CONJURING AND GAMES OF SKILL. *Front.*

GAMES OF SKILL,

AND

CONJURING:

INCLUDING

DRAUGHTS.	MODELLING.
DOMINOES.	DEAF AND DUMB ALPHABET
CHESS.	RIDDLES.
MORRICE.	ACTING CHARADES.
FOX AND GEESE.	PUZZLES AND PARADOXES.
CONJURING.	USEFUL AMUSEMENTS.
LEGERDEMAIN.	SHOWS.
TRICKS WITH APPARATUS.	MODEL STAGE.
TRICKS WITH CARDS.	TINSELLING.
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GAMES OF SKILL.

DRAUGHTS.

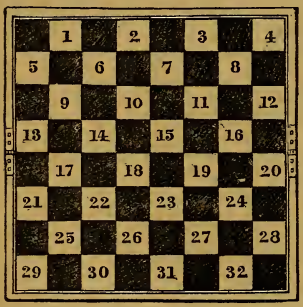
"To ascertain distinctly consequences in their causes, to calculate with promptitude the result of intricate variety, to elude by vigilant caution the snares of stratagem, are lessons which the game of Draughts strongly inculcates, and uniformly explains."—JOSHUA STURGES.

THIS interesting game is considered to be of very remote origin, though no account of it, at least none specifying its character, occurs before the middle of the sixteenth century. From brief and incidental notices, it would seem to have been known in Greenland *circa* 1050, and probably in Wales, A.D. 943, in the time of Howell 'Dha; but be this as it may, the earliest positive account of Draughts was in the year 1551. In the seventeenth century, Taylor, the Water Poet, mentioned it, and in 1668, Monsieur Mallet, a Parisian professor of mathematics, published an elaborate treatise upon the game.

Draughts, in point of interest and complexity, is second only to Chess, and the learning of it, therefore, forms a fair prelude to the study of that most scientific game. The moves being the result of study, and not of mere chance, the game is, consequently, not employed as a vehicle for gambling, and no objections to it can possibly arise on that score, for, as the great authority upon the game,

Joshua Sturges, observes, "It guards simplicity from the lures of deceit, and prevents cunning from preying on credulity; for where superior skill *alone* commands success, the ignorant are not mad enough to hazard their fortunes in a contest where loss is certain, and gain impossible. Considering the game as an amusement, it cannot be denied that it tends to improve those faculties of the mind which are eminently useful in every condition of life; and may therefore be made the school of wisdom, but cannot, like the gambling table of chance, become the nursery of vice."

The draught-board is a square, divided into sixty-four compartments, alternately checquered black and white. The draught-men, which are moved on these squares, according to certain regulations, are twenty-four in number, divided into two sets of twelve each, one set being white, and the other black.



For the sake of perspicuity, and facility of describing the different moves, we give a representation of a board with the squares numbered off, and beginners would find it much to their interest to thus number the corners of the squares on the board itself, as by such a plan they can learn the moves far more readily than they otherwise could.

On beginning a game, the men should be placed on the white squares, at the opposite ends of the board, the white occupying the squares 1 to 12, and the black men those marked from 21 to 32 respectively. The board must be placed between the players, so that each has an upper white corner on his right hand. When the men are all arranged in due order, the right of first move should be decided by lot, as should also the choice of men. The men, however, should be exchanged every game, so that each player may alternately use the white and black men; and the first move of each game should be taken alternately also. Ere showing how a game is opened, it is necessary to describe the mode in which the men move.

The men can only progress forwards diagonally, one square at a time, on the white squares; but if any of them can gain the last row of squares, then such pieces are termed kings, and they may be moved backwards as well as forwards, of course still keeping on the diagonals. The men take in the direction in which they move, by passing over any opposing piece into the vacant white square behind him; for it must be understood that no other pieces than those which are left unsupported, that is, those which have a vacant white square behind them, are liable to be captured. If, however, several men are left unsupported, they are likely to be all taken by one move, as,

for instance, if there are three white men on the squares 10, 18, and 26, a black man on 7 may take the whole of them at a time, by leaping first into square 14, then into 23, and then into 30. The three captured men must then be removed from the board; and the victorious piece, having attained to the last row of squares on his opponent's ground, must be dubbed or crowned a "king," that is, another piece of the same colour, which may have been taken in the earlier stages of the game, must be put upon him.

Thus much being premised, we proceed to our instructions respecting the commencement of a game. The men being posited, and the first move settled, seven moves are open to each player to begin with; thus, the front line of black men may move from 9 to 13 or 14, from 10 to 14 or 15, from 11 to 15 or 16, and from 12 to 16 only; the white men move either from 21 to 17 only, from 22 to 17 or 16, from 23 to 18 or 19, and 24 either to 19 or 20. Of these moves, the best for the black is that from 11 to 15; and for the white from 22 to 18.

Supposing black begins the game by moving 11 to 15, and white responds to it by playing 22 to 18, it is imperatively requisite that at the next move the black man takes the white, by passing over him into the empty square number 22, or else he must stand what is technically termed the "huff," that is, white may either take his opponent's man from the board, without remark, as a penalty for his neglecting to capture, or he may insist upon his own piece being taken. The "huff" is not considered as a move, the white still having the move before his adversary can take his turn. A brief example will illustrate the powers of a "king," and render them more intelligible; suppose it is a white king's turn to move, whose station is on 32, and that a black king is on square 27, a black man on 18, and another black king on 17, the white king can take all three, and remain upon 21; but if the player neglected to pass over and capture all of them, and contented himself with taking only one of the pieces, he would be obliged to stand the huff, at the option of his antagonist, who might insist on his taking all. If, instead of a king, it was only a white man on 32, then he can take no more than the black king on 27 and the man on 18, and assume his place on 14, the black king on 17 removing him at the next move by way of reprisal; this example defines the kingly and common powers, as the latter are never allowed to take by a backward move.

The game is won when one player has captured or blockaded the men belonging to his antagonist, in such a manner that he has either no piece left to play with, or no space in which to move those men he has; but when the parties are so equally skilled, that when each have lost many men, and, consequently, neither one nor the other can gain any great victory, then the game should be given up as drawn. In order to prevent any unnecessary delay in such cases, it has been settled that the person who is the strongest, should be compelled to finish the game in a given number of moves. If, for example, there are two black kings with one black man, or three black kings, to two white ones, on the board, and the player of the

white perceiving that his opponent, although unable to win, continues to prolong the game with obstinacy, he has the privilege of insisting that the game shall either be finished, or given up when forty moves shall have been made by each player: if two kings are matched against one, then the number of moves must not exceed twenty; the moves being, of course, reckoned from the notice given. As a complete game is usually played in a quarter of an hour, it is expected that no player hesitates for more than three minutes when about making a move; if he does so, his opponent may require him to proceed, and if he pauses for five minutes longer, then he is considered to have lost the game.

To have the move is sometimes of great advantage, particularly in critical situations, over a well-skilled adversary. The term "having the move," signifies your holding a superiority of position on the board, by which you may ultimately force your antagonist into a confined situation, and secure to yourself the last move in the game. To ascertain whether you or your antagonist has the move, two plans have been laid down; one of which is to count the white squares which intervene between the opposing men, and the other to strike a right angle between them.

So long as each player gives man for man, the move must necessarily belong to each alternately; the first player having it at the odd numbers, 11, 9, 7, 5, 3, 1, and the second at the even, as 12, 10, 8, 6, 4, 2; therefore before the move can be shifted out of these rules, some error must be committed by one or other of the players.

To find out the move by counting the men and calculating the intervening white squares, or those squares over which the respective men must move, according to the laws of the game, ere they come into contact with each other,—first count the men and squares, and if the men are even and the squares odd, or the squares even and the men odd, the move is yours, and if both are even or both odd, the move belongs to your antagonist; this, the following situation will readily explain, white being to play first:—

White	*26 32	19 28*	Black

The adverse pieces are here even, and the white squares odd, as from the white king on 26 to the black king on 28, there intervene three white squares, 31, 27, and 24; and between 32 a white man, and 19 a black man, there are the two white squares, 26 and 23, which make in all five, consequently the move belongs to white. White observing that the game is his, moves from 32 to 27; the black king moves from 28 to 32, and the white man on 27 next proceeds to 24, and is taken by the black man, who must be put upon 28; the white king is next moved to 23; the black king having no alternative, goes to 27, and is captured by the white, and as the black man, whose turn it is to move, cannot play, the game is, of course, finished.

The mode of ascertaining the move by striking a right angle between the men, is a shorter plan than the foregoing, and equally

efficacious. If you wish to know whether any particular white man has the move over any one of his opponents, observe carefully the positions of both parties, and if the right angle ends in a black square under the black man, white has the move. For instance, if white is to play and his piece is on 30, and his antagonist's man is on 3, by drawing a line from each, so as to describe a right angle, you will perceive that the lines cut in the black square between 31 and 32, immediately under 3, and therefore white has in that instance the move. Should, however, the white man be on 25, the lines will cut on 27, showing the reverse of the former experiment. This is a general rule, and will serve for any number of pieces.

The player who opens the game derives no advantage from being first player, for the men and squares being then even, he cannot have the move, nor can his opponent, although he has it, make it of any importance to himself; and, as we before observed, so long as the players give man for man, the move must, of course, belong to each alternately.

LAWS OF THE GAME.

1. The first move of every game must be taken by each player, alternately, whether the last was won or drawn, but the first move of the first game of each sitting must be decided by lot.

2. The choice of men for the first game at the beginning of the sitting is also to be decided by lot, but they must be changed every game, so that each player may have the white and black men alternately.

3. The men may be properly adjusted on the squares in any part of the game, but if, after they are so placed, whichever player, when it is his turn to move, touches a man, he must play it somewhere, if practicable; and if the man has been so far removed from his square, as to be visibly over the angle separating the squares, and thence indicative of a move, such move must be completed.

4. Pointing over the board, or employing any action likely to interrupt your antagonist, or hinder his full view of the board, is not permitted.

5. When several men are *en prise*, or threatened by the same man at the same time in opposite directions, that is, two one way and one the other, the player whose turn it is to move may take which he pleases, and as it would be impossible for him to take all the men both ways, no penalty can be exacted for the omission.

6. In the event of standing the "huff," it is at the opponent's option either to take the man, or insist that the adverse party take his man omitted by the "huff."

7. When a game has been prolonged to a tiresome degree, and only a few pieces remain on the board, without, however, any chance of the players giving up, the stronger party may be required to win the game in a certain number of moves, suppose forty moves for each player, or consider it as a drawn game; the moves, of course, being counted from the notice given. If two kings are opposed to one king, the moves not to exceed twenty for each

player. When the odds of the drawn game are given, the game should be continued to a more advanced state than in other cases, and when the situations become so equal, that neither party can gain the advantage, then he who gives the draw, must either drive his opponent from his strong position, or be adjudged to have lost the game.

8. Not more than three minutes are allowed for considering a move, and if a longer time is taken by each player, his opponent may request him to proceed ; if he pauses five minutes further time, after such notice, he loses the game.

9. In the event of a false move being made, such as moving out of your turn, or moving a common man backwards as though he were a king, the man must be moved to some square, according to law 3, but with this addition, that it shall be moved to wherever the adversary may dictate, consistent with the rules of the game ; or if he so pleases, the false move may be allowed to stand, as best suits his plan.

10. During a game, neither party can quit the room without the consent of his opponent, otherwise he forfeits the game.

11. If a dispute occurs between the two players, it should be referred to a third party, whose decision is to be considered final, in all cases in which the laws of the game do not offer any explanation ; and any player who does not submit to the rules laid down, or abide by the decision of the said third party, is to be adjudged to have lost the game to his adversary.

12. Bystanders must abstain from all remarks during the progress of a game, neither may they advise or interrupt either of the players.

GAMES FOR PRACTICE.

Having now given the general laws and rules of draughts, we proceed to lay before our readers a few games, which it would be well for them to practise on a board numbered like the one in the illustration in the early part of this article. We do not wish our pupils to imagine, however, that by playing the following games over in a careless random style, or in a plodding, mill-horse mode of progression, without endeavouring to comprehend the reason why such and such moves are made, that they can ever attain any mastery over the game ; on the contrary, unless they strive to understand thoroughly that which they attempt to perform, they will be as far from the mark as though they had never endeavoured to reach it at all. Draughts is a game requiring much circumspection and calculation, and whether it is practised from plans laid down in a book, or learnt under the bitterness of frequent defeats, each series of moves must be very carefully studied and worked out. It is scarcely within the range of probability, that any two players ever make the exact moves we have set down in the following plans, still, as in the course of games, some points may happen in which the moves bear some resemblance to them, and as the same may be observed with respect to the terminations of games, the young draught-player will find that, if he becomes a perfect master of them,

he will be enabled to play them whenever an opportunity presents itself.

GAME I.

	BLACK.		WHITE.	
Move	*fr.*	*to*	*fr.*	*to*
1	11	15	22	18
2	15	22	25	18
3	8	11	29	15
4	4	8	25	22
5	12	16	24	20
6	10	15	*27	24
7	16	19	23	16
8	15	19	24	15
9	9	14	18	19
10	11	25	32	27
11	5	14	27	23
12	6	10	16	12
13	8	11	28	24
14	25	29	30	25
15	29	22	26	17
16	11	15	20	16
17	15	18	24	20
18	18	27	31	24
19	14	18	16	11
20	7	16	20	11
21	18	23	11	8
22	23	27	8	4
23	27	31	4	8
24	31	27	24	20
25	27	23	8	11
26	23	18	11	8
27	18	15		

Black wins.

* White loses by this move.

GAME II.

	WHITE.		BLACK.	
1	22	18	11	15
2	18	11	8	15
3	21	17	4	8
4	23	19	8	11
5	17	13	9	14
6	27	23	5	9
7	25	22	14	17
8	29	25	17	21
9	22	17	11	16
10	25	22	16	20
11	19	16	20	27
12	31	24	12	19
13	23	16	10	14
14	9	14	24	19
15	15	24	28	19
16	10	15	19	10
17	6	15	17	10
18	7	14	22	17
19	2	7	17	10
20	7	14	13	9
21	14	17	16	11
22	15	18	26	23
23	18	27		

Drawn Game.

GAME III.

	WHITE.		BLACK.	
1	22	18	11	15
2	18	11	8	15
3	21	17	4	8
4	23	19	8	11
5	17	13	9	14
6	27	23	6	9
7	13	6	2	9
8	24	20	15	24
9	28	19	14	17
10	25	22	9	13
11	29	25	5	9
12	32	28	9	14
13	31	27	1	5
14	25	21	11	15
15	27	24	7	11
16*	30	25	3	7
17	19	16	12	19
18	23	16	14	18
19	21	14	10	17
20	24	19	15	24
21	22	8	17	21
22	28	19	21	30
23	16	12	30	16
24	20	2		

White wins.

* VARIATION, COMMENCING AT THE 16TH MOVE OF GAME III.

	WHITE.		BLACK.			WHITE.		BLACK.	
16	19	16	12	19	.20	21	14	3	17
17	23	7	14	18	21	24	19	15	24
18	21	14	18	25	22	28	19	17	21
19	30	21	10	17	Drawn Game.				

CONCLUDING OBSERVATIONS.

Keep your men as much in the centre of the board as possible, for they then can move into the diagonals on either side, which if they are in the side squares they cannot do. Be not over hasty in your movements, but calculate the moves, so that you may in some measure judge what consequences will follow the steps you take. In calculating the moves, do it mentally, as pointing from square to square is both improper and unbecoming. Be decided in your actions, and never touch a man without moving it. If one player is stronger than the other, odds should be given to the weaker party, either by giving a man in a rubber of three games, or by allowing the weaker party to consider all the drawn games of the sitting as won by him. Avoid conversing with the intention of annoying your opponent. Never triumph over a vanquished opponent, and if you are repeatedly defeated, let it stimulate you to fresh exertions, so that, in your turn, you may be the conqueror.

DOMINOES.

DOMINOES is a game of modern invention, and though far inferior to draughts, and immeasurably below chess in point of intricacy, still it requires much attention and practice to make a skilful player.

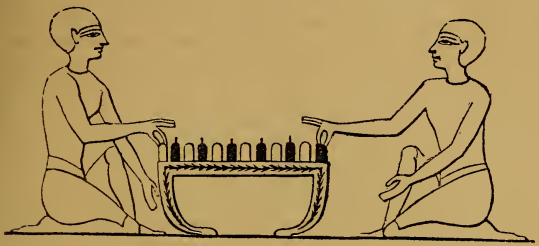
This game is played by two or four persons, with twenty-eight oblong pieces of ivory, plain at the back, but on the face divided by a black line in the middle, and indented with spots from one to a double six; which pieces are a double-blank, ace-blank, double-ace, deuce-blank, deuce-ace, double-deuce, trois-blank, trois-ace, trois deuce, double-trois, four-blank, four-ace, four-deuce, four-trois, double-four, five-blank, five-ace, five-deuce, five-trois, five-four, double-five, six-blank, six-ace, six-deuce, six-trois, six-four, six-five, and double-six. Sometimes a double set is played with, of which double-twelve is the highest.

At the commencement of the game, the dominoes are well mixed together with their faces upon the table. Each person draws one, and if four play, those who choose the two highest are partners, against those who take the two lowest: drawing later also serves to determine who is to lay down the first piece, which is reckoned a great advantage. Afterwards, each player takes seven pieces at random. The eldest hand having laid down one, the next must pair him at either end of the piece he may choose, according to the number of pips, or the blank in the compartment of the piece; but whenever any one cannot match the part, either of the domino last put down, or of that unpaired at the other end of the row, then he says *go;* and

the next is at liberty to play. Thus they play alternately, either until one party has played all his pieces, and thereby won the game, or till the game be *blocked;* that is, when neither party can play by matching the pieces where unpaired at either end, then that party wins who has the smallest number of pips on the pieces remaining in their possession. It is to the advantage of every player to dispossess himself as early as possible of the heavy pieces, such as double-six, five, four, &c.

Sometimes, when two persons play, they take each only seven pieces, and agree to *play* or *draw*—i. e., when one cannot come in, or pair the pieces upon the board at the end unmatched, he is then to draw from the fourteen pieces in stock, till he finds one to suit.

CHESS.



ANCIENT EGYPTIANS PLAYING AT CHESS, FROM A PAINTING AT BENI HASSAN.

THE GAME OF CHESS stands pre-eminent above all sedentary amusements, from its fascinating attractions. Complex in its situations and in its principles, it requires the fullest exertion of the faculties to arrange your own plan of operations, and to watch the slightest movements of your opponent, to calculate the moves which it is probable he will make, so that you may be ready to thwart them at the instant, and to carry out your own scheme through all the tortuous windings of a stern opposition.

The history of chess is involved in great obscurity, but it seems that it has been practised in Hindostan for many ages, and therefore, on the authorities of Sir William Jones and Dr. Hyde, the invention of the game is most generally ascribed to the natives of India, and that it was brought into Europe by means of the Persians and Arabs. That chess was known to the Egyptians at the remotest periods of antiquity, is evidenced by paintings on the walls of some of their temples, showing persons engaged in the game, and also by chessmen of a very primitive form having been found at Thebes;* but whether the game was invented by the Egyptians, or introduced into their country by traders from the East, is doubtful, and remains to be investigated.

According to the narrative of Abulfeda, an Oriental writer, chess was known in the east of Europe in the early part of the ninth century; it is therefore probable that it was speedily carried from thence to the northern and western parts of Europe, not only through the Scandinavian and Italian adventurers, who crowded to Constan-

* Our young readers may see several of these ancient chessmen in the Egyptian room in the British Museum.

tinople, either with the intention of serving as soldiers, or of enriching themselves by trading, or for the purpose of making a pilgrimage to the Holy Sepulchre, but also through the intercourse carried on between the court of France and the Eastern metropolis. The Scandinavians were excessively fond of chess, and it is more than probable they derived their knowledge of the game from Constantinople, for so early as the ninth century, Regner Lodbrog, one of their most celebrated chiefs, is reported to have visited the Hellespont, and previous to the middle of the eleventh century, Harold Hardraad, another chief, made an expedition to the East. These circumstances show that the Northmen and Greeks were not unknown to each other, and certain it is that, whether the Northmen brought the game of chess from the East, or received it through other nations, they prized it very highly, and esteemed a perfect knowledge of it as a requisite of a liberal education, "to play well at a game of chess" being one of the accomplishments which the hero of an old metrical tale enumerates as the exercises of his youth.

During the reign of Charlemagne chess was, without doubt, introduced into France, and a set of ivory chessmen, which was presented to that monarch by a sovereign of the Lower Empire, is still preserved in the Bibliotheque du Roi, at Paris. So rare and admired were chessmen in those days, that the men in question were placed amongst the jewels and ornaments of the king in the treasury of the abbey of St. Denis, and a present of a chess-board and men was considered one of great value, and indeed the board and men were oftentimes intrinsically valuable, from being occasionally made of jasper, crystal, and chalcedony. When Gurmer, prefect of Greenland, wished to ingratiate himself with Harold Hardraad, king of Norway, he sent to him three of the finest gifts the island could furnish; and these were a tame white bear, a *chess-table* and *chessmen*, of beautiful workmanship, and a skull of a walrus, with the teeth fastened into it, highly sculptured, and ornamented with gold; and when Bardur, the bearer of them, gave them to the king, he said: "Here is a chess-table, lord, which the most noble person in Greenland sends to you, and desires nothing in return but your friendship."

In the laws of Howell 'Dha, a Welsh prince, A.D. 943, mention is made of a game played upon a table-board, with black and white men; but as these terms are vague, we cannot be certain that chess is the game intended, inasmuch as black and white men are also used in draughts. Chess must, however, have been introduced into England in the latter end of the tenth century, as it is mentioned of King Canute that during his war with the kings of Norway and Sweden he one day paid a visit to his brother-in-law, Earl Ulfr, who prepared a repast for him, but which, from being out of spirits, he did not enjoy. The earl observing his moodishness, at length challenged him to play at chess, and the king accepting the challenge, they sat down; the king, making a false move after playing a little while, one of his knights was taken by the earl, who of course moved it from the board. This move the king would not allow, but

replaced the piece and commanded the earl to play differently. Ulfr, excessively chagrined, overturned the chess-board, and left the room, and as he retired the king exclaimed, "Ulfr, thou coward, dost thou thus flee?" The earl hearing this epithet, returned to the door, and retorted, "You would have taken a longer flight in the river Helga, had I not come to your assistance when the Swedes beat you like a dog; you did not then call me coward." He then again withdrew, and was murdered a few days subsequent by the king's orders. We find also that when Bishop Œtheric went to King Canute, upon some extremely pressing business, about midnight, he found him and his courtiers deeply engaged at play, some busy at dice, and others at chess.

The great-grandfather of William the Conqueror was skilful at chess, and the Conqueror himself is traditionally reported to have been fond of the game. The Crusades made chess more popular than it had hitherto been, and in the eleventh century it was well known. In the reign of Henry II., according to Gervase of Tilbury, the Court of Exchequer received its name from the cloth spread in the court being chequered after the fashion of a chess-board.

It is related that at a chess match, in the year 1087, between Henry I., previous to his accession to the throne of England, and Louis le Gros, son of Philip of France, Louis, having lost several games and much money to Henry, became irritated, and threw the chessmen at Henry's face, upon which Henry knocked him down with the chess-board, and would have killed him outright, but for the interposition of his elder brother, Robert.

Chess was a favourite game in the reign of Edward IV., if we may judge from the circumstance that a treatise upon it was published by Caxton in 1474, and which indeed is worthy of especial remembrance from its being the first book ever printed in England.

Chess was certainly a fashionable amusement in the houses of people of rank in the time of Richard III. Queen Elizabeth was a chess player, and her successor, James I., styled the game a philosophic folly. Charles I. was engaged at chess when he was informed that the Scots had finally determined upon selling him to the English, but he coolly finished the game without betraying any discomposure.

Charles XII. of Sweden, when surrounded in a house at Bender by the Turks, barricaded the building, and then comfortably sat down to chess. From his habit of employing the king more than any other piece, this prince lost every game.

Our limits forbid our entering more fully into the history of chess, or to give more anecdotes connected with it, but as at the head of this little introductory sketch of the game we have prefixed an illustration, showing two Egyptians playing at it, we will end it by a representation of a king, queen, bishop, and knight, copied from a set of very ancient and singularly curious chessmen, which are now deposited in the British Museum. They were discovered by a peasant in the year 1831, whilst digging on the seashore in the parish of Uig, in the Isle of Lewis, Scotland, and from the peculiar

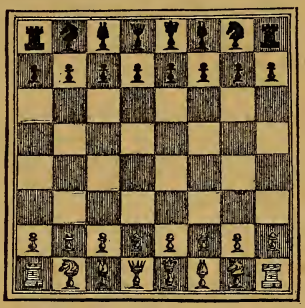
costume of the figures, and the material of which they are made, being the ivory teeth of the walrus or sea-horse, it is supposed that they were sculptured in Iceland in the twelfth century.

THE CHESS-BOARD AND CHESSMEN.

The CHESS-BOARD, or, as it is technically termed, the EXCHEQUER, is a square board divided off into sixty-four compartments or squares, chequered alternately black and white. The rows of squares running from one player to the other, are termed *files;* those crossing from left to right, *ranks;* and the lines from corner to corner, *diagonals.*

CHESSMEN.—Each player is provided with sixteen pieces, or *men:* of these, eight are *pawns,* two *castles,* two *knights,* two *bishops,* one a *queen,* and one a *king.* These pieces are usually made out of bone or ivory, one set being perfectly white, and the other stained red. The shapes of these men exhibit every variety of outline it is possible to imagine, from very ungainly efforts of the turner's skill to most elaborate specimens of Indian workmanship; and therefore we refrain from bestowing an illustration upon them, preferring to call our readers' attention to the annexed representation of some figures from

the exquisite chessmen modelled by the late J. Flaxman, R.A., for Messrs. Wedgwood, and sets of which may be purchased at some of the manufacturers of chessmen. They are made of china, one set being pale blue, and the other white, and have a most striking and interesting effect during the movements of the game.



The chessmen must be ranged at the ends of the board on the two last rows of squares. The pawns must occupy the inner row, and on the outer the pieces must be disposed thus: the right hand corner square must be filled with a white castle, the next with a knight, the next with a bishop, the next to that with the king, then the queen, and after her the other bishop, knight, and castle. The black men are ranged in the same order, so that the kings face each other, queen opposes queen, and bishops, knights, and rooks oppose their differently coloured brethren. The bishop, knight, and castle are styled after the party near which they stand, as thus—the bishop, knight, and castle, next the king, are called the king's bishop, king's knight, and king's castle; so also those on the queen's side are called after her. The pawns are supposed to belong to the pieces before which they stand; for instance, the pawn in front of the king is termed the king's pawn, the next to it the king's bishop's pawn, adjoining that the king's knight's pawn, and the king's castle's pawn, and so likewise of the pawns before the queen and her followers.

The squares on which the pieces are placed at the beginning of a game are called after the names of the pieces which so occupy them; thus the squares on which the kings stand are called the *kings' squares*, and those whereon the queens stand the *queens' squares*, &c. The second row of squares, on which the pawns stand, are considered the second squares of the pieces, and spoken of as the king's second square, queen's second square, &c. The third row on the board is the third row of the pieces, and the fourth, fifth, sixth, seventh, and eighth rows of squares, are the corresponding squares of the pieces; the four last rows, of course, being those of the adverse party.

It is necessary always to distinguish the pieces according to their respective colours, as red king's pawn, bishop, &c.; white king's bishop, pawn, &c. The squares on which they stood at the commencement of a game, retain their names, although the pieces are at different parts of the board.

VALUE AND MOVES OF THE PIECES.

The relative value of the pieces can only be estimated in a general way, as in some cases a pawn is of more worth than a queen, and at

the latter end of a game the rooks rise in power whilst the queens slightly decrease.

The KING being the chief personage, and free from all chance of capture, is beyond all price. He moves only one square either way at a time, either backwards, forwards, or sideways, but in the course of a game he may make a movement called "castling," which we shall hereafter describe; though limited at the commencement of a game, his power increases towards the latter end. The opposing kings can never get nearer to each other than the distance of a knight's move.

The QUEEN is the most powerful and valuable of all pieces, being worth twelve pawns, or three minor pieces, at the beginning of a game, but as towards the end, the power of the other pieces rises, her importance is then somewhat dimmed. The queen may move in any direction, backwards, forwards, diagonally, and sideways, and over as many squares as chance to be uninterrupted.

The ROOK or CASTLE is next in value to the queen. It is equal to five pawns, or a bishop and two pawns, and is the only piece which keeps its full value as it approaches the side of the board. The rook and queen are the only pieces which can singly give checkmate. The moves of the rook are straight forwards, backwards, or across, but never in the diagonals, and it may move over any number of squares to take a piece, provided nothing interrupts it.

The BISHOP is worth about three pawns and a half, but the king's bishop is of more value than the queen's, inasmuch as he can check the opposing king on his own square, or after he has castled. Towards the end of a game, two bishops are more powerful than two knights, as they can checkmate, which the knights cannot, though one bishop is not so strong as one knight; during the progress of a game, however, the knights are more useful. The bishop moves only diagonally, and therefore never leaves the colour he is first placed upon, as a glance at the board will show. Each player has a bishop on a white diagonal, and one on a black.

The KNIGHT is of equal value with the bishop. His erratic moves are very peculiar, as he moves one square diagonally, and then one forwards, to a square of a different colour to that from which he started. The knight is the only piece which can play over any piece or pawn, and the nearer he is to the centre of the board, the more useful and powerful he becomes. A white knight put on the white king's fourth square, commands eight squares, as follows:—Q. 2nd square; Q. Bp. 3rd square; Q. B. 4th square; Q. 6th square; K. B. 6th square; K. Kt. 5th square; K. Kt. 3rd square; and K. B. 2nd square. As may be imagined, the knight can move in every direction, either backwards, or forwards, or sideways.

The PAWN is the lowest of all in value, as it can only attack two points at a time, and but one if on the files at the edge of the board. Its move is straight forward, one square at a time, and thence it

never deviates from the file on which it is first planted, unless it captures a piece, in which case it moves diagonally, similar to the bishops, but limited to the adjoining front row of squares. At the first move, the pawn may be played two squares. When a pawn reaches the eighth row of squares on the board, it attains the power of queen, and may be exchanged for any piece the player pleases. The centre pawns are more valuable than the side ones, but they seldom reach the queenly power, on account of their exposure to attacks. The pawn cannot move backward, and is the only piece so limited in its power.

LAWS OF CHESS.

1. The chess-board must be so placed, that each player has a white corner square on his right hand. If wrongly placed, and four moves on each side have not been played, either party may insist upon re-commencing the game.

2. If any of the pieces be played upon wrong squares, or any of them omitted to be placed, the error may be amended, provided four moves on each side have not been played.

3. If you undertake to give odds, and neglect to remove the piece or pawn you purpose giving from the board, you may take it off ere four moves are played. However, if the fault is not rectified in time, you must play the game out, and if you give checkmate, the game can be accounted only as drawn.

4. If no odds are given, lots must be drawn for first move; after the first game the moves are taken alternately. Drawn games not being reckoned as games, the player who began the drawn game, therefore, begins the next. If you give odds, you may take which coloured men you like, but in playing even, lots should be drawn for choice of men.

5. The player giving the odds of a piece, may give it from what side he pleases, though if a pawn is given, it is the king's bishop's pawn, and he has a right to take the first move.

6. If a player touches a man, when it is his turn to move, he must play it, unless at the instant he says "*J'adoube,*" a French phrase, signifying, I arrange or replace; but should a piece by chance be overturned or displaced, the party to whom it belongs may replace it.

7. If a player touches one of his antagonist's men without saying "*J'adoube,*" he must take that piece, if possible, or play his king, at the option of his opponent. But if the piece cannot be taken, nor the king moved without his going into check, then no penalty can be exacted.

8. So long as a player *holds* the man which he has touched, he may play him where he pleases; but the instant he quits his hold, he completes the move, and cannot recal it.

9. If a player moves a piece belonging to his opponent, he may be

compelled to take it, if it can be taken, to replace it and move his king, or else to leave it where he played it.

10. If a player captures one of his opponent's pieces with one of his own that cannot take it, without committing *a false move*, his opponent may insist either upon his taking such piece with one which can legally take it, or to play the piece he touched.

11. If a player takes one of his own pieces with another, his opponent may insist upon his moving either of them.

12. If a player makes *a false move*, such as giving the queen the move of a knight, &c., his antagonist may compel him either to let the piece remain where he played it, to put it in its right move, or to replace it where it originally stood, and then to play the king instead.

13. If a player moves twice in succession, the opposing party may if he chooses, insist upon the second move remaining.

14. A pawn advancing two squares, may be captured by one of the opposite pawns "*en passant*."

15. The king may not be castled, if he has been moved, or if he is in check, or if, when castling, either of the squares he must go upon be in check, or if the rook with which he endeavours to castle, has been moved. If, however, a player castles in any of these cases, it is at his antagonist's option to allow the move to remain, or the pieces to be replaced, or insist upon his playing his king or rook. A piece cannot be taken when castling. A player giving the odds of the rook may castle on that side, as if the rook were on the board.

16. If a player touches a piece or pawn, which he cannot move without leaving his king in check, his opponent may request him to move the king; if the king, however, cannot be moved, the mistake occasions no penalty.

17. If a player gives check, and fails to warn his adversary of it by saying "check," his opponent is not obliged to notice it, but may go on without paying attention to the check. If, after one or more moves, the king should be still in check, and the error is then discovered, the whole of the subsequent moves must be put back, and the king moved out of check, or a piece interposed.

18. If a player finds that his king is in check, and that it has been so during two or more moves, without his knowing how it originated, he must recal his last move, and liberate his king. But if it is found out how the check occurred, then all the moves made after the check happened, should be recalled, and the check attended to.

19. If a player says "*check!*" *without giving check* in reality, and if it is his opponent, through that saying, has moved his king or any other piece, he *may withdraw his last move*, provided he finds that his king is *not* in check previous to his antagonist's moving.

20. If a pawn reaches its *eighth square*, or the opposite end of the board, it may be replaced by a a queen, rook, or any other piece the player chooses; this law holds good if the player has not lost a piece, so that he may have two queens, three rooks, &c., on the board at once.

21. If a player towards the finish of a game possesses a superiority of numbers, he must give checkmate in fifty moves, or the game is reckoned drawn; as, for instance, if he has a king, a bishop, and a knight, opposed to a king only, he should checkmate in fifty moves on each side at most, to commence from the time his antagonist gives him notice, otherwise he must suffer it to be a drawn game. If a player agrees to check with a *particular piece or pawn*, or *on a particular square, or engages to make his adversary checkmate or stalemate him*, he is *not restricted* to any number of moves.

22. Stalemate is a drawn game.

23. No penalty can be inflicted upon an adversary for making false moves, unless you take notice of such mistakes before you move or touch a piece.

24. Disputes upon situations respecting which there is no law, should be referred to a third party, whose decision must be esteemed *conclusive and without appeal.*

TECHNICAL TERMS USED IN CHESS.

CASTLING is a movement of the king and either of the rooks, which can be made only once in a game by each party, under certain limitations. This move is thus performed:—In castling with the king's rook, place the king upon the king's knight's square, and the king's rook on the king's bishop's square; and when castling with the queen's rook, play the king to the queen's bishop's square, and the queen's rook to the queen's square. In either case the king passes over two squares, and the rook is brought over and posited on the adjoining square.

CHECK.—When the king is attacked he is in check, that is, when he is in such a position, that, were he any other piece, he would be taken. But as a king at chess can never be taken, he is said to be *in check*. There are three sorts of checks, a simple check, a double check, and a check by discovery. The first is when the king is attacked by the piece that is moved. The second is when two pieces give check at once; and the third takes place when, from the moving a piece away, a check is open from another piece; for instance, put your king on his own square, and your opponent's queen on her king's second square; let there be no other piece on the squares on that file, and place your opponent's queen's bishop on his king's third square; you will then readily perceive that this bishop hinders his queen from checking you, but when he moves his bishop to another square, he *discovers check* from the queen. A

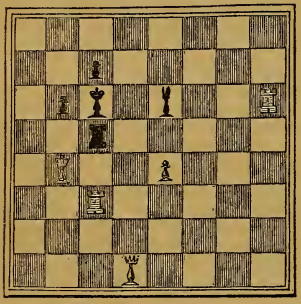
check can be done away with only by moving the king, or interposing a piece between, or else by taking the piece which gives the check.

PERPETUAL CHECK is a continual alternation of checks, in which the king avoids one only to fall into another. Suppose the men are thus posited—

BLACK.	WHITE.
K. at K. Kt. sq.	K. at K. R. sq.
P. at K. Kt's. 2nd sq.	Q. at K. sq.
Q. at her R. 7th sq.	
Q. R. at his 6th sq.	

The white having the move, can draw the game, checking at the opposing king's square, and again at the adverse king's castle's fourth square, and back again at adverse's king's square, and so on *ad infinitum*.

CHECKMATE.—The king is said to be *checkmated* when he can neither move out of check, capture the piece which checks, or interpose any piece to protect himself. The player checkmated, of course, loses the game.



The annexed diagram* shows a position of the pieces in which, at the next move, the king will be checkmated, and this move must be the queen to her fifth square. The king cannot take her, as the pawn would then capture him; nor can the bishop take the queen, as the white king's rook might take the king; nor could the rook take the queen, as the white queen's rook would carry off the king, so that all the squares being guarded, he is, of course, checkmated.

STALEMATE.—A king is stalemated when all the men of the set to which he belongs are either off the board, or so opposed that they cannot move, and he himself in such a situation that, though not actually in check, he cannot move without going into check. Stalemate is a drawn game.

FOOL'S MATE.—This checkmate happens to beginners, and is the shortest which can possibly occur, being given in two moves, thus:—

BLACK.	WHITE.
1 K. B. P. one square.	1 K. P. two squares.
2 K. Kt. P. two squares.	2 Q. to K. R. fifth square, checkmating.

* From Lewis.

SCHOLAR'S MATE also occurs to beginners, and is thus played:—

WHITE.	BLACK.
1 K. P. two squares.	K. P. two squares.
2 K. B. to Q. B. fourth square.	K. B. to Q. B. fourth square.
3 Q. to K. R. fifth square.	Q. P. one square.
4 Q. takes K. B. P. and checkmates.	

DOUBLED PAWN is a pawn which has passed from its original file to another, through capturing an opposing piece, and which, consequently, stands on the same file as another of its own colour.

PASSED PAWN.—A pawn is said to be *passed* when there is no opposing power to hinder its progress to the queenly dignity.

TO QUEEN A PAWN, QUEEN THE PAWN, OR THE PAWN GOES TO QUEEN. These terms are applied to a pawn which has reached the last row of squares, and for which you may demand a queen.

MINOR PIECE is applied to the bishops and knights.

J'ADOUBE is a French phrase, denoting "I replace," or "I adjust."

EN PASSANT.—Taking "en passant" is when at the pawn's first starting it is played two squares at once, and passes over a square threatened by a pawn of your adversary's, who has the privilege of taking it, as if it had only moved one square; thus:—If you have a pawn on your king's second square, and your opponent has a black pawn on his queen's fifth square, and another pawn on his king's bishop's fifth square, and you play your pawn one square, he can take it with either of his pawns, and if you move your opponent two squares, your opponent may take it as if it had moved only one square, inasmuch as it passes over a square, the white king's third, which is commanded by one of his pawns.

TO GAIN THE EXCHANGE.—If a player gains a rook for a minor piece, he is considered to have gained the exchange.

DRAWN GAME happens when neither player can give checkmate, and which may occur in several ways, thus—When there are not men enough on the board; when both players continue making the same moves; when there are enough men on the board, but the players know not how to checkmate in fifty moves; when perpetual check is maintained on the antagonist king; when each party has a small and equal number of powerful pieces; and when either king is stalemated.

EN PRISE.—A piece or pawn which can be taken by another is termed "en prise" of that piece, unless it is moved.

GAMBIT is an opening, in which the bishop's pawn is given up for an attacking position. As we give examples of several gambits in the next section, that upon "Opening the game," we refer our readers to them for further elucidation.

OPENING THE GAME.

There are several methods of beginning a game at chess, the most usual of which are as follows:*

1. THE KING'S BISHOP'S OPENING.—In this game each player commences by moving his *king's pawn two squares;* the first player next moves his *king's bishop* to *queen's bishop's fourth square,* and his opponent makes the same move.

2. THE KING'S KNIGHT'S OPENING.—Each player in this opening moves his king's pawn two squares, and the first player next moves his king's knight to king's bishop's third square.

3. QUEEN'S BISHOP'S PAWN'S OPENING.—In this, each player moves his king's pawn two squares, and the first player shifts his queen's bishop's pawn one square.

4. KING'S GAMBIT.—After each player has moved his *king's pawn* two squares, the first player moves his king's bishop's pawn two squares.

5. QUEEN'S GAMBIT.—Each player moves his queen's pawn two squares, and the first player then moves his queen's bishop's pawn two squares.

6. THE MUZIO GAMBIT is a very brilliant opening, and is made by sacrificing a knight, thus:—

BLACK.	WHITE.
1 K. P. two squares.	1 K. P. two squares.
2 K. B. P. two squares.	2 P. takes P.
3 K. Kt. to K. Bp. third square.	3 K. Kt. P. two squares.
4 K. B. to Q. B. fourth square.	4 K. Kt. P. one square.
5 Castles.	5 K. Kt. P. takes Kt.

7. THE BISHOP'S GAMBIT is a difficult but interesting game, and differs from the foregoing gambits on the third move:

WHITE.	BLACK.
1 K. P. two squares.	1 The same.
2 K. B. P. two squares.	2 P. takes P.
3 K. B. to Q. B. fourth square.	3 Q. checks.

8. THE SALVIO GAMBIT is a variation from the king's gambit, and thus played.

WHITE.	BLACK.
1 K. P. two squares.	1 K. P. two squares.
2 K. B. P. two squares.	2 P. takes P.
3 K. Kt. to B. third square.	3 K. Kt. P. two squares.
4 K. B. to Q. B. fourth square.	4 K. Kt. P. one square.
5 K. Kt. to K. fifth square.	5 Q. checks.
6 K. to B. square.	6 K. Kt. to K. B. third sq.

* Lewis.

There are many other openings and gambits in use at the commencements of games, but the foregoing are the most generally followed, and will be found sufficient for the first attempts; we, therefore, proceed to the

GAMES FOR PRACTICE.

Game I. From Lewis.

White	Black.
1 K. P. two squares.	1 K. P. two squares.
2 K. B. P. two squares.	2 P. takes P.
3 K. Kt. to K. B. 3rd square.	3 K. Kt. P. two squares.
4 K. B. to Q. B. 4th square.	4 K. B. P. one square.
5 K. Kt. takes K. Kt. P.	5 P. takes K.
6 Q. checks.	6 K. to his 2nd square.
7 Q. to K. B. 7th sq. checking.	7 K. to Q. 3rd square.
8 Q. to her 5th sq. checking.	8 K. to his 2nd square.
9 Q. to K. 5th square checkmating.	

Game II. From Greco.

WHITE.	BLACK.
1 K. P. two squares.	1 K. P. two squares.
2 K. Kt. to B. third.	2 Q. Kt. to B. third.
3 K. B. to Q. B. fourth.	3 K. B. to Q. B. fourth.
4 Q. B. P. one square.	4 K. Kt. to B. third.
5 Q. P. two squares.	5 P. takes P.
6 P. takes P.	6 K. B. checks.
7 Q. Kt. to B. third.	7 Kt. takes K. P.
8 Castles.	8 Kt. takes Kt.
9 P. takes Kt.	9 B. takes P.
10 Q. to Q. Kt. third.	10 B. takes R.
11 K. B. takes checking.	11 K. to B. square.
12 Q. B. attacks Q.	12 Q. Kt. to K. second.
13 K. Kt. to K. fifth.	13 K. B. takes pawn.
14 K. B. to K. Kt. sixth.	14 Q. P. two squares.
15 Q. to K. B. 3rd checking.	15 Q. B. covers.
16 K. B. takes B.	16 B. takes Kt.
17 K. B. to K. sixth dis. check.	17 K. B. to B. third.
18 B. takes B.	18 P. takes B.
19 Q. takes P. checks and mates next move.	

Game III. From Cazenove.

WHITE.	BLACK.
1 K. P. two squares.	1 K. P. two squares.
2 K. B. to Q. B. fourth.	2 Q. B. P. one square.
3 Q. to K. second.	3 Q. to Q. B. second.
4 Q. B. P. one square.	4 K. Kt. to B. third.
5 K. B. P. two squares.	5 Q. P. one square.
6 K. B. P. advances.	6 Q. P. advances.

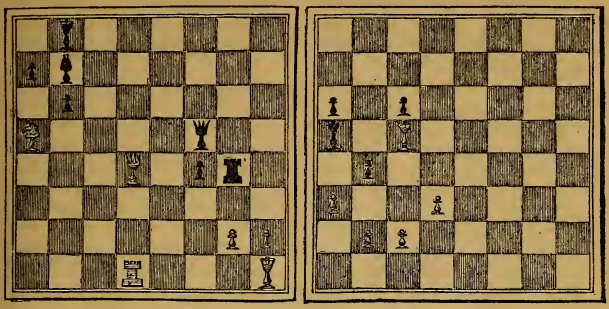
7 K. P. takes P.
8 B. checks.
9 B. takes B.
10 Q. P. two squares.
11 K. Kt. to R. third.
12 Castles.
13 K. Kt. to B. fourth.
14 Q. to K. B. second.
15 Q. to K. second.
16 Kt. takes Q. P.
17 K. to corner.
18 Q. takes K. P.
19 Q. to K.B. third.
20 Q. B. to K. Kt. fifth.
21 B. to Q. second.
22 Q. Kt. to R. third.
23 Q. Kt. to Q. B. fourth.
24 Q. Kt. to R. fifth.
25 Q. B. P. one square.
26 K. Kt. to Q. Kt.sixth check.
27 Q. takes Q. Kt. P. checkmate.

7 Q. B. P. takes P.
8 Q. B. covers.
9 Q. Kt. takes B.
10 K. P. advances.
11 Castles.
12 K. B. to Q. third.
13 K. R. P. one square.
14 Q. Kt. to K. Kt. fifth.
15 K. R. P. one square.
16 B. takes R. P. checking.
17 Q. to Q. third.
18 K. R. to K. square.
19 K. Kt. P. one square.
20 K. B. P. one square.
21 K. Kt. P. one square.
22 Q. R. P. one square.
23 Q. to Q. B. third.
24 Q. to Q. Kt. fourth.
25 Q. to Q. R. fifth.
26 Kt. takes Kt.

Game IV. From Lewis.

WHITE.	BLACK.
1 K. P. two squares.	1 The same.
2 K. B. to Q. B. fourth.	2 The same.
3 Q. B. P. one square.	3 Q. P. two squares.
4 B. takes P.	4 K. Kt. to B. third.
5 Q. to Q. Kt. third.	5 Castles.
6 B. takes Q. K. P.	6 Q. B. takes B.
7 Q takes B.	7 Q. to Q. sixth.
8 Q takes R.	8 Q. B. P. one square.
9 Q. to Q. Kt. seventh.	9 Q. takes K. P. checking.
10 Kt. covers check.	10 Q. takes K. Kt. P.
11 K. R. to B. square.	11 K. Kt. to Kt. fifth.
12 Q. P. one square.	12 Kt. takes R. P.
13 K. Kt. to Kt. third.	13 Kt. takes R.
14 Kt. to K. fourth.	14 Q. to K. Kt. eighth.
15 Q. to Q. Kt. third.	15 Kt. to K. Kt. 6th disco. ch.
16 K. moves.	16 Kt. takes Kt. checking.
17 P. takes K.	17 R. checks.
18 K. moves.	18 Q. checkmates.

The annexed problems of checkmates we give for the young chess-player to study and endeavour to solve, withholding the explanations of them on purpose.



GENERAL OBSERVATIONS.

As we have now treated upon the various laws and rules of chess to the utmost extent of our limits, we proceed to offer a few hints upon the carrying on a game, for the still further edification of our readers.

Every move in chess requiring the utmost circumspection, it is proper to form a slight plan of action ere commencing, and to take care that each piece has its object, and that each move made is a step towards its accomplishment. Protect every piece as much as possible, so that if your opponent manages to gain one, it shall be to his own loss. The least important pieces should be first brought into action, for by so doing room is afforded for the chiefs to advance when opportunities occur. If the dignified pieces are brought into requisition at the commencement they are liable to be attacked by the opposite pawns, and of being either swept off the board, or compelled to retire to disadvantageous situations. Avoid crowding your own men together, so as to prevent your pieces from acting so freely as they should do, but check your adversary's play as soon as you can, by opposing his pieces, when he plays them forwards, with your pawns, so as to crowd his play and make him lose moves. Before making a move, carefully observe the positions of the men, so as to see, if possible, three or four moves beforehand, and narrowly examine whether any of your pieces are threatened by your antagonist's moves. Have your men always so arranged that you may in an instant correct any defective move, either to remedy it if unlucky, or support it if it should chance to prove serviceable.

Never let your queen stand in such a manner before your king that your opponent, by advancing a rook or a bishop, might put your king in check, as you might lose her without any chance of redemption. If your king is in stalemate, and the game is against you, so that you have only your queen in play, your best plan will be to keep checking your antagonist's king, avoiding doing so when he can employ any of his pieces to make himself stale, as you ulti-

mately compel him to take your queen, and conquer by being stalemate. Always guard, if possible, a piece with one of less value than itself, and take especial care to protect a pawn with a pawn, and not with a superior piece.

Never move a man or make an attack unless you can second your attempt by bringing up another piece. Never give check unless you can gain some point, as by checking needlessly you may lose a move, if your antagonist is able to take your piece, or else be compelled to retire; and perhaps by such a movement your adversary's ranks may be opened, so that all his force may be brought against you. If one of your opponent's pieces is unguarded, examine it closely, to see whether it is left so purposely or from accident, for you may lose your game by taking such a stray piece—nay, you may be checkmated even through taking a queen. A far-advanced pawn should be well seconded, as it may be useful in a checkmate, and ultimately make a queen.

When each party, towards the end of the game, has only three or four pawns on the opposite sides of the board, to decide the game it will be necessary to bring the kings into action to gain the move; thus, if you oppose your king to your antagonist's, and there is but one move between them, you gain the move, and win the game. Avoid crowding your pieces round your opponent's king, so as to hinder him from making a move, as you may lose the game by making him stalemate. If you find it impossible to guard a point sufficiently, distract your opponent's attention by attacking him in a weak point. Never let an opposing knight, especially if well supported, check your king and queen, or your rook and king, or both your rooks, or your queen and rook, at the same instant, for in the former cases, as the king must necessarily be moved out of check, the queen or the rook must be lost; and in the two latter cases a rook must be sacrificed for an inferior piece. If, during a game, you find, upon mature reflection, that you may break your adversary's defence by risking the loss of a few of your own pieces, hazard them cheerfully, and proceed steadily on, sacrificing everything to the end to be attained. But before trying such movements, you must take especial notice of the positions of your adversary's men, and form a decided plan of movement, from which, when once you have formed it, you must not deviate to take any pieces which may be thrown in your way to mislead you.

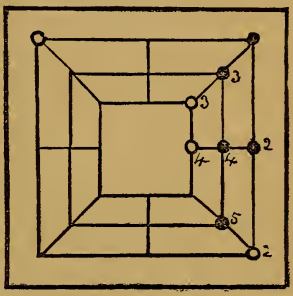
CONCLUSION.

Although we have endeavoured to render this little treatise as explicit and complete as possible, yet we are sensible that some few matters have been too slightly touched upon to afford that explanation which they require; we feel, therefore, that we cannot do better than direct the attention of such of our readers as may wish to be thorough proficients in the noble game of chess, to study two or three most interesting works by Mr. Lewis, called "Chess for Beginners," and "First and Second Series of Lessons on Chess." "A

new Treatise on the Game of Chess," and "Chess Made Easy," by Mr. George Walker, are very excellent; and a little manual called "A New Guide to Chess," contains much information, at a very moderate price.

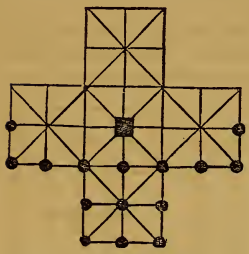
MORRICE.

MORRICE ought certainly to find a place among games of skill, although it ranks far below chess or draughts. The morrice board shown in the annexed engraving may be constructed either of wood or pasteboard. The men may be ordinary draughtmen, and in playing the game nine of each colour are required. The players place their men on the board one at a time, and when they have played them all they move them along the lines on the board one space at a time. The illustration shows a game commenced, black having played first, the figures indicate the order in which the men were put down by the two players. In placing the men on the board, and in moving them about when they have all been put down, each player endeavours to get three of his colour in a straight line, as he is then entitled to remove one of his opponent's men from the board. In the game we have illustrated, black, by his fifth move, forms the first row of three, and he may take off a white man before his opponent plays. He would, as a matter of course, take off either the third or fourth white man to prevent his opponent forming a complete row. The game continues until one of the players has forfeited all his men but two, when he loses the game, as it is impossible for him to gain a row, while his adversary having three or more men may do so easily.

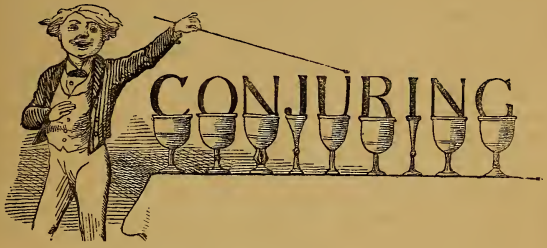


FOX AND GEESE.

FIFTEEN ordinary draughtmen compose the flock of geese. The fox may either be two draughtmen placed one upon another, or any small object which may be at hand. The game is played on a board marked, as shown in the annexed engraving. The fox is placed in the middle of the board, and the geese on the points on one side of it, as shown in the illustration. The game is to confine the fox to some spot on the board, so that there shall be either the edge of the board or else two rows of men round him. When the fox cannot escape the game is done, and the player of the geese wins, but when one of the geese is left on a point next to that occupied by the fox, and is not supported by another goose behind, or by the edge of the board, the fox can take it, and by jumping over its head to the next space, he may, perhaps, escape the persecutions of some of the others, as all the geese are compelled to move forwards towards the end of the board that was unoccupied at the commencement of the game. The fox is allowed to move either backwards or forwards. Neither fox nor goose must be moved more than one space at a time. If the fox neglects to take when he has a chance he is huffed, and one of the captured geese is restored to the back of the board. The fox should avoid getting into the lower square of the board if possible, as he will find it difficult to extricate himself from a position which can be so easily blockaded.



Fox and geese may be played on an ordinary draughtboard, but the flock of geese must be reduced in number to four. The fox has all the privileges of a king in draughts ; that is to say, he may move either forwards or backwards. His position at the opening of the game is on one of the four white squares next to his player. The four geese can only move forward like ordinary draughtsmen, and they are placed on the four white squares on their player's side of the board. The game is similar to that played on the cross-shaped board. The player of the geese endeavours to block the fox up in a corner ; and the player of the fox tries to push his piece through the line of geese, and so place him beyond the reach of further persecutions. The fox can jump over the head of any goose that is not supported by another, or by the edge of the board.



As the multifarious performances of the

"Nimble jugglers, that deceive the eye,"

have in all ages been especial favourites of the people, we cannot do better than prelude our conjuring tricks with a brief notice of the early history of the deceptive art.

The origin of legerdemain is lost in its great antiquity, for it would be an utterly hopeless task to endeavour to find out at what precise period men began to deceive their fellow men by sleights of hand, and other specious trickery. Amongst the early Egyptians, some tricks were practised similar to what are displayed in the present day, such as casting up knives and balls alternately, and the cheating trick known by the name of the "thimble rig." Sleight of hand tricks, fire eating, balancing poles upon the forehead, learned pigs, taking up red hot iron, with tumbling, and many other exploits of the same kind, are of classical antiquity; and it would seem, from the accounts still remaining, that the ancient jugglers were no mean proficients in the art they professed.

During the Anglo-Saxon period of English history, Gleemen or Harpers practised legerdemain and other deceptions, and their merry tricks made them especial favourites, not only with the poorer classes, but in the halls of the great, and in the royal courts. They not only singly displayed their tricks, but often associated themselves in companies, so as to add to the interest and complexity of their feats and shows, by the aid of skilful confederacy. They also taught animals to perform various whimsical evolutions, and to tumble.

Soon after the Conquest, the Gleemen lost their Saxon appellation, and were called Ministraulx, or Minstrels, and their art was divided into several branches, one of which included all such men as practised sleights of hand, tumbling, balancing, grotesque dancing, and teaching horses, bears, dogs, and monkeys to dance, and who were called Joculators, Jongleurs, or Jugglers. In the fourteenth cen-

tury, the Jugglers appear to have been separated from the musical poets or true minstrels; and they were at that time frequently termed tregetours, or tragetours; an appellation supposed to have been bestowed upon them from their making use of a trebuchet or trap-door, when showing their tricks upon a scaffold or stage. In addition to the various feats we have mentioned as being performed by these men, there are others described by old authors which show that they employed machinery of various kinds to produce magical appearances, or effects of enchantment; and if we may rely upon the accounts of their skill, they must certainly have been most admirable deceivers. Indeed, they were often ranked with "witches, sorcerers, and magicians," and the tricks they performed were imagined to be mainly produced by the agency of Satan; and if we reflect upon the startling appearances which can be produced by means of such an instrument as the magic lantern, aided by a skilful confederate and well-arranged place in which the scenes are displayed, we shall cease to wonder that multitudes of the people who were ignorant, not of natural philosophy only, but of the simplest rudiments of learning, should have considered that some other than mere human skill must be engaged in producing such astonishing effects.

In the fourteenth century, the jugglers appear to have been in their greatest popularity, but, by degrees, they lost the protection of the wealthy, and fell in the estimation of the people; and, in the time of Queen Elizabeth, were in so great disrepute as to be classed by the moral writers of the time amongst "ruffians, blasphemers, thieves, and vagabonds;" nay, they were even included in a vagrant act, passed in the thirty-ninth year of her reign, and subjected to the same punishments as rogues and sturdy beggars.

In the seventeenth century, juggling was, though sadly shorn of its splendour, still exhibited with effect at country and town fairs and merrymakings, and that compound of cheat and juggler, the mountebank, or quack doctor, blended sleights of hand with his professional avocations. At the present time, the jugglers, instead of feasting and revelling in the houses of the nobility, travel from town to town to pick up a precarious subsistence, by displaying their feats in public-houses, or before miscellaneous crowds in open streets—

"To what base uses may we come at last!"

Such is a brief sketch of the history of the early professors of the ART MAGIC.

LEGERDEMAIN AND SIMPLE DECEPTIONS.

THE SENTINEL EGG. (PAGE 35.)

"Doubtless the pleasure is as great
Of being cheated, as to cheat;
As lookers on feel most delight,
That least perceive a juggler's sleight,
And still the less they understand,
The more they admire his sleight of hand."—*Hudibras.*

THERE is probably no amusement which excites more astonishment and interest in a youthful circle, than a series of adroitly-performed and humorous tricks of legerdemain or sleight of hand, and certainly none more harmless. The tricks contained in this division do not require any special apparatus, and are so simple that they may be successfully performed by any youth who will take the trouble to practise them. We would recommend the reader never to exhibit the simplest feat before others until he has acquired the necessary expertness. With these sleight of hand tricks we give a number of jokes and catches, with which the conjuror may occasionally cause a hearty laugh to be raised at the expense of one of his audience.

TO LIFT A BOTTLE WITH A STRAW.

Take a stout, unbroken straw, bend the thickest end of it into an acute angle, and put it into a bottle, so that its bent part may rest against the side of the bottle as in the annexed figure; then take hold of the other end of it, and if you have managed the trick properly, you will be able to lift up the bottle without breaking the straw, and the nearer the angular part of the latter comes to that which passes out of the neck of the former, the experiment will be so much the more easy of accomplishment.

THE TOBACCO PIPE JUG STAND.

A contrivance with tobacco pipes, similar to that adopted for the bridge of knives, will, if properly put together, form a tolerable stand for a jug of ale. Let the stem of No. 2 rest upon the bowl of No. 1, the stem of which must be placed close to the bowl of No. 3, and the stem of the latter in like manner rested upon the bowl of No. 2.

TO BREAK A STICK PLACED ON TWO GLASSES.

The stick used for this trick must not be very stout, and both of its extremities should be tapered off to a point, and they should be as uniform as possible in length, in order that its centre may be easily known. The ends of the stick must be rested on the edges of the glasses, which of course should be perfectly even in height, that the stick may lie in a horizontal position without any undue inclination either to one side or the other, and if a smart quick blow is then struck upon its centre, proportioned (as near as can be guessed), to its size, and the distance the glasses are from each other, it will be broken in two without its supporters being injured.

THE BOTTLE CONJUROR.

You must preface this trick by declaring to the company that it was formerly supposed to be impossible to set the Thames on fire, and that it was demonstrated some years ago at the Haymarket Theatre, that for a person to crawl into a quart bottle was an utter impossibility, but since then the progress made in all kinds of knowledge has proved it is possible to set the Thames on fire, and that any one may crawl *in to* a pint bottle. This statement will of course be doubted, and to prove your assertion, get a pint bottle and place it in the middle of the room ; then slip outside the door, and in a minute or two return, creeping upon all-fours, saying : "Ladies and gentlemen, this is crawling *in to* the pint bottle !"

THE MYSTERIOUS WAFERS.

In the presence of your company, place on each side of a table-knife three wafers ; take the knife by the handle, and turn it over several times to show that the wafers are all on. Request one of the party to take a wafer from one side of the blade, turn the knife over two or three times, and there will seem to be only two wafers on each side ; take off another wafer, turn the knife as before, and it will appear as if only one wafer was on each side ; take the third wafer off, and again turn the knife dexterously twice or thrice, and it will appear as if all the wafers had disappeared from each side. Next turn the knife once or twice more, and three wafers will appear on each side, as at the first. In performing this trick, use wafers all of one

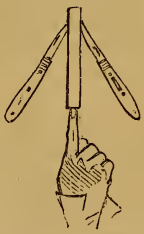
size and colour, and always have one side of the knife uppermost, so that the wafers may be taken one by one from that side; three wafers will thus be left untouched on the other side, and after you have made it appear that there are no wafers on either side, you may to all appearance show three on each. When turning the knife you must, as you lift it up, turn it completely round with your finger and thumb, so as always to bring the same side uppermost.

ADVANTAGEOUS WAGER.

Request a lady to lend you a watch. Examine it and give a guess as to its value; then offer to lay the owner a wager, considerably below the real value of the watch, that she will not answer to three questions which you will put to her consecutively, "My watch." Show her the watch, and say, "What is this which I hold in my hand?" she, of course, will not fail to reply, "My watch." Next present to her notice some other object, repeating the same question. If she names the object you present she loses the wager, but if she is on her guard, and remembering her stake, she says, "My watch," she must, of course, win; and you, therefore, to divert her attention, should observe to her, "You are certain to win the stake, but supposing I lose, what will you give me?" and if, confident of success, she replies, for the third time, "My watch," then take it, and leave her the wager agreed on.

THE BALANCED STICK.

Get a piece of wood six inches in length, and about half an inch in thickness, and near one end of it thrust in the blades of two penknives, in such a manner that one of them inclines to one side, and the second to the other, as delineated in the illustration. If the other end of the piece of wood is then placed on the tip of the forefinger, it will keep itself perfectly upright without falling, and even if it is inclined to one side, it will instantly recover its perpendicular position, being, in reality, kept in equipoise by the knives.



THE LITTLE TUMBLER.

Make a figure of a man out of any very light substance, the pith of the elder tree for instance, which is soft, and can be easily cut into any form. Then provide an hemispherical base, of some heavy material, such as the half of a large leaden bullet, and take away all inequalities which may be on the convex part. Fasten the figure to the plane surface of the bullet, and in whatever position it is placed, when left to itself, it will immediately rise upright.

THE LITTLE BALANCER.

A little figure may be made on the principles of the foregoing trick, so as to balance itself very amusingly. Get a piece of wood about two inches in length, cut one end of it into the form of a man's head and shoulders, and let the other end taper off gradually to a fine point, as shown in the annexed figure. Next furnish the little man with wafters, shaped like oars, instead of arms, which wafters may be somewhat more than double the length of his body; insert them in his shoulders, and he is complete. When you place him on the tip of your finger, if you have taken care to make the point exactly in a line with the centre of his body, and have put the wafters accurately in their places, he will preserve his balance, even if blown about, provided he is not blown with so much force as to drive him off his perch. This little man will cause more surprise than the previous trick, in consequence of the fine point on which he oscillates.

TO FIX A COIN TO THE WALL.

Privately notch the rim of a half-crown, so that a sharp point of silver may stick up; take the coin in your hand, and having uttered some cabalistic word, press it against the door or wainscot in such a manner that the projecting point of silver may enter the wood, and thus sustain the piece. When you remove the coin take care to nip off the raised point, having done which you may safely challenge any person present to perform the feat.

EATABLE CANDLE ENDS.

Pare some large apples, and cut three or four pieces out of them, as neatly as possible, into the shape of candle ends; next cut several slips out of the insides of sweet almonds, and make them nicely round and even, to imitate the wicks of spermaceti candles; insert these wicks into your apple-candles, light them for a moment, to blacken their tips and to render the illusion more perfect, blow them out again, and the candles are complete. When showing the trick you must light your candles (the wicks of which will readily take fire), put them into your mouth, masticate and swallow them one after the other, with all the seeming relish you can possibly put on.

THE ANIMATED SIXPENCE.

If you pierce a very small hole in the rim of a sixpence, and pass a long black horse hair through it, you may make it jump about mysteriously, and even out of a jug. It is necessary, however, to perform this trick only at night time; and to favour the deception as much as possible, a candle should be between the spectator and yourself.

THE FLOATING BEACON.

Affix a candle-end to a piece of lead, and place it very gently on some water in a basin; steady it carefully, so that it may be fairly balanced; then light it, and if it is not disturbed it will burn to the end without sinking.

THE MAGIC APPLE.

Pass a needle and thread under the rind of a soft apple, which is easily done by putting the needle in again at the same hole it came out of, and so passing it on until you have gone right round the apple. Then take both ends of the thread in your hands and carefully pull them, so as to draw the middle portion of the thread through the apple, which will then be divided into two parts. By repeating the process you may divide the fruit into as many parts as you please, without breaking the rind. The apple may be given to some person to peel, and as soon as the rind is removed it will fall to pieces.

THE SENTINEL EGG.

Lay a looking-glass down on a perfectly even table; take a fresh egg, and shake it well for some little while, so as to mix up and incorporate the yolk and the white thoroughly, and with care and steadiness you may then balance it on its point, and make it stand upright on the glass, which it is impossible to achieve when in its natural state.

TO MELT LEAD IN A PIECE OF PAPER.

Wrap a piece of paper very neatly round a bullet, and be careful that there are no wrinkles in it, but that it is everywhere in contact with the bullet; hold it over the flame of a candle, and the metal will be melted without the paper being burnt; but when once fused the lead will in a short time pierce a hole in the paper and drop through it.

THE DANCING PEA.

Take a piece of a tobacco pipe of about three inches in length, one end of which, at least, is broken off even, and with a knife or file, make the hole somewhat larger, so as in fact to form a little hollow cup. Next get a very round pea, put it in the hollow at the end of the bit of pipe, place the other end of the latter in your mouth, hold it there quite in a perpendicular position, by inclining your head back, and then blow through it very softly; the pea will be lifted from its cup, and rise and fall according to the degree of force with which the breath is impelled through the pipe.

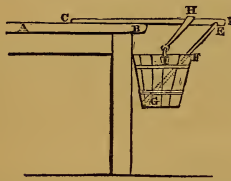
MAGICAL CARDS.

To perform this experiment, you must observe that there are many letters which may be transposed into others, without the alteration being very apparent; for instance, *a* may be turned into *d*, the *c* into *e*, *a*, *d*, *g*, *o*, or *q*, the *i* into *b*, *d*, or *l*, the *l* into *t*, the *o* into *a*, *d*, *g*, or *q*, the *v* into *y*, &c. &c. Take a number of cards, suppose twenty, on one of them write with sympathetic ink made of

the juice of lemons, or a solution of sal-ammoniac, the word *law*, but do not join the letters, and on another card, with the same ink, the words *old-woman;* by holding them before the fire for a short time, the writing will become visible. Next alter (with the same ink) the *a* in the word law into *d*, place an *o* before the *l*, and add *oman* after the *w*, and the word will thus be turned into *old-woman*. Allow these alterations to remain invisible, that is, do not hold the card before the fire, and then write on the other cards whatever you think proper. Present the cards to two persons, and contrive to force one to take the word *law*, and the other the words *old-woman*, and tell the former that the word *law* shall vanish, and that words like those written on the other card be substituted for it; to show them that you will not change the cards, request each one to write his name on the back of the card which he drew; you then place the cards together, and hold them before the fire, as if for the purpose of drying the names just written, and the action of the fire will bring out the dormant powers of the sympathetic ink, and the word law will be changed into *old-woman*, as you foretold.

TO SUPPORT A PAIL OF WATER BY A STICK, ONLY HALF OF WHICH, OR LESS, RESTS UPON THE TABLE.

Let A B be the top of the table, and C D the stick which is to support the bucket; place the handle of the bucket on this stick, in such a manner that it may rest on it, in an inclined position, as H I, and let the middle of the bucket be a little within the edge of the table; to keep this apparatus properly in its situation, place another stick, E F G, with the end G resting against the side of the bucket, at the bottom, its middle F, resting on the opposite top edge of the bucket, and its other extremity E, against the first stick C D, in which a notch must be cut to retain it. The bucket will be thus kept in its situation, without inclining to either side; and if not already full of water, may be filled with safety.



TO MAKE A SHILLING TURN ON ITS EDGE ON THE POINT OF A NEEDLE.

Take a wine bottle, and insert in the neck of it a cork, in which you next place a needle in a perpendicular position. Cut a nick in the bottom of another cork, and fix a shilling in it, and into the same cork stick two common table-forks opposite to each other, with the handle inclining downwards, as in the annexed engraving. If the rim of the shilling is then placed upon the point of the needle, it may be turned round without any risk of falling off, as the centre of gravity is below the centre of suspension.

THE IMPOSSIBLE OMELET.

Produce some butter, eggs, and other ingredients for making an omelet, together with a frying-pan, in a room where there is a fire, and challenge any person to cook an omelet with them. As the eggs have been previously boiled very hard, the cleverest cook will be unable to accomplish this culinary feat.

TO TURN A GOBLET OF WATER UPSIDE DOWN, AND YET KEEP THE WATER IN IT.

This is an exceedingly good trick when performed adroitly. Fill a goblet with water, lay a piece of paper on the top of it, and place the palm of your left hand flat on the paper, and press it closely down; then take hold of the foot of the goblet with the right hand, and invert the position of the glass, still pressing the paper close with the left hand. Hold it in this manner for a minute or two, and then withdraw the left hand, when the paper will remain attached to the glass, as shown in the illustration; for the pressure of air underneath, acting against the paper with a superior weight to that of the water, is sufficient to retain it in its position, and consequently sustain the water in the goblet.

TO TAKE A SHILLING OUT OF A HANDKERCHIEF.

For this trick you must procure a curtain ring of exactly the size of a shilling. At first, you put the shilling into the handkerchief; but when you take it out to show that there is no deception, you slip the ring in its stead, and while the person is eagerly holding the handkerchief, and the company's eyes are fixed upon the form of the shilling you seize the opportunity of putting it away secretly. When the handkerchief is returned to you again, cautiously withdraw the curtain ring and show the shilling.

A GOOD CATCH.

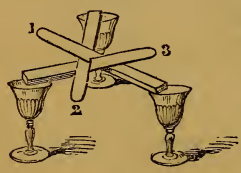
The following is a good catch; lay a wager with a person that to three observations you will put to him, he will not reply "a bottle of wine." You then begin with some common place remark, such as, "We have had a fine, or wet, day to-day," as it may be; he will answer, of course, "a bottle of wine." You then make another remark of the same kind, as, "I hope we shall have as fine, or finer to-morrow," to which he will reply, as before, "a bottle of wine." You must then catch him very sharply, and say, "Ah! there, sir! you've lost your wager;" and the probability is, if he is not aware of the trick, he will say, "Why, how can you make that out," or something similar, forgetting that, though a strange one, it is the third observation you have made.

THE THREE SPOONS.

This is a most excellent trick, but it requires a confederate's aid. Place three silver spoons crosswise on the table, and request any person to touch one and assure him that you will find out the one he touches by a single inspection, although you will leave the room while he does so, and even if he touches it so gently as not to disarrange the order in which they are once put, in the slightest degree. You retire, and when he gives you notice to enter, you walk up to the table and inspect the spoons, as if trying to ascertain whether there are any finger marks upon them, and then decide. Your confederate, of course, makes some sign, previously agreed upon, to give you notice which is the identical spoon; the actions may be touching a button of his jacket for the top spoon, touching his chin for the second, and putting his finger to his lips may signify the lowest, but the precise actions are immaterial, so that the spoon they indicate is understood.

BRIDGE OF KNIVES.

Place three glasses about the length of one of the knives you intend to use, distant from each other, so as to form a triangular figure; and then arrange three knives upon them, in the manner shown in the annexed illustration: that is, let the blade of No. 1 pass over that of No. 2, and the blade of the latter cross over that of No. 3, which in like manner must rest upon No. 1, they will thus support each other, and the bridge will be complete.



THE MAGIC CIRCLE.

Assure the company that it is in your power, if any person will place himself in the middle of the room, to make a circle round him, out of which, although his limbs shall be quite at liberty, it will be impossible for him to jump without partially undressing himself, let him use as much exertion as he may. This statement will, without doubt, cause some little surprise, and one of the party will, in all probability, put your asseverations to the test. Request him to take his stand in the middle of the rooms then blindfold him, button his coat, and next with a piece of chalk draw a circle round his waist. On withdrawing the bandage from his eyes, and showing him the circle you have described, he must at once perceive that he cannot jump out of it without taking off his coat.

THE JUGGLER'S JOKE.

Take a little ball in each hand, and stretch your hands as far apart as you possibly can, one from the other; then tell the company that you will make both the balls come in whichever hand they please

without bringing the hands into contact with each other. If any of the lookers on challenge your ability of achieving this feat, all you have to do is to lay one of the balls down upon a table, turn yourself round, and take it up with your other hand. Both the balls will thus be in one of your hands, without the latter approaching each other, agreeably to your promise.

THE GLASS OF WINE UNDER THE HAT.

Place a glass of wine upon the table, put a hat over it, and offer to lay a wager with any of the company that you will empty the glass without lifting the hat. When your proposition is accepted, desire the company not to touch the hat; and then get under the table and commence making a sucking noise, smacking your lips at intervals, as though you were swallowing the wine with infinite satisfaction to yourself. After a minute or two come from under the table, and address the person who took your wager with, "Now, sir." His curiosity being of course excited, he will lift up the hat in order to see whether you have really performed what you promised, and the instant he does so, take up the glass, and after having swallowed its contents, say, "You have lost, sir, for you see I have drunk the wine without raising the hat."

TRICKS REQUIRING SPECIAL APPARATUS.

Nearly all those marvellous tricks performed by Houdin, Robin, Anderson, and other modern professors of the magic art, require the most elaborate apparatus. Boxes with false bottoms, double covers, and spring locks, are invaluable aids to the conjuror, as the feats he can perform with them far surpass those which depend upon mere sleight of hand. All the apparatus required to furnish a modern wizard's temple, may be procured at the London toy-shops. The tricks we are now about to describe can be performed with such apparatus as can be manufactured by the reader, or purchased for a trifling sum.

THE HEN AND EGG BAG.

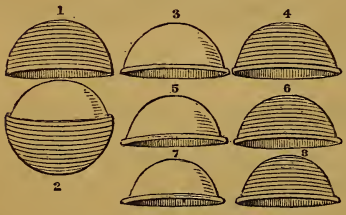
Make a large double bag of printed calico, and near the mouth of the bag, on the side next to you, form a kind of long purse between the double stuff; this purse must be just large enough to hold a row of eggs, and must have an opening at one end of it large enough to let a single egg drop through it into the bag. Have another bag so like this, that one may not be known from the other, and having put a living hen into the second bag, hang it on a hook behind the table at which you stand while performing your tricks. Now take your egg-bag, and putting both your hands in it, dexterously turn it inside out, saying, "Ladies and gentlemen, you see there is nothing in the bag." Now, turn it again, and allow one of the eggs to slip out of the purse · show this egg to the company, and once more turn

the bag inside out. When all the eggs contained in the purse have been taken from the bag, cleverly change the empty bag for the one in which the hen is imprisoned. The sudden production of the living bird never fails to excite the greatest astonishment. This is an excellent trick when adroitly performed.

AMPUTATION EXTRAORDINARY.

To perform this feat you must be provided with two knives, one of which must have a small semicircular piece cut out of the blade. Having shown the company the real knife, you quickly change it for the one with the gap in it, which you place across your nose in such a manner that your principal feature may appear to be half cut off. When you remove the knife be careful to cover the gap with your fingers, and lose no time in changing it for the knife with the entire blade. This feat may be made more horrifying by squeezing a small sponge soaked in red wine over the imaginary wound.

THE GLOBE BOX.



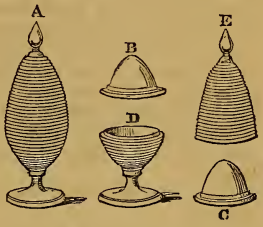
This trick is a very excellent one. It is performed with a box made of eight pieces, and a ball of ivory or wood. The ball serves to deceive the spectators, and the trick should be prefaced by throwing it down upon the table, for the company to examine, and see that it is perfectly solid. Then put the ball in the box, and close it up, with all the pieces one within the other; take off the upper shell with your forefinger and thumb, and there will appear a ball in the box, but of a different colour to that which was put in. The globe-like form thus displayed looks like a real ball, but in reality it is no more than a very thin shell of wood, neatly turned to that shape and painted, and the other changes are produced in the same way, as may be perceived by reference to the illustration. No. 1 is the outer upper shell of the box, taken off of the outer under shell No. 2, the top of which represents an inner globe; 3 is an inner globe; 4, its cover; 5, another inner globe; and 6, its cover; 7 is a third globe; and 8, its cover. These globe boxes may be made with as many changes, and as varied in colours, as the performer pleases.

THE BARBER'S POLE.

Cut a number of sheets of coloured paper into strips about an inch wide, and then paste the ends of the different strips together; when dry, roll up the long paper band, just as you would a piece of tape, and secure the loose extremity with paste. Conceal this roll of paper in your left hand, and having informed the company that you are

about to set up in business as a barber, clap your left hand to your mouth, and commence pulling out the paper coil with your right, until it takes the form of a tapering pole. A loop of string or a tassel should be fastened to the middle of the coil, so that you may have something to take hold of. By employing a long strip formed of two different coloured papers, the resemblance between the roll when pulled out and a barber's pole is rendered more striking.

THE EGG-BOX.



The egg-box is made in the shape of two beehives, put together, as shown at A. B, an inner case, or box, is covered with half the shell of a real egg; another shell, C, is of the egg-shape, but rather larger than the other, and E is the cover, or upper part of box, D. Put E upon C, and both upon B, and then all three upon D; when done, the box is ready for showing the trick. Then call for an egg, and request the spectators to look at it, and see that it is a real one. Next take off the upper parts, E, B, and C, with your forefinger and thumb, place the egg in the box, and say, "Ladies and gentlemen, you all see that it is fairly in the box;" uncover it and say, "You shall see me as fairly take it out;" suiting the action to the word, putting the egg into your pocket in their sight. Next, open your box again, saying, "You perceive that there is nothing in it;" place your hand about the middle of the box, and take C off, without B, and say, "There is the egg again;" it will appear to the spectators to be the identical one which you put in your pocket; and then, putting C on, and taking it, together with the inner shell B, off, exclaim, "It has vanished again!" which will really appear to be the case.

THE BOTTLE IMPS.

Procure from a glass-blower's three or four little hollow figures of glass, about an inch and a half in height, representing imps, or else pantomimic figures, such as harlequin and columbine, and let there be a small hole in each of their feet. Immerse them in a glass jar, about fifteen inches in height, filled with clear water, and then tie a bladder, or, what is better, a piece of sheet indiarubber, over the mouth of the bottle. Each figure, with the air contained in it, must be just light enough to float in water. When you wish your figures to sink, press your hand closely on the bladder, and thus force a little water into each; when you wish them to rise, remove your hand, and the elasticity of the air contained in the imps will force the water out again. You may thus keep your bottle imps dancing about the middle of the jar as long as you please, to the astonishment

of those who are ignorant of the simple pneumatic law upon which their movements depend.

THE DOLL TRICK.

This is a most amusing and puzzling trick when well managed. The conjuror draws from his pocket a comical little wooden doll, which he introduces to the company by some such speech as the following:—

"Ladies and gentlemen,—This wonderful little fellow is my invisible courier. I send him on all my important errands, and I have so much faith in his discretion that I do not hesitate to confide to him my most precious secrets. He is a most faithful and disinterested servant, and although he has been in my employ ever since he was carved, he has never once asked me for any wages. I am just about to dispatch my little friend to my esteemed patron, the Cham of Tartary, therefore if any of you have any messages to send to his Magnificence, I will take care that they shall be delivered. Now, Master Peter, prepare for your journey. Hey, Presto! Begone!"

The conjuror looks at the doll as though astounded by its disobedience.

"Why don't you go, sir? What do you mean by looking so wooden when you know very well that his Magnificence is anxiously expecting you?"

The conjuror now places the doll to his ear, in order to learn the cause of its stubbornness, then putting it down on the table, he says, in a milder tone—

"Poor Peter! I am to blame. How could I think of sending you to the Great Cham's court without your new silk gown?"

The performer now produces a little embroidered cloak which he puts over the doll, so as to conceal every part of it but the head.

"There, are you satisfied now, Master Peter?"

The conjuror having his hand under the cloak, twists the doll about so that it seems to shake its head.

"Oh! I understand now. You want some money to pay your travelling expenses?"

The doll's head now nods affirmatively, and the performer conveys his hand to his pocket and back again to the doll, saying—

"If you see nothing, ladies and gentlemen, you must not be surprised, as my courier uses invisible money."

The conjuror holding the doll in his right hand, now places the forefinger of his left on its head, and repeats the mystic words, "Hey, Presto! Begone!" Immediately after he turns up the cloak and shows the company that there is no doll inside it, and to make this fact still more striking, he rolls up the cloak into a ball and throws it on the table. Having performed some other feats, the conjuror picks up the little cloak and says—

"See how I have rumpled Master Peter's new gown, the poor fellow will be heart-broken to find it in this state when he comes back."

While the performer is spreading out the cloak Master Peter suddenly pops his head through it to the great astonishment of the beholders.

A very few words will suffice to explain how this excellent trick is managed. In the lining of the cloak a little pocket is made just large enough to hold the doll's head, which is formed of a separate piece of wood, and is attached to the body by a wire pin. When the performer pretends to get the doll some money, he dexterously brings away the body from beneath the cloak; he afterwards moves the doll's head about by means of the pin, and when he dispatches the courier on the journey, he pushes it into the pocket of the cloak with the forefinger of his left hand.

THE MAGIC BOOK.

Procure a book of plain paper of whatever size and thickness you please. Leave the first leaf blank; on the second paint a flower; on the third, a head; on the fourth, a playing card; on the fifth, a bird; and on the sixth, a ship. Now, recommence the series of subjects by leaving the seventh leaf blank, and then following on with a flower, a head, a card, a bird, and a ship; proceed in this way until you have filled up your book. Now divide the edge of each leaf into six equal parts, and cut out a number of slips of parchment or paper of the length of one of the divisions, and half an inch broad. Paste one of these slips on the top division of the first blank page, another on the second division of the leaf having a flower painted on it, another on the third division of the leaf bearing a head, and so on until you have pasted a slip on every leaf. Each slip should project a quarter of an inch beyond the edge of the leaf on which it is pasted. To exhibit the magic book, hold it by the back with the right hand, and place the thumb and finger of your left upon the first slip; run the book through and it will appear to be empty; then place your thumb upon the second slip, run the book through again and it will seem to be filled with flowers; in this way you go through all the changes, and while doing so you take care to use certain cabalistic words, and to blow upon the magic volume in order to add to the effect of the exhibition. Instead of pasting parchment stays upon the edges of the leaves, you may, if you like, cut the edge of each leaf so as to leave a projecting piece of paper. The reader will scarcely require to be told, that a magic book may be constructed with a much greater number of changes than six, and that we only chose that number for the sake of simplicity.

THE RICE TRICK.

This is a most surprising deception, yet so easy of performance that any one may venture to exhibit it after one or two trials in private. The apparatus required are, a little circular measure of wood or pasteboard, about two inches in height and a inch and a half in diameter, a conical cup of tin painted black inside, a linen bag full of rice, and a little wooden striker to be used in measuring the grain.

Privately pour a measure of rice into the tin cup, and cover the rice over with a well-fitting disc of blackened pasteboard, so that the cup may be safely inverted on the table. Let us now explain to the reader the peculiar construction of the little measure, as in this the whole secret of the trick lies. The bottom of the measure is slightly raised, and upon the under side of it some grains of rice are glued, so that when inverted the deceptive little vessel appears to be full. In performing the trick you must pull the measure out of the rice bag and exhibit to the company, taking care to prevent anybody seeing the under side; you now return the measure to the bag, invert it, and bring it out again with some loose rice heaped upon the grains that are glued to the bottom. Placing the measure on the table, you strike off the loose grains and make some remark about liking fair measure; you then cover it with a hat, and at the same time contrive to turn it right side upwards. Now raise your tin cup, and having drawn the spectator's attention to the fact that there is nothing under it, clap it down on the table with sufficient force to loosen the pasteboard disc. Uncover your measure to show that it is empty, then gently raise the tin cup and the rice will run out of it and conceal the fallen cover.

TRICKS WITH CARDS.

TELLING THE NUMBER OF CARDS BY THEIR WEIGHT. (PAGE 47.)

ALTHOUGH a proficiency in games with cards is in our opinion a most pernicious accomplishment for youth, and one which cannot be too severely reprobated, we do not consider SLEIGHT-OF-HAND TRICKS with a pack of cards as at all objectionable, but rather as a source of much harmless amusement; under this impression, we do

not hesitate to insert the following series of excellent deceptions and sleights-of-hand.

When and by whom cards were invented is involved in obscurity. Some authors imagine that they are of Asiatic origin, some that they are of French, and first made as an amusement for Charles the Sixth, who was a lunatic. One author contends that the Germans can lay claim to the invention, and another puts forward some conjectures, assigning the merit of the earliest use of them to the English. The most feasible opinion, however, is that they were invented in Spain, for so early as the year 1378, John the First, king of Castile, forbade card-playing in his dominions, in an edict which is anterior to any similar legislative measure in other parts of Europe. The figures upon the cards themselves add to the strength of the supposition; for the suits answering to those of spades and clubs have not the same inverted heart and trefoil shape which ours of the present day display, but *espadas*, or swords, and *bastos*, or cudgels, or clubs; so that in fact, we retain their names though we have altered the figures At the present time, too, cards are a favourite diversion of the Spaniards, and the monopoly of selling them is vested in the hands of the sovereign.

At the first introduction of cards they were all drawn and coloured by hand, and were consequently very valuable; but in course of time, as the demand increased, a more expeditious mode of manufacturing them was resorted to, and the outlines of the different figures were cut upon separate blocks of wood, and then rudely stamped upon the cards, the colours being afterwards applied by hand. After the invention of engraving on copper, the devices, which were varied according to fancy, were executed by skilful artists upon copper plates, and being tolerably well finished, needed no touching up with colour. The price of the packs of cards was by this method reduced so much, that almost every class of persons possessed them, and as a natural consequence, they led to much vice and immorality.

In the reign of Henry the Seventh, card playing was a very fashionable court amusement; and was so universal amongst all ranks, encouraging gambling, that a statute was enacted, prohibiting apprentices the use of cards, except during the Christmas holidays, and then only in their master's houses, and likewise forbidding any householder to permit card playing in his house, under a penalty of six shillings and eightpence for every offence. The cards used in the fifteenth and sixteenth centuries, differed materially in their figures from those now in vogue, as instead of clubs, spades, diamonds, and hearts, they had rabbits, pinks, roses, and the flowers called columbines, upon them; as also, bells, hearts, leaves and acorns, and deer, &c. Enough, however, of this antiquarian dissertation upon cards, let us now turn to the tricks that can be played with them.

FORCING OR MAKING A PASS.

Forcing is a plan by which you compel a person to take such a card as you think fit, while he imagines he is taking one hap-hazard,

or according to his own choice. It is almost next to impossible to describe accurately the method of performing this trick, but it is as follows:—Ascertain secretly or whilst you are amusing yourself with the cards, what the one is which you intend to force, place it in the pack, but keep your eye, or the little finger of your left hand, in which you hold the pack, upon it. Next desire a person to select a card from the pack, for which purpose you must open it quickly from left to right, spreading the cards backwards and forwards so as to perplex his choice, and when you see him about to take one, open the pack until you come to that one which you intend him to have, and, just at the moment his fingers are touching the pack, let its corner project invitingly a little forwards in front of the others; this will seem so fair that in nine cases out of ten he will take the one so offered, unless he is himself aware of the secret of forcing. Having by this method forced your card, you may request him to examine it, and then give him the pack to shuffle, which he may do as often as he likes, for you are of course always aware what card he has taken. A perfect knowledge of forcing is indispensably necessary before you attempt the more difficult tricks with cards.

UPS AND DOWNS.

This is one of the simplest methods of ascertaining what card a person selects. While you are playing with the cards, drop out the diamonds from the ace to the ten, and endeavour, without being observed, to get all the other cards with their heads in the same direction; then desire one of the company to select a card, do not force one, but let him take whichever he pleases; whilst he is looking at it, turn the pack carefully in your hand, so that the position of the pack may be reversed, and then tell him to place the card he has chosen in the middle of the pack; shuffle and cut the cards, and you may instantly find out the chosen one by its head being in a different direction from the rest of the pack.

A CERTAIN NUMBER OF CARDS BEING SHOWN TO A PERSON, TO GUESS THAT WHICH HE HAS THOUGHT OF.

To perform this trick the number of cards must be divisible by 3, and it is more convenient that the number should be odd. Desire a person to think of a card; place the cards on the table with their faces downwards, and taking them up in order, arrange them in three heaps, with their faces upwards, and in such a manner that the first card of the pack shall be first in the first heap, the second the first in the second heap, and the third the first of the third; the fourth the second of the first, and so on. When the heaps are completed, ask the person in which heap the card he thought of is, and when he tells you, place that heap in the middle; then, turning up the packet, form three heaps as before, and again inquire in which heap the card thought of is; form the three heaps afresh, place the heap containing the card thought of again in the centre, and ask which of them contains the card. When this is known, place it as before, between the other two, and again form three heaps, asking

the same question. Then take up the heaps for the last time, put that containing the card thought of in the middle, and place the packet on the table with the faces downwards, turn up the cards till you count half the number of those contained in the packet, twelve, for example, if there be twenty-four, in which case the twelfth card will be the one the person thought of. If the number of the cards be at the same time odd, and divisible by three, such as fifteen, twenty-one, twenty-seven, &c., the trick will be much easier, for the card thought of will always be that in the middle of the heap in which it is found the third time, so that it may be easily distinguished without counting the cards; in reality, nothing is necessary but to remember, while you are arranging the heaps for the third time, the card which is the middle one of each. Suppose, for example, that the middle card of the first heap is the ace of spades; that the second is the king of hearts, and that the third is the knave of hearts; if you are told that the heap containing the required card is the third, that card must be the knave of hearts. You may, therefore, have the cards shuffled without troubling them any more, and then, looking them over for form sake, may name the knave of hearts when it occurs.

TO TELL THE NUMBER OF CARDS BY THE WEIGHT.

Take a pack of cards, say forty, and privately insert amongst them two cards rather larger than the others; let the first be the fifteenth, and the other the twenty-sixth, from the top. Seem to shuffle the cards, and cut them at the first long card; poise those you have taken off in your hand, and say "There must be fifteen cards here;" then cut them at the second long card, and say, "There are but eleven here;" and poising the remainder, exclaim, "And here are fourteen cards." On counting them, the spectators will find your calculations correct.

TEN CARDS BEING ARRANGED IN A CIRCLE, TO TELL THAT WHICH ANY ONE THOUGHT OF.

The first ten cards of any suit should be disposed in a circular form, as in the annexed figure; the ace is counted as one, and is represented in the annexed diagram as such. Request a person to think of a number or card, and to touch also any other number or card; desire him to add to the number of the card he touched the number of the cards laid out—that is, ten, and then bid him count that sum backwards, beginning at the card he touched, and reckoning that card at the number he thought of; by counting thus he will end it at the card or number he first

thought of, and thereby enable you to ascertain what that was. For example, suppose he thought of the number three, and touched the sixth card, if ten be added to six, it will of course make sixteen; and if he counts that number from the sixth card, the one touched, in a retrograde order, reckoning three on the sixth, four on the fifth, five on the fourth, six on the third cards, and so on, it will be found to terminate on the third card, which will therefore show you the number the person thought of. When the person is counting the numbers he should not, of course, call them out aloud.

THE FOUR ACCOMPLICES.

Request a person to draw four cards from the pack, and then to think of one of them. When he returns you the four, contrive to place two of them on the top, and two at the bottom of the pack. Put four cards of any sort under those at the bottom, and then take eight or ten cards from the bottom, spread them on the table, and ask the person if the one he selected is amongst them; if he says it is not, you may be certain it is one of the upper ones. Dexterously slip the top ones to the bottom, draw out the lowest of them, and ask him if that is not his card; if he again says no, you may take up that card, and request him to take his card from the bottom of the pack. If the person says his card is amongst those you drew from the bottom of the pack, you must quickly take up the four cards which you put under them, and place them on the top; let the other two be the bottom cards of the pack, and then draw them in the way before mentioned.

THE NOTED CARD NAMED.

Take several cards, say ten or twelve; remember how many there are, and hold them up with their backs towards you; open four or five of the uppermost, and while you hold them out, request some person to note a card, and tell you whether it is the first, second, or third, from the top; when he has informed you, shut up the cards in your hand, place the remainder of the pack upon them, and tap their ends and sides upon the table, so as to make it seem impossible to find the card in question. It may, however, be easily found, thus: subtract the number of cards you had in your hand from fifty-two, which is the number of the pack, and to the remainder add the number of the noted card, and you will instantly have the number of the noted card from the top.

THE REGAL ALLIANCE.

Take the four kings, and put between the third and fourth any two of the common cards, which of course you carefully conceal. Show the four kings, and then place the six cards—*i.e.*, the kings and the two common cards at the bottom of the pack; next take one of the kings and lay it on the top, and place one of the common cards about the middle of the pack; take the other common card, and do the same with that, and show that there is a king at the

bottom of the pack. Request a person to cut the pack; and as three of the kings were left at the bottom, the whole four will be found together in the middle of the pack.

THE ODD TEN.

Take a pack of cards; let any person draw one and put it back again into the pack, but contrive so that you can find it at pleasure, which by a little practice you will be able to do with the greatest facility. Shuffle the pack, and request another of the party to draw a card, but be sure that you force upon him the card which was drawn before; go on in this way until ten persons have drawn the same card; then shuffle the cards, and show the one you forced, which, from its having been so managed, must of course be the one which every person drew.

THE QUEENS GOING IN SEARCH OF DIAMONDS.

When performing this trick you must proceed in this manner: Tell the company that here are four queens in search of some diamonds (laying down the four queens in a row, and putting four common cards, of the suit of diamonds, separately upon the queens); to aid them in the search they, of course, require a spade (laying down four common cards, of the suit of spades, upon the queens). Their husbands send with them, as an escort, a guard of honour (laying down the four aces), notwithstanding which they are waylaid by knaves (laying down the four knaves), who had formed a conspiracy to kill, and afterwards rob them, for which purpose they had each provided themselves with a club (putting down four common cards of the suit of clubs). The kings, hearing of this plot, resolve to follow and protect their queens (laying down the four kings), and, like chivalrous princes taking good heart, proceed after them (laying down four common cards of the suit of hearts). You now gather the four heaps into one, beginning at the left hand, and allow several persons to cut them; and when a common card of the suit of hearts comes to the bottom of the pack, lay all out again in four heaps, and the cards will follow in the same order as when you laid them down at first.

THE KNAVES AND THE CONSTABLE.

Select the four knaves from a pack of cards, and one of the kings to perform the office of constable. Secretly place one of the knaves at the bottom of the pack, and lay the other three with the constable down upon the table. Proceed with a tale to the effect that three knaves once went to rob a house; one got in at the parlour window (putting a knave at the bottom of the pack, taking care not to lift the pack so high that the one already at the bottom can be seen), one effected his entrance at the first-floor window (putting another knave in the middle of the pack), and the other by getting on the parapet from a neighbouring house, contrived to scramble in at the garret-window (placing the third knave at the top of the pack); the

constable vowed he would capture them, and closely followed the last knave (putting the king likewise upon the top of the pack). You then request as many of the company to cut the cards as please, and tell them that you have no doubt the constable has succeeded in his object, which will be quite evident when you spread out the pack in your hands, as the king and three knaves will, if the trick is neatly performed, be found together. A very little practice only is required to enable you to convey a knave or any other card secretly to the bottom of the pack.

THE PAINTED PACK.

On the backs of half a pack of cards paint a variety of different subjects, such as flowers, birds, grotesque figures and heads; and on the faces of the other half of the pack paint similar subjects, and you will thus have a complete pack of miscellaneous designs. Show the faces of those cards which have their backs painted, and by employing a little adroitness in shuffling you may make it appear as if you transformed them into a series of grotesque figures, and so create much laughter. Another method of making a painted pack is to take a dozen or more plain cards, and draw a line from the right hand upper corner to the left hand lower corner of the face of each of them—by which line they will be equally divided—and delineate in the right-hand division of each card some comical figure, and leave the left-hand division blank. By clever management in shuffling you may, to all appearance, transform what seem plain cards into a painted pack.

TO HOLD FOUR KINGS OR FOUR KNAVES IN YOUR HAND, AND TO CHANGE THEM SUDDENLY INTO BLANK CARDS, AND THEN INTO FOUR ACES.

It is necessary to have cards made on purpose for this trick, half cards, as they may be properly termed—that is, one half kings or knaves, and the other half aces. When you lay the aces one over the other, of course nothing but the kings or knaves can be seen, and on turning the kings or knaves downwards the four aces will make their appearance. You must have two perfect cards, one a king or knave, to put over one of the aces, or else it will be seen, and the other an ace, to lay over the kings or knaves. When you wish to make them all appear blank, lay the cards a little lower, and by hiding the aces they will appear white on both sides; you may then ask which they wish to have, and may show kings, aces, or knaves, as they are called for.

THE FIFTEEN THOUSAND LIVRES.

For this trick you must prepare two cards like the accompanying engraving, and have a common ace and five of diamonds. The five of diamonds and the two prepared cards you must hold as shown in the next engraving, and say, "A certain Frenchman left fifteen thousand livres, which are represented by these three cards, to his three sons; the two youngest agreed to leave their five thousand, each of them, in the hands of the elder, that he might improve it." While you are telling this story, you lay the five on the table, and put the ace in its place, and at the same time artfully change the position of the other two cards, so that the three cards appear as in this engraving. Then, resuming the tale, you relate that "The eldest brother, instead of improving the money, lost it all by gaming, except three thousand livres, as you here see (laying the ace on the table, and taking up the five). Sorry for having lost the money, he went to the East Indies with these three thousand, and brought back fifteen thousand." You then show the cards in the same position as at first. To render this deception agreeable, it must be performed with dexterity, and should not be repeated, but the cards immediately put in the packet; and you should have five common cards ready to show, if any one desire to see them.

SEVERAL CARDS BEING PRESENTED IN SUCCESSION TO SEVERAL PERSONS, TO GUESS WHICH EACH HAS THOUGHT OF.

Show as many cards to each person as there are persons to select—that is to say, three, if there are three persons. When the first has thought of a card, lay aside the three from which he has made his choice. Present the same number to the second person to think of one, and lay aside those three cards also. Having done the same with the third person, lay out the three first cards with their faces uppermost, and above them the next three cards, and above these also the last three, so that all the cards may be disposed in three heaps, each consisting of three. Then ask each person in which heap the card is which he thought of; that being known, it will be easy to tell these cards, for that of the first person will be the first in the first heap; that of the second, the second of the next heap; and that of the third person will be the third of the last heap.

THE CARD DISCOVERED BY THE TOUCH OR SMELL.

Offer the long card, or any other that you thoroughly well know, and as the person who has drawn it holds it in his hand pretend to

feel the pips or figures on the under side with your forefinger, or smell it, and then sagaciously declare what card it is.

If it is the long card you may give the pack to the person who drew it, and allow him either to replace it or not. Then take the pack, and feel whether it is there or not; shuffle the cards in a careless manner, and, without looking at it, decide accordingly.

THE CARD IN THE NUT.

Bore a hole in a nut with a small gimlet, and with a needle break and extract the kernel. Draw the spots of a card on a piece of thin paper, then roll this miniature card into as small a compass as possible, and put it into the nut. Stop the hole up with wax, which rub over with a little dust, so that it may not be noticed. Let some one draw a card, and take care that it be the same as that marked on the paper; when he has returned the card to the pack, desire him to crack the nut, in which he will find his card.

NO CONJUROR.

THIS truly English amusement cannot be too highly extolled, as it is calculated to incite boys to emulate each other in acquiring proficiency in an art which exercises their ingenuity and taste, while it inculcates habits of patient industry. A good sailing ship is rather a troublesome thing to construct, but when a lad sees it "walk the waters like a thing of life," he experiences feelings which fully repay him for all his labour. Every boy ought to learn to swim, if only to prevent anxious parents including boat-sailing with dangerous pastimes that ought not to be encouraged. We are always pleased to see boys sailing their miniature vessels, and we cannot think that an occasional ducking ought to interfere with an occupation so befitting to the youth of a great maritime nation. As long as French boys amuse themselves by playing at soldiers, we trust English boys will continue to build and sail their model ships.

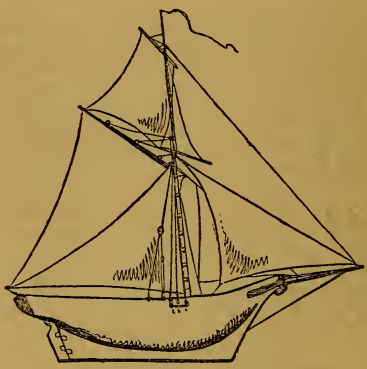
If you wish to possess a good ship you must make it yourself, as the smartly-painted vessels of the toy-shops are usually made to sell and not to sail. To form the hull you will require a few carpenters' tools, such as a couple of chisels, a gouge, and a saw, in addition to that invaluable instrument, a good pocket-knife. Having procured a suitable piece of good white deal with a straight grain, mark a line down the middle, on the upper and lower sides, and at both ends; then mark out with pencil the shape of the intended vessel, which

should be broad in proportion to length, and deep in proportion to the width. Most boys shape their vessels before scooping them out, but it is far better to reverse the process and hollow out the wood before commencing the outside. The deck is to be made of a thin piece of

deal, and must be fitted very accurately, so that no water may enter the hold. A flush deck, without a raised edge or gunwale, is to be preferred, as such a deck does not hold the water.

The mast should be made of strong light wood, should be tapering, and rather long. The less rigging there is the better; two shrouds and a few stays will be enough. The best models for miniature ships are those vessels that are rigged "fore and aft," such as cutters and schooners; square-rigged ships are unmanageable unless made very large.

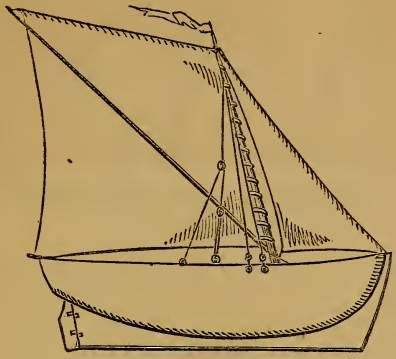
Our first illustration shows a model cutter with her sails set. The principal sail is termed the mainsail; the one above it, the gaff topsail; and the triangular sail attached to the bowsprit, the foresail or jib.



CUTTER.

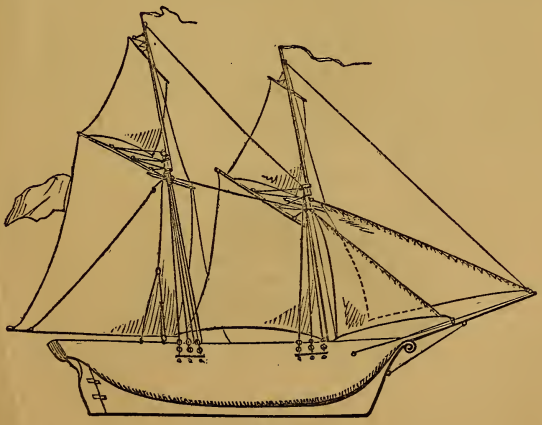
The blocks used in rigging a model ship are to be made of boxwood or alder. The latter is a softer wood than the former, and can be more readily fashioned into shape with a penknife. The holes for the cords should be bored through the pieces of wood before they are shaped into blocks, as it is not easy to drill the blocks without splitting them. The rudder should be attached to the keel by bent pins. The little staples on the keel in which the bent pins work are to be formed of brass wire. The stem of the rudder passes through a hole in the stern of the vessel, and is provided with a tiller. Before launching the ship, the tiller must be fixed so as to keep the rudder at the required angle. Many boys fear to launch their ships in large ponds; but if a ship is properly rigged and answers to her rudder, there need be no doubt as to her safe arrival in port.

The smack is not so graceful as the cutter, but is a capital sailer. The large sail is called a spritsail, from the spar or sprit which crosses it diagonally from the mast to the upper aftmost corner.



SMACK.

A schooner is a vessel with two masts, and fore-and-aft sails like those of a cutter. The schooner-rig is not suited to very small boats.



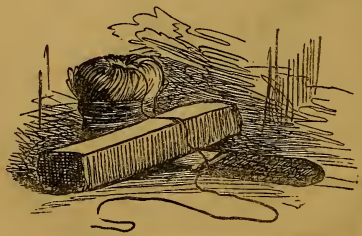
SCHOONER.

The lugg is shown in the annexed engraving. The lug-sail which distinguishes this rig is a square sail fastened to a yard that

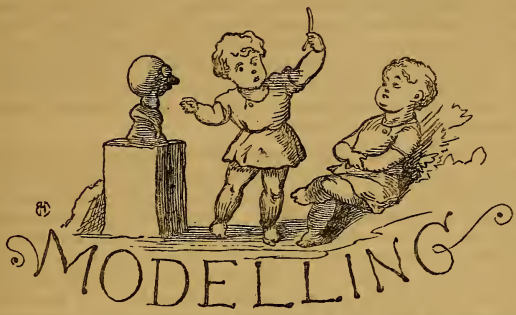
LUGGER.

hangs obliquely to the mast at one-third of its length. A lug-sail may be fitted to a single-masted boat. The lugger is an excellent boat for sailing, but it lacks the trim appearance of the cutter.

Cutters or schooners intended for fast sailing should have but one foresail, as a large balloon jib rigged with a boom holds more wind than an ordinary jib and staysail. The ships should be well ballasted to prevent the wind capsizing them, and their topmasts should be made moveable, as in rough weather it will be found necessary to "strike" them. Each boat may have two sets of sails—one set large for light winds, and the other considerably smaller, to be set up when the wind is high. The sails should be made of very light stuff, thin calico is best, and should have a line run round them, with loops for hooking them on to the spars. Beware of putting too many blocks and useless ropes about your boats, as the lighter the upper part of a vessel is the better she will sail. In conclusion, spare no pains in finishing your work neatly, so that your boats may bear witness to your skill and patience.



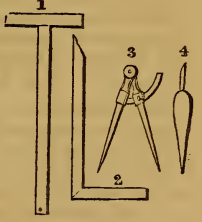
THE RAW MATERIAL.



MODELLING

THERE are few in-door pursuits more interesting and instructive than those which may be classed under the head of modelling, and we flatter ourselves that the following directions for forming pleasing objects in card-board, plaster, and other materials, will afford many of our readers much gratification :—

CARD-BOARD WORK.



The implements requisite are not very numerous or expensive; they consist of a brass parallel rule; a flat rule or scale, either of brass or ivory, divided not only into inches, but subdivided into quarter, and half-quarter inches; a T square, fig. 1, in the accompanying illustration; a carpenter's square, fig. 2; a pair of compasses with a quadrant, to keep them firm at any opening, fig. 3; compasses, having a moveable leg, with pencil, steel-pen, and knife, to fit in, as occasion may require; knives of different dimensions with fixed blades—for as clasp knives are apt to slip and shut, and thence dangerous, knives of the shape represented in fig. 4, are decidedly preferable; punches of various sizes; brass pins, for securing the Bristol-board when not strained on the drawing board; a pair of scissors; a pair of small pincers; one or two chisels; some wire clamps; and a drawing-board of well-seasoned wood.

CUTTING THE BRISTOL-BOARD. — The Bristol-board should be secured to the drawing-board, either by pasting it down round the edges, or by fixing it down by a brass pin at each corner. After the

design is carefully made out, the rule or square must be pressed very firmly and evenly upon it, and the knife carried steadily close to the side of the rule, sloping it a little on one side, so as not to cut perpendicularly down, otherwise the cut will be ragged. In cutting circles practice alone will make proficiency, as it is a difficult operation; it is better not to cut quite through the Bristol-board with the point of the knife, but to finish with the edge of the blade, and even then it will generally be found necessary to trim or correct the circle, either with the knife or scissors. When cutting by the side of a rule particular care must be taken not to let the knife slip on to the rule, and spoil the evenness of its line.

GLUE, CEMENTS, ETC.—COMMON GLUE is frequently employed for fastening the edges of card-board together, but it requires to be used very carefully, otherwise the yellow tint of the glue looks very disagreeable and unworkmanlike. MOUTH GLUE is also sometimes used; it is no more than common glue with a little scent in it, to take away its disagreeable odour. RICE GLUE forms an excellent cement. It is made from rice-flour mixed intimately with cold water, and afterwards gently simmered over a fire. It is a durable cement, and if made of a tolerable consistency, small models, bassi relievi, and busts may be formed of it, which when dry will take a very high polish. GUM WATER, if not too thin, is very serviceable for fastening embossed and gold borders, and other ornaments. ISINGLASS dissolved in spirit of wine, with the addition of a small quantity of water, makes a good cement, and it is, we believe, the basis of a cement sold at most chemists, called diamond cement, which, as already prepared and fit for use, it is perhaps better to buy than be at the trouble of manufacturing. LIQUID GLUE surpasses all other cement for card-board work. It is made by dissolving shellac in methylated spirits of wine, which is very cheap, and may be procured at almost any oil-shop. The liquid glue should be kept in a well-corked bottle; the handle of a small brush may be passed through the cork, so that the brush may just dip into the glue.

ORNAMENTS, ETC.—Very beautiful patterns of embossed borders, adapted for decorating many little articles, may be purchased at most fancy stationers; they are made in very delicately tinted papers, such as pale yellow, light pink, lavender, and other colours, and add much to the beauty of whatever they are fixed upon. Gold and silver embossed borders, of various breadths and patterns, may likewise be obtained; as also many kinds of gold ornaments, of different sizes. When neither gold borders or ornaments can be used, the young artificers may call their imaginative powers into requisition in designing ornaments, and gilding them with the gold prepared for using with a paint-brush, mixed up in shells and saucers, and which can be purchased at the fancy stationer's. In addition to the fancy borders, numberless items in handles for baskets, acanthus leaves for baskets, flowers, &c., are made in embossed work, and afford an immense variety of designs for the ingenious to try their skill upon in adapting and forming them into elegant ornaments.

1

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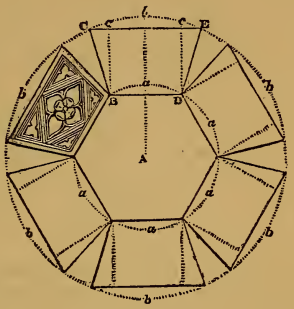
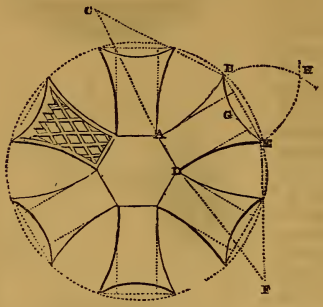


Card-board Baskets.—We shall commence our instructions with some directions respecting the manufacture of baskets in card-board, as they are easy of execution, and form a good prelude to the more difficult subjects; they also afford much scope for the exercise of the fancy, as to the ornaments upon them. In the annexed illustration, fig. 1, is a representation of a regular hexagonal, or six-sided, basket; and in fig. 2 the plan of it is shown. Draw a circle of the dimensions you wish the bottom of your basket to be, as at *a*, *a*, *a*, *a*, *a*, fig. 2, and divide it off into six parts; next make another circle at the intended height of the sides, as *b*, *b*, *b*, *b*, *b*, *b*, and draw lines through the corners of the opposite sides of the hexagon, as shown by the dotted lines, and the perpendicular form of the sides will be then obtained. To give the necessary slant to the sides a certain measurement must be taken, as C, *c*, *c*, E, on each side of the dotted lines; and the same measurement, to a hair's breadth, must be observed, with all the sides, otherwise, when put together, the inclination of the sides, as at B, C, D, E, will not correspond so truly as they should do; these lines being adjusted, straight lines must be made on the outer circle, as C, E, to make the straight tops of the sides of the basket exactly parallel with the inner hexagon. The outer form of the basket being thus delineated on the card-board, if the young artist wishes to make any ornaments upon the sides, he must draw and cut them out carefully ere he separates the sides from the surrounding board. The ornament shown in our figure is well adaped for this shaped basket, and has a pretty effect when cut through, and a delicately tinted paper put behind it. When detaching the side-pieces from the sheet of card-board and inner hexagon, the operator must be cautious to cut with great steadiness and accuracy; and when joining the sides together, he should use the wire clamps to hold them in their proper places till the cement is quite dry.

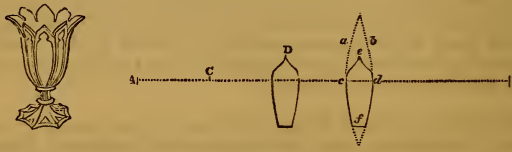
A Basket with bent sides.—The plan of this basket is similar to that of the former, but as its sides are curved inwards, a different method of shaping them is necessary. After the inner and outer hexagons have been drawn, and the squares of the sides adjusted, to give them the proper degree of curve, put the point of the compasses in A, and afterwards in B, and draw with the pencil point

of the compasses two arcs which intersect each other in C; this d· ·lace the compass point at C, and then describe the arc A B,



which will give the necessary curve to one side, and then from the points D and E draw two arcs crossing each other at F. From this last point the arc D E, may be described, and care must be taken that F is precisely the same distance from D and E that C is from A and B, otherwise the curve of the sides will not be true. To produce the curved line, G, for the top of the side, the compass point should be put in B, and the arc, E H, described; and afterwards from E, the arc B H; from this intersecting point the curve G may then readily be drawn. When one side is cut out, it may be used as a pattern for the remainder. The decorations on the sides we leave to the contrivers, as our illustration shows but a very plain species of ornament. For the handle, an embossed one may be used, or if a fantastic shape is preferred, the designer must exert his taste; it should be lined with a flattened wire, to give it greater strength; and the same paper as the interior of the basket is papered with pasted over its under part, to hide the wire.

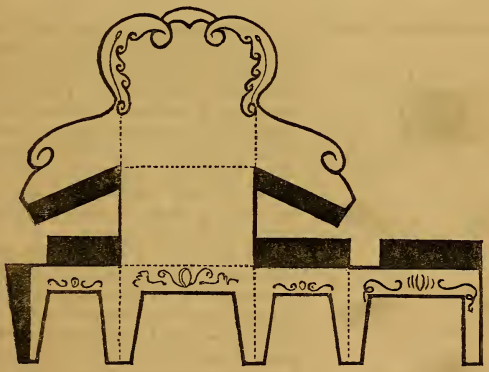
A BELL-FLOWER SHAPED BASKET is an exceedingly elegant affair. The line A B, must be drawn upon the card-board, the point of the



compasses placed upon the line at B, and the arc *a* described with the pencil point of the compasses; the compasses should be kept at the same opening, its point placed at C, and the other arc *b* de-

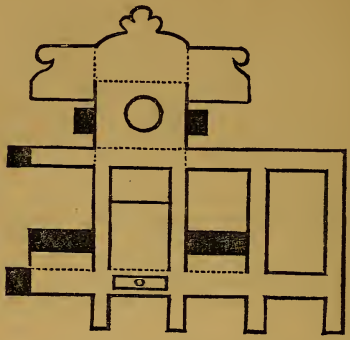
scribed; and the distance their centres *c* and *d* are apart from each other determines the breadth, and consequent size, of the leaves. By opening the compasses somewhat wider than from *c* to *d*, from those points you may obtain the extreme point *e* of the leaf; at *f* is shown where the leaf should be cut off at the bottom. At D, the perfect shape of a leaf is given, and when one is cut out, it may be employed as a pattern for the other seven, so that the eight leaves may exactly correspond in size. The sides of the little pedestal upon which this basket is to stand must correspond exactly in breadth with the lower part of the leaves; and the curved base to the whole should be made upon the principle of the basket with bent sides.

Common Objects.—Chairs, tables, sofas, and other articles of furniture can be readily modelled in cardboard. These models may be stuck among the ornaments of a Christmas-tree, or should the young artist be blessed with little sisters, they may be placed in a doll's house, where they will outshine the miniature furniture of the toy shops. The annexed engraving shows how an arm-chair may be cut

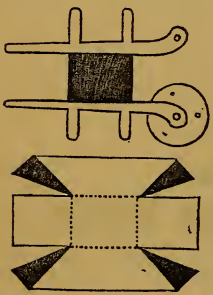


out of a single piece of card. The black portions of the diagram represent the parts that are to be glued. The arms having been secured in their proper position, the legs are to be doubled round and fastened to the under side of the seat. The legs and back of the chair may be ornamented with arabesques, and gilded or painted; and, to make the model complete, a little cushion of velvet or satin should be glued on the seat. By omitting the two arms, an ordinary chair of the same pattern can easily be fashioned. By increasing the width of the seat and back, and diminishing the height of the latter, the arm-chair may be made to serve as a model for a sofa. A wash-stand is rather

more troublesome to construct, but this may also be made in one piece by cutting the card into the form shown in the diagram. These



two examples will serve to explain the principle upon which almost any piece of furniture may be modelled. A toy wheel-barrow may be constructed with very little trouble. The upper and lower parts of the wheel-barrow are to be formed in separate pieces, and then glued together; the annexed diagram show how they may be cut out. The circle of card forming the wheel may have a peg of wood passed through its centre to serve as an axle.



The tee-totum is one of the numerous toys that may be formed of card-board. A hexagon is to be constructed within the smaller of two concentric circles, and pencil lines are to be drawn from each point of the figure to the next point but one, cutting through both circles; the points of intersection in the outer circle are then to be joined by straight lines. Our diagram exhibits the complete figure with the triangular pieces that are left for gluing. The lower side of the tee-totum is to be formed of a separate hexagon of card-board, the spindle may be made of wood or ivory.

ARCHITECTURAL MODELS are, without question, the most elegant and intricate subjects for card-board work, as they require much ingenuity, care, and perseverance; but when finished they amply repay any labour which may be bestowed upon them.

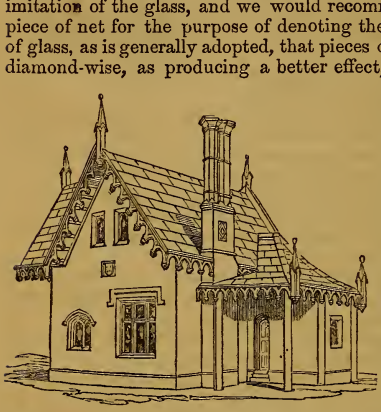
For this branch of card modelling, it is necessary to have Bristol-boards of various thicknesses, some of them little thicker than paper, but they must all be of one colour, as the effect of a little building will be greatly marred if the materials of which it is composed show various tints in its several compartments.

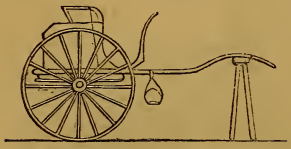
It being impossible, in small card-board models, to define all the divisions of cornices, bases, entablatures, arcades, battlements, pediments, &c., a general idea only can be produced. The long lines of moulding which occur in all buildings, are formed of narrow strips of card, varying in thickness and width, glued to each other, so as to produce the required effect, and then added to the sides of the building, and we would advise the youthful constructor to shape these strips as they may be required, angular, or rounded, before he separates them from the larger piece in his hand.

We must premise that the walls of the models must be made of very stout Bristol-board, and all niches, doors, and windows, drawn and cut out, and the ornamental details on the walls, and in the windows, put on; together with the talc for the glass, and the mouldings, or other decorations round the upper parts of the windows and building, previous to erecting. Wherever pillars or buttresses are to be placed, it is advisable to mark the places out carefully, but delicately, with a pencil; as should also the situations of such perpendicular and horizontal mouldings, and other minutiæ, as cannot conveniently be applied before the walls are joined together.

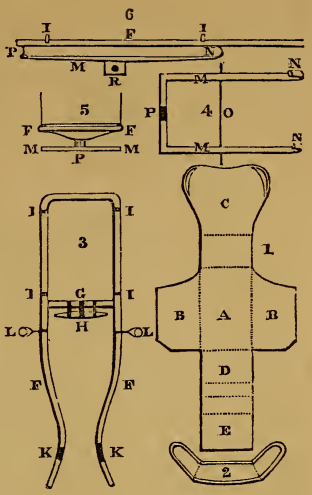
The Gothic cottage shown in the engravings is a very pretty architectural subject, and not very difficult to model. In this view the principal front and entrance are shown. It will be seen that the roof projects considerably beyond the walls, and that a series of small arches are pendant from the

eaves ; these must be carefully cut out and adjusted. The slates we would advise to be imitated by pieces of cardboard, lapped one over the other, in the manner of real slates, and the same style adopted on a smaller scale on the top of the principal or bay window. All the mouldings round the tops of the windows, technically termed *drip stones*, must be made of thin card-board, otherwise the shadow will be too strong. The base of the building requires three layers of card-board so arranged as to form a double moulding, besides the broad band at the lower part. The pinnacles to the gables or points of the roof and porch must be square, and terminate in a pyramidal form, having at the top of each a little flower-shaped ornament termed a *finial*. For windows, nothing surpasses a thin plate of talc as an imitation of the glass, and we would recommend, instead of using a piece of net for the purpose of denoting the framework to the panes of glass, as is generally adopted, that pieces of cotton should be placed diamond-wise, as producing a better effect, and less like the partitions of a honeycomb. The door must be deeply recessed, so as to allow two steps to be put to it, and one step may be outside. The annexed second view shows the back part of the house and the kitchen entrance, which it will be seen is shaded by a covering, supported by pillars, and ornamented with a pinnacle at its corner. The chimneys are hexagonal, and are joined together by a narrow slip of card; they are ornamented with lines of moulding, which require to be imitated by differing thicknesses of card.





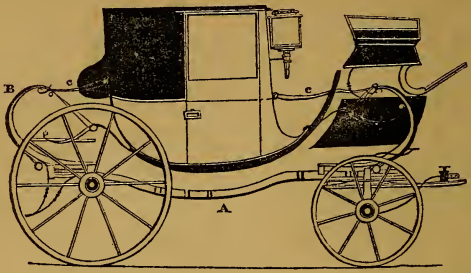
GIGS, CARRIAGES, ETC. — As amongst the various things boys love to make out of card-board there are none more esteemed than GIGS and CARRIAGES, we dedicate a limited space to a notice of the mode of constructing them. The annexed cut shows a side view of a Stanhope, and the following engraving contains a plan of the various details. Fig. 1 represents the plan of the gig; A, is the bottom; B, B, are the two sides; C, the dash-board; D, the back; and E, the piece which bends over to form the angle at the back and the seat; the dotted lines show where the card is to be cut only half way through, so as to allow the sides, and back, and dash-board



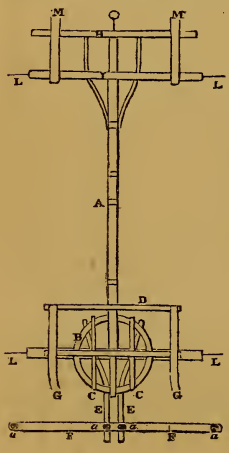
to be bent up and put in their proper form, without the trouble of making them of separate pieces of card. Fig. 2 is the seat-rail. Fig. 3 shows the shafts and frame upon which the gig rests; F, F, are the shafts; G is the bar between the shafts; H, the middle piece; I, I, I, I, little pieces of iron on which the gig rests, and which are more clearly defined in fig. 6; L, L, are the gig-steps; K, K, show where the stops are placed, on the under part of the shafts. Fig. 4 represents the springs upon which the shafts rest, and which will be better understood by referring to figs. 5 and 6, in conjunction with it the letters of reference serving equally for the three figures. M, M, are the springs, which are of the same dimensions as the frame of the shafts, the fore-parts of them turning up us at N, N, to receive the shafts F; at P, the back spring is attached to the spring M, M, and the hinder part of the shaft frame, F, F, rests upon it; O is the axle-tree, and R represents a square bit of wood, to be imitated, of course, by a bit of card, through the aperture of which the axle, O, passes. The wheels must be cut out of extra-stout cardboard, and the stocks or centres of them either made of narrow pieces of card, rolled up closely, or else of bits of a twig of a lilac tree. In some of the little gigs we have examined, the shafts and springs were made of whalebone, and exceedingly smart they looked. With careful cutting and scraping for the purpose of rendering it smooth, whalebone is admirably adapted for the shafts and springs, but an impatient workman would not like to bestow that great care and delicacy in cutting which it requires. Its liability, however, in such small pieces, to fracture perhaps in a direction contrary to that in which it may be required, and thereby causing more work to repair the damage, is a serious drawback upon it. Cardboard will serve excellently well for the same purpose if whalebone is too trying for the patience of the gig-maker.

A CARRIAGE requires much ingenuity and patience to make it an elegant turn-out. The accompanying engraving gives a faithful representation of one, drawn to scale, so that our readers may rely upon its proportions being correct. The body of the carriage must, of course, be made of cardboard, not, however, on the principle of

the gig, as the sides should not be attached to the lower part and back, and merely turned up, but be separate pieces, cemented to-



gether when fully cut out; the top also must be independent of the back. The wheels, like those of the gig, should be of very thick card. The perch, A, may be of wood or whalebone, as best pleases the modeller, as must likewise the various minutiæ of splinter-bar, spring-bed, axletree-bed, &c., which we shall more clearly define in a plan. The iron part of the C springs should be imitated by two or three thicknesses of card, tapering off to a thin end, as at B; and the leather straps, c, c, proceeding from the springs, and supporting the carriage, by narrow strips of vellum. The windows, which should be made to slide up and down, may be pieces of talc, fitted into frames of thin card. The lamps require to be cut out of very thin card-board, on account of their diminutive size, and talc will serve as the glass to them also. Were we to give representations of all the details of a carriage, and instructions respecting the making of them, we should wander far beyond our limits, and most probably fail in our purpose of affording instruction, by becoming tedious, as so many parts can be learnt by practice only; and, indeed, the outward forms of some of the parts will show how the plans should be arranged; we shall, therefore, only give a brief description of the following engraving, which displays a plan of the details of the carriage. A is the perch. The parts connected with the front wheels are termed the fore carriage, and consist of the wheel, B; the nunters, C, C; the sway-bar, D; the futchel, E, E; and the splinter-bar, F, F; upon which are four rolabouts,



a, *a*, *a*, *a*; the two outside ones are termed footsteps. G, G, show the places where the C springs are to be planted. The parts between the hind wheels are the spring-bed, H; and the axletree-bed, I. L, L, L, L, are the axles of the wheels, and M, M, the places for the hind C springs. Some of these parts we would advise to be made of deal, and others of cardboard, according to the thickness of them in real equipages, so as to preserve the proportion as nearly as possible.

The materials for lining the gig and carriage must be left to the taste and means of the constructor; fine cloth is usually employed for gigs, and velvet or plush for carriages. The hammer-cloth for the latter may be made of velvet. A little bit of mouse's skin we have seen used as the mat to a gig, and it had a very pretty effect. The brass caps to the stocks of the wheels may be imitated with gold paper, and thin strips of gold paper will also serve to represent the brass-work in the other parts of the vehicle.

When the little coach-builder has completed the cutting-out and joining and fitting the parts of his equipages, we would counsel him to paint them very nicely, being careful to make the stripes down the spokes of the wheels, along the springs, and in other parts, even and clear, and free from all irregularities of touch; and when the painting is finished, to put the final stroke to his handiworks, by brightening them up with mastich varnish. This operation requires much caution, otherwise, as the varnish settles in a very short time, some parts, especially corners and little crannies, will receive more varnish than they ought, and thence the neatness of the model will be destroyed.

Our limits warn us that we must not pursue this subject further; we will, therefore, in conclusion, advise our readers to take the utmost care that in their models the perpendicular and horizontal lines agree, as a tumbling-down house would not form a particularly fine specimen of their cunning in building; to be as cleanly when using the glue or cement as they can, for the imprint of a dirty thumb or finger on a neat little cottage would be very unpleasant to look at; and never to lay aside anything which they may happen to begin, because they cannot perfect it at once, and therefore fancy it is *too hard* for them to accomplish, for if they do they may rest assured they will never make anything worth looking at. "Never despair," must be their motto; for they must not expect that a recreation which requires much practice and much care can be learnt in as short a time as a piece of bread and butter might be eaten.

PLASTER CASTS.

The reader must have admired the beautiful plaster casts of ancient and modern gems that are so often to be met with in the hands of the Italian boys who frequent the streets. The art of working in plaster may be acquired with little trouble, and if the reader will follow our instructions he may, after a few failures, produce copies of coins and medallions quite equal in point of execution

to those sold at the best figure-shops. The common plaster of Paris used by builders to form stucco should only be employed for moulding large objects. Small works of art must be formed of superfine plaster, which is not expensive, and can be purchased from the Italians.

Sulphur Moulds.—The sharpest and best moulds of medals or small bassi relievi are formed of sulphur. To make a sulphur mould, the coin, or other body of which the mould is to be made, must be slightly oiled on the surface with a piece of cotton wool; it is then to be surrounded with a rim, composed of a ribbon of stiff paper or pasteboard, the end of which may conveniently be secured by a small cleft stick. A little roll brimstone must now be put in an earthen pipkin, or any other suitable vessel, and melted by a very slow and gentle heat; when quite liquid it is to be poured steadily upon the coin. In a few minutes the liquid sulphur will congeal into a semi-transparent mass, which when perfectly cold may be detached from the coin; the mould thus formed will be found to be a perfect counterpart of the original. Should the sulphur, while on the fire, become inflamed, it must be extinguished by covering the vessel with a piece of wood or a small plate; should it become thick and dark-coloured it must be removed from the fire, and placed aside until it reassumes the solid form, when it may be carefully re-melted. Sulphur ought never to be poured on a silver coin, as it combines with the metal and forms a black powder, known to the chemist as sulphide of silver. The blackening of a silver spoon by an egg is due to the sulphur which the egg contains.

Wax Moulds.—The wax used for forming moulds is the common white wax, or the ends of wax candles. It should be melted in a pipkin or small jug, and kept on the hob until required. The medal must be very slightly oiled, and fitted with a rim of paper. The medal should be warmed before the hot wax is poured on to it, and the wax should not be removed for some hours, as it is a long time cooling. Very sharp moulds may be obtained with wax, but they are not equal to those of sulphur.

Plaster Moulds.—These moulds should be saturated with wax or tallow by standing them in a saucer containing these substances in a melted state. We shall describe how the plaster is to be worked when we speak of taking casts.

Elastic Moulds.—There are some medallions which could not be removed from ordinary moulds on account of their high relief; these may be readily moulded by a composition which will stretch while being removed, and afterwards return to its original form. To prepare this elastic composition, three parts of treacle are to be incorporated with twelve parts of glue that has been carefully melted.

Making the Casts.—The moulds are to be prepared by slightly oiling their surfaces with olive oil. Some water is now to be put into a basin, and then a little plaster of Paris added. When the plaster has been sprinkled in, all the water which floats above it must be

poured off, and the plaster, which will now be found as thick as honey, stirred about with a silver spoon, or anything not made of iron. About a tea-spoonful of the plaster is now placed in each mould, and brushed into all the depressions with a small stiff-haired brush. This operation prevents the formation of air-bubbles, and is best performed by holding the brush upright, and gently beating the plaster with the points of the hairs. Before the plaster begins to set or harden, each paper ribbon surrounding a mould is to be filled up to the requisite height, and immediately after the bottom of the mould is to be gently tapped upon the table four or five times. The casts are now completed, and will in a few minutes become sufficiently hard for removal, when they will only require to be trimmed with a knife round their edges and then gradually dried. The time required by plaster of Paris to set varies according to circumstances. When very fresh, it may take about five minutes to set; when a little older, it will sometimes set so rapidly that it is extremely difficult to use it quick enough; and when still older, it will sometimes lose its power of setting altogether, and become rotten and wholly unfit for use. When once plaster has begun to set it should not be disturbed. Plaster can never be mixed up a second time, and therefore the basin, spoon, and brush ought always to be carefully washed between each casting.

Colouring the Casts.—Plaster medallions are sometimes coloured to represent cameos, but we much prefer them untouched. In painting them, the figures and prominences are left white, and the flat ground is coloured either with emerald green, smalt blue, or lampblack, made glossy by the addition of gum water, and laid on with a camel's hair pencil.

Polishing the Casts.—A strong solution of white curd soap in water is poured into a saucer, and the face of the medallion is immersed in it three or four times, being allowed to dry for a minute or two between each immersion. The medallion is now put aside until the next day, when its surface is to be gently rubbed with a small piece of wadding, or loose cotton, till it assumes the glossy appearance of polished marble. We do not recommend the juvenile artist to polish all his casts in this manner, as the dead white of the untouched plaster is extremely beautiful.

Bronzing.—Bronzing is that process by which plaster casts are made to resemble copper or brass. By means of a soft brush the cast is to be covered with a thin film of gold size. When the size is nearly dry, *bronze powder*, which may be procured at any of the colour shops, must be dabbed over the surface of the cast with a piece of cotton wool. The loose powder may be rubbed off with a soft dry brush as soon as the size is perfectly hard. If antique bronze is to be imitated, the whole of the cast must be painted dull green, and the metallic powder only be applied to the most prominent parts.

We have confined our remarks to the simplest branch of the art of working in plaster, namely, the production of copies of small

bassi relievi, as it would be impossible, without overstepping our limits, to describe how vases, busts, and statues are cast.

VEGETABLE CARVING.

A very few words will exhaust this subject. If the reader ever amused himself by constructing a turnip-lantern, he must have observed how readily the vegetable yielded to his knife. Turnips, carrots, and apples are capital things for the youthful sculptor to exercise his skill upon, and with patience he may succeed in turning out some very elegant objects. We have seen a bouquet of imitation flowers, formed of carrots, beets, and turnips, that presented a most natural appearance. A chrysanthemum may be carved out of a carrot, a camelia out of a small white turnip, and a damask rose out of a beet. Other natural objects may be imitated in carved fruit and vegetables by an ingenious lad, and if he has a taste for the grotesque, he may try his plastic skill on caricatures of his friends.

A YOUNG ARCHITECT.

THE DEAF AND DUMB ALPHABET.

PETER PONCE, THE FIRST TEACHER OF THE DEAF AND DUMB, INSTRUCTING A BOY.

AMONGST the many useful inventions which have been planned for the solace of individuals deprived of some portion of their senses, the art by which DEAF and DUMB persons are taught to express their own thoughts, and to comprehend those of others, is one of the most noble. The earliest attempt at a method of teaching the deaf and dumb was made in Spain, towards the end of the sixteenth century, by a Benedictine monk, named Peter Ponce; and without doubt, he must have formed his idea from observing the natural propensity of the dumb to supply the want of the organs of speech by making signs. After the essay of Peter Ponce, many successful trials were made, and in 1692, John Conrad Amman, a Swiss physician, reduced the plans to a fixed method, or art, and published the scheme of it at Amstelod. The first asylum for the deaf and dumb in London was founded in the year 1792.

THE ALPHABET.

A is expressed by touching the top of the thumb of the left hand, with the forefinger of the right.

B. Join the forefinger and thumb of each hand, and place the backs of the forefinger nails together.

C. Bend the fingers and thumb of the left hand, so as to form three parts of a circle.

D. Bend the fingers and thumb of the right hand into a semicircle, and then join them to the forefinger of the left, which keep in a straight line.

E. Touch the top of the forefinger of the left hand with the forefinger of the right.

F. Place the forefinger of the right hand across the backs of the first and second fingers of the left.

G. Clench both hands, and put one fist upon the other.

H. Pass the palm of the right hand across that of the left, sweeping it along to the tips of the fingers, as if brushing something off.

I. Touch the top of the second finger of the left hand with the forefinger of the right.

J. Clench the hands together, as directed for the letter G.

K. Form a semicircle with the thumb and forefinger of the right hand, and join it to the forefinger of the left, which must be kept straight out, both forefingers must meet at the second joints.

L. Place the forefinger of the right hand across the centre of the palm of the left, so that the top of the finger may be exactly in the middle of the palm.

M. Place three fingers of the right hand flat upon the palm of the left.

N. Place two fingers of the right hand flat upon the palm of the left.

O. Touch the top of the third finger of the left hand with the forefinger of the right.

P. Place the tops of the forefinger and thumb of the left hand in a semicircular form against the first and second joints of the forefinger of the right, which should be kept straight.

Q. Form a circle with the forefinger and thumb of the left hand, and then curve the forefinger of the right into the shape of a hook, and place it exactly where the other fingers join.

R. Bend the forefinger of the right hand and rest it on the palm of the left.

S. Bend the little finger of each hand and lock them together.

T. Fix the tip of the forefinger of the right hand against the middle of the lower edge of the left.

U. Touch the top of the little finger of the left hand with the forefinger of the right.

V. Place the first and second fingers of the right hand apart, upon the palm of the left.

W. Lock the fingers of one hand between those of the other.

X. Cross the forefingers at the second joints.

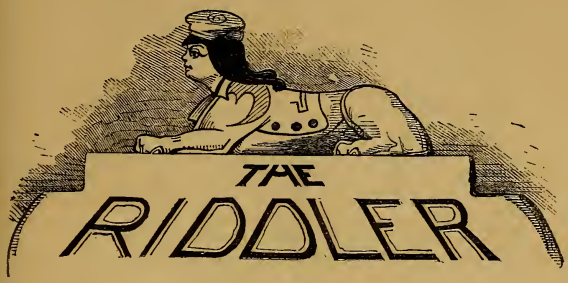
Y. Extend the thumb and forefinger of the left hand, and at the lower part of the fork so made, place the forefinger of the right hand.

Z. Elevate one hand towards the face, and rest the elbow upon the palm of the other.

The end of every sentence is indicated by snapping the second finger and thumb of the right hand. This is requisite to avoid the confusion which might result from running the sentences into each other.

THE NUMBERS

Are denoted by holding up one finger to signify 1, two fingers for 2, the open hand for 5, both hands for 10, and so on.



THE ancients believed that the monster Sphynx was the inventor of riddles. The one she proposed for solution was this:—"What animal is that which goes upon four legs in the morning, upon two at noon, and upon three at night?" Many persons strove to explain it, but failed, and were torn to pieces by her; at length, Œdipus, the son of Laius, king of Thebes, solved it, by saying that the animal was a man, who in the infancy or morning of his life creeps upon his hands and feet, and so goes on all fours; in the noon of his life walks on two feet; and in the waning evening and night of old age, requires a stick, and so totters upon three legs. The Sphynx, enraged at the discovery of her riddle, threw herself from a rock and died.

Such is the *fabled* history of the first riddle; the *true* is not known, as riddles are of remote antiquity; but we find from Plutarch, that in his days, the Greek girls often amused themselves with proposing them for their companions to unravel. For a party of merry roysterers clustered round a cheerful flickering fire, no amusement is better calculated than a batch of enigmas and riddles, as they possess enough point to rivet the attention of all as to their probable meaning, and sufficient humour to provoke many a hearty laugh.

In addition to the ordinary fireside riddles, we give two specimens of acting charades, to show how these amusing dramatic puzzles may be performed either in dumb show or extemporaneous dialogue.

ENIGMAS.

1. 'Twas whispered in heaven, 'twas muttered in hell,
And echo caught faintly the sound as it fell;
On the confines of earth 'twas permitted to rest,
And the depths of the ocean its presence confess'd.

'Twill be found in the sphere, when 'tis riven asunder;
'Tis seen in the lightning and heard in the thunder;
'Twas allotted to man from his earliest breath,
It assists at his birth and attends him in death;
Presides o'er his happiness, honour, and health;
Is the prop of his house, and the end of his wealth.
In the heap of the miser 'tis hoarded with care,
But is sure to be lost in his prodigal heir.
It begins every hope—every birth it must bound;
It prays with the hermit, with monarchs is crowned.
Without it the soldier and seaman may roam,
But woe to the wretch that expels it from home.
In the whispers of conscience 'tis sure to be found,
Nor e'en in the whirlwind of passion is drown'd;
'Twill soften the heart, though deaf to the ear,—
'Twill make it acutely and constantly hear;
But in short let it rest; like a beautiful flower
(Oh, breathe on it softly), it dies in an hour.

2. A word of one syllable, easy and short,
Which reads backwards and forwards the same;
It expresses the sentiments warm from the heart,
And to beauty lays principal claim.

3. A word there is five syllables contains,
Take one away, no syllable remains.

4. Places of trust I oft obtain,
And protect the house from vermin;
I act as shepherd on the plain,
And at fairs I'm shown for learning:
In northern climes a horse I'm seen,
And a roasting-jack I, too, have been;
Strange as it seems, it's no less true,
That I eat on four legs, and beg on two.

5. Soon as I'm made I'm sought with care;
For one whole year consulted;
That time elapsed, I'm thrown aside,
Neglected and insulted.

6. The beginning of eternity,
The end of time and space;
The beginning of every end,
And end of every place.

7. A man once launched a vessel large,
And live stock, too, he took in charge;
He did not barter, buy, nor sell;
Whichever wind blew, pleased as well;
He sailed at random, was to no port bound,
His only wish was soon to run aground.

8. I'm slain to be saved, with much ado and pain,
Scattered, dispersed, and gathered up again,
Withered, though young; sweet, yet unperfumed,
And carefully laid up to be consumed.

9. What pleases in the air, and what a horse does not like, gives the name of a flower.

10. Half a carman, and a whole country, will form the name of a beautiful flower.

11. What is the longest and yet the shortest thing in the world,—the swiftest, and yet the slowest,—the most divisible and the most extended,—the least valued and most regretted,—without which nothing can be done,—which devours everything, however small, and yet gives life and spirits to every object, however great?

12. What is that we receive without being thankful for,—which we enjoy without knowing how we received it,—which we give away to others, without knowing where it is to be found,—and which we lose without being conscious of our loss?

13. There is a thing was three weeks old,
When Adam was no more;
This thing it was but four weeks old,
When Adam was fourscore.

14. I'm found in loss, but not in gain,
If you search there 'twill be in vain;
I'm found in hour, but not in day;
What I am, perhaps, you now can say.

CHARADES.

1. Ever eating, never cloying,
All devouring, all destroying,
Never finding full repast
Till I eat the world at last.

2. My first is four-sixths of a step that is long,
My second's a person of state;
My whole is a thing that is known to be wrong,
And is a strong symptom of hate.

3. Without my first you cannot stand,
My second, beauteous fair command;
Together I attend your will,
And am your humble servant still.

4. My first gave us early support,
My next is a virtuous lass;
To the fields, if at eve you resort,
My whole you will probably pass.

5. In every hedge my second is,
As well as every tree;
And when poor schoolboys act amiss,
It often is their fee.
My first, likewise, is always wicked,
Yet ne'er committed sin;
My total for my first is fitted,
Composed of brass or tin.

6. My first's a prop, my second's a prop, and my whole's a prop.

7. What a running stream does, and the first syllable of error, gives a production of nature.

8. My first, if you do, you won't hit;
My next, if you do, you will have it;
My whole, if you do, you won't guess it.

9. My whole is under my second, and surrounds my first.

10. My first I hope you are, my second I see you are, and my whole I am sure you are.

11. My first is the cause of my second, and my whole is made sacred by God.

CONUNDRUMS.

1. Why is an undutiful son like one born deaf?
2. Why are the pages of a book like the days of man?
3. Why is a king like a book?
4. Why is a leaf of a tree like the human body?
5. What is that which is lengthened by being cut at both ends
6. Why is a lollypop like a horse?
7. When is an alderman like a ghost?
8. What animal was in existence before the creation?
9. What is that which the dead and living do at the same time
10. Where did the witch of Endor live?
11. How many sides are there to a tree?
12. What's that which every living man hath seen,
But never more will see again, I ween?
13. Why was Noah in the ark like a disappointed rat-catcher?
14. Why are three couples going to church like a child's penny trumpet?
15. Why is your nose like St. Paul's?
16. When do your teeth usurp the functions of the tongue?
17. What street in London puts you in mind of a tooth, which has pained you for a long time?
18. Why does an aching tooth impose silence on the sufferer?
19. To what town in Poland should you go to have it extracted?
20. Which of your teeth are like a dressmaker's fingers and thumb, when she is cutting out a dress?

21. Why is a pack of cards, of only fifty-one in the pack, sent home, like a pack of cards of fifty-two?
22. Which is the oldest tree in England?
23. Why is a man in debt like a misty morning?
24. Why are feet like olden tales?
25. Where was Adam going, when he was in his thirty-ninth year?
26. Why is an image on a pedestal, like a Hackney coach, when disengaged?
27. Why are fish in a thriving state like fish made to imitate them?
28. Tom went out, his dog with him; he went not before, behind, nor on one side of him, then where did he go?
29. What question is that to which you must answer yes?
30. Why does a miller wear a white hat?
31. In what respect does a bad governess differ from a good one?
32. Why are lovers' sighs like long stockings?
33. Why is a nail fast in the wall like an old man?
34. Why is a man standing on a fishmonger's shop, like a busy meddling fellow?
35. What is the most difficult thing in the world?
36. Why are some great men like glow-worms?
37. When is a door not a door?
38. Why is an orange like a church steeple?
39. What word is that, to which if you add a syllable, it will make it shorter?
40. Why is life like a publican's door-post?
41. What letters of the alphabet are likely to come too late for dinner, supposing the whole to be invited?
42. Why are two men fighting a duel like a garden railing?
43. Why is swearing like an old coat?
44. What is that which a coach cannot move without, and yet is not of the least use to it?
45. Why are fixed stars like pens, ink, and paper?
46. Why is a jest like a fowl?
47. Why is the sun like a man of fashion?
48. What do we all do when we first get into bed?
49. When is a nose not a nose?
50. What thing is that that is lower with a head than without one?
51. Why is a cobbler like a king?
52. Why is a cherry like a book?
53. Who was the first that bore arms?
54. What river is that which runs between two seas?
55. When is the river Thames good for the eyes?
56. What place should a glutton be sent to?
57. Why is a watchman like a mill-horse?
58. What wig cannot a barber make?
59. Why is an inn like a burial ground?
60. When is a sailor not a sailor?

61. Of what trade is the sun?
62. Where should a starving man be sent to?
63. Who was the first whistler?
64. What tune did he whistle?
65. Why are real friends like ghosts?
66. Why is Satan like a poker?
67. When is a man not a man?
68. What bird is a pedlar like?
69. When is a sailor like a corpse?
70. Make V. less by adding to it?
71. Why is a widow like a gardener?
72. Why is a hired landau not a landau?
73. Why is a tight boot like an oak tree?
74. What two letters of the alphabet make a philosopher?
75. Why are your nose and chin always at variance.
76. When you go to bed, why are your slippers like an unsuccessful man?
77. What is that which is sometimes with a head, sometimes without a head, sometimes with a tail, sometimes without a tail, and sometimes without either head or tail?
78. Why is the largest city in Ireland likely to be the largest place in the world?
79. Why is a bad epigram like a poor pencil?
80. Why is one who lives by cheating sharper than the sharpest?
81. How do you swallow a door?
82. Why is a fruit pie like old port?
83. What is sharper than a razor?
84. Why is a thump like a hat?
85. Why ought a fisherman to be very wealthy?
86. If a fender and fire-irons cost three pounds, what will a ton of coals come to?
87. Why is a summer's day like a passionate man?
88. Who was the father of Zebedee's children?
89. Why is the Monument like a proud man?
90. Why is a key like a hospital?
91. Why is a drawn tooth like a thing forgot?
92. Why is a good man like a bright jewel?
93. Why is an apothecary like a woodcock?
94. Why is it better to have friends than to want them?
95. What is that which is often brought to table, often cut, but never eaten?
96. Why is a gaoler like a musician?
97. What is that which lives in winter, dies in summer, and grows with its root upwards?
98. In what place did the cock crow when all the world could hear him?
99. Why is the soul like a thing of no consequence?
100. If you throw a man out of a window, what does he fall against?

ACTING CHARADES.

I. Charade in Dumb Show.

FIRST SYLLABLE.

Scene.—*A Dining-room.*

Enter Mr. Jones. He appears to be expecting some one, looks at his watch, goes to window and looks out. A knock is heard at the street-door, immediately after John Thomas ushers in Messrs. Smith, Brown, and Green. Mr. Jones appears very glad to see them, holds a short conversation with them, and then invites them to be seated at table. He rings the bell. John Thomas enters, and after receiving his orders from Mr. Jones, goes out, and re-enters with two bottles of wine. They all drink, and after a short time appear one by one to feel rather unwell. Mr. Jones at last begins to share their uncomfortable sensations. He questions them with his looks. They express that they feel very ill, and point to the wine. Mr. Jones takes up his glass, examines and smells it, then rings the bell. John Thomas enters, Mr. Jones points to the wine. John Thomas shakes his head. Mr. Jones gets very angry. John Thomas at last expresses that he shook it well before bringing it in, at which all the gentlemen rush at him, infuriated, and turn him out of the room.

SECOND SYLLABLE.

Scene—*A Parlour.*

Enter Johnson. He expresses that he is in great distress, and appears frightened at every noise. There is a loud knock at the door; he starts and goes, trembling, to open it. Enter Hardman (a tax-gatherer). He has a note-book in one hand and a pen in the other. Johnson makes him understand that he has no money. Hardman insists upon being paid. Johnson turns his pockets inside out, they are quite empty. Hardman threatens, and points to the furniture. Johnson endeavours to pacify him. Hardman rushes out, and returns with Spivins and Smithers, who immediately commence taking an inventory of Johnson's goods. Johnson is in the greatest distress, when there is another knock at the door. Johnson opens it and Charley Fastman enters, shakes hands with Johnson, appears delighted to see him, looks round and sees Hardman and the others; looks inquiringly at Johnson, who explains the state of the case to him. Charley immediately takes out his purse and pays Hardman the money. Hardman, Spivins, and Smithers withdraw; Johnson and Charley embrace.

THE WHOLE WORD.

SCENE—*The Studio of a Photographic Artist.*

Enter Mr. Horatio Wilkins and William (his assistant), they commence arranging the apparatus and the room; when they have finished, William goes out and returns with Mr. Robinson and his two sons, Tommy and Johnny. Mr. Wilkins receives them with very low bows, and arranges them in an artistic attitude; he then proceeds to photograph them, but when he covers his head with a black cloth to look through the camera, Johnny gets up and goes to see what he is doing. Mr. Wilkins has then to rearrange them. He then takes a picture of them and shows it to Mr. Robinson, who expresses great dissatisfaction. Mr. Wilkins, rather annoyed, begins taking another, when William walks right in front of the camera, Mr. Wilkins, in a great rage, kicks him out of the room. Tommy and Johnny jump up to look after him. Mr. Wilkins again arranges the group, and this time is successful in taking the picture; he then dismisses Mr. Robinson and his sons, and goes out after them.

II. CHARADE IN DIALOGUE.

FIRST SYLLABLE.

SCENE—*Mr. Honeydew's Parlour.*

Enter MR. HONEYDEW, CHARLES, and FRED.

Mr. H. Well, my dear fellows, I am delighted to see you. But what makes Harry so late I wonder?

Chas. Oh! he'll be here directly, I have no doubt. We saw his brougham at the door when we passed his club.

Mr. H. That's all right. By the bye an idea strikes me, I dare say he will allow his coachman to drive round to Cavendish-square to fetch my wife home. It will save the trouble of having my horses put in the carriage again to-night. (*Rings bell. Enter* PAT.) Patrick, when Mr. Bellamy comes, ask his coachman to be so kind as to go to No. 728, Cavendish Square, to fetch your mistress, if convenient to Mr. Bellamy, and show him up.

Pat. Yes, sir.

Mr. H. And if anyone else comes show them up. (*Exit* PAT.) I am sure you fellows must be cold this bitter night; we'll have some hot brandy-and-water to warm us. (*Rings bell.—Enter* PAT.) Some boiling water, Pat.

Pat. Yes, yer Honour—will I bring it hot or cold?

Mr. H. Why, hot, of course, stupid. [*Exit Pat.*

Fred. (*laughing.*) Your servant seems rather a bright specimen.

Mr. H. Yes, wild Irish, only just caught.

[*Re-enter* PAT, *with kettle. There is a knock at the street-door, he puts the kettle on the carpet and rushes out.*

Mr. H. (*picking up the kettle and taking it to the fire-place.*) Good heavens! I never shall be able to keep this fellow.

Enter PAT, *ushering in* COACHMAN.

Mr. H. Who is this, pray?

Coachman. If you please, sir, I am Mr. Bellamy's coachman. Your servant said you wanted to see me.

Mr. H. I don't want to see you. (*To* PAT.) Didn't you give him my message?

Pat. Sure, sir, I gave the message to Mr. Bellamy, and he's walked off to fetch the missis, and I showed the coachman up, as yer honour tould me.

Mr. H. (*to* PAT). Oh, you idiot—get out of my sight. (*Exit* PAT. *Hastily to Coachman.*) Run after Mr. Bellamy, and tell him to come back; it's a mistake. (*Exit Coachman.*) I'll give that fellow notice to leave; I'll not have him in the house.

[*Rings the bell; at the same moment there is a knock at the street-door. Enter* PAT.

Pat. Please yer honour, which shall I answer first, your bell or the street-door?

Mr. H. The door, stupid. [*Exit* PAT.

Mr. H. I dare say this is poor Bellamy. [*Enter* PAT.

Pat. Please, it's Mr. Bellamy; will I bring him up?

Mr. H. (*very angry.*) Yes, instantly. (*Exit* PAT.) The stupid dolt. [PAT *shows in* MR. BELLAMY.

Mr. B. (*shaking hands with* MR. H.) My dear fellow, what is the meaning of all this? I come here in my brougham, and immediately I alight at your door your servant tells me that you will be much obliged by my fetching Mrs. Honeydew home. This request appeared to me singular, but, with my usual good nature, I complied without hesitation. I had not advanced many yards when, to my great astonishment, I was suddenly seized from behind by my own coachman, who requested me to return, which I accordingly did, and when I did return was most unceremoniously left standing on the door-mat. Pray, explain.

Mr. H. (*almost breathless with indignation.*) I will, my dear fellow, in a few moments; allow me to calm my ruffled temper a little first; and before I do anything else, I must go and expel that wretched man.

[*As he is going out,* PAT *comes in, and nearly knocks him over.*

Pat. Och! master, dear; I hope you didn't hurt me.

Mr. H. Hurt you, rascal! How dare you show your face to me again? What do you want now?

Pat. Well, sir, it's the bootmaker as is come. Will I show him up?

Mr. H. (*in a great rage.*) Show him up, you scoundrel? No; and if you dare to show yourself again to-night in this room I'll turn you out of the house. Be off! [*Exit* PAT.

Fred. My dear Honeydew, don't excite yourself so. I assure you I find the fellow very amusing.

Mr. H. Amusing! I know he will drive me mad before he goes.

Cha . Poor Honeydew! I propose that we all go out for a walk, the fresh air may cool his fevered mind.

Mr. B. Yes; let us go and fetch Mrs. Honeydew.

Mr. H. Oh! anything to get out of his reach. Let us go.

[*They all go out.*

SECOND SYLLABLE.

SCENE—*A Street.*

Enter TOMKINS *and* JENKINS.

Tom. Is not this fearful news?

Jen. It is, indeed.

Tom. What is to be done to put a stop to such proceedings?

Jen. Ah! what?

Tom. Shall we not prove ourselves men, and strike against such tyranny?

Jen. We will.

Tom. But how shall we begin?

Jen. Ah! How?

Tom. Here comes Dobkins; perhaps he can advise us. (*Enter* DOBKINS *and* SIMKINS.) Oh! Dobkins, shall we suffer this?

Dob. What?

Tom. (*surprised.*) What!—you have not heard?

Dob. Heard what?

Tom. (*tragically.*) Listen. You know, Dobkins, how we have long chafed under the oppression of the present Government. To-day the last straw has been laid upon the camel's back. I have heard from the most reliable source that there is to be a tax on sandpaper.

Dob. and Sim. (*astounded.*) No!

Tom. It is too true. (*They all groan.*) But say, shall we stand it?

All. Never!

Tom. Then let us act at once. How shall we begin?

All. Ah! How?

Tom. I have it. We will plant our standard here, and cry, Down with an oppressive Government!

Dob. We will; but where shall we get the standard?

Tom. Here. (*He takes a coloured pocket-handkerchief from his pocket, and commences tying it on to his walking-stick.*) If we could but get up the pavement, we would immediately raise a barricade, and hundreds would rally round our banner.

Dob. Oh! for a pavior.

Tom. Alas! they are all in the pay of that Government which it is our mission to overthrow, and will not desert it so long as they get their wages.

Jen. Stay! If you want a barricade I will be generous—you may have all my furniture towards it. I will go and fetch it.

Tom. Go! Noble Jenkins. [*Exit* JENKINS.

Dob. Go, brave man! How happy he who sacrifices his all in the cause of freedom.

Tom. Let us all take Jenkins for an example, and give our all for the great cause. We who have no furniture can give our lives.

All. We can.

[*Re-enter* JENKINS *with an old chair and a gridiron.*

Dob. Nobly done, brave Jenkins.

[*They all shake hands with* JEN.

Tom. (*grasping* JENKINS *by the hand, and much agitated.*) Jenkins, you will have your reward. Your noble-hearted deeds will be handed down to posterity, and tears will dim the eyes of our great-grandchildren when they hear related the noble self-denial of Jenkins. [JENKINS *weeps.*

Dob. (*taking the gridiron, and placing it on the ground.*) Let this be the foundation of the great barrier which will put a stop to the progress of despotism.

Tom. (*placing flag upon the gridiron.*) Here we take our stand. (*The others group themselves round.*) The tyrants may send their myrmidons to disperse us, but shall they do so?

All. No! no!

Tom. We will never flinch.

All. Never!—Never!

Tom. Then let us make our opinions known. Shout, my brave confederates.

[*All shout, "Down with the Government."—Enter* BIFFINS, *a policeman.*

Biff. Now, then, what's all this noise about—eh?

Tom. Begone, base miscreant!

Biff. Don't you get a-calling of me names, 'cos I wont stand it—that's all. Come, move on.

Dob. Never, at your command.

Biff. We'll see about that. Come, move on with your rubbish.

[*Takes out his staff.*

Tom. Do not attempt violence, man. Do you not see we are four to one?

Biff. What, you're going to turn obstropolus, are you? Very well. [*Exit.*

Tom. Ha! ha! See how the paid mercenary of the oppressor is cowed before the lion spirit of the friend of freedom.

[*Re-enter* BIFFINS *with head-constable.*

Biff. Them's the parties, sir.

[JENKINS *and* SIMKINS *slink behind the other two.* TOMKINS *stands in a defensive attitude.*

Con. Now, then, what is the meaning of all this?

Tom. Down with the oppressor!

Con. Will you move on or will you not?

Tom. Never!

Dob. Down with the Government!

Con. Oh—ha—that's what you're after, is it? Come, disperse, will you?

Dob. Never!

Con. Biffins, do your duty; take them into custody.

[BIFFINS *approaches them;* TOMKINS *strikes out at him.*

Biff. You see, sir, they wont be took.

Con. Oh! it's come to that, is it? Biffins, read the Act. (*He takes the Riot Act out of his pocket, and gives it to* BIFFINS. *While he is unfolding it the others slink off one by one,* TOMKINS *the last. When they are all gone Constable looks round.*) Holloa, Biffins, they are all gone; you need not read it.

Biff. (*laughing.*) I thought they'd soon come to.

Con. Well, I'll go; you had better stop about here a bit, in case they should meet again.

[*Exit.*—BIFFINS *walks up and down; after a little while* JENKINS *creeps in unseen by him, and endeavours to possess himself of the gridiron which he has left behind him, which he at length does while* BIFFINS *has his back turned; he then runs out;* BIFFINS *perceives him and runs out after him.*

THE WHOLE WORD.

SCENE—*Market-place at Altorf.*

Enter VERNER *and* FURST.

Furst. Well, Verner, this is an unfortunate affair.

Ver. What do you mean?

Furst. Have you not heard about poor Tell?

Ver. What about him?

Furst. He was taken prisoner yesterday by some of Gesler's soldiers.

Ver. That is very unfortunate. Poor Tell! what will become of him?

Furst. He is to undergo his sentence to-day, but what that sentence is, is not yet known.

Ver. See, there are some people coming, and Gesler among them.

Furst. I see Tell also. We will stay here; we may be able to befriend him.

[*Enter* GESLER, TELL, ALBERT, *and* FRITZ, *a soldier.*

Fritz. Well, my lord, what is to be done with these prisoners.

Ges. I am considering. I will tell you presently.

Tell. (*aside to* ALBERT.) Albert, don't say you are my son, there's a good boy. Pretend we don't know each other. I'll make it all right.

Albert. Very well, pa.

Ges. Now I have got this famous rebel in my hands, I do not know what to do with him. (*To* TELL.) I hear you are a good shot with your bow; I should like to see a specimen of your skill.

Tell. Would you, indeed, then that is a very powerful reason for my not showing you one.

Ges. How, slave.

Tell. I beg your pardon, were you alluding to me?

Ges. This effrontery is unbearable. (*To Fritz.*) To prison with him.

Tell. (*putting* FRITZ *on one side.*) No, thank you, one day of that was quite enough.

Ges. A repetition of this impertinence, and I summon my guards.

Albert. (*aside to* TELL.) Better be civil, pa.

Tell. So I will, my dear. (*To* GES.) You see I do not fear you very much, because I know that if anything happens to me through you, you will have all the mountaineers down upon you before you can say Jack Robinson.

Ges. And you think I fear that? (*Aside.*) Though I think, myself, I had better take it into consideration.

Furst. (*whispers to* TELL.) Shall we try and rescue you.

Tell. No, thank you, old fellow, I dare say I shall be able to manage it somehow.

Ges. I do not wish to be unmerciful, I'll tell you what you shall do. You see that boy. (*Points to* ALBERT.) He shall be placed against that tree (*points off*). You shall stand here. An apple shall be placed upon his head and you shoot at it. If you hit the apple you shall go free. If you fail, you die.

Tell. Very nicely arranged. I am quite ready. Now, young gentleman (*to Albert*), take your place. (*Aside to him.*) I'll try and not hit you, but if you see the arrow coming too low, duck your head down.

Albert. All right, daddy, I am not afraid ; go in and win.

[FRITZ *leads* ALBERT *off; he then brings* TELL *some arrows to choose from.* TELL *takes two, hiding one in his dress.*

Tell. (*aside.*) One for my little duck, the other, in case I fail, for that great goose. (*Looking at* GESLER.)

[*While* TELL *is arranging his bow and arrow,* FURST, VERNER, *and* FRITZ, *watch him with great interest.*

Fritz. Two to one he misses.

Ver. Four to one he don't.

Furst. If he misses I'll be shot.

Ver. No ; but the boy will.

[TELL *stands in an attitude and shoots. They all look out eagerly.*

Albert. (*outside.*) All right, governor!

[*Runs in with the apple in his hand with an arrow through it. All but* GESLER *applaud* TELL.

Ges. (*aside*). This man is too dangerous to let him go ; I must have him locked up again. (*Aloud.*) Fritz, seize your prisoner, and away with him to prison.

[FRITZ *advances towards* TELL. FURST *and* VERNER *interpose themselves between them.*

Furst. Stop a moment, if you please. Run, Tell ; your friends are waiting for you. [TELL *and* ALBERT *run off.*

Ges. Stop them. (*Calls out.*) Stop thief!

[FURST *and* VERNER *struggle with* FRITZ *and* GESLER *a little while.*

Ver. They're all safe by this time. Furst, let us go.

FURST *and* VERNER *each gives his opponent a farewell kick, and then run off.* FRITZ *and* GESLER *run after them.*

THE  TO THE

ENIGMAS, RIDDLES, ETC.

ENIGMAS.

1. The letter H.
2. The eye
3. Monosyllable
4. A dog
5. An almanack
6. Letter E.
7. Noah in the Ark
8. Hay
9. Lark-spur
10. Car-nation
11. Time
12. Life
13. The moon
14. Letter O.

CHARADES.

1. Fire
2. Striking
3. Foot-man
4. Milk-maid
5. Candle-stick
6. Foot-stool
7. Flow-er (flower)
8. Mis-take
9. Waist-coat
10. Well-come (welcome)
11. Sun-day.

CONUNDRUMS.

1. Your voice is lost on him
2. Because they are all numbered
3. Because he has pages
4. Because it has veins in it
5. A ditch
6. Because the more you lick it, the faster it goes
7. When he is a gobbling (goblin)
8. The great shay-hoss! (chaos)
9. They go round with the world
10. At Endor
11. Two, the *in*side and *out*side
12. Yesterday
13. Because it was forty days before he saw ere-a-rat (Ararat)
14. Because they go too, too, too (two and two and two)
15. Because it is flesh and blood
16. When they are *chattering*
17. Long-Acre
18. Because it makes him hold his jaw
19. Pul-tusk
20. In-cisors
21. Because they're sent in-complete
22. The *Elder*-tree
23. Because he is full of dues (dews)
24. Because they are leg-ends (legends)
25. In his fortieth
26. Because it is on a stand
27. Because they are hearty-fish-all (artificial)
28. On the *other* side
29. What does y-e-s spell
30. To keep his head warm
31. One miss-guides, and the other guides miss
32. Because they are high hose (heigh ho's!)
33. Because it is *in*firm
34. Because he is over a fish-house (officious)
35. To find out the most difficult thing in the world
36. Because it must be dark when they shine
37. When it is a-jar
38. Because we have a peel from it
39. Short (short-er)
40. Because it is chequered
41. Those that come after T. (U. V W. X. Y. Z.)
42. Because they're fencing

43. Because it's a bad habit
44. Noise
45. Because they are stationary (stationary)
46. It contains a merry-thought
47. Because it turns night into day
48. Make an impression
49. When it is a little radish (reddish)
50. A pillow
51. Because his nose is above his chin
52. Because it is read (red)
53. Adam
54. The Thames, which flows between Chel*sea*, and Batter*sea*
55. When it is eye-water (high-water)
56. To Eat-on (Eton)
57. Because he goes his rounds
58. An ear-wig
59. Because the weary traveller there finds rest
60. When he is a-board
61. A tanner
62. Hungary
63. The wind
64. Over the hills and far away
65. They are often heard of, but seldom seen
66. Because he belongs to the fire-place
67. When he's a-shaving
68. A hawk
69. When he is in the shrouds
70. IV.
71. Because she tries to get rid of her weeds
72. Because it is a landau let
73. Because it produces a-corn (acorn)
74. Y. Z. (Wisehead)
75. Because words are constantly passing between them
76. Because they are *put-off* till the next day!
77. A wig
78. Because every year its doubling (Dublin)
79. Because it's got no point
80. Because he's a sharper
81. Bolt it
82. Because it is crusted
83. Hunger
84. Because it is *felt*
85. Because his is all *net* profit
86. To ashes
87. Because it is hot
88. Zebedee
89. Because it is lofty
90. Because it has wards in it
91. Because it is out of the head
92. Because all his actions are brilliant
93. Because he has a long bill
94. Because they are so hard to find
95. A pack of cards
96. Because he fingers the keys
97. An icicle
98. In Noah's Ark
99. It is immaterial
100. His inclination.

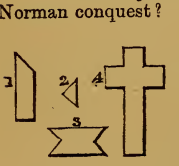
ACTING CHARADES.

I. Port-rait (*rate*) | II. Pat-riot.

THOUGH in themselves "trifles light as air," PUZZLES and PARADOXES are undoubtedly the result of much ingenuity on the part of the contrivers, and certainly the cause of much patient investigation on the part of those who attempt to solve them; and since we have assumed the task of catering for *every* taste, we proceed to lay before our readers a selection of some of the most amusing and intricate puzzles we have been able to gather.

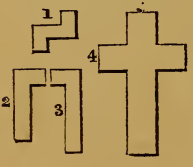
In the arrangement of them, at least of most of them, we have adopted a different system to that usually followed, for instead of giving the solutions of the puzzles immediately after the propositions, we have classed them under a distinct head, that of "The Key to the Puzzles and Paradoxes," and we would suggest that our readers should strive to unravel the problems ere they seek the aid of the authentic explanations.

1. How many kings have been crowned in England since the Norman conquest?



2. Cut out of a piece of card, five pieces, similar in shape and size to the annexed figures —viz., one piece of fig. 1, three pieces of fig. 2, and one like fig. 3. These five pieces are then to be so joined as to form a cross, like that represented by fig. 4; but of course larger in size.

3. This is a variation from the preceding puzzle, and is much more complex in its different parts. Cut out of a stiff card three pieces in shape like fig. 1, and one like fig. 2, and be very careful to make them in exactly the same proportion to each other; next, cut out one piece like fig. 3, and then endeavour to arrange them so as to form the cross shown in fig. 4.



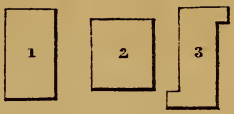
4. A gentleman sent his servant with a present of nine ducks in a hamper, to which was affixed the following direction :—

"To Alderman Gobble, with IX ducks."

The servant having more ingenuity than honesty, took out three of the ducks, and contrived it so, that the direction on the hamper corresponded with the number of the ducks. As he neither erased any word or letter, nor made a new direction, how did he manage it?

5. Cut twenty triangles out of ten square pieces of wood ; mix them together, and request a person to make an exact square with them.

6. A parallelogram, as in the illustration, fig. 1, may be cut into two pieces, so that by shifting the position of the pieces, two other figures may be formed, as shown by figs. 2 and 3.



7. Two men, A and B, went to C, to purchase some spirits. A had a five-gallon keg, B a three-gallon keg, and C had no other measure than an eight-gallon keg ; now, as A and B only want four gallons of liquor each, I wish to know if it is possible for C to measure the desired quantity to his two customers, and also how he does it?

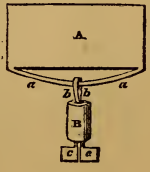
8. Cut a piece of apple or turnip into the shape of a horse-shoe, stick six pins in it for nails, and then by two cuts, divide it into six parts, each containing one pin.

9. Take one from nineteen, the remainder you'll see,
Is twenty, exactly; pray, how can this be?

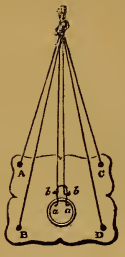
10. Mathematicians affirm that of all bodies contained under the same superficies, a sphere is the most capacious, but surely they have never considered the amazing capaciousness of a body whose name is now required, and of which it may be truly said, that supposing its greatest breadth is 4 inches, length 9 inches, and depth 3 inches, yet in these dimensions it contains a solid foot.

11. A lady met a gentleman in the street ; the gentleman said, "I think I know you ;" the lady said he ought, as his mother was her mother's only daughter. What relation was he?

12. THE CARD PUZZLE. A is a piece of card, along the lower part of which a slit has been made, so as almost to divide the slip *a a* from it; *b b* is another narrow slip, having square ends, *c c*; B is a piece of tobacco-pipe, through which the slip *b b* is passed, and which is sustained by the ends *c c*. The puzzle is, to get the pipe off without breaking it, or injuring the other parts of the puzzle; and this, though it at first sight appears an impossibility, is not impracticable, as there is as much difficulty in getting the pipe *on* as *off*.



13. THE SCALE AND RING PUZZLE must be made out of a piece of thin wood, of about two inches square; in each of the corners A, B, C, D, drill a round hole, and in the centre four small holes, *a a*, *b b*, disposed in a square, at the distance of half an inch from each other. Next take four pieces of silk cord, each about six inches in length, and put them through the holes in the corners, taking the precaution to fasten a bead, or to make a knot at their ends, to prevent them from being drawn through; take another cord of about fourteen inches in length, and pass the ends through the centre holes, *a a*, from the front to the back, and then return them from the back to the front, through the other holes, *b b*; draw all six ends up to a centre, and knot them together, so as to make a small scale, allowing the centre cord to be of such a length that, besides passing through the holes, it may be drawn up into a loop of about half an inch in length. Next, take a small brass ring, lay it upon the scale and draw the loop through it, towards you; pass it, doubled as it is, through the hole in the corner, A, over the knot beneath, and draw it back; then pass it through the hole B, over the knot, and draw it back; afterwards, draw the loop up a little higher, pass it over the knot at the top, and then through the other holes, C, D, and the ring is fixed; the puzzle is, to release it.



14. If from six you take nine, and from nine you take ten,
Ye wits now the puzzle explain;
And if fifty from forty be taken, there then
Will just half a dozen remain.

15. Is it possible to place twelve pieces of money in six rows, so as to have four in each row?

16. THE HEART AND BALL PUZZLE.—Cut out of a thin slip of wood a piece in the form of a heart, and drill six holes in it, as in the annexed engraving, A, B, C, D, E, F. Then take a silk cord, double it, and fasten the two ends into a little wooden ball, and try to set the puzzle, thus:—Pass the loop through the hole F, from face to back, up to B, through which you must bring it, and then pass it through C, E, D, and A, in rotation; through D again, and down the back to F, through which hole bring it to the face; pass it over the ball, and again draw it through the holes F and B, and the puzzle is complete. The task is now to release it. The length of the string should be invariably proportioned to the length of the heart; for instance, if you make the heart two inches long, the string should be, when doubled, about seven inches.

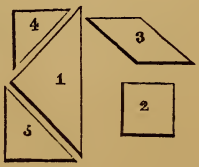
17. THE BEAD PUZZLE.—This puzzle may be procured at many

toy-shops. The part A is made of ivory; a cord, fastened to the end B, is passed through the hole D, in such a manner that it forms a loop there capable of being drawn out at pleasure, and is afterwards fastened off at C. Two beads are put on the string, as delineated here, and the object of the puzzle is to play both balls on to one string.

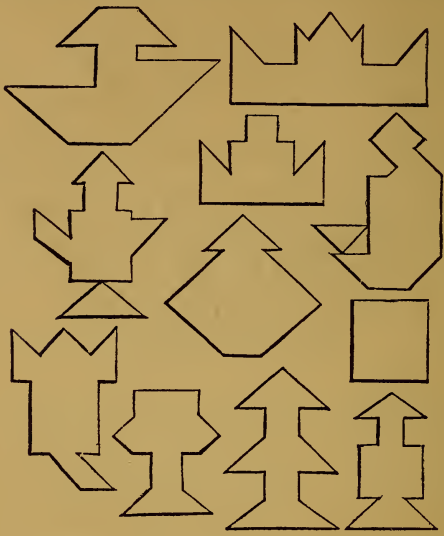
18. A Maze or Labyrinth.—This maze is a correct ground-plan of one in the gardens of the Palace of Hampton Court. No legendary tale is attached to it, of which we are aware, but its labyrinthine walks occasion much amusement to the numerous holiday-parties who frequent the palace-grounds. The partitions between the walks are hedges of clipped hornbeam, and are about five feet in height. The puzzle is to get into the centre, where seats are placed under two lofty trees, and many are the disappointments experienced before the end is attained; and even then the trouble is not over, it being quite as difficult to get *out* as to get *in*.

19. The Gentlemen and their Servants.—Three gentlemen are going over a ferry with their three servants, who conspire to rob them, if they can get one gentleman to two of them, or two to three, on either side of the ferry. They have a boat that will only carry two at once; and either a gentleman or a servant must bring back the boat each time a cargo of them goes over. How can the gentlemen get over with all their servants so as to avoid an attack?

20. The Chinese Puzzle.—This puzzle being one for the purpose of constructing different figures by arranging variously-shaped pieces of card or wood in certain ways, requires no separate explanation. Cut out of very stiff card-board, or thin mahogany, which is decidedly preferable, seven pieces in shape like the annexed figures, and bearing the same proportion to each other; one piece must be made in the shape of figure 1, one of figure 2, and one of figure 3, and two of each of the other figures. The combinations of



which these figures are susceptible are almost infinite; and we subjoin a representation of a few of the most curious. It is to be borne



in mind that all the pieces of which the puzzle consists must be employed to form each figure.

PUZZLES AND PARADOXES.

1. One, only: James I., who was King of Scotland before he ascended the English throne.

2. A simple inspection of the annexed figure will show how the pieces must be arranged to form the cross.

3. To form this cross, the pieces must be arranged in the manner shown in the annexed representation.

4. The servant merely put the letter S before the two Roman numerals IX. The direction then read as follows:—

"To Alderman Gobble, with SIX ducks."

5. The solution of this puzzle may be easily acquired by observing the dotted lines in the engraving, by which it will be seen that four triangles are to be placed at the corners, and a small square made in the centre. When this is done, the rest of the square may be quickly formed.

6. Divide the piece of card into five steps, and by shifting the position of the pieces, the desired figures may be obtained.

7. C first filled the three-gallon keg out of the eight, and then poured the three gallons into the five-gallon keg; he next filled the three again out of the eight, and poured two out of the three into the five. He thus filled the five, and left one gallon in the three; he then emptied the five into the eight, and the one out of the three into the five. He then filled the three again, and poured it to the one in the five, and thus contrived to pour four gallons of liquor into the five-gallon keg, and four into the eight, the exact quantity A and B required.

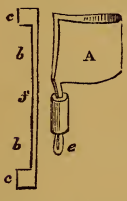
8. By cutting off the upper circular part, containing two of the pins, and by changing the position of the pieces, another cut will divide the horse-shoe into six portions, each containing one pin.

9. XIX make nineteen; therefore, if you take I away, XX must remain.

10. A Shoe.

11. Her Son.

12. After the slit had been made along the card A, the slip *b b*, with its ends *c c*, is to be cut out of another card, as in the annexed figure. The card A is then to be carefully bent, so as to let the slip at the bottom of it be bent and passed through the pipe, as here shown. The slip with square ends is next to be put half way through the loop *e*, at the end of the pipe, doubled in the centre, at *f*, and pulled through the pipe by the loop *e*; and the puzzle is then complete. To get the pipe off, the card must be bent in the same way as to put it on, the slip attached to it passed through the pipe till there is room enough to bring one of the square ends of the other slip *c c* through the loop so formed, when the slip may be removed, and the pipe drawn off.



13. To release the ring, you must reverse the order of your movements, and pass the loop through the holes D C, then over the knot, and through the holes B and A.

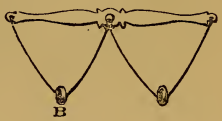
14. From SIX take IX, and S
,, IX ,, X, ,, I } will remain.
,, XL ,, L, ,, X

15. By forming a figure like the annexed, and putting a piece of money at each angle and each point where the lines intersect each other, the query will be resolved.

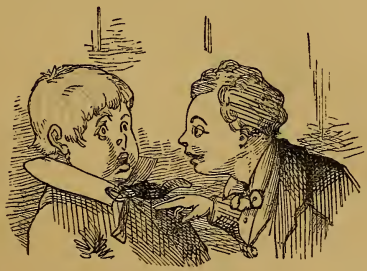
16. To get the ball off, hold the heart as shown in the engraving, page 92, loosen the string slightly, by drawing, at the back, the ball towards the lowest hole F; slacken the remainder of the string by pulling it towards you, and then draw up the loop as far as

possible; next put the loop through hole B, pass it down the back of the heart to F, and bring it to the front, and pass it over the ball; again draw the loop back through F, and the ball and string will come off. Great care must be used that the string may not become twisted or entangled.

17. Draw down the loop, and pass one of the beads (say B) through it. Still holding the ivory in the same position, pull all the strings at the centre hole towards you, till two loops are drawn through; pass the same ball through both of these, and pull the strings back again. It will then be seen that by passing the ball through one remaining loop, it will be brought on to the same string with the other. It may be played back again in a precisely similar manner.



19. Two servants go over first, one takes back the boat; two servants go over again, and one returns with the boat; two gentlemen go over, a gentleman and a servant take back the boat; then two gentlemen go over, and a servant takes back the boat, brings over one of his dishonest friends, and then returns for the other.



DO YOU GIVE IT UP?

TO POLISH SHELLS.

MANY species of marine and fresh-water shells are composed of mother-of-pearl, covered with a strong epidermis When it is wished to exhibit the internal structure of the shells, this epidermis is removed, and the outer testaceous coatings polished down, until the pearly structure becomes visible. It has been a common practice to remove the thick epidermis of shells by means of strong acids, but this is a very hazardous and tedious mode of operation. The best plan is to put the shells into a pan of cold water, with a quantity of quick-lime, and boil them from two to four hours, according to the thickness of the epidermis. The shells should be afterwards gradually cooled, and then some diluted muriatic acid applied carefully to the epidermis, which it will dislodge so that it may be easily peeled off. Two hours are quite sufficient for such shells as the common muscle to boil. After this they must be polished with rotten-stone and oil, put on a piece of chamois leather, and then rubbed with a flannel or nail-brush.

The epidermis of the Unio Margaritifera is so thick that it requires from four to five hours' boiling ; underneath this epidermis there is a thick layer of dull calcareous matter, which must be started off with a knife, or other sharp instrument ; this requires great labour, but when accomplished, a beautiful mother-of-pearl specimen is obtained, which makes an agreeable variety. Various Turbos and Trochuses are also deprived of their epidermis, and polished with files, sand-paper, and pumice-stone, till the pearly appearance is obtained. After the operation of polishing and washing with acids, a little Florence oil should be rubbed over, to bring out the colours, and destroy the influence of the acid, should any remain on the shell ; it also tends to preserve the shell from decay. The muriatic acid should be applied to the epidermis by means of a feather, and it should not be suffered to remain on the outside of the shell for more than a minute or two, and the greatest care should be used to keep the acid from touching, and consequently destroying, the enamelled surface of the inside ; indeed, some persons coat the parts of the shell which they wish to preserve from the effects of the acid with

bees' wax. Some conchologists prefer laying white of egg on the shell with a small camel's-hair brush to rubbing them with Florence oil.

MINIATURE OAK TREE.

If an acorn be suspended by a piece of thread, within half-an-inch of the surface of some water contained in a hyacinth-glass, and so permitted to remain without being disturbed, it will, in a few months, burst and throw a root down into the water, and shoot upwards its straight and tapering stem, with beautiful little green leaves. A young oak tree growing in this way on the mantel-shelf of a room, is a very elegant and interesting object. We have seen several oak-trees, and also a chestnut-tree, growing in this manner; but all of them, however, have died after a few months, probably owing to the water not being changed sufficiently often to afford them the necessary quantity of nourishment from the matter contained in it.

TO EXTRACT THE PERFUME OF FLOWERS.

Procure a quantity of the petals of any flower which has an agreeable perfume; card or comb thin layers of cotton wool, dip them into the best Florence oil, sprinkle a small quantity of fine salt on the flowers, and place layers of cotton and flowers alternately, in an earthen, or else a wide-mouthed glass vessel, until it is full. Then tie the top close with a bladder, and place the vessel in a south aspect, exposed to the heat of the sun; and in about fifteen days, when opened, a fragrant oil may be squeezed away from the whole mass, little inferior, if roses are made use of, to the dear and highly-prized otto or attar of roses.

VEGETABLE SKELETONS.

Procure a large earthen open topped pan, which will hold about a gallon, and put into it some leaves, seed vessels, &c., of plants; pour over them just so much boiling water as will cover them, and then place the pan upon the tiles of the house, or any other place, exposed to the rays of the sun, or the vicissitudes of the weather. Occasionally and carefully stir the leaves, but never change the water. The putrefaction and fermentation will soon ensue, and in about six weeks, or rather more, most of the specimens will be completely macerated, and require no further care than merely to hold them singly under the tap of a water-butt, or a little stream of water poured from a large jug, to wash away all the putrid green pulpy matter. If this matter will not come off easily when slightly assisted by the thumb and finger, or a small knife, the leaves must be soaked for some short time longer. Such of the leaves as are brittle and liable to break during the rinsing, may be preserved from fracturing by placing them upon a piece of board, and holding them up by the thumb and finger while the water is running upon them; and if some of the green matter still remains between the veins of the skeleton-leaf, it may speedily be removed by striking the leaf perpendicularly and carefully with a clothes-brush. The maceration and

cleansing being finished, the leaves will next require bleaching, which may be done very effectually by putting them in a band-box, with a small quantity of sulphur burning in a little gallipot by the side of them. The most certain method, however, of bleaching objects of this description is to immerse them in dilute chloride of lime, or chloride of soda, for a few minutes. Amongst the most suitable subjects for this interesting pursuit will be found the leaves of the white and black Lombardy poplars; the lime and tulip trees, apricot, apple, orange, lemon, box, ivy, holly, and several of the exotic passion flowers, Magnolia glauca, acuminata, and others. The calyces of the Molucalla lævis are, when prepared, exceedingly pretty; as are also the calyces and seed-vessels of the blue-flowered micandra, of the winter cherry, of henbane, the various kinds of campanulas, particularly the Canterbury-bell, the hare-bell, and the throatwort; the larger species of mallows, the tree mallow, horehound, field and alpine eryngoes, sea-holly, moon-trefoil, yellow lucern, common hedge nettle, several of the nettles, red hemp nettle, white fraxinella, Jerusalem sage, common thorn-apple, atropa, the scutillarias or skull-caps, and the capsules of all species of poppies. To these may be added the stalks of the cabbage, radish, flax, hemp, and stinging nettles; the tuber of the turnip, the involuces of Astrantia major and austriaca, and of the Hydrangea hortensis. The above is a tolerably comprehensive list of those plants the leaves and calyces of which may be reduced to skeletons with the greatest certainty; the leaves of the oak contain so much tannin that it is impossible to decompose them; as is the case also with the leaves of the walnut, hazel, horn-beam, chestnut, maple, elm, willow, sycamore, buckthorn, and tea-trees; care should therefore be taken that no leaves of the above-named trees are put in the vessel in which the process of maceration is going on, as they evolve their tanning qualities to such a degree as to hinder the decomposition of all the others in contact with them. It is also impossible to obtain skeletons of the leaves of the fir and camphor trees, and of the laurel, bay, and many other species of evergreens and shrubs, from their highly resinous properties.

CHERRY-STONE BASKETS.

Many lads are extremely partial to the occupation of turning cherry-stones into pretty little baskets; that we may assist them as far as we can, we subjoin a few designs for their imitation, and for the instruction of those lads who have not attempted such miniature works of skill, we offer a few hints as to the mode of proceeding. A smooth, round cherry-stone should be selected, and, after planning out the size of the handle and depth of basket, the superfluous portion of the stone should be filed away with a triangular file, till the handle stands all proper, as in our representations, and the marks of the file and all inequalities, should

then be obliterated by scouring the stone with a bit of sand-paper, till it is perfectly smooth and neat. The ornaments on the basket should be carved with a penknife, and, where practicable, the file may be brought into requisition; but especial pains must be taken that the lines decorating the sides run parallel with each other, and if curved, that they sweep gracefully round the basket.

TO FORM FIGURES IN RELIEF ON AN EGG.

Design on an egg-shell some pretty figure or ornament, with melted tallow, or any fat oily substance; then immerse the egg in very strong vinegar, and let it remain there till the acid has corroded that part of the shell which is not covered with the greasy matter; when taken out, those parts will remain in relief, exactly as you have drawn them.

STORM-GLASSES

Foretel the changes of weather in a very pleasing and singular manner; they are thus made. Procure a bottle or tube about ten inches in length, and three-fourths of an inch in diameter; into it put two drachms of camphor, half a drachm of purified nitre, and half a drachm of muriate of ammonia, pulverized and dissolved in two ounces of proof spirits, and then cover its mouth with a piece of bladder perforated by a needle. If the weather promises to be fine, the liquid portion of the composition will be perfectly transparent, whilst the solid matter will settle at the lower part of the bottle. If there is a probability of rain, the liquid will remain clear, but the compound will rise gradually, and minute stars move about in the vessel. Twenty-four hours before a storm, or very high wind, the fluid will become thick, and appear to be in a state of fermentation, whilst the solid matter will rise and remain floating on the surface somewhat in the form of a leaf. In the winter, the composition rises rather higher than usual, especially during the prevalence of frosts or snows, and small stars keep constantly in motion. During the hot and serene weather of the summer months, the substance subsides close to the bottom of the glass; and during windy weather, the solid particles adhere to the bottom on the side opposite to that from whence the wind blows.

TO MAKE BREAD SEALS.

Take a piece of new bread, knead it thoroughly in your hands, till it acquires an adhesive and paste-like quality, free from all crumbs and lumps, and then colour it with some water colour, using only sufficient to produce the desired tint. Next, lightly oil the impression in sealing-wax, which is to be the model from which your seal is to be produced, either with a camel's hair pencil dipped in sweet oil, or with a little bit of oiled wadding. Press the bread very carefully into every part of the impression, shape the upper part of it into a pyramidical form, remove it immediately, and suffer it to dry gradually.

TO TAKE IMPRESSIONS FROM SEALS.

Warm the seal a little, and rub the end of a wax candle over it, and then sprinkle it with a little Chinese vermilion. Melt the sealing-wax, taking care that it does not catch fire, suffer it to drop upon the paper, press the seal upon it, and if performed adroitly, a beautiful impression will be the result.

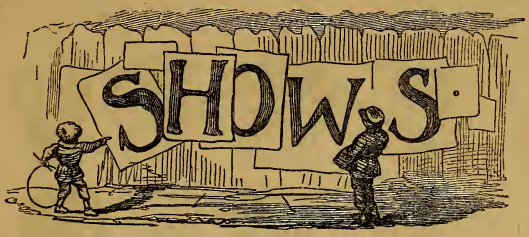
If it is wished to produce various colours in the impression, the seal should be powdered with colour of one tint, and then impressed upon wax of another; as, for instance, if the surface of the seal is dusted with lamp-black, the impression will show a red device upon a black ground.

VARNISH FOR ORNAMENTAL PURPOSES.

A beautiful varnish for ornamental purposes may be readily made by the following process. Reduce into powder a stick of superfine sealing-wax, and put it into a phial, together with half a gill of spirits of wine; put it in a warm place to dissolve, which it will do in a few hours, and it is ready for use. Should it be too thick, it may be reduced by the addition of more spirits of wine till it is of the proper consistency.

The phial should be carefully corked when not in use, by which means the varnish may be preserved for some time. It should be applied as thin as possible, by a camel's hair brush, and if three coats are given, the effect will be pleasing.

A MODERN ILLUMINATOR.



UNDER this head we describe those shows which may be exhibited by any ingenious youth for the amusement of a large circle of friends. Parents frequently employ the itinerant Punch-and-Judy man to astonish and delight a juvenile party with his comical puppets; and we are convinced that they act wisely, as children of all ages enjoy nothing so much as a good show. The reader, by following our directions, may exhibit the freaks of Punch and Judy, the dancing figures of the Fantoccini, the grotesque shadows of the Gallanty Show, or the brilliant artificial fireworks of the Chinese; in fine, he may become quite an expert showman. The rules we have given for getting up a model stage, and for tinselling characters, will, we trust, be fully appreciated by our younger readers.

By following our directions the reader may, with comparatively little trouble, construct some comical puppets, and acquire sufficient skill in working them, to give private representations of the celebrated drama of "Punch and Judy," which never fails to excite the laughter of old and young.

In carving the heads of the puppets, the ingenuity of the reader will be most severely taxed. Each head must be fashioned out of a piece of soft wood, with a sharp penknife, and then painted with oil colours. An old wooden doll will be a capital model for the reader to work from, only he must cut much deeper in order to make the features of his puppets sufficiently prominent. Punch's nose and

chin may be formed of separate pieces of wood, and then fastened on to the face with a little glue. Our artist has drawn a full length figure of Punch, and the faces of the other characters in the drama —namely, 1. Judy ; 2. Beadle ; 3. Foreigner ; 4. Ghost ; 5. Doctor ; 6. Clown ; 7. Jones ; 8. Hangman. The carver should study these

illustrations attentively, and endeavour to imitate them. The eyes of the ghost are two black beads, which may be fixed by pins, or loosely attached by short pieces of thread, so that they may roll about in their saucer-like sockets. The eyes of the other puppets may be formed of white beads fixed by black-headed pins in small cavities made to receive them. The hair and beard of the Foreigner, and the Clown's three tufts, may be made of any kind of fur ; the Hangman's wig, and the Doctor's scanty locks, of worsted. Each head should be about the size of an ordinary hen's egg, and should have a hole made at the bottom large enough to receive the tip of the showman's finger.

Punch is the only puppet that exhibits its legs to the audience, and therefore the only one requiring lower limbs ; these legs, as well as the hands of all the characters, are to be cut out of wood and painted.

The cloth figures of the puppets must be so constructed, that the exhibitor can easily slip them over his hand and wrist ; to these hollow bodies the heads and hands are to be securely fastened, with a little glue, or some small tacks. Punch's figure may be formed of red merino, or any other gay-coloured stuff ; the "goodly hunch" and prominent stomach must not be forgotten ; these important appendages may be stuffed with cotton or tow. Judy's dress may be made of cotton print ; the Beadle's, of blue cloth edged with gold lace ; the Foreigner's, of almost any kind of stuff ; the Doctor's, of black cloth ; and the dresses of Jones and the Hangman, of any sober-coloured stuffs. The Ghost must be enveloped in a long white linen gown ; and that popular favourite, the clown, must be arrayed in the true pantomimic style. In constructing the dresses, the reader will have his patience sorely tried, unless he can persuade a few young ladies to aid him with their nimble fingers.

Motion is given to each of the puppets by the showman's hand, the forefinger of which moves the head, while the thumb and second finger work the two arms ; the annexed engraving will elucidate this operation.

We have not yet alluded to two important characters in the drama —namely, the Baby and the eccentric dog Toby. Any little doll may be dressed in long-clothes to represent the Baby, so the reader may be spared the trouble of carving another head. The part of Toby is generally filled by a living performer, but as we do not suppose the reader to be the owner of a properly-trained cur, we recommend him to procure one of those barking or squeaking dogs which are sold at the toy-shops ; with such a Toby, the fun of the piece will be increased rather than diminished.

Punch's stick must be about a foot long and quite half an inch thick; it must be formed of tough wood, as some rough work is performed with it during the progress of the drama. The gallows must be of the letter F form, and must have two holes bored through the end of the projecting beam; the cord having been knotted at one end, is to be passed through each hole.

Having described the puppets, we will now say a few words about the show in which they are to be exhibited. The dingy curtains which conceal the street performer of Punch are supported by a tall rectangular frame of wood, which the reader could not imitate without considerable labour and some knowledge of carpentry. The show we recommend is simply a box about three feet square, open in front and at bottom; this is hung upon nails against the wall, above the head of the amateur showman, who is hidden from view by curtains which reach from the box to the floor. The box may be a large tea-chest inverted, with the lid and one of its sides removed. The inside of the box should be hung with green-baize or any other dark-coloured stuff. A proscenium cut out of pasteboard, and tastefully painted, should be fastened in front of the box so as to conceal the unsightly edges of the wood. A shelf of wood about four inches wide should project beyond the proscenium, so as to form a little stage upon which Punch may drum his legs, lay down his stick, and place the dead

bodies of his victims; this shelf may be fixed by screws passing through the two sides of the box.

During the performance the puppets must be kept in an open box hanging against the wall within reach of the showman.

The reader having prepared everything, should learn the drama and practise the different voices which he intends to give to the different characters. He will probably be some time before he can acquire the peculiar squeak of Punch, which is generally supposed to be produced by an instrument called "a squeaker." With none of the squeakers we have seen could any distinct words be uttered, and we therefore recommend the reader to trust to his own powers of mimicry. With regard to the musical accompaniments, the amateur showman should get some kind sister or cousin to sit at the piano, the notes of which are much more pleasing than those of the Pandean pipes and drum. We give the words of the drama, slightly altered from the original text.

THE DRAMA OF PUNCH AND JUDY.

Persons Represented.

Mr. Punch.
Judy, *his wife.*
Master Punch, *an infant.*
Joey, *a clown.*
The Beadle.
The Foreigner.
The Doctor.
The Hangman.
Jones, *the former owner of* Toby.
Toby, *Punch's little dog.*
The Ghost.

Music. The pianist plays some popular melody. Curtain rises.

Punch (below). Root-to-to-to-to-too-o-o-it! Sha'n't be long; I'm only putting on my new boots. (*Pops up.*) Root-to-too-it!

[*Lively music. Punch dances and throws his legs over the front of the stage.*

Where's my wife, I wonder? (*Calling below.*) Judy!—Judy, my darling!—Judy, my duck o' diamonds! Oh! you are dressing the baby, are you?

Enter Judy.

Judy. Well, Mr. Punch, what do you want with me?

Punch. Why, I want to give you a kiss, to be sure. (*Husband and wife embrace fondly.*) Now, let's have a dance.

[*Music. They dance. At the conclusion, Punch hits his wife on the head with his stick.*

Judy. Oh! you villain! How dare you strike your own wife?

Punch. Haven't I a right to do what I like with my own?

Judy (*taking stick from him*). Then I'll let you know something about woman's rights. (*Hitting Punch.*) Take that!

Punch. Oh!

Judy (*hitting him again*). Oh!

Punch. Oh!

Judy (*hitting him once more*). Oh!

Punch (*taking stick from her, and knocking her out of sight*). Oh! That was to request her to step down stairs to feed the babby. Such a beautiful babby. I'll go and fetch him.

[*Punch disappears, and pops up again with his infant son in his arms.*

Punch (*sings*).

"Hush-a-bye, baby,
Sleep while you can;
If you live till you're older,
You'll grow up a man."

Oh, you little duck! There never was such a good child.

Master Punch (*cries*). Mam-ma-a-a!

Punch (*thumping him with stick*). Go to sleep, you naughty boy! (*Resumes his song.*)

"Hush-a-bye, baby"——

Master Punch (*louder*). Mam-ma-a-a-a!

Punch (*hitting harder*). Hush-a-bye!

Master Punch (*yells*). Ya-a-a-ah-ah!

Punch (*hitting him*). Be quiet, can't you? Bless him, he's got his father's nose! (*The child seizes Punch by the nose.*) Murder! Let go! There, go to your mother if you can't be good with me.

[*Throws Master Punch out of window, or rather over the front of the stage.*

Punch (*sings, drumming with his legs on the stage*).

"She's all my fancy painted her,
She's lovely, she's divine!"

Enter JUDY.

Judy. Where's the boy?

Punch. The boy?

Judy. Yes.

Punch. What! didn't you catch him?

Judy. Catch him?

Punch. Yes, I threw him out of window. I thought you might be passing.

Judy. Oh, my poor child! Oh, my poor child!

Punch. Why, he was as much mine as yours.

Judy. But you shall pay dearly for it; I'll tear your eyes out.

Punch. Root-to-to-to-too-it! [*Kills Judy at a blow.*

Enter BEADLE.

Beadle (*brandishing his staff of office*). Hollo! hollo! hollo! Here I am!

Punch. Hollo! hollo! hollo! And so am I!

[*Whacks Beadle over the head.*

Beadle. Do you see my staff, sir?

Punch. Do you feel mine, sir? [*Hits him again.*

Beadle (*striking the front of the stage with his truncheon in an*

imposing manner). I'm the Churchwarden, Street-keeper, Turncock, Stipendiary Magistrate, and Beadle of the Parish!

Punch. Oh! you are the Church-warming-pan, Street-sweeper, Turniptop, Stupidity Magistrate, and Blackbeetle of the Parish?

Beadle. No nonsense, Mr. Punch! You have committed a barbarous and cruel murder, and you must answer for it to the laws of your country.

Punch. Oh, indeed!

Beadle. I am the Beadle.

Punch. And so am I.

Beadle. You a Beadle?

Punch. Yes.

Beadle. Where's your authority?

Punch. There it is! [*Knocks him down.*

Beadle (*rising*). Mr. Punch, you are an ugly, ill-bred fellow.

Punch. And so are you.

Beadle. Take your nose out of my face, sir.

Punch. Take your face out of my nose, sir.

Beadle. Pooh!

Punch. Pooh! [*Gives Beadle another taste of his stick.*

Beadle. You have committed an aggravated assault on the majesty of the law, and I am under the necessity of taking you up.

Punch. And I am under the necessity of knocking you down.
[*Kills him with a blow of his stick.*

Punch (*dancing*). Root-to-to-to-too-it!

Enter FOREIGNER.

Foreigner. Shallabala!
[*Punch aims at and misses him. He disappears, and bobs up at the other side.*

Foreigner. Shallabala!
[*Punch tries to hit him, but again fails.*

Punch. Why don't you speak English?

Foreigner. Because I can't.

Punch. Oh, I'll give you a lesson. There!
[*Hits the unfortunate alien, who falls a lifeless corpse.*

Punch. Root-to-to-to-too-it!
[*Sings a fragment of a popular melody, drumming with his heels upon the front of the stage.*
[*Mysterious music. The* GHOST *rises and places its hands upon the bodies of Punch's three victims. The bodies rise slowly and disappear.*

Punch (*sings*).
"Rum ti tum ti iddity um,
Pop goes"——

Ghost. Boo-o-o-oh!

Punch. A-a-a-ah! [*He throws up his hands, and kicks wildly.*

Ghost. Boo-o-o-o-oh!

Punch. Oh dear! oh dear! It wasn't me!

Ghost (*throwing its arms around Punch*). Boo-o-o-o-oh!

[*Punch faints. The Ghost sinks to appropriate music.*

Punch. Oh dear! I'm very ill; fetch a doctor.

Enter DOCTOR.

Doctor. Somebody called for a doctor, Why, I declare it is my old friend Punch. What's the matter with him, I wonder? (*Feels the patient's pulse.*) Fifteen—sixteen—eleven—nineteen—six. The man is not dead—almost, quite. Punch, *are* you dead?

Punch (*starting up and hitting his medical adviser*). Yes.

Doctor. There's no believing you; I think you are alive.

Punch (*hitting him again*). No, I'm dead.

Doctor. Then I must go and fetch you some physic. [*Exit.*

Punch. A pretty doctor to come without physic.

Re-enter DOCTOR, *with a stick.*

Doctor. Now, Punch, *are* you dead? No reply? (*Beating him.*) Physic! physic! physic!

Punch (*returning to his senses*). What sort of physic do you call that, Doctor?

Doctor. Stick-liquorice! stick-liquorice! stick-liquorice

[*Repeats the dose.*

Punch. Stop a bit! Give me the bottle in my own hands. (*Taking cudgel from the Doctor, and thrashing him with it.*) Physic! physic! physic!

Doctor. Oh!

Punch. What! don't you like your own physic? (*Hitting him again.*) Stick-liquorice! stick-liquorice! stick-liquorice!

Doctor. For goodness' sake, Punch, pay me my fee, and let me go.

Punch. What is your fee? [*Lays down stick.*

Doctor. A guinea.

Punch. Give me the change out of a fourpenny-bit.

Doctor. Why, a guinea's twenty-one shillings.

Punch. Let me feel for my purse, then. (*Takes up the stick and hits Doctor.*) One! two! three! four! Stop! that wasn't a good one! I'll give you another! Four! five! six! seven!——

[*Delivers twenty-one blows. The Doctor falls lifeless on the receipt of the last one.*

Punch. Settled! Root-to-to-to-too-it! [*Sings.*

Enter JOEY, *the Clown.*

Joey. Punch! [*Disappears.*

Punch. Who called me?

[*Looks round, and seeing no one, resumes his song.*

"I dreamt that I dwelt in marble halls,
With vassals and serfs by my si-wi-wide"——

[*Joey rises, and taking up the dead body of the Doctor, bobs its head in Punch's face.*

Joey. Bob.

Punch. Who said "bob?"

Joey (*pushing Doctor into his face again*). Bob! bob! bob!

Punch. Bob! bob! bob! (*Knocks Doctor out of sight, and discovers Joey.*) Ah, Joey! was that you?

Joey. No, it was I.

Punch. Well, don't do it again, because I'm nervous. Come and feel how my hand shakes.

[*Joey approaches. Punch tries to hit him, but he dodges and avoids the blow.*

Come a little nearer; I won't hurt you.

[*Joey again approaches Punch, and again avoids the blow intended for him.*

There! it didn't hurt you, did it?

Joey. No.

Punch. Nor that? [*Makes another failure.*

Joey. No.

Punch. Nor that?

Joey. Not a bit.

Punch. Then what are you afraid of? Come and shake hands.

[*Joey approaches, but has to duck down as before, to avoid a blow which Punch makes at his head.*

Punch. Joey, you're an arrant coward.

Joey. Don't call names.

Punch. Then fight fair.

Joey. Come on.

[*Music. Grand combat between Punch and Joey, the former using his stick and the latter butting with his head. The Clown avoids all Punch's blows by dodging. After bobbing up and down in every direction, Joey suddenly thrusts his head through a hole in the curtains outside the stage.*

Joey. Hollo, Punch! [*Disappears.*

Punch. Where are you, Joey?

Joey (*reappearing.*) Here I am. [*Disappears again.*

Punch. I saw him.

[*Peeps round the curtains, and comes into collision with Joey. Both start back frightened.*

Punch (*laying down his stick and peeping cautiously round the curtains*). I've got him now!

Joey (*rising behind him, and seizing stick*). And how do you like him? [*Cudgels Punch.*

Punch. Murder! fire! thieves! Toby, come and help your master! [*Toby barks below. Exit Joey.*

Enter TOBY.

Punch. Good doggy! I knew you'd come to help your master. Poor little Toby! Ain't you fond of your master? (*Toby snaps.*) Oh, my nose! Now, be a good dog, and you shall have a pail of

water and a broomstick for supper. (*Toby snaps again.*) Be quiet, sir, or I'll knock your brains out!

[*Toby barks, and Punch goes to strike him, but at the same instant* JONES, *the former owner of the dog, rises and receives the blow intended for Toby on his head.*

Jones. What did you do that for? I shall make you pay for my head, sir!

Punch. And I shall make you pay for my stick, sir!

Jones. I haven't broken your stick.

Punch. And I haven't broken your head.

Jones. You have, sir!

Punch. Then it must have been cracked before.

Jones. Hollo! Why, that's my dog Toby! Toby, old fellow, how are you? [*Toby barks.*

Punch. He isn't your dog.

Jones. Yes, he is!

Punch. No, he isn't!

Jones. He is, I tell you! A fortnight ago I lost him.

Punch. And a fortnight ago I found him.

Jones. We'll soon see whether the dog belongs to you. You shall go up to him and say, "Toby, poor little fellow, how are you?"

Punch. Very good. (*Goes up to Toby.*) Toby, poor little fellow, how are you? [*Toby snaps at Punch's nose.*

Jones. There! you see!

Punch. What?

Jones. Why, that shows the dog's mine.

Punch. No; it shows he's mine.

Jones. Then if he's yours, why does he bite you?

Punch. Because he likes me.

Jones. Nonsense! We'll soon settle which of us the dog belongs to, Mr. Punch. We'll fight for him. Now don't you begin till I say "Time." (*Punch knocks Jones down.*) Mr. Punch, that wasn't fair.

Punch. Why, you said "Time."

Jones. I didn't.

Punch. What did you say, then?

Jones. I said, "Don't you begin till I say 'Time.

Punch (*knocking him down again*). There, you said it again.

Jones. Toby, assist your master. [*Toby flies at Punch.*

Punch. It isn't fair; he didn't say "Time."

Jones. At him again, Toby. [*Toby barks and attacks Punch.*

Punch. Murder! please to call him off!

Jones. Very well. Come along, Toby! [*Exit with Toby.*

Punch (*calling after them*). I wouldn't have him at a gift; he's got the distemper! Root-to-to-to-too-it!

Enter HANGMAN.

Hangman. Mr. Punch, you are my prisoner.

Punch. What for?

Hangman. For having broken the laws of your country.

Punch. Why, I never touched them.

Hangman. At any rate you are to be hanged.

Punch. Hanged? Oh, dear! oh, dear!

Hangman. Yes; and I hope it will be a lesson to you.

[*Erects the gallows on the stage.*

Punch. Oh, my poor wife and sixteen small children! most of them twins, and the oldest only three years of age.

Hangman. Now, Punch, you are ordered for instant execution.

Punch. What's that?

Hangman. You are to be hanged by the neck till you are dead! dead! dead!

Punch. What! three or four times over?

Hangman. No. Place your head in the centre of the noose.

Punch. Stop a bit; I haven't made my will.

Hangman. A very good thought. We can't think of letting a man die till he has made his will.

Punch. Can't you?

Hangman. Certainly not.

Punch. Then I wont make mine at all.

Hangman. That wont do, Punch. Come put your head in there.

Punch (*putting his head under the noose*). There?

Hangman. No; higher up!

Punch. (*putting his head over.*) There?

Hangman. No; lower down!

Punch. Well, I never was hanged before, so how can you expect me to know where to put my head?

Hangman. Oh! as you were never hanged before, it's but right I should show you the way. Now, Mr. Punch, keep your eye on me. In the first place, I put my head in the noose—so! (*Puts his head in noose.*) Well, when I've got *your* head in, I pull the end of the rope.

Punch (*pulling rope*). So?

Hangman. Yes, only much tighter.

Punch. Very good; I think I know now.

Hangman. Then turn round and bid your friends farewell; and I'll take my head out.

Punch. Stop a minute. (*Pulls the rope tightly, and hangs the Hangman.*) Oee! oee! oee! I understand all about it. Root-to-too-it! Here's a man tumbled into a ditch, and hung himself up to dry. [*The* GHOST *rises and taps* PUNCH *on the shoulder.*

Ghost. You're come for.

Punch. Oh, dear! oh, dear! What do you want

Ghost. To carry you off to the land of Bobbetty-Shooty, where you will be condemned to the punishment of shaving the monkeys?

Punch. Stop! who were you to ask for?

Ghost. Why, Punch, the man who was to be hanged.

Punch. I'm not Punch; there he is! [*Points to Hangman.*

Ghost. Oh! I beg your pardon. Good night!

[*Carries off Hangman.*

Punch (*hitting the sinking Ghost*). Good night! Pleasant journey! [*Sings.*

Root-to-to-it! served him right,
Now all my foes are put to flight;
Ladies and gentlemen all, good night,
To the freaks of Punch and Judy!

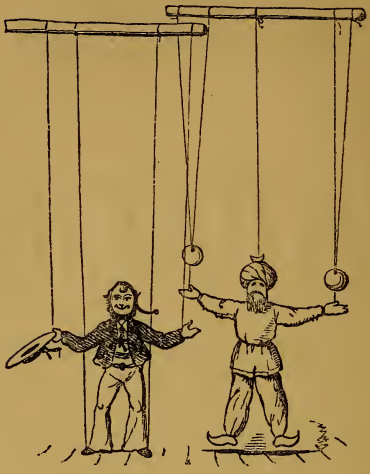
[*Curtain falls.*

About sixty years ago, a puppet-show was exhibited at the west-end of London, with the Italian title of Fantoccini, which greatly attracted the notice of the public, and was spoken of as an extraordinary performance; it was, however, nothing more than a revival of the old puppet-show which drew crowded and fashionable audiences during the reign of Queen Anne, and rivalled the more pompous exhibitions of the larger theatres. In the present day Fantoccini are exhibited in the open streets by the itinerant showman, whose ragged coat and battered hat show how puppets have fallen in the estimation of the fashionable public.

Any ingenious youth may amuse and astonish a large circle of friends with an exhibition of dancing puppets, as the different figures are not difficult to construct, and their motions are very easily managed. The puppets may be common wooden dolls dressed up in appropriate costumes. The arms and legs are to be loosely attached to the bodies so that they may be moved about in any direction by threads fastened to their extremities. These threads may be formed of black sewing-silk, or strong black cotton. All the threads proceeding from the different limbs and joints of a puppet are to be attached to a stick in such a manner as to allow the figure to stand in a natural attitude; the annexed engraving shows two puppets thus supported.

The puppet-show may be formed in the following simple manner:—Take a tall, three-sided clothes-horse, and place its outer edges against the wall so that it may enclose a square space; then hang curtains or shawls over the horse, leaving no part uncovered except a rectangular space close to the floor in front; to this opening you may, if you think proper, fix a painted proscenium. Now place a small towel-horse, hung with black stuff, at the distance of a foot behind the proscenium to serve as a background to the stage, and to conceal your legs while you are engaged in working the puppets; having done

this, lay down a little green-baize carpet on that part of the floor which represents the stage, and your puppet-show will be complete.



The puppets may be illuminated by candles placed on the floor in front of the proscenium. The spectators are to be stationed as far from the show as possible, so that they may not perceive the threads.

The performer takes his seat behind the small horse, and holding the stick to which the threads are fastened in his left hand, he manages the motions of the puppet with the fingers of his right hand. When the motions are very complicated, the showman may attach the stick to a string hanging from a rod placed across the top of the show, and employ the fingers of both hands in working the figure. With very little practice the amateur puppet-man may acquire great proficiency in the art of giving life-like movements to the dolls.

The reader may dress up his puppets in any fancy costumes, but he must endeavour to give to each its appropriate action; the following characters may perhaps be allowed to figure in his Fantoccini:—

The Sailor.—This puppet, which is represented in our illustration, is a popular favourite. The doll should have whiskers of Berlin wool glued on its cheeks, and a trim black-silk pigtail attached to the back of the head. It is to be dressed in the conventional naval costume, namely, a blue jacket, loose white trousers, and a straw hat. On its entrance it should be made to bow to the audience in a characteristic manner, by inclining its body and kicking one leg behind him. The *Sailor's Hornpipe* is then to be struck up by the pianist,

and the puppet made to dance to the music. If the showman can manage six strings at once, two threads, not shown in our illustration, may be attached to the knees.

THE JUGGLER may be dressed in a fanciful Eastern costume; a string is to be attached to the head, and another to each of the hands. A gilded ball, having a hole pierced through it, is strung on each hand-thread, and to each ball a fine silken thread is attached. Our illustration shows how the five threads are to be attached to the supporting-stick. A little practice will enable the showman to work this puppet so dexterously that the spectators will be fairly puzzled to tell how the rapid tossing and catching of the balls is managed.

THE HEADLESS MAN.—This puppet may be dressed according to the reader's fancy; its head is not fastened to the body, but is strung on a thread attached to the neck. When the showman has made the doll dance for a short time, he pulls the head from the body by means of a thread fastened to it, and makes the headless puppet dance on as if nothing had happened.

THE MILKWOMAN.—A puppet, dressed like a woman with a yoke and milk-cans, makes its appearance and performs a country jig. Before the dance is concluded a little white doll jumps out of each can. The milkwoman tries to catch the dolls, but they fly out of sight. This trick is easily managed; to the head of each little doll is fastened a thread, which the showman pulls at the proper time. The yoke may be cut out of a piece of soft deal, and the cans may be made of pasteboard covered with tin-foil.

JIM CROW is simply a black doll dressed in a very ragged blue coat, patched breeches, and a battered white hat. The showman makes this puppet go through a ludicrous dance to the tune of *Jim Crow*, or some other nigger melody.

GALLANTY SHOW

"Come like shadows, so depart!"

THE comical moving shadows of the Gallanty Show rival Punch and Judy in popularity, and when exhibited at night in the streets of London, never fail to attract a large audience. A private gallanty show can be got up with very little trouble in any house where there is a room which communicates with another apartment by means of folding-doors, so that the operator may be in one room and the spectators in another. The figures are to be cut out of card-board or very stiff paper, and their limbs are to be made moveable by forming them of separate pieces, and making them work on pivots of thread or wire. All the figures should be blackened on both sides,

either with indian-ink or lamp-black mixed with water and size. The figures are to be worked behind a semi-transparent screen formed by stretching a piece of linen or thin calico over a wooden frame about three feet in width by two in depth. During the exhibition, the screen is to be illuminated by a lamp or candle placed behind it at the distance of three or four feet. The screen must be supported at the height of about five feet from the floor in the doorway between the two rooms, by a light framework of wood, or by any other means which the ingenuity of the operator may devise. Curtains or shawls must now be hung over the doorway on the outside, so as to hide the showman from the spectators, and shut out all the light except that which passes through the linen screen. A piece of strong tape stretched along the bottom of the frame by a nail driven in at each corner, serves to hold one figure in its proper position while the operator is engaged in moving another. The annexed engraving

represents the interior of the gallanty show, and shows how the figures are to be worked; the smaller boy holds all the figures, and hands them one at a time to the showman. The operator should pay particular attention to the actions of the different figures, while carrying on the dialogue, to see that they make appropriate gestures and movements with their heads, arms, and legs. We recommend the youthful exhibitor to write his own dialogues, as the ordinary street gallanty-show dramas are too coarse for private representation. The following burlesque is a specimen of the kind of play most likely to cause amusement.

THE WONDERFUL CROCODILE.

SCENE I. *Egypt. A desert plain. On one side a single palm-tree, on the other a little hut.*

Enter SAMBO, *running.*

[The annexed illustration shows how this figure is to be cut out. The showman gives motion to the legs by means of the long slips of cardboard attached to the feet. Sambo's eye may be made to roll about in a very comical manner, if the exhibitor will take the trouble to stretch a hair with a black glass bead strung upon it, across the hole cut in the face to represent the white of the eye.]

Sambo. Oh, golly! me neber see sich a terrible brute in de whole course ob my life! Here, missis, come out directly, or else you'll be eaten up in your bed!

Enter MRS. SMITH *from the hut.*

[The figure of Mrs. Smith does not require much description. The arms are loosely attached to the shoulders, and made to move up and down by a thread or wire passing behind the figure.]

Mrs. Smith. How dare you summon me in that rude manner? My poor nerves have been in such a dreadful state ever since I left England, that I tremble like a leaf at the slightest noise.

Sambo. Oh, missis! I've seen sich a dreffle creature!

Mrs. Smith. Heavens! what do you mean?

Sambo. Great big large monster, ninety, eleventy, hundred feet long—cobered all ober wid scales like de roof ob a house—hundred million teeth in him mouth, and tail dat would reach all de way from here to New York.

Mrs. Smith. Good gracious! Oh! why did Mr. Smith bring me to this dreadful country? Where is your master, Sambo? Go and find him directly, and tell him that he is a brute to leave his poor wife all alone by herself in this desert place. Oh, deary me! Why did I ever marry a traveller? [*Exit into hut.*

Sambo. S'pose me must go and look for massa, but me so bery frightened ob de fellow wid de teeth, dat me take good care to go right away from him. [*Exit.*

Enter LITTLE JIM.

[The figure of the black child, little Jim, shown in the margin, need not be made with moveable limbs.]

Jim (*calling after Sambo*). Daddy take de little nigger wid you! Him out of sight two or three times ober! [*Cries.*

Enter the WONDERFUL CROCODILE.

[The figure of this remarkable animal should be very carefully cut out. The tail and lower jaw work on pivots, and are moved together with two of the legs, by means of two long slips of card.]

[*The Wonderful Crocodile crawls slowly towards Little Jim, seizes that hapless youngster, and backs out with him between his huge jaws. The child yells.*

Enter MRS. SMITH.

Mrs. Smith. Mercy on us! I thought I heard poor little Jim scream. I wonder where the little brat has got to? Oh, dear! I wish my brute of a husband would come! Oh, here he is at last. How frightened he looks!

Enter SMITH.

[The arms and legs of this figure need not be formed of separate pieces, as Smith plays an unimportant part in the drama.]

Smith. Oh, my love! I've seen a crocodile with poor little Jim in its enormous jaws. (*Mrs. Smith screams.*) Ah, my dear! we are not

safe an instant in this place. The authorities ought to put a stop to crocodiles and all other dangerous reptiles. I am not afraid for myself nor for you.

Mrs. Smith. Oh, you heartless brute!

Smith. Be patient, my love! I am only afraid for the safety of my valuable notes on the domestic habits of the ostrich.

Mrs. Smith. Botheration! I wish you had never interfered with the ostrich, and had stopped at home like a sensible man. Oh, gracious goodness! Look there! [*Screams.*

[*The Wonderful Crocodile makes its appearance, swallows Smith, and backs out again. Mrs. Smith continues screaming.*

[The swallowing is easily managed. The showman moves the Crocodile close up to Smith, and pulls the latter figure out of sight.]

Enter SAMBO

Sambo. Can't find massa. Look for him eberywhere!

Mrs. Smith. Oh, Sambo! Your poor master!

Sambo. What! hab de fellow wid de teeth eat him up?

Mrs. Smith. Don't ask me. Oh, dear! oh, dear!

Sambo. Where's little Jim?

Mrs. Smith. He's with your poor master.

Sambo. Oh, dear! poor little Jim, de pride ob my heart. But see him come again.

[*The Crocodile appears at one side, Sambo and Mrs. Smith run out screaming at the other; the monster after opening and shutting its jaws a few times disappears.*

Enter CAPTAIN, *followed by the* ARMY

[The figure of one of the soldiers is represented in the annexed illustration. The best plan of moving the soldiers across the stage is to fasten them to a long piece of tape, which is passed over two empty cotton-reels turning on strong pins driven in the lower corners of the wooden frame; the ends of the tape are fastened together so as to form an endless band. The army will continue on the march as long as the showman keeps turning one of the reels.]

Captain. Forward, my brave men! Let us exterminate the terrible monster without delay!

[*The Crocodile pops its head in on one side, and the soldiers all march into its mouth. Having eaten up the whole army, the monster retires.*

Enter JACK BOWLINE *and* MRS. SMITH.

[The legs of the British sailor are moveable, but the arms are cut out with the body. Each leg has a slip of card attached to it for the showman to hold.]

Jack. Eaten your husband and a little black baby say you? Shiver my timbers! I'll chop the lubber into mincemeat!

Mrs. Smith. You're very good, sir, but suppose the monster should swallow you!

Jack. Swallow one of her Majesty's navy! I should like to see him do it! But where's that Sambo, he promised to show me where this land-shark harbours. So come along, my little craft, let's take a cruise in chase of him.

Mrs. Smith. If you kill the crocodile, sir, you will convey me to my aged papa, will you not?

Jack. I should think so! The man who would not protect a lovely widow isn't worthy of the name of a British sailor. [*Exeunt.*

SCENE II.—*The Crocodile's Home on the banks of the Nile.*

Enter the YOUNG CROCODILE.

[The comical figure of the youthful crocodile shown in the margin, is easily worked by pulling the strip of card which is connected with the lower jaw and tail.]

Young Crocodile (*supposed to be speaking the Crocodilian language*). Oh! I do wish papa would come home! I have had nothing to eat since breafast, and then I only had two oxen and a few skinny Arabs. I'm so hungry! Pa-pa-a-a! pa-pa-a-a-a! (*Cries.*) Oh! here he comes with something in his mouth. Hoor-ray! *La di diddle de, da de da.* [*Sings and dances in an absurd manner.*

Enter WONDERFUL CROCODILE *with* LITTLE JIM *in his mouth.*

Wonderful Crocodile (*putting down Jim*). Well, my son, I hope you've been a good little reptile in my absence. See! I've brought something nice for supper.

Young Crocodile. What a little bit! That won't be enough.

Wonderful Crocodile. Don't be greedy! I'm going to bed as I'm not very well. I swallowed a troop of soldiers this afternoon, and those nasty guns and bayonets have given me a pain in my chest. I never could digest iron. Good night, my child! Have your supper and go to bed. [*Exit.*

Young Crocodile. Good night, daddy! Now for my supper.

[*Tries to catch little Jim, who runs backwards and forwards crying all the time. After many unsuccessful attempts, the Crocodile catches Jim.*

Enter Jack Bowline.

Jack. Hold hard, you lubber! The crocodile that would go to eat a little baby like that isn't worthy of the name of a British sailor! [*The Crocodile leaves Jim, and makes a rush at the Sailor.*

Jack. What! you fresh-water shark! Do you want to try the temper of a British cutlass? Come on then!

[*Terrific combat between Jack and the Young Crocodile. At the conclusion of the fight the Crocodile falls backwards out of sight.*

Jack. Hurrah! Three cheers for Old England, Queen Victoria, and the Lords of the Admiralty! (*To Jim.*) Now, young 'un, let me take you to your daddy, then I'll come back and look for the father of the chap that was going to make salt junk of you. The man who would be content with thrashing one crocodile isn't worthy of the name of a British sailor. [*Exeunt.*

SCENE III.—*England. The sailor's native village. A pump on one side, a signboard, with the words "The Jolly Sailor" cut out, on the other.*

Enter JACK BOWLINE.

Jack. Here I am again in my native village, safe and sound as a new frigate! Wont my blessed old dad be glad to set eyes on me, and wont all the folks stare when they see my tame crocodile? Sambo, a-hoy! Tow the vessel into this port!

Enter SAMBO *leading the* WONDERFUL CROCODILE *by a string,* LITTLE JIM *following.*

Sambo. Here we be, Massa! De critter as tame as pos'ble. Tink him turned vegetarian as him eat noting but grass and clober. Him cry like a child when me scold him.

Jack. It's a queer craft to look at. Let me get on deck. (*Mounts the Crocodile.*) Now, music, strike up "Jack Robinson." The man who wouldn't dance a hornpipe on a crocodile's back isn't worthy of the name of a British sailor!

[*He dances a hornpipe on the back of the Wonderful Crocodile. Curtain falls.*

CHINESE SHOW OF ARTIFICIAL FIREWORKS.

THE Chinese showman, by an ingenious arrangement of punched pictures, transparencies, and revolving wheels, imitates brilliant stars, cones, jets, and cascades of fire so cleverly, that his exhibition rivals a display of real fireworks. The Chinese show is not difficult to construct, and may be exhibited, like the gallanty show, in a doorway leading from one apartment to another.

Have a frame made some three or four feet square, and twelve or fourteen inches deep, and let there be a ledge or groove along the bottom in front, and a corresponding one, also in front, at the top, sufficiently wide to slide a picture in. Two wires are to be placed across this frame, each having a loop in its middle, for the purpose of bearing an axle or spindle, which may be made of stout wire. On the front end of this spindle, a wheel, of about two feet in diameter made of a thin hoop, and six or eight wire spokes, must be fastened, and the other end should have a handle securely fixed on it. The wire wheel must be placed as close to the front as the sliding groove will allow. Next have as many straining frames prepared, like those made for pictures, as you intend to have subjects, and stretch upon them either calico or parchment, or paper, and paint them on both sides with oil paint, or else with lamp-black mixed with water and size. When thoroughly dry, you must proceed to sketch out upon them the different designs you wish to exhibit, taking care, if they are intended to appear in motion, that the centres of the pieces correspond with the centre of the wire wheel, and then punch an innumerable quantity of holes, of various sizes, to the shapes of the

figures: of course having the largest holes and greatest quantity nearest the centres, from whence the sparks are supposed to jet, and if a few narrow slits are intermingled with the holes, radiating from, and close to the centres of the pieces, much will be gained in their effect. As much is added to the beauty of this species of exhibition by producing the appearance of various coloured fires, it is as well to paste over the backs of the designs, when punched out, a piece of tissue paper, colouring it according to the nature of the display you intend, either with Prussian blue, carmine, gamboge, a purple composed with carmine and Prussian blue, or a green made with gamboge and Prussian blue, &c. Indeed, any transparent colour, or combination of colours, may be used for the purpose of adding richness and variety to the figures; and if you wish them to be extremely brilliant, either varnish the paper after colouring it, or mix varnish with the colours at first.

As the mere objects themselves, in a quiescent state, possess little interest, the means of producing motion next demand our attention. It being necessary to employ three different motions, three hoops must be procured of a size sufficient to fit tightly upon the hoop of the wire wheel, and upon three pieces of blackened paper, of the same kind as that employed on the object frames, the dimensions of the hoops should be sketched. For the first species of motion, that by which a quivering, glittering light is imitated, a wheel of twelve radii or spokes must be drawn upon one of the pieces of paper, as in the annexed figure, and the intervening white spaces cut out with a penknife.

For the second species, producing the effect of fire flowing from a centre, in one uniform motion, the wheel must have a great number of radii flowing in regular curved lines from the centre, as delineated in the illustration, and the white spaces carefully cut out.

For the third motion wheel, the direction of the radii must be varied: an inner series flowing from the centre in one course, whilst an outer series should proceed in exactly the reverse way, as in this figure, and the white spaces cut out.

After the figures of the motion wheels are properly drawn and cut on the pieces of paper, they should be pasted upon the hoops prepared for them, and they are then ready for use. The first kind of

wheel is adapted for anything requiring a wavering light; the second is exceedingly well calculated for brilliant stars, the sparks from which are to appear as if they were radiating from the centre to the circumference. The third is intended for such pyrotechnic figures and stars as have jets of fire playing from points away from the centre of the piece, as well as those immediately from it; of this kind are the three annexed marginal figures, and the different directions in which the fire will seem to be ejected, particularly if variously coloured fires are imitated, will produce an animated and interesting scene.

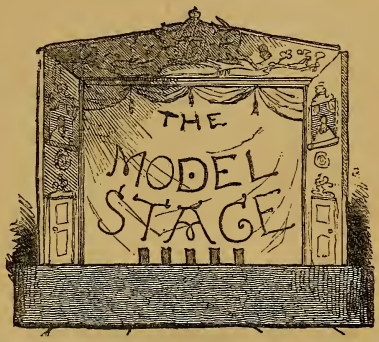
A shower of fire requires but little art to imitate it; have a roller fastened at the top of the box, close to the front, and another at the bottom, likewise close to the front, and let there be handles affixed to them; upon these rollers wind a very long coil of blackened paper, profusely punched with holes of various dimensions; and when by moving the lower roller the paper is pulled down and wound upon it, a shower of brilliant sparks will seem to be falling. By reversing the movement of the paper by turning the upper roller, the sparks will then appear to be moving upwards, and if an object frame with a figure like a fountain is put before it, the effect of a fountain of fire will be very neatly displayed.

If a cone or globe is intended to appear in motion, figures of the annexed shape must be drawn and cut out.

When showing these objects, three or four lamps or candles should be placed along the sides of the frame, and care must be taken that the wheels are not turned too quick, else a haziness will be produced, instead of the tremulous, varying light necessary for the proper display of the pieces.

The cheap paraffin lamps, which give a steady brilliant white light, are admirably adapted for illuminating the pyrotechnic figures of the Chinese show, and one of them may advantageously be used for exhibiting the shadows of the Wonderful Crocodile and his friends.

Other and more complicated designs than those we have given will doubtless present themselves to the minds of our young readers, and we trust that the really pretty effects which can be obtained in these artificial fireworks will tempt them to lay aside the use of the perhaps more lively, but certainly dangerous, real ones.



To possess a model stage with a complete set of characters and scenes, is doubtless the aim of many a lad into whose hands this book will fall. A few practical hints upon getting up a stage will not, therefore, be out of place in this section, which treats of juvenile shows.

Having decided on the play you intend to represent, you may purchase the characters, which are sold in sheets at almost all the smaller toy-shops, and at many booksellers. After painting the sheets in water-colours, they are to be stuck on cardboard with paste or gum, and when dry you must carefully cut out each character with a sharp penknife. In painting the same characters in different attitudes, be careful to make use of the same colours, as nothing can be more absurd than to make a figure change the colour of its coat, every time it kneels, sits, or draws its sword. When all the characters have been prepared, the scenes, side-wings, and drop-pieces may be purchased; these you must paint in their natural colours, and then paste upon cardboard.

The stage may be bought ready-made, but you may save the expense and earn the praises of your companions by constructing it yourself. The frame-work of the stage is not unlike a four-post bedstead, and may be easily formed by gluing a few straight pieces of deal together; the stage itself must be made of a square piece of board, planed very smooth on its upper surface. Slips of wood must

be glued on the stage, and corresponding slips on the upper framework, so as to form grooves for holding the scenery. The *proscenium*, or frontispiece of the stage, shown in our heading, is sold as a scene; it should be painted with bright colours, and pasted on very stiff card-board. A tin lamp, with five or six burners, is to be let into the front part of the stage. The curtain may be formed of any dark-green stuff, and may be wound on a roller placed behind the upper part of the proscenium: besides the curtain there should be a painted scene or *act drop*, to let down between the acts of a drama. During an exhibition, lamps or candles are to be placed on each side of the stage to illuminate the scenes.

To move the characters and work the scenery two operators are required, and each should have the entire management of one side of the stage. The play should be read by a third person, who should endeavour to distinguish the different parts by different tones of voice. A little tin foot, soldered to the end of an iron wire, is the contrivance by which each character is supported in an upright position and moved on and off the stage. When a character has to strike a new attitude while on the stage, the two figures required to exhibit the change of posture may be stuck in two slits made in a square rod of deal, as shown in the annexed cut, and by turning the rod, one

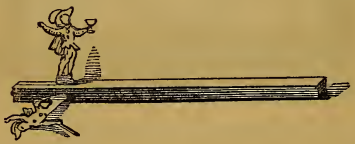


figure will be made to take the place of the other; this plan is much better than the ordinary one of pulling one figure off the stage and pushing another on in its place.

When you exhibit your theatre you must hang drapery all round it, so as to completely screen yourself and your assistants from the spectators. In a house where there are two rooms with folding doors opening from one to the other, the theatre may be placed on a high table in the doorway between the apartments. In a single room a large clothes-horse may be covered with curtains and used as a screen.

In conclusion, we recommend you to study the play you intend to represent very carefully, so as to get all the parts tolerably perfect, and to persuade your assistants to follow your example; we have seen so much confusion arise from the neglect of this important point that we cannot insist upon it too strongly.

TINSELLING.

THE art of Tinselling is so intimately connected with painting theatrical characters, that we have thought proper to class it with shows. A well-tinselled portrait of some favourite performer as a Robber Chief, a Bold Pirate, or a Red-Cross Knight, is a very magnificent object, at any rate in the eyes of schoolboys, though it may not be considered a work of high art. A good deal of patience and some money must be expended on a single picture, but the juvenile artist will find himself fully repaid in the plaudits of his admiring friends when the tinselling is completed.

Should the reader feel inclined to try his hand at tinselling, he must procure one of those full-length theatrical portraits that are sold at the shops for a penny each. He ought to select one of the best-known figures, as he will then have no difficulty in procuring the embossed gold and silver work with which it is to be adorned. The whole figure must be carefully painted with water-colours, and the artist should take particular pains with those parts which are not intended to be covered or cut away. Having finished the preliminary operation of colouring, the artist should neatly cut away those parts of the engraving which represent drapery, and place under the spaces thus formed, satin, silk, or velvet, of the proper colour, which may be secured to the back of the picture with a little gum. In the annexed figure of a warrior, those parts that should be cut away to show the satin beneath, are made black.

Many tinsellers employ regular print-colourers to shade their silks and satins, but we strongly advise the reader to trust to his own abilities, and boldly set to work to indicate the folds of the drapery by proper shadows. The pieces cut out of the engraving will show him where the different shadows ought to fall, and as for the colours to be used, we may state as a general rule that silk, satin, or velvet of a certain colour ought to be shaded with darker tints of the same colour. Gum-water should be mixed with the colours used in shading, to prevent them running when applied to the woven fabric.

The artist may now proceed to the work of tinselling, which consists in gumming little spangles and embossed ornaments over certain parts of the picture. Every piece of armour, every button, every jewel, and every weapon, should be represented in embossed work. All the pieces required for tinselling a figure may be purchased at the proper shops. In the above figure of the warrior, the breastplate,

shield, sword, and jewels would have to be formed of pieces of gilt or silver paper cut and stamped into proper shapes and patterns. The price of each piece of embossed work depends of course upon its size or elaborateness. When the picture is finished, it should be mounted on fine card-board, and placed in a neat frame.