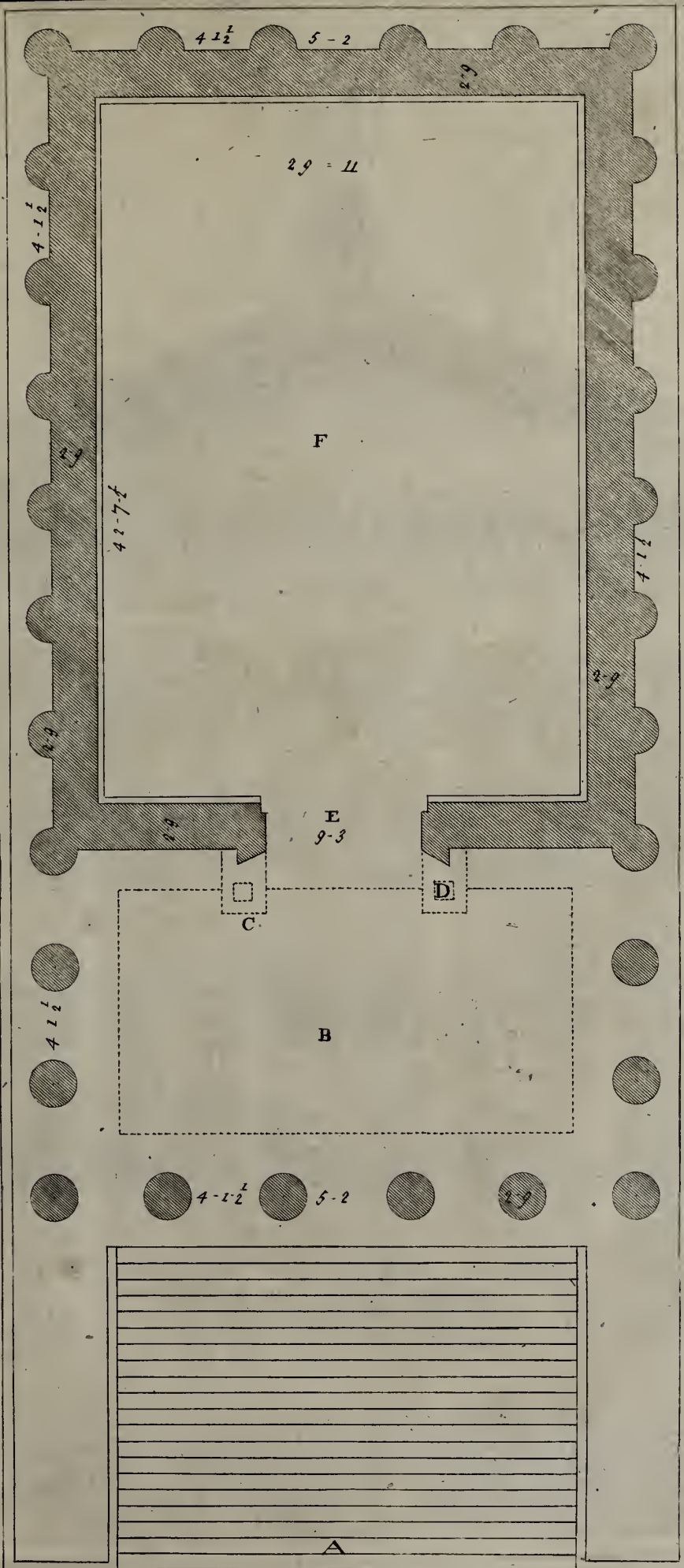
10 Inches

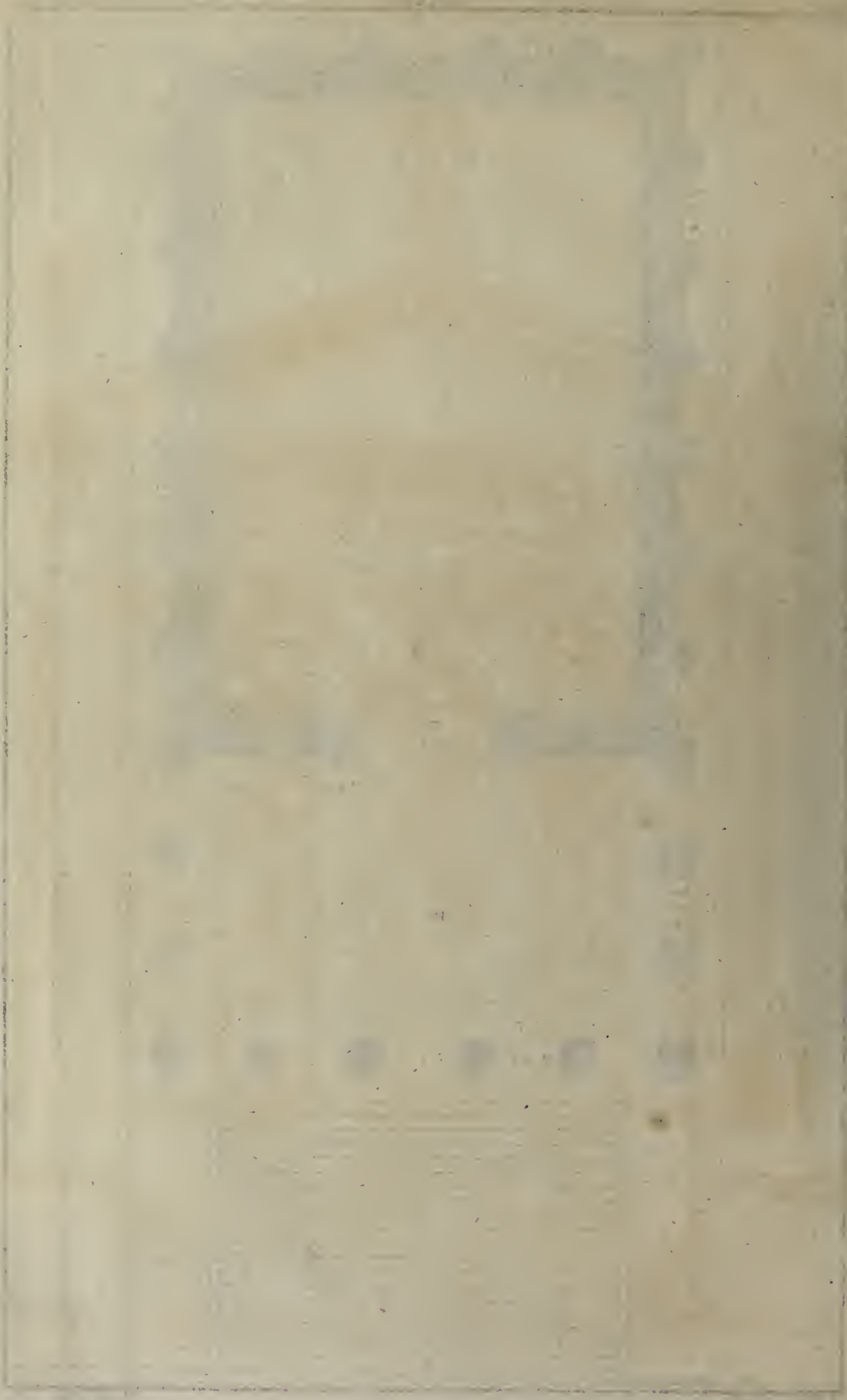
1 Foot 3



B Cete Sulp











2 Module  $\frac{1}{2}$

10 Module

10 - 5





2. Modul

6. 01 - 9

10. Modul

27 - 6

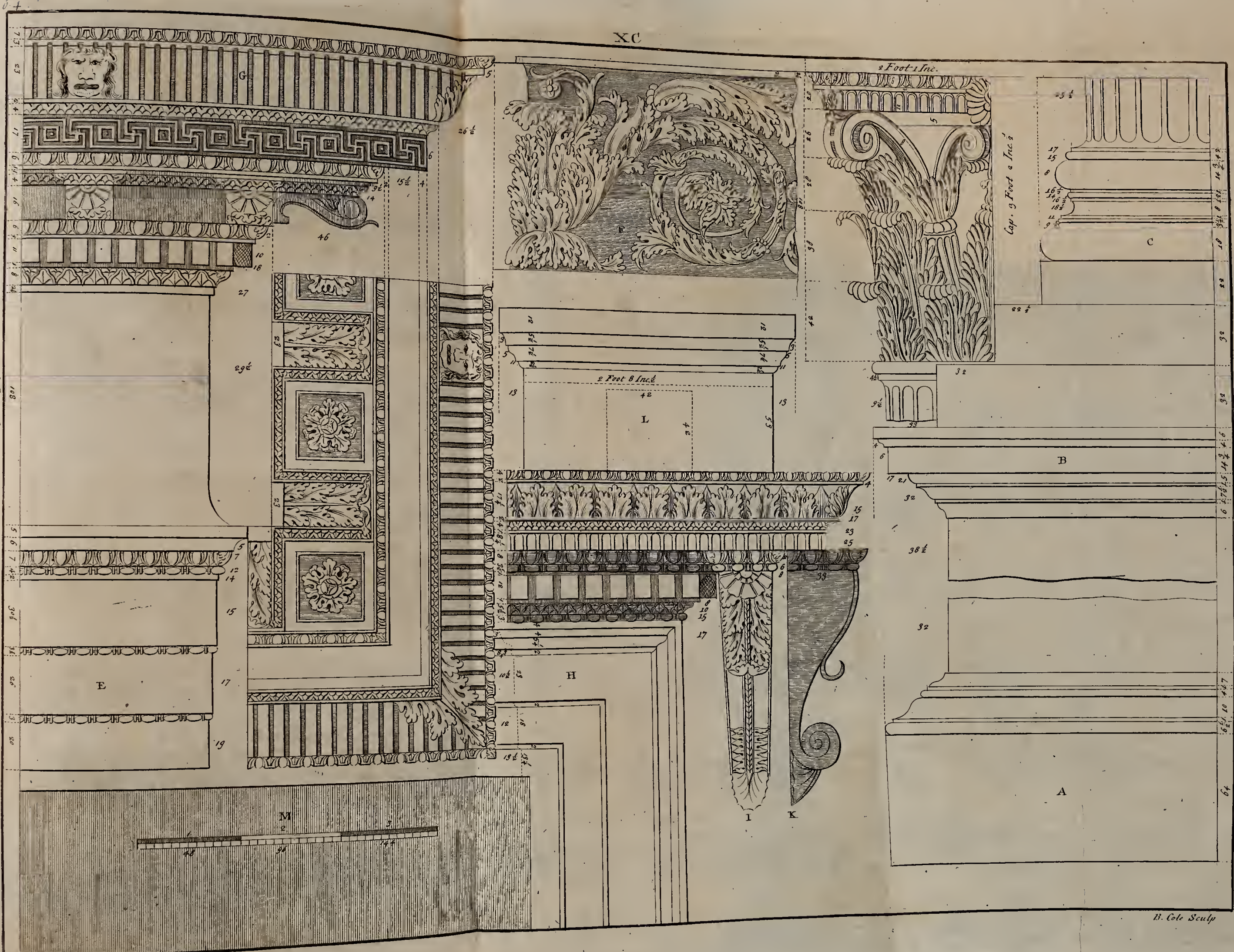
4 - L - 2

10 - 5

E. Hoppus Delin

B. Cole. Sculp.



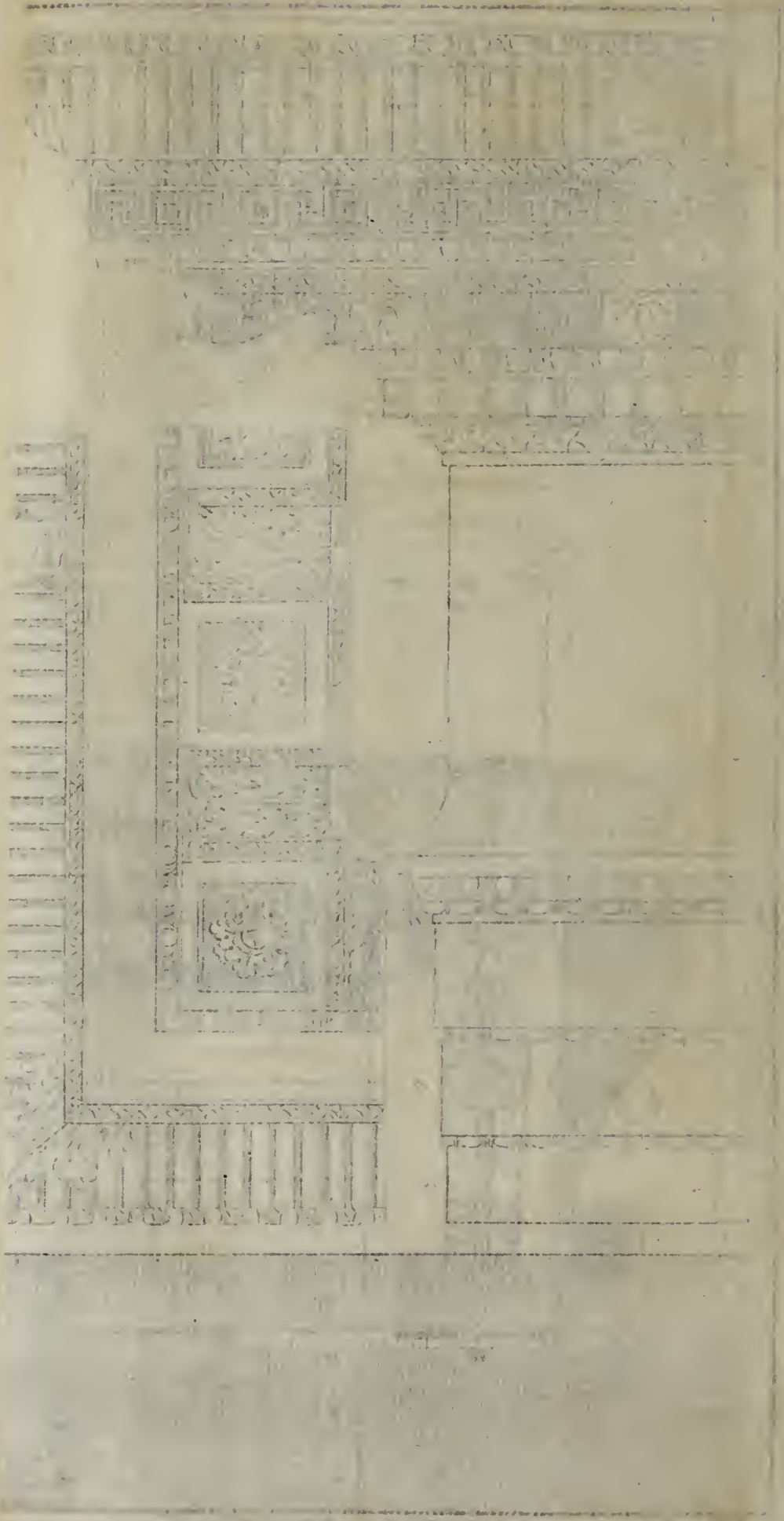


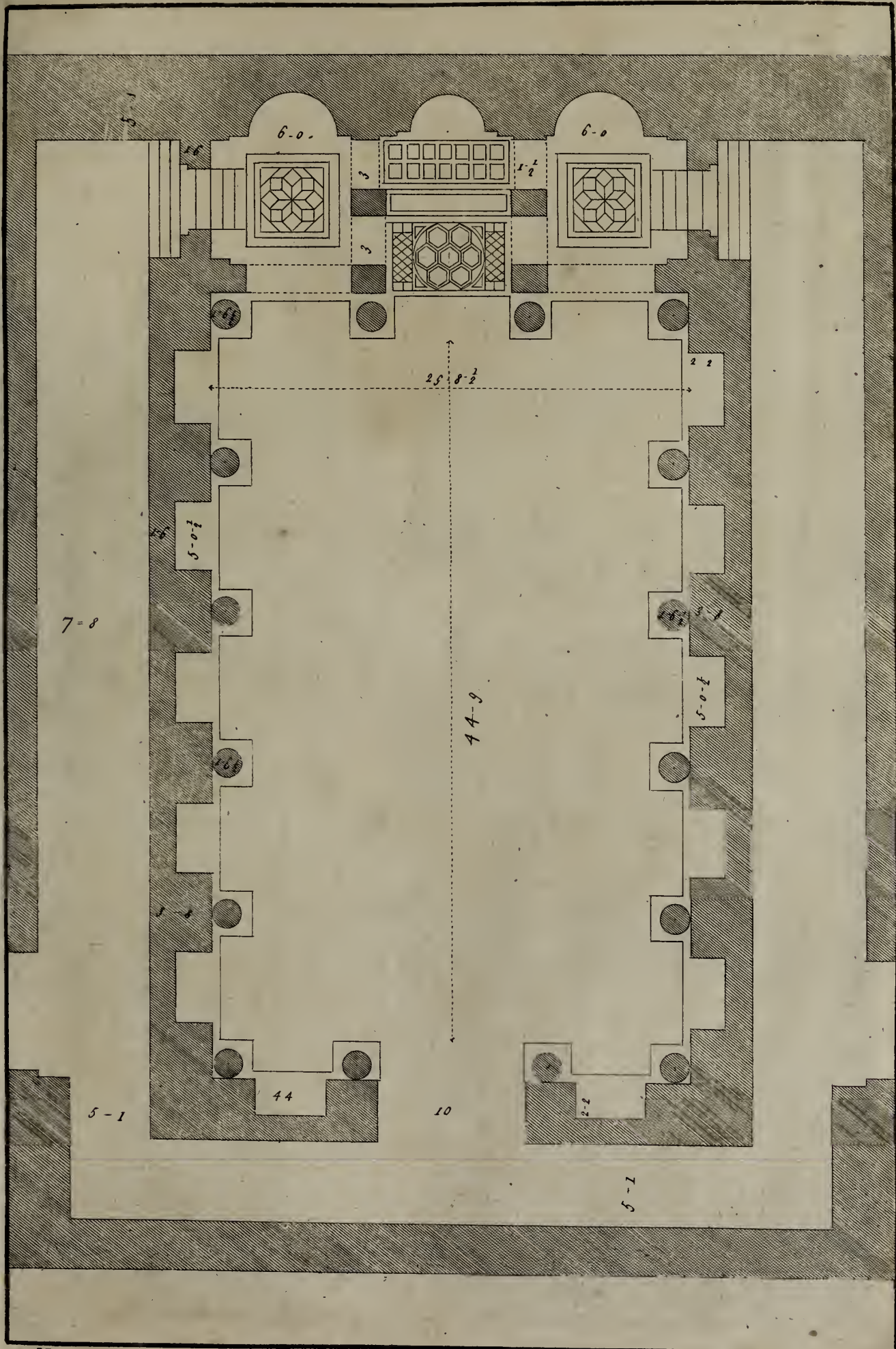
6 Foot 10 Inc. d



E. Hopper Delin

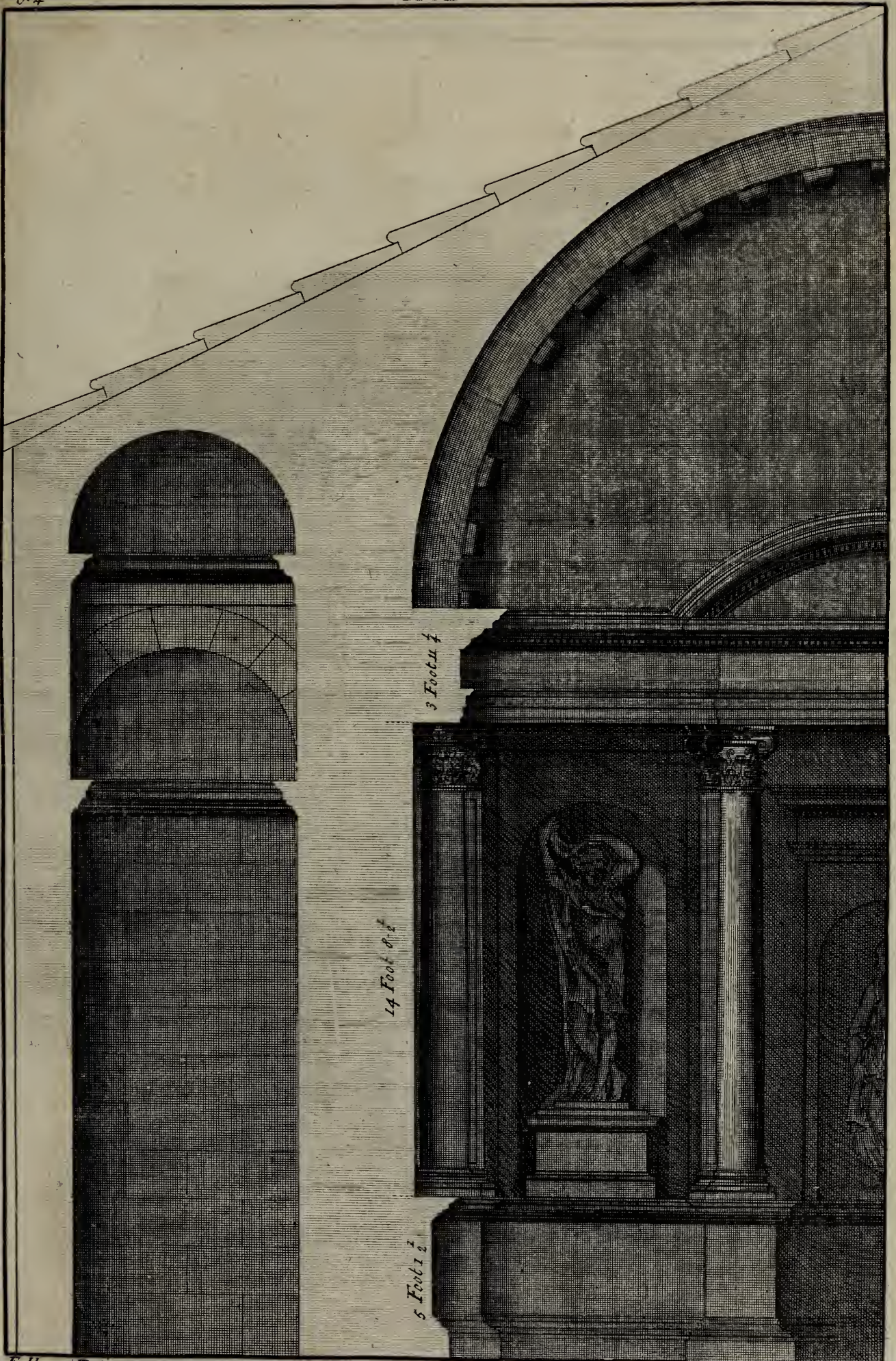
B. Cole Sculp







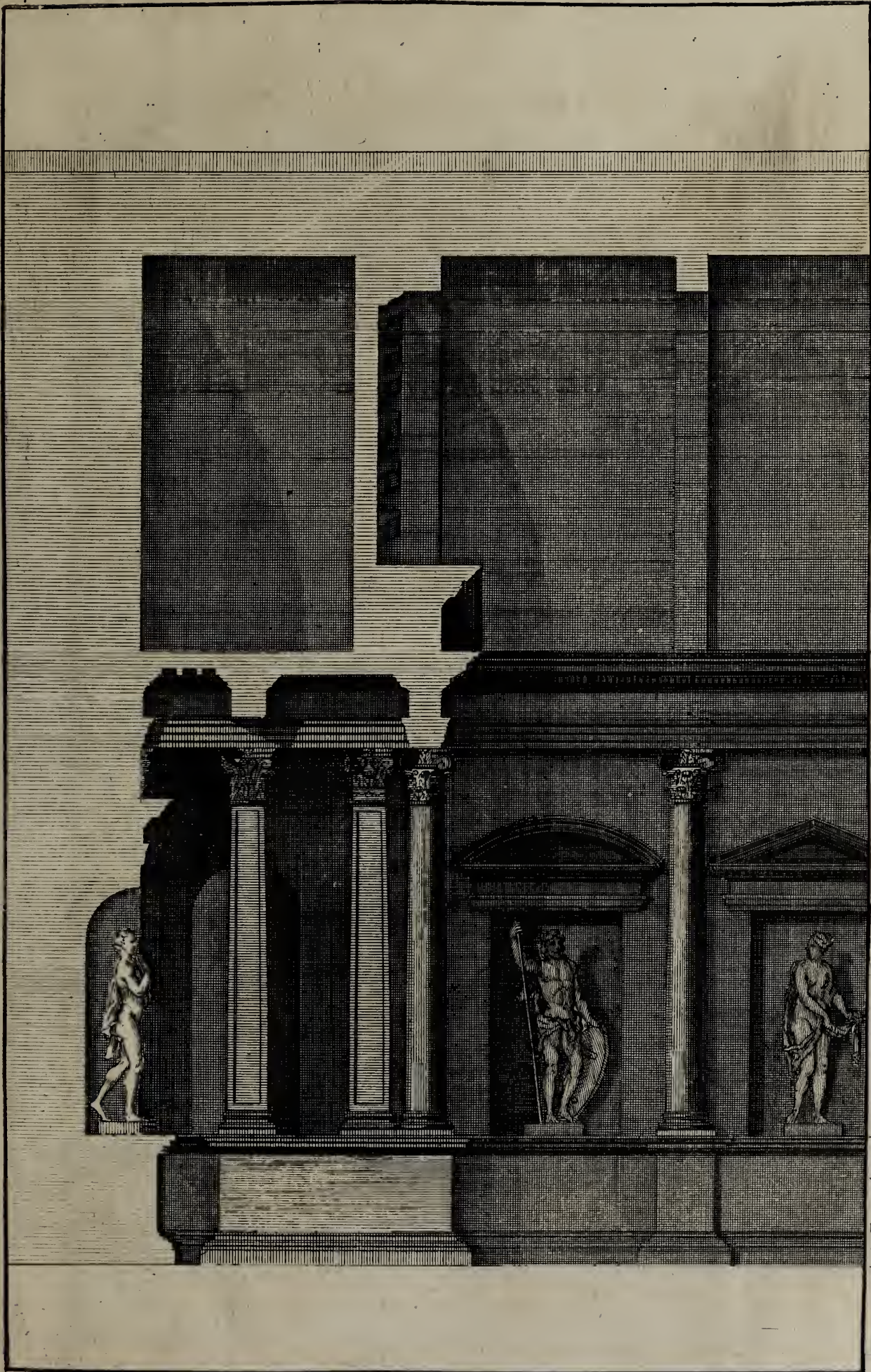




E. Hoppo: Delin 7 Foot 8

B. Cole: Sculp



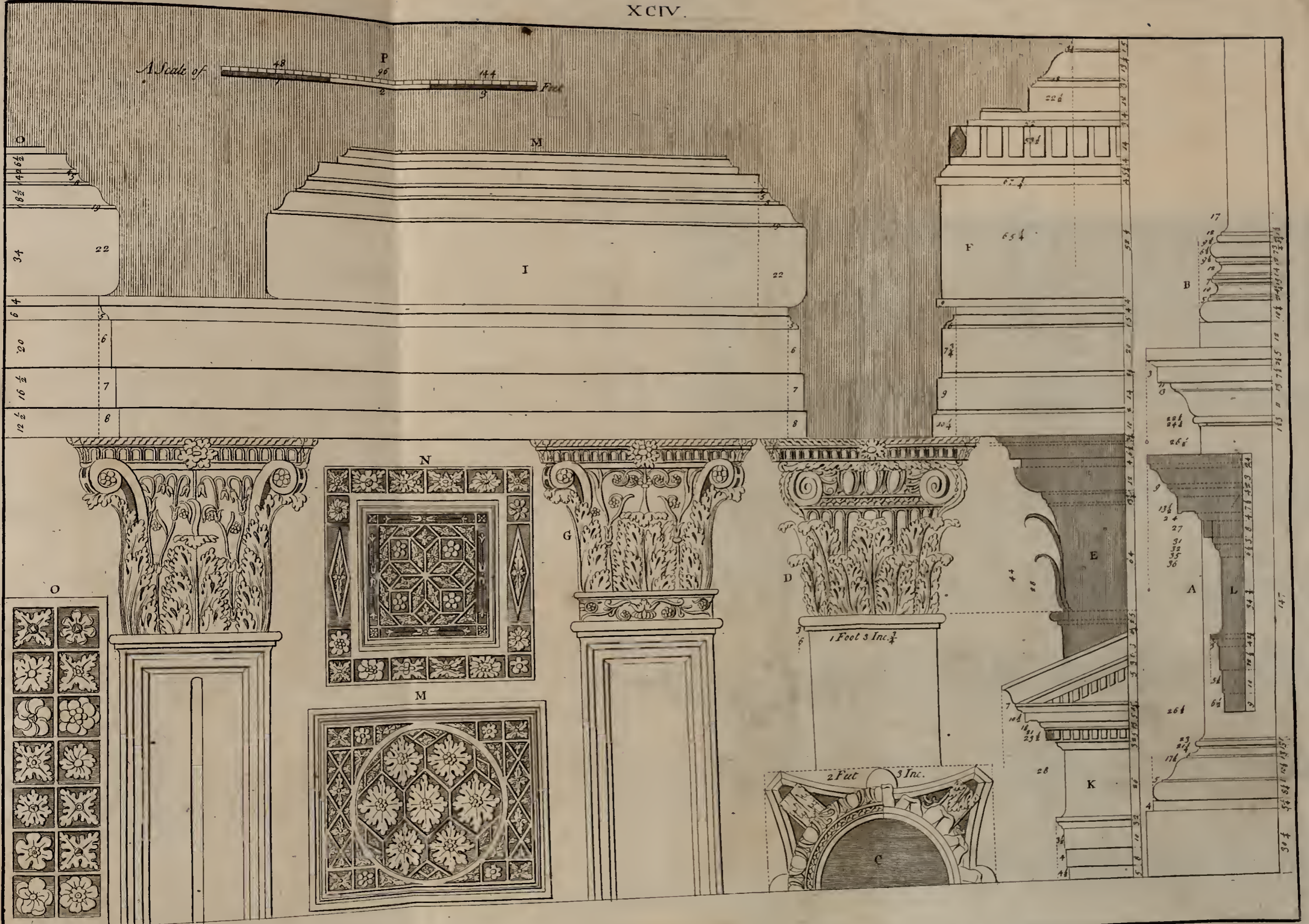


3 Foot 1/4

14 Foot 6 1/2

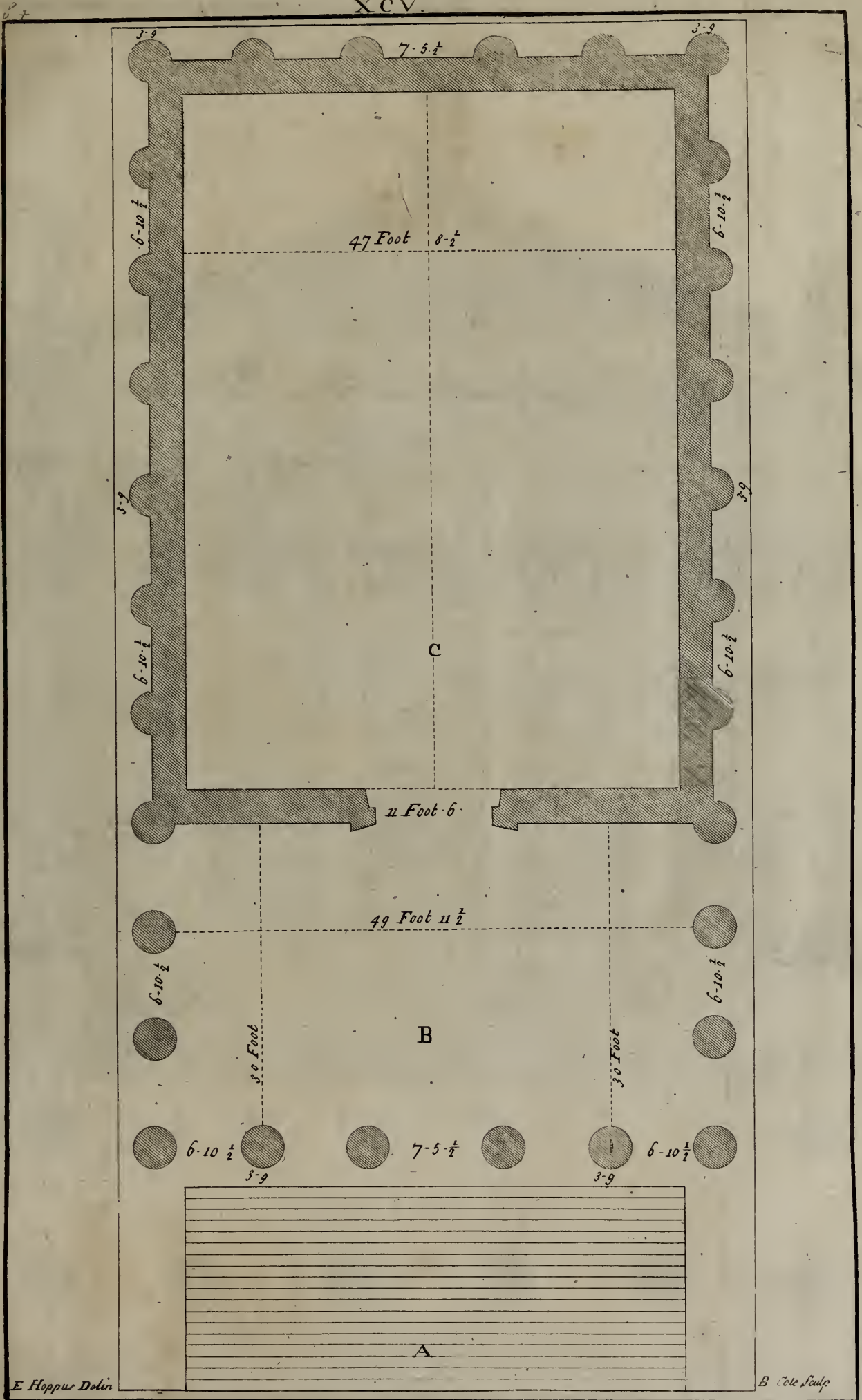
5 Foot 1 1/2





B. G. Sulp.





E Hopper Dolin

B Cole Sculp







S. P. Q. R.  
 INCENDIO. CONSUMPTVM. RESTITVIT.

6-9

33 Foot 9

10-6

49 Foot  $11\frac{1}{2}$



6-10- $\frac{1}{2}$



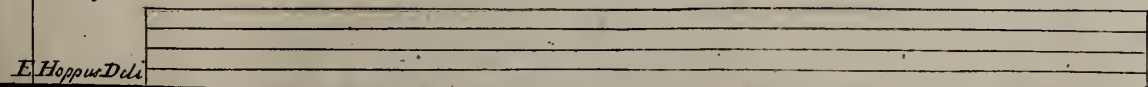
7-5- $\frac{1}{2}$



6-10- $\frac{1}{2}$



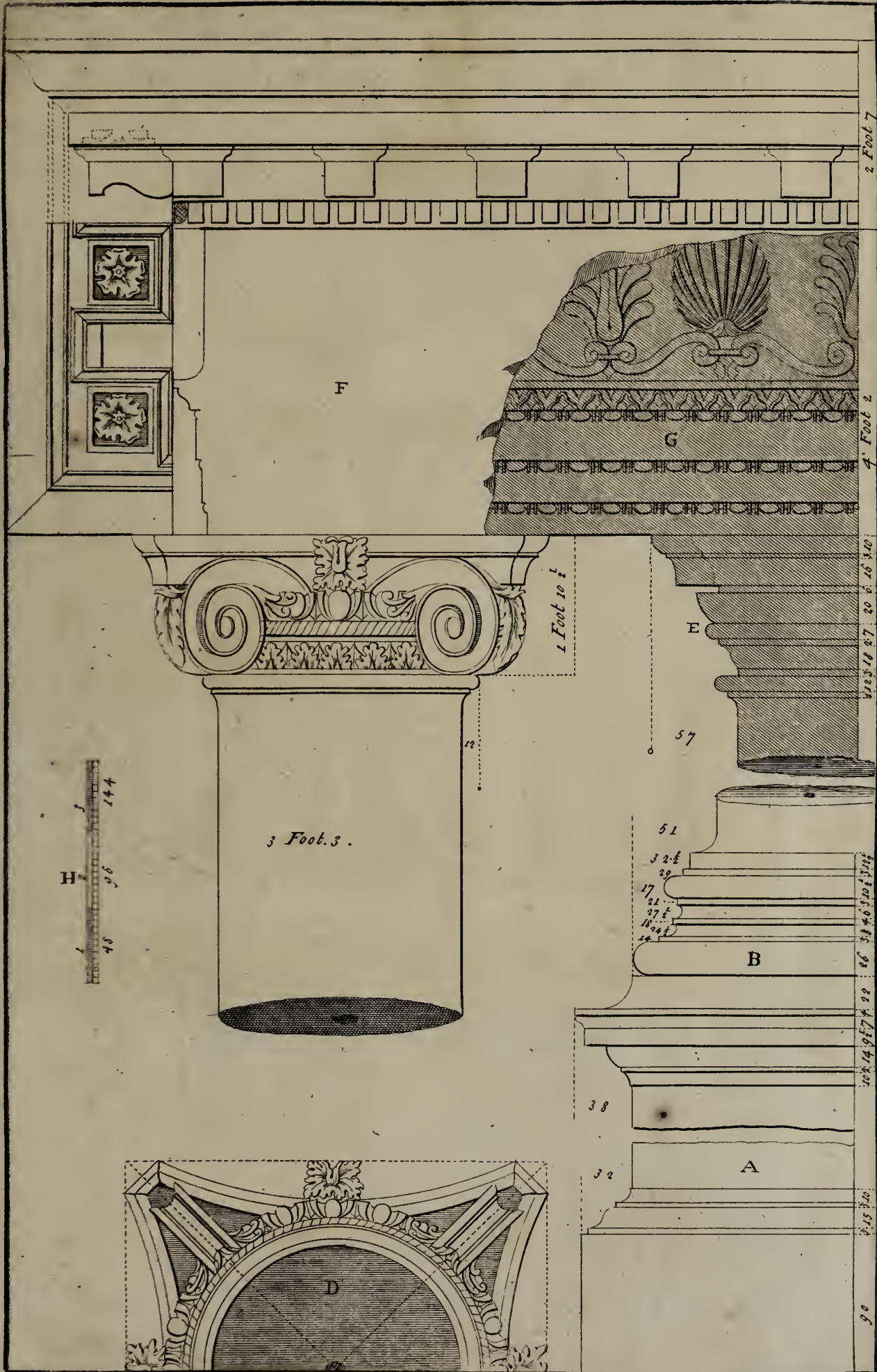
3-9



E. Hoppus Del.

B. Cole Sculp.



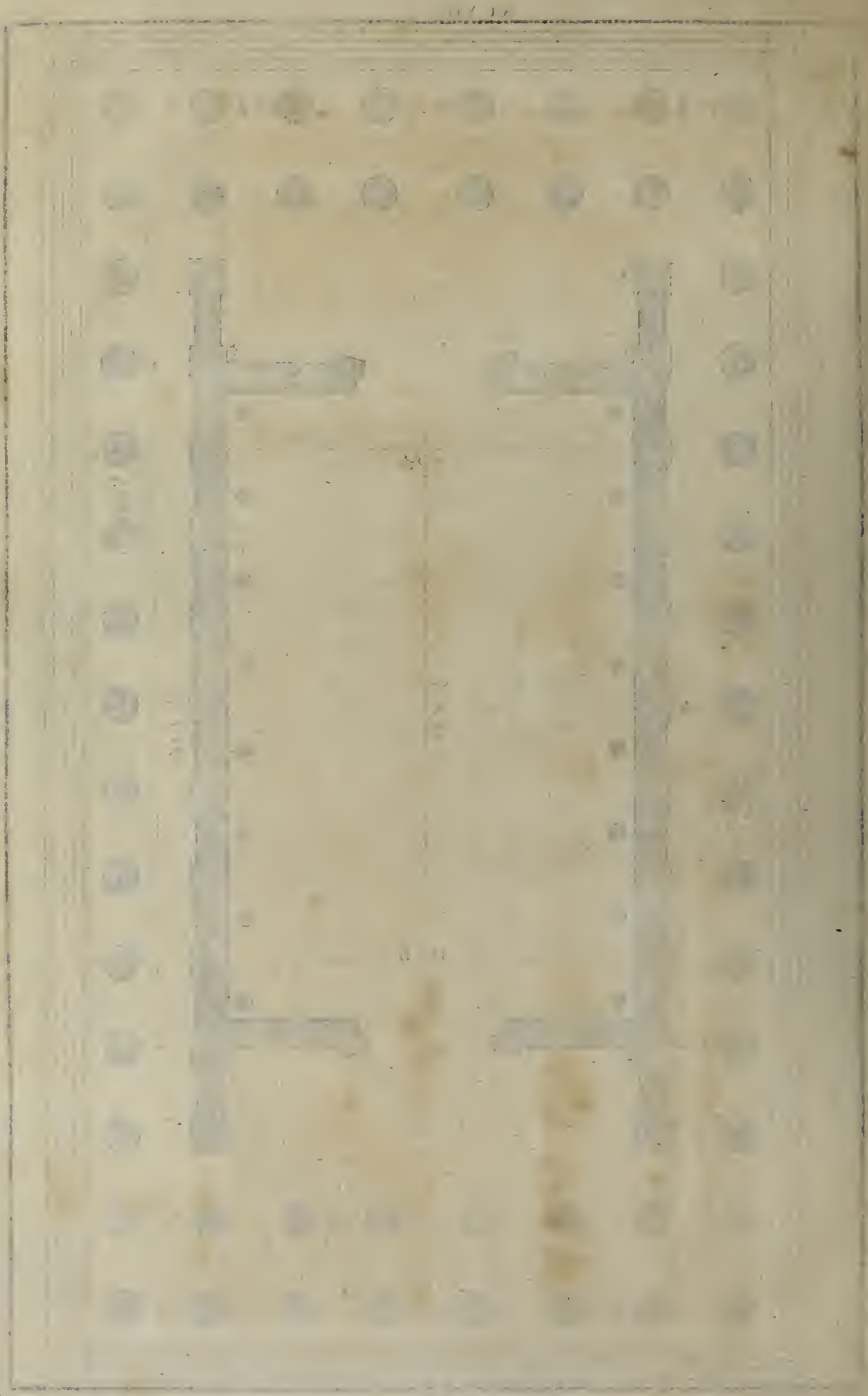


E. Hoppus Delin

B. Cole Sculp



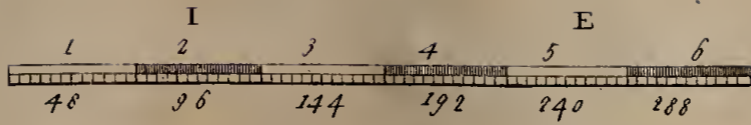




64

C

XCIX



H

G

F

D

B

20 Inch

5 Foot

8 Foot 6

38 Foot

8 Foot 6

38 Foot

2 Foot 3

1 Foot 6

2 Foot

53 1/2

53 1/2

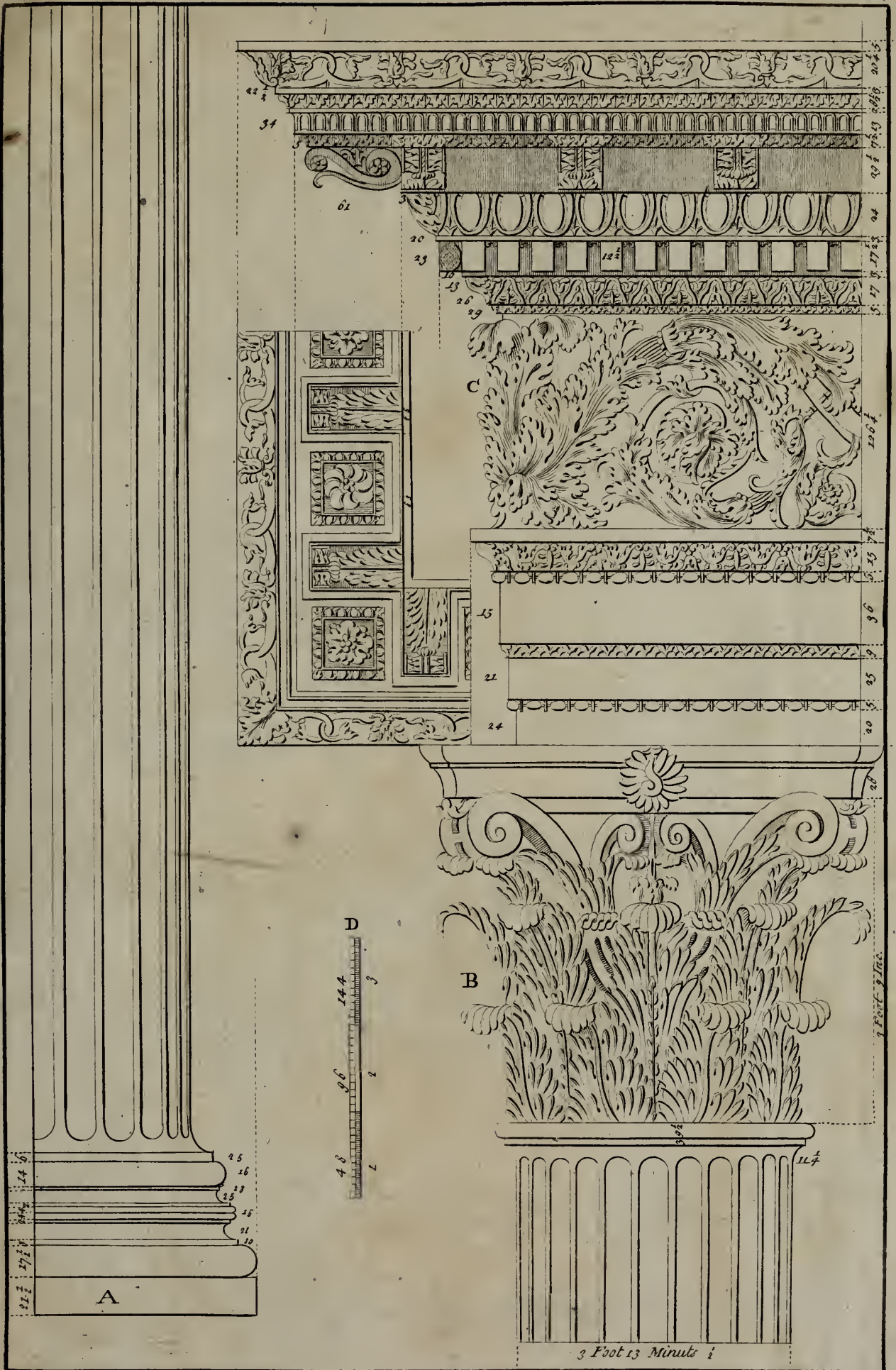
B Cole Sculp

E Heppus Delin









F. Hoppus Delin

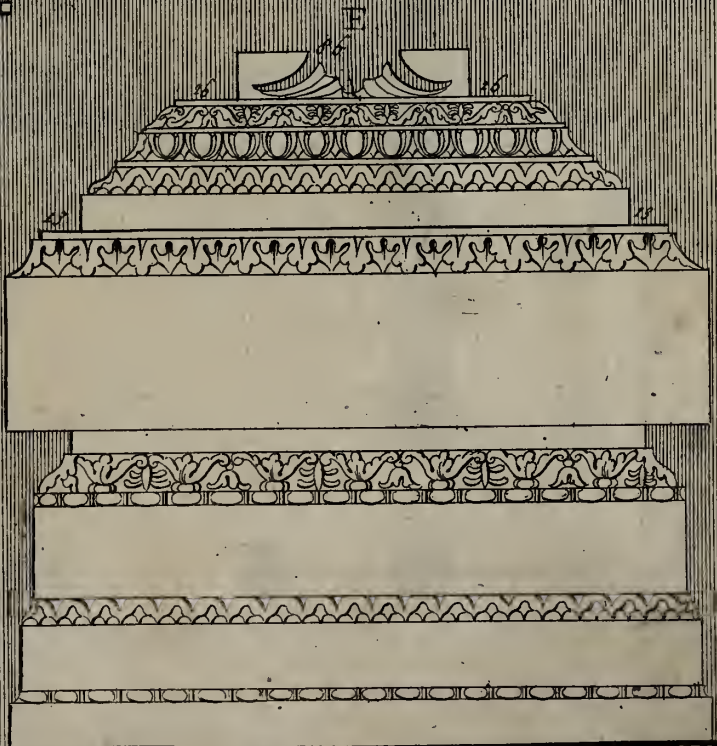
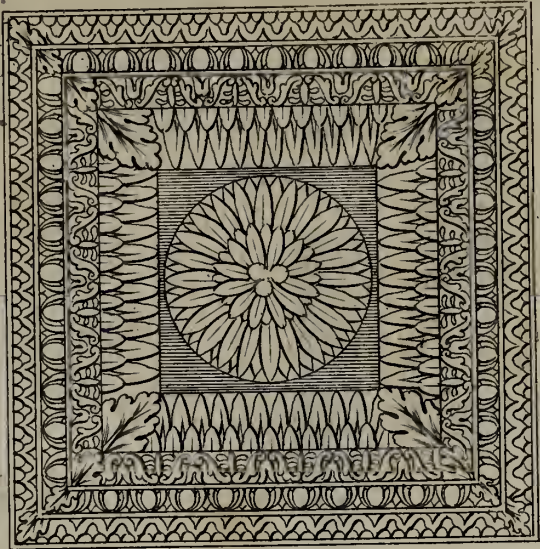
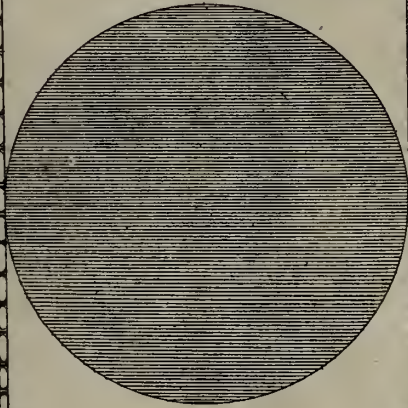
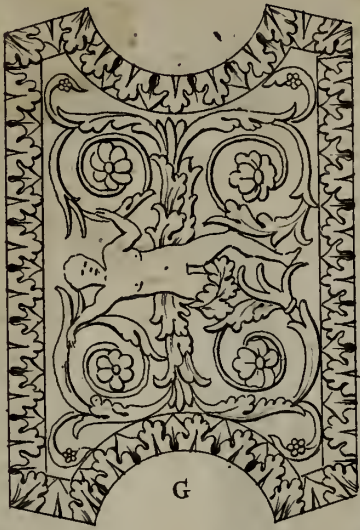
B. G. Sculpt.

8 Feet 6 In.

9 Feet 9 In.

3 Foot 13 Minuts 1





16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50.

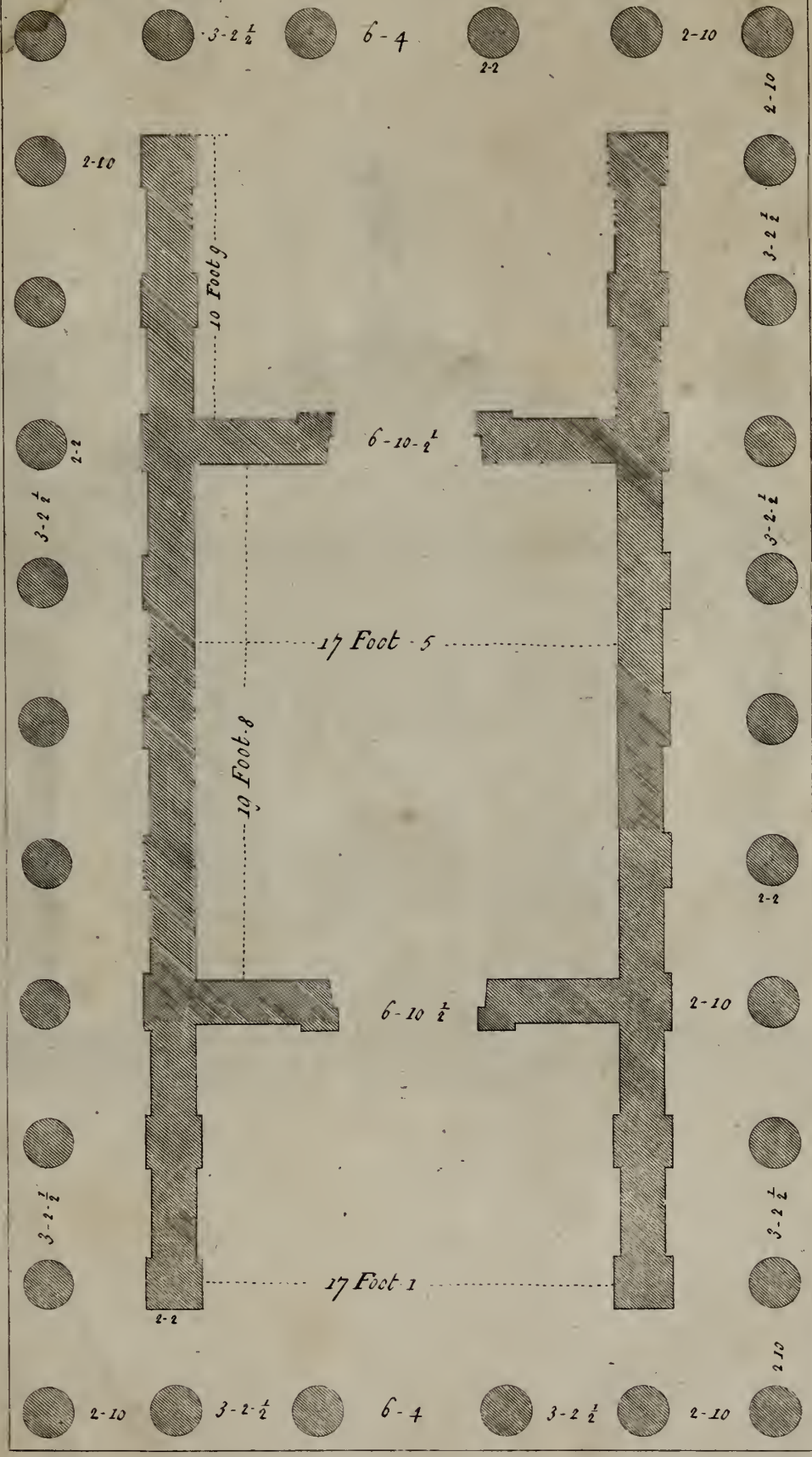
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Handwritten notes at the top left corner, possibly including a date or reference number.

Handwritten text in the upper left quadrant, including a cross symbol and the number 6586.



Faint handwritten text or a signature located in the lower right area of the page.







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