No. 890,740. PATENTED JUNE 16, 1908.

G. WESTPHAL.

MOVABLE PICTURE DEVICE.

APPLICATION FILED AUG. 14, 1907.

2 SHEETS—SHEET 1.

Fig. 3.

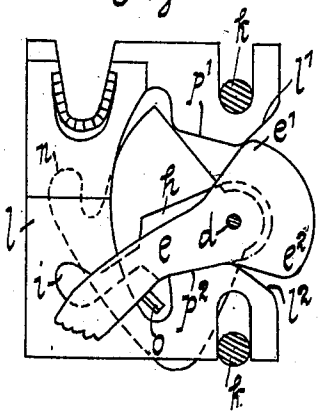


Fig. 4.

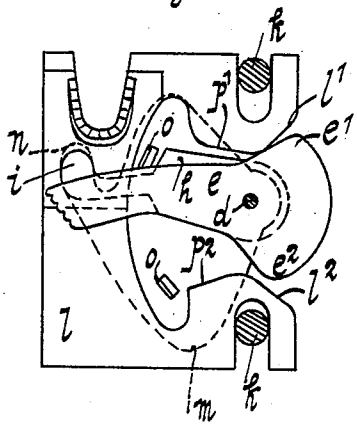


Fig. 5.

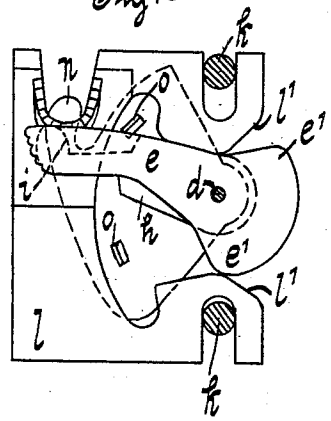


Fig. 2.

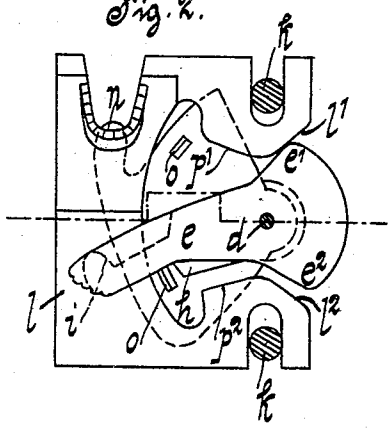
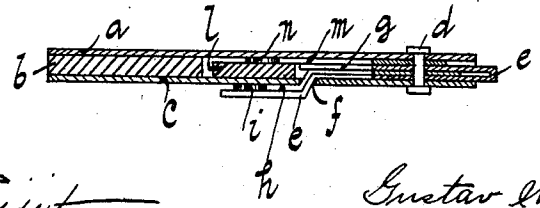


Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 6.

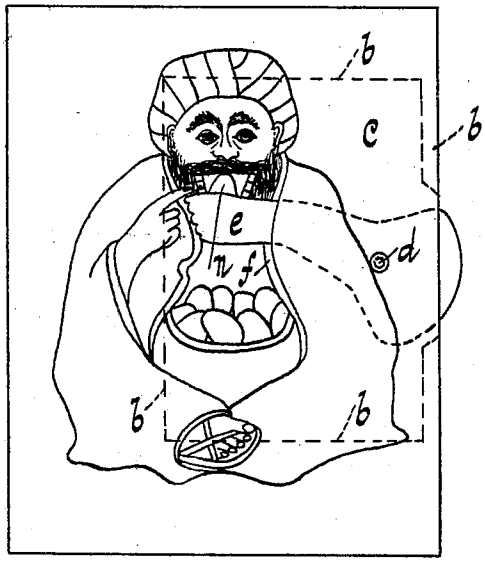
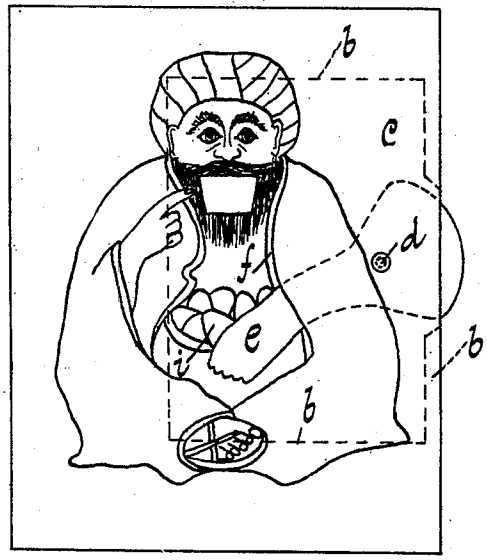


Fig. 7.



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UNITED STATES PATENT OFFICE.

GUSTAV WESTPHAL, OF LEIPZIG-KLEINZSCHOCHER, GERMANY.

MOVABLE-PICTURE DEVICE.

No. 890,740. Specification of Letters Patent. Patented June 16, 1908.

Application filed August 14, 1907. Serial No. 388,549.

To all whom it may concern:

Be it known that I, GUSTAV WESTPHAL, a subject of the German Emperor, residing at Leipzig-Kleinzschocher, Germany, have invented certain new and useful Improvements in Movable-Picture Devices, of which the following is a specification.

This invention relates to movable picture devices, particularly to a device which portrays a figure which appears to place an article, for instance an egg within its mouth and to eat the same.

The object of the invention is to strengthen the illusion in order to make the various movements and more particularly the passage of the egg into the mouth, plausible without making too much demand on the fancy of the spectator. This is effected by the egg being at first visible in the hand of the figure while the arm is in the low position, the said egg disappearing when the arm is in the highest position within reach of the mouth, that is to say, it disappears when the arm begins to go down. The illusion may be made still more perfect if a second egg is movable in the interior of the figure (that is to say, behind the layer of paper upon which the figure is depicted) in such a manner that it appears, together with the outer egg, in the mouth, and while the outer egg disappears behind the hand it takes its place in the mouth, in order to remain still visible for a certain time after the lowering of the hand. Finally, in combination with the novel features described, it is possible to arrange a movable lower jaw which, in itself, is well known in such figures, for closing the mouth after the apparent introduction of the egg.

A representation of a picture embodying the above features and showing a simple and suitable arrangement of the movable parts, is shown in Figures 1–7 of the accompanying drawing.

By means of a cardboard plate *a* with strips *b* fixed round the edges (Fig. 1) a frame is formed over which is glued a layer of card or paper *c*. On this layer of paper is painted a picture such as shown in Figs. 6 and 7. In the space arranged between the paper layer and the back wall are mounted the movable parts. A small pin *d* forms the fulcrum for several levers. First, the arm lever *e* oscillates about the pivot point *d*. This arm lever projects with its front end through the layer of paper provided with the picture. The front end of the arm-lever is cranked for this purpose, while at the same time the paper surface is provided with a slot *f* corresponding in length to the limits of oscillation of the lever. To the said arm-lever is connected a second, shorter lever *g*, in such a manner that the ends of the levers arranged behind the pivot point, are connected together by gluing or the like. The whole of the shorter lever moves within the picture. Between the two levers *e* and *g* a third lever *h* is arranged which lever is caused to move by friction and at its front end has the shape of an egg *i*. The said lever *h* also projects with the arm lever *e*, through the slot *f* from the surface of the picture. The portion of the egg lever *h* arranged in the picture is made wider than the corresponding portions of the levers *e* and *g* so that a portion of the egg lever always projects beyond the arm-lever *e* or the lever *g* (Figs. 3–5).

In the interior of the picture there are further mounted two cardboard plates or disks *k* intended for guiding the vertically adjustable slide *l*. The said slide is provided at the left hand top corner with a picture of the teeth of a lower jaw and serves for temporarily closing the mouth of the figure as shown in the drawings, for example. Owing to the pivoted end of the combined levers *e* and *g* having the form of a cam disk, the slide *l* is moved up and down, since the rounded off edges e^1 and e^2 of the cam engage with corresponding cam faces l^1 and l^2 of the slide *l*. In that way, during the downward movement of the arm *e* there takes place an upward movement of the slide *l* and vice versa. Finally, another movable lever *m* also oscillates about the pivot point *d* and is situated behind the slide *l*. The said movable part is provided with an egg-shaped projection *n* which is caused to appear behind the slide *l* in the mouth of the figure portrayed. The said movable part is provided with two stops *o*.

The levers and the movable parts coöperate in the following manner. When the arm *e* is in the position shown in Fig. 2, the egg of the egg-lever is situated behind the hand of the arm and concealed, the back end of the egg lever projecting downwards beyond the arm. As the arm moves downwards, the slide *l* is moved upwards that is to say, the mouth of the figure is closed. During the downward movement, the front end of the lever *g* engages the bottom stop *o* of the inner egg lever *m* which is provided with an egg

n which can appear in the mouth behind the slide l. If the arm be lowered still further, until it attains the position shown in Fig. 3 (to which also corresponds the position in Fig. 7), then the portion of the outer egg-lever h which projects downwards first engages with a stop surface p^2 of the slide l. In that way the egg i upon the egg-lever h emerges upwardly from behind the hand of the arm. The arm is then lowered to such an extent that it comes to rest against the lower stop o. The arm e or the lever g, has, however, lowered the inner egg-lever m arranged behind the slide l, so that the egg n mounted on the said lever is completely removed from the mouth of the figure. At the same time the slide l completes its upward movement owing to the projection or cam e^1 of the arm e, that is to say, the mouth of the figure is closed. If now the arm be moved upwards, the outer egg-lever will be caused to move by friction.

When the position shown in Fig. 4 is reached, the lever g strikes the upper stop o of the movable part behind the slide l, so that the said movable part is also caused to move. At the same time the projection e^2 of the cam of the arm begins to force the slide l downwards, that is to say, to open the mouth of the figure. When the arm e occupies the position shown in Fig. 5, the egg i of the outer egg-lever will appear in front of the mouth, and at the same time the egg n of the inner egg lever m in the mouth of the figure. At the last moment of the upward movement of the arm, the portion of the outer egg-lever projecting upwards beyond the arm during the upward movement will engage against the stop p^1 of the slide l, so that the egg i will disappear behind the hand of the arm, while the egg n of the inner egg-lever m will be moved still further upwards by the lever g which has engaged the stop o. At the same time the slide l will be moved into its lowest position, so that the mouth will appear completely open. This position corresponds to that shown in Fig. 6. In the downward movement of the arm which will now again take place, the position shown in Fig. 2 is again reëstablished, that is to say, the egg n which appeared in the mouth, will be moved out of the mouth, and the slide l moved upwards for the purpose of closing the mouth. The same process is then repeated.

In the construction according to this invention illustrated in the accompanying drawings, the operation of the arm g, and thus of all the other movable parts, is effected by hand by means of the cam portion of the lever arm e projecting from the frame of the picture. If the inner egg-lever is omitted, (which, however, would render the illusion less perfect) the closing of the mouth by the hand lever would have to be utilized as far as possible for obtaining the illusion. If in this case at least the lower-jaw-slide be used, then, assuming of course that the movements are arranged in a suitable order, the background of the mouth can be provided with a picture of an egg which at first coincides with that carried by the outer egg-lever, and when the latter disappears behind the hand and the hand lever goes back remains visible until the mouth is closed again by the lower-jaw-slide.

It is obvious that the movement of the movable parts could be brought about in a variety of ways other than by directly rotating the cam shaped arm, for example, by means of a cord or the like as is usual in such pictures.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In an illusion device embodying a representation of a figure with open mouth, the combination with the arm movable to and from the mouth of the figure, of an article carrier concealed by said arm, an article carried thereby exposed to view above said arm, means for moving said arm and carrier together toward the mouth and means for moving said arm and carrier relatively to each other, to cause the disappearance of the article when in proximity to the open mouth.

2. In an illusion device embodying the representation of a figure with open mouth, the combination with the arm movable to and from the mouth, of an article carrier concealed by said arm, an article carried thereby and exposed above said arm, means for moving said arm and carrier together toward the mouth, means for moving said arm and carrier relatively to each other to cause the article to disappear behind the arm when in proximity to the mouth opening and a second article carrier and article carried thereby and means for causing said last named article to appear in the mouth and remain there when the first article disappears.

3. In an illusion device embodying the representation of a figure with open mouth, a movable arm, an article carrier movable therewith and concealed thereby, an article carried by the carrier and exposed to view above said arm, means for causing the relative movement of the arm and carrier to cause the disappearance of the article behind the arm when in proximity to the mouth opening, a movable carrier bearing the representation of a lower jaw and means for causing said representation to appear at and disappear from the mouth opening.

4. In an illusion device embodying a plate bearing the representation of a figure having an open mouth, a movable arm carried by said plate, an article carrier mounted on said plate behind said arm and movable with said arm, a portion of said carrier being wider than the arm, an article carried by said car-

rier and exposed to view above the arm, and a stop against which the widened portion of the carrier abuts to arrest its movement, whereby the further movement of the arm will cause the article to disappear.

5. In an illusion device, the combination with a plate, bearing the representation of a figure with open mouth, an arm pivoted on said plate, an article carrier pivoted on said plate movable with said arm and having a portion wider than said arm, an article carried thereby and stops on the plate against which the widened portion of the carrier abuts, to arrest its movement, whereby the continued movement of the arm will cause the article to disappear at one extreme of its movement and to appear at the other extreme.

6. In a device such as described, the combination with a plate bearing the representation of a figure with an open mouth, an arm pivoted on said plate, an article carrier bearing an article at one end also pivoted on said plate, having a portion wider than said arm, and movable with said arm, upper and lower stops on the plate for arresting the movement of the carrier, a second article carrier pivoted on the plate, stops on said carrier against which the arm abuts whereby said carrier will be moved by said arm; substantially as described.

7. In a device such as described, the combination with a plate bearing the representation of a figure with a mouth opening, an arm pivoted thereon and having a cam shaped extension, a movable slide guided on said plate bearing the representation of the lower jaw and having cam surfaces with which the cam like extension of the arm cooperates, whereby when said arm is moved upward the plate will be pushed down and vice versa, and the representation of the jaw caused to disappear from and appear before the mouth opening.

8. In a device such as described, the combination with the plate bearing the representation of a figure with open mouth, of an arm having a cam like extension pivoted thereon, an article carrier pivoted on the plate and movable with the arm, stops on the plate for arresting the movement of the carrier, a movable slide guided on the plate and having cam surfaces with which the cam like extension on the arm coöperates and bearing the representation of the lower jaw, and a second article carrier pivoted on the plate and having stops against which the arm strikes, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAV WESTPHAL.

Witnesses:

HERMANN WESTPHAL,

SOUTHARD P. WARNER.