

THE OLD AND THE NEW MAGIC.

BY THE EDITOR.

[CONCLUDED.]

AFTER the old magic had retreated to the dingy haunts of fortune-tellers and to the equivocal atmosphere of spiritualistic séances, leading the lingering life of a consumptive, modern magic developed rapidly and is now becoming more and more fascinating.

In speaking of modern magic, we refer to the art of the prestidigitator, and exclude from its domain the experiments of hypnotism as well as the vulgar lies of fraud. There is no magic in the psychosis of an hysterical subject who at the hypnotiser's suggestion becomes the prey of hallucinations; nor is there any art in the deceptions of the fortune-teller, whose business will vanish when the public ceases to be credulous and superstitious. The former is a disease, the latter mere fraud. Magic proper (i. e., the artifices of prestidigitation) is produced by a combination of three factors: (1) legerdemain proper, or sleight of hand; (2) psychological illusions, and (3) surprising feats of natural science with clever concealment of their true causes. The success of almost every trick depends upon the introduction of these three factors.

The throwing of cards is mere dexterity; Zöllner's famous figures of parallel lines having an apparent inclination toward one another is a pure sense-illusion (see the cut on page 426); so is the magical swing; while fire-eating (or better, fire-breathing) is a purely physical experiment. But it goes without saying that there is scarcely any performance of genuine prestidigitation which is not a combination of all these elements.

The production of a bowl of water with living fishes in it is a combination of dexterity with psychology. The bowl, covered with an India rubber membrane, hangs in a running sling fastened to a cord, at the back of the performer, who exhibits to the audience a napkin, and while showing them that it contains nothing by

spreading it out before their eyes, he bows slightly and slips the bowl into the napkin. Seizing the bowl and taking off the India rubber membrane together with the napkin is the work of a moment; and yet it is nothing but dexterity, so tempered with deception that the audience (unless initiated into the trick) cannot discover the cause of the bowl's appearance.

When a performer makes a dollar disappear by holding it up in his left hand and catching it with his right, we have a psychical illusion. The movement of the right hand merely diverts the attention, for the dollar remains in the left hand and is hidden, while the right hand in which every spectator expects it to be, is slowly opened and shown to be empty.

The trick with the glass dial (which is now exhibited by both Mr. Kellar and Mr. Hermann, the nephew of the late Alexander Hermann) is purely physical. The machinery used by them is apparently different, though Mr. Kellar's apparatus is the more perfect; for in neither case is any sleight of hand needed nor any psychological diversion, except in letting the accomplice behind the stage know the number to which he should point.

As an instance of a wonderful trick which is a mere sense-illusion we mention the magic swing, which is explained by Albert A. Hopkins in his comprehensive book on magic¹ as follows:

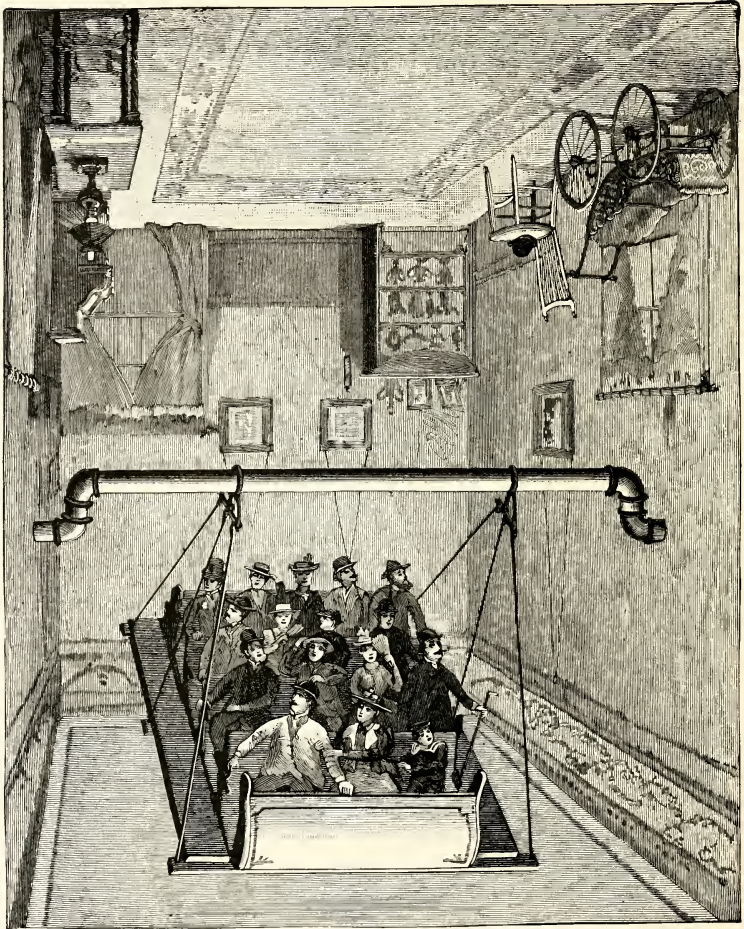
"Those who are to participate in the apparent gyrations of the swing—and there may be quite a number who enjoy it simultaneously—are ushered into a small room. From a bar crossing the room, near the ceiling, hangs a large swing, which is provided with seats for a number of people. After the people have taken their places, the attendant pushes the car and it starts into oscillation like any other swing. The room door is closed. Gradually those in it feel after three or four movements that their swing is going rather high, but this is not all. The apparent amplitude of the oscillations increases more and more, until presently the whole swing seems to whirl completely over, describing a full circle about the bar on which it hangs. To make the thing more utterly mysterious, the bar is bent crank fashion, the swing continues apparently to go round and round this way, imparting a most weird sensation to the occupants, until its movements begin gradually to cease and the complete rotation is succeeded by the usual back and forth swinging. The door of the room is opened, and the swinging party leave. Those who have tried it say the sensation is most peculiar."²

"The illusion is based on the movements of the room proper. During the

¹*Magic, Stage Illusions, and Scientific Diversions, Including Trick Photography.* Compiled and edited by Albert A. Hopkins. With 400 illustrations. New York: Munn & Co. 1898. Price, \$2.50. We noticed this book in the January number of *The Open Court*, but are glad to call our readers' attention to it again, as it will be a welcome addition to the library of those who enjoy the séances of our prestidigitators and would like to possess a work of ready reference on the subject.

²See the illustrations on pages 424 and 425. The illustration on page 424 shows the true position of the swing, that on page 425 shows the illusion produced by a ride in the swing.

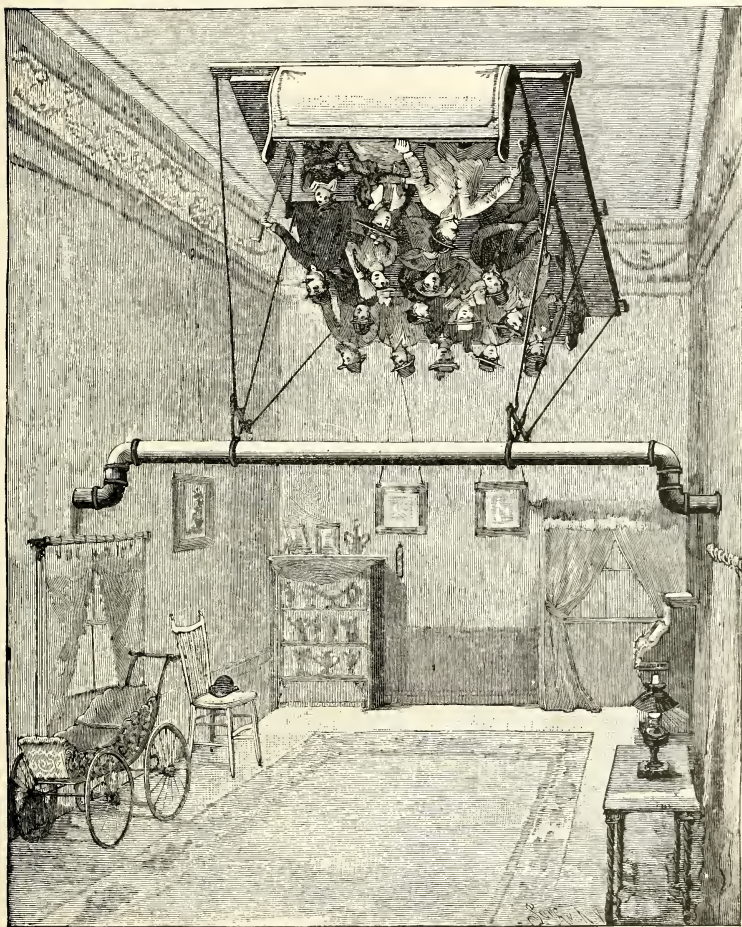
entire exhibition the swing is practically stationery, while the room rotates about the suspending bar. At the beginning of operations the swing may be given a slight



TRUE POSITION OF THE SWING.

push; the operators outside the room then begin to swing the room itself, which is really a large box journaled on the swing bar, starting it off to correspond with the

movements of the swing. They swing it back and forth, increasing the arc through which it moves until it goes so far as to make a complete rotation. The operatives



ILLUSION PRODUCED BY A RIDE IN THE SWING.

do this without special machinery, taking hold of the sides and corners of the box or "room." At this time the people in the swing imagine that the room is stationary

while they are whirling through space. After keeping this up for some time, the movement is brought gradually to a stop, a sufficient number of back and forth swings being given at the *finale* to carry out the illusion to the end.

"The room is as completely furnished as possible, everything being, of course, fastened in place. What is apparently a kerosene lamp stands on a table, near at hand. It is securely fastened to the table, which in its turn is fastened to the floor, and the light is supplied by a small incandescent lamp within the chimney, but concealed by the shade. The visitor never imagines that it is an electric lamp, and naturally thinks that it would be impossible for a kerosene lamp to be inverted without disaster, so that this adds to the deception materially. The same is to be said of the pictures hanging on the wall, of the cupboard full of chinaware, of the chair with a hat on it, and of the baby carriage. All contribute to the mystification. Even though one is informed of the secret before entering the swing, the deception is said to be so complete that passengers involuntarily seize the arms of the seats to avoid being precipitated below."



ZÖLLNER'S ILLUSION.

The illusion is purely an instance of misguided judgment, which is commonly but erroneously called illusion of the senses¹ and belongs to the same category as the well-known Zöllner figures mentioned above and consisting of heavy lines crossed slantingly by lighter lines. The heavy lines are parallel but appear to diverge in the direction of the slant. (See cut.)

To conjure ghosts has always been the highest ambition of performers of magical tricks and we know that the magic lantern has been used for this purpose since mediæval days. Benvenuto Cellini chronicles a strange story in his fascinating biography, which we recapitulate in Mr. Hopkins's words:

"Cellini, as guileless as a child in matters of science, desiring to study sorcery, applied to a Sicilian priest who was a professed dabbler in the occult art. One dark night they repaired to the ruins of the Coliseum at Rome; the monk described a circle on the ground and placed himself and the great goldsmith within its mystic outlines; a fire was built, intoxicating perfumes cast on it, and soon an impenetrable smoke arose. The man of the cowl then waved his wand in the air, pronounced sundry cabalistic words, and legions of demons were seen dancing in the air, to the great terror of Cellini. The story of this spirit séance reads like an Arabian tale, but it is easily explainable. The priest had a brother confederate concealed among the ruins, who manipulated a concave mirror, by means of which painted images were thrown on the smoke."

¹For an explanation of similar cases of misguided judgment see *The Monist*, Vol. III., p. 152.

The same author describes the further perfection of the art of conjuring ghosts by Robertson and then by Mr. Pepper, as follows :

"In the height of the French Revolution, when the guillotine reeked with blood and the ghastly knitting-women sat round it counting the heads as they fell into the basket, a Belgian optician, named Etienne Gaspard Robertson, arrived in Paris, and opened a wonderful exhibition in an abandoned chapel belonging to the Capuchin convent. The curiosity-seekers who attended these séances were conducted by ushers down dark flights of stairs to the vaults of the chapel and seated in a gloomy crypt shrouded with black draperies and pictured with the emblems of mortality. An antique lamp, suspended from the ceiling, emitted a flame of spectral blue. When all was ready a rain and wind storm, with thunder accompanying, began. Robertson extinguished the lamp and threw various essences on a brazier of burning coals in the center of the room, whereupon clouds of odoriferous incense filled the apartment. Suddenly, with the solemn sound of a far-off organ, phantoms of the great arose at the incantations of the magician. Shades of Voltaire, Rousseau, Marat, and Lavoisier appeared in rapid succession. Robertson, at the end of the entertainment, generally concluded by saying : 'I have shown you, citizens, every species of phantom, and there is but one more truly terrible specter—the fate which is reserved for us all.' In a moment a grinning skeleton stood in the center of the hall waving a scythe. All these wonders were perpetrated through the medium of a phantasmagoric lantern, which threw images upon smoke."

The art of conjuring ghosts was perfected when the introduction of large show windows called Professor Pepper's attention to the usefulness of glass as affording a transparent mirror. Mr. Hopkins says :

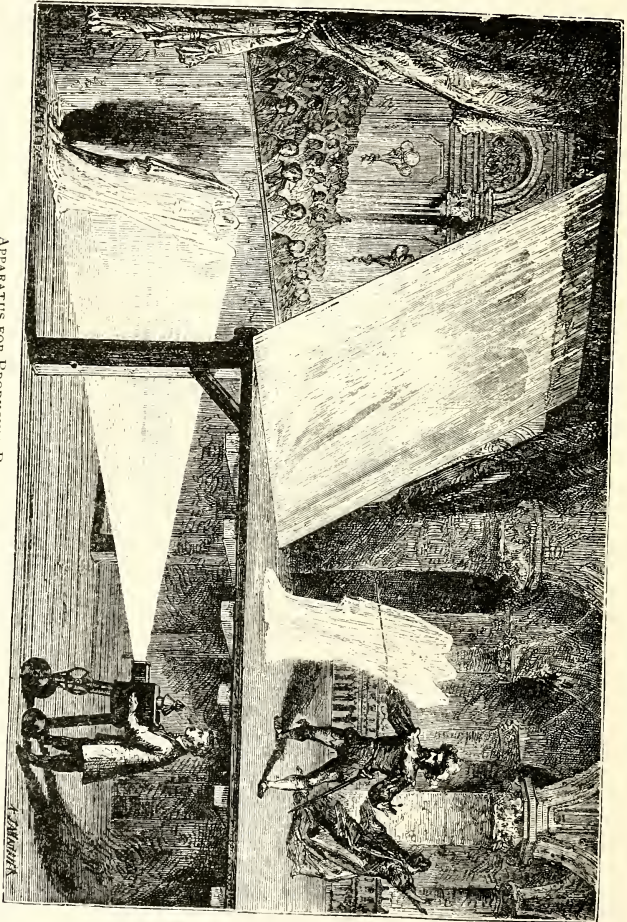
"Clever as was Robertson's ghost illusion, performed by the aid of the phantasmagoric lantern, it had one great defect : the images were painted on glass and lacked the necessary vitality. It was reserved for the nineteenth century to produce the greatest of spectral exhibitions, that of Professor Pepper, manager of the London Polytechnic Institution. In the year 1863, he invented a clever device for projecting the images of living persons in the air. The illusion is based on a simple optical effect. In the evening carry a lighted candle to the window and you will see reflected in the pane, not only the image of the candle but that of your hand and face as well. The same illusion may be seen while travelling in a lighted railway carriage at night ; you gaze through the clear sheet of glass of the coach window and behold your "double" travelling along with you. The apparatus for producing the Pepper ghost has been used in dramatisations of Bulwer's "Strange Story," Dickens' "Haunted Man" and "Christmas Carol," and Dumas' "Corsican Brothers." In France the conjurers Robin and Lassaigne presented the illusion with many novel and startling effects."

The illustration on page 428, reproduced from Carl Willmann's work, sufficiently explains all details.

The Indian basket trick is a shocking performance, still practised in Hindustan in the open streets. A child is placed in an oblong osier basket strapped so tight that it cannot escape, then a sword is thrust into the basket, which on being withdrawn drips

with blood. The audience is terror-stricken, but when the basket is opened it is found empty.

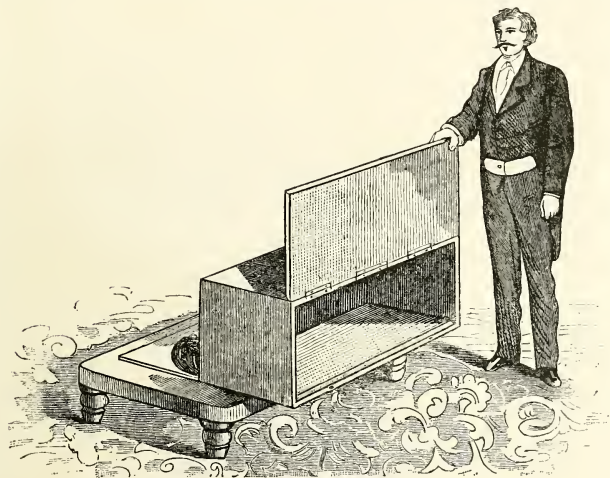
APPARATUS FOR PRODUCING PROFESSOR PEPPER'S GHOST.



The explanation is simple. The performer has several assistants of similar appearance around him, all of them dressed nearly

alike. The child crawls out through an unnoticeable slit where two ends overlap; and while the conjurer puts his knee against the basket, apparently to fasten the strap as tightly as possible, the prisoner hides under his flowing robe and then joins the other assistants.

Herr Willmann describes practically the same trick under the title "Spirit box," designed to prove the permeability of matter. A medium is placed in the box, and after some hocus-pocus the manager reopens it and declares it to be empty; for the purpose of proving his assertion he turns it over toward the public, and when

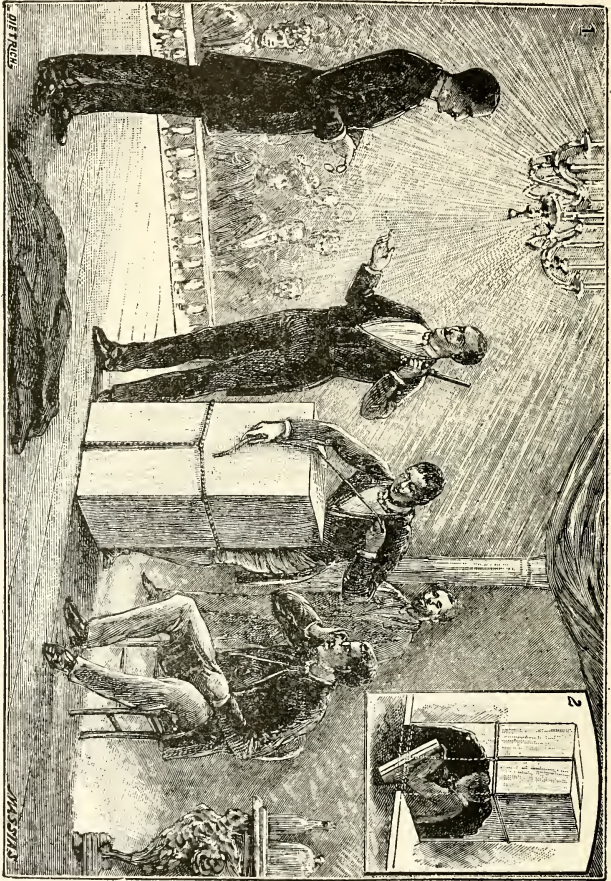


THE "SPIRIT-BOX," OR MYSTERIOUS TRUNK.

the lid is opened, the medium, who remains all the while in his place, has become invisible, because he is hidden by the interior part of the double wall, which now seems to be the bottom of the box. The box stands upon a podium, in order to show that the medium could not have escaped through the floor. The adjoined illustration reveals the secret of the trick, the explanation of which is as simple as the effect is surprising.

On stages which allow the prestidigitator to use traps, a trunk is placed so as to allow the prisoner to escape through the floor. The movable wall of the trunk in such a case swings round an axis

which lies parallel with the rope that is afterwards fastened round the trunk. The movable wall in the trunk connects with a trap in the floor, and while visitors from the audience closely watch the

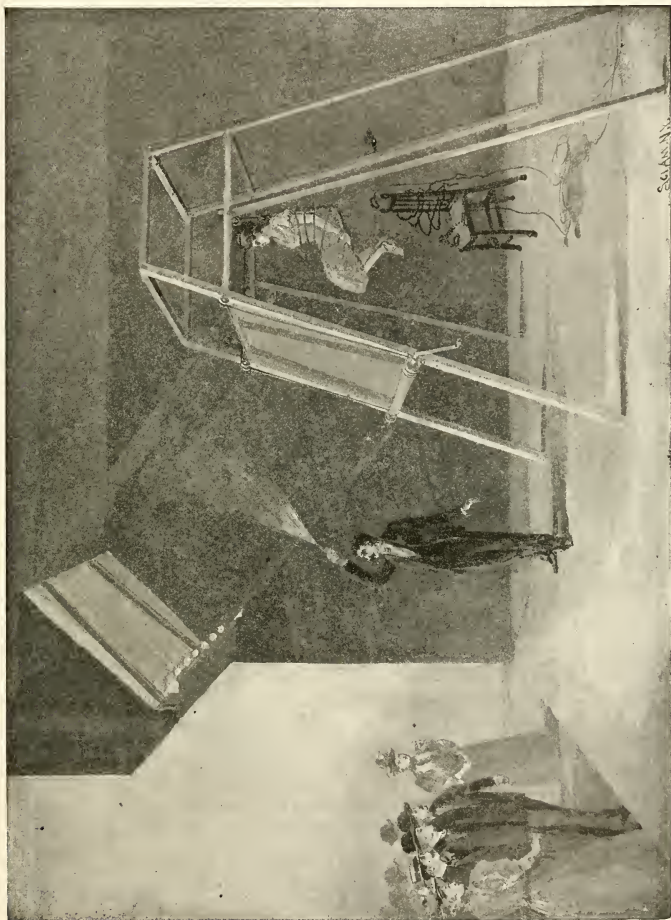


THE MYSTERIOUS TRUNK OPERATED THROUGH A TRAP IN THE STAGE.

fastening, the enclosed person makes his escape with the greatest ease.

Kellar has still another method of making a person disappear,

which being done in full view of the audience is extremely perplexing. The trick was invented by Mr. W. E. Robinson, the assistant



of the late Hermann and is based upon the same device as Professor Pepper's ghosts. Mr. Hopkins describes it as follows (see the above illustration):

"When the curtain is raised the square frame is seen; this frame is braced laterally by side pieces. At the lower part of the frame, within easy reach of the prestidigitator, is a windlass. Ropes pass from this windlass, over pulleys, to a crossbar in the upper part of the frame. A lady is now brought upon the stage and seated in a chair, which she grasps tightly. She is then tied tightly to the chair with ropes, and her hands are chained together. The prestidigitator now secures the chair, with its fair occupant, to the ropes which are connected with the windlass, by means of hooks which fasten to the top frame of the chair. The professor of magic now winds away at the windlass and raises the chair until the head of the victim is on a level with the crossbar. He then discharges a pistol, and at the same instant the lady disappears and the chair drops to the floor. Such is, in brief, the mode of operation of the trick called 'Gone.'"

The explanation is simple. The frame is covered between the cross bars with plateglass which is invisible and leaves the lady on the chair in full sight so long as the light falls upon her. A screen of the same color as the background is concealed above the curtain and placed at such an angle as to allow its reflexion to pass out to the audience. The prestidigitator fires several shots from a pistol, which is a signal for his assistant to turn a switch. The lady is now veiled in relative darkness while the screen is illuminated and its reflexion on the plate-glass conceals her from sight. She drops the chair, which, like the shots, helps to divert the attention of the audience, and the curtain drops before further investigation can be made. The illusion is perfect, and the more watchful the public are, the more will they wonder how a person can disappear so completely and suddenly before their eyes.

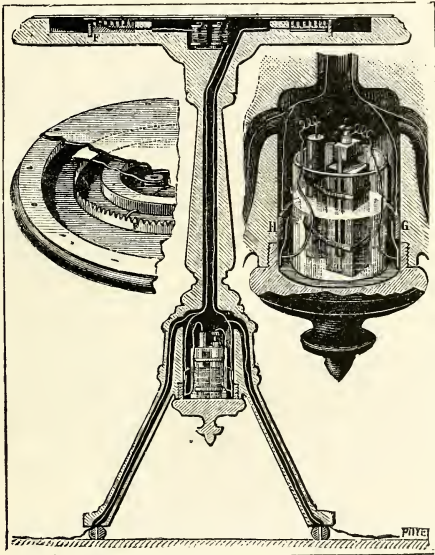
Tricks performed by mediums are in one respect quite different from the feats of prestidigitators; if they come up to the standard, they are, or ought to be, based upon the psychic dispositions of people, setting, as it were, traps for them and allowing them to be caught in their own superstitions. Believers will do it willingly and be grateful for the deception, while determined unbelievers are either altogether hopeless or will be so puzzled as to be likely to become believers. But sleight of hand is always a valuable aid to the medium; and, as tricks pure and simple, mediumistic séances are not different from the performances of prestidigitators; they differ only in this, that they claim to be done with the assistance of spirits. Mediums must be on the lookout and use different methods as the occasion may require. They produce rappings with their hands, or their feet,¹ or with a mechanism hidden in their shoes;

¹One of the Fox Sisters could produce rappings through a peculiar construction of the bones of her foot, and Cumberland's big toe was blessed with a tendon of its own, enabling him to rap the floor quite vigorously without being detected.

neither do they scorn the use of rapping tables with concealed batteries and electric wires.

A most convenient spirit-table is described by Hopkins in his book on Magic, p. 101, as follows :

“The battery is carried in the lower part of the table, where the three legs join. The top of the table is in two parts, the lower of which is hollow and the upper very thin. In the center of the hollow part is placed an electro-magnet, one of the wires of which connects with one of the poles of the battery, while the other is connected with a flat metallic circle glued to the cover of the table. Beneath



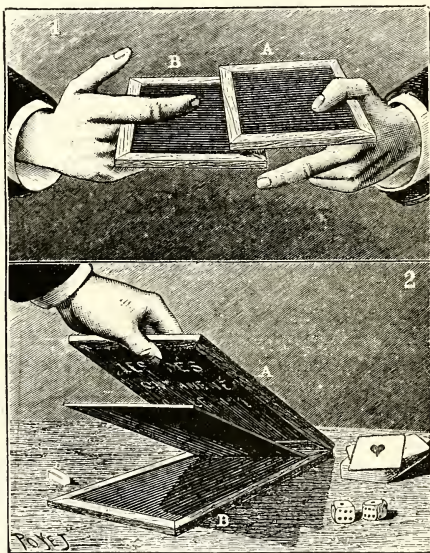
RAPPING AND TALKING TABLE.

this circle and at a slight distance from it there is a toothed circle connected with the whole pole of the battery. When the table is lightly pressed upon, the cover bends and the flat circle touches the toothed one. This closes the circuit, and the electro-magnet attracting the armature produces a sharp blow. When the hand is raised the circuit is broken, producing another sharp blow. By running the hand lightly over the table the cover is caused to blend successively over a certain portion of its circumference. Thus contact is made at a number of places, and the sharp blow is replaced by a quick succession of sounds. This table is very useful for spirit rappings; as the table contains all of the mechanism in itself, it can be moved to any part of the room. The table may be also operated from a distance by employing conductors passing through the legs of the table and under the car-

pet. By substituting a small telephone receiver for the electro-magnet, the rapping spirits may be talking ones."¹

Slate-writing may be done in various ways, and good mediums will always change their methods. One of them is described by Mr. Hopkins as follows :

"Two ordinary wooden-framed slates are presented to the spectators, and examined in succession by them. A small piece of chalk is introduced between the two slates, which are then united by a rubber band and held aloft in the prestidigitator's right hand.



SPIRIT-SLATES.

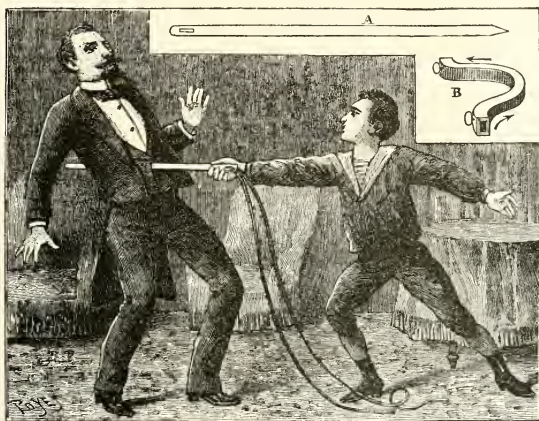
"Then, in the general silence, is heard the scratching of the chalk, which is writing between the two slates the answer to a question asked by one of the spectators—the name of a card thought of or the number of spots obtained by throwing two dice. The rubber band having been removed and the slates separated, one of them is seen to be covered with writing. This prodigy, which at first sight seems to be so mysterious, is very easily performed.

"The writing was done in advance ; but upon the written side of the slate, A, there had been placed a thin sheet of black cardboard which hid the characters written with chalk. The two sides of this slate thus appeared absolutely clean.

¹ A similar table is described by Willmann in *Moderne Wunder*, pp. 58-59.

"The slate B is first given out for examination, and after it has been returned to him, the operator says: "Do you want to examine the other one also?" And then, without any haste, he makes a pass analogous to that employed in shuffling cards. The slate A being held by the thumb and forefinger of the left hand and the slate B between the fore and middle finger of the right hand (Fig. 1), the two hands are brought together. But at the moment at which the slates are superposed, the thumb and forefinger of the right hand grasp the slate A, while at the same time the fore and middle finger of the left hand take the slate B. Then the two hands separate anew, and the slate that has already been examined, instead of the second one, is put into the hands of the spectator. This shifting, done with deliberation, is entirely invisible.

"During the second examination the slate A is laid flat upon a table, the written face turned upward and covered with black cardboard. The slate having been



THE SWORD-TRICK.

sufficiently examined, and been returned to the operator, the latter lays it upon the first, and both are then surrounded by the rubber band.

"It is then that the operator holds up the slates with the left hand, of which one sees but the thumb, while upon the posterior face of the second slate the nail of his middle finger makes a sound resembling that produced by chalk when written with. When the operator judges that this little comedy has lasted quite long enough, he lays the two slates horizontally upon his table, taking care this time that the non-prepared slate shall be beneath (Fig. 2). It is upon it that the black cardboard rests; and the other slate, on being raised, shows the characters that it bears, and that are stated to have been written by an invisible spirit that slipped in between the two slates."

Another very ingenious trick consists in apparently stabbing a man to death, the bloody end of the sword appearing at the back,

yet leaving the man uninjured. Since the audience naturally will suspect that the point emerging from the back is not the true end of the sword, the trick has been altered to the effect of replacing the sword with a big needle (A), having tape threaded through its eye. When the assassin's needle has passed through the victim, it can be pulled out at the other side, together with the tape, where it appears reddened with blood. The stabbing, when performed quickly, before the spectator begins to notice that the blade is somewhat reduced in size, is most startling, and makes a deep impression on the audience; but the artifice through which the manipulation is rendered possible is very simple. The sword, or needle, used for the purpose is made of a very thin and flexible plate of steel, sufficiently blunt to prevent it from doing any harm. The victim, as if trying to ward off the dangerous weapon, takes hold of it and causes it to slip into the opening of a concealed sheath (B), which he carries strapped round his body, whereupon the assassin makes his thrust. The interior of the sheath contains a red fluid, which dyes the blade and helps to make the deception complete. The accompanying illustration sufficiently explains the performance.

A magazine article cannot be exhaustive. But the instances adduced are sufficient to prove that even the apparently most complete deception admits of an explanation which in many instances is much simpler than the spectators think. Neither the marvellous feats of prestidigitators nor the surprising revelations of mediums should make us believers in mysticism. The success of modern magic, which accomplishes more than the old magic or sorcery ever did, is a sufficient guarantee of the reliability of science, and even where "now we see through a glass darkly," we must remain confident that when we grow in wisdom and comprehension we shall learn to see "face to face."