

935,646.

Patented Oct. 5, 1909.

Fig. 1.

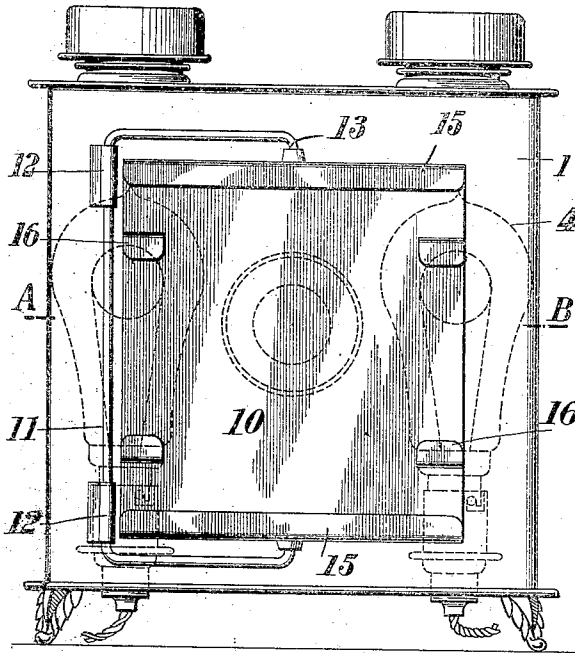


Fig. 3.

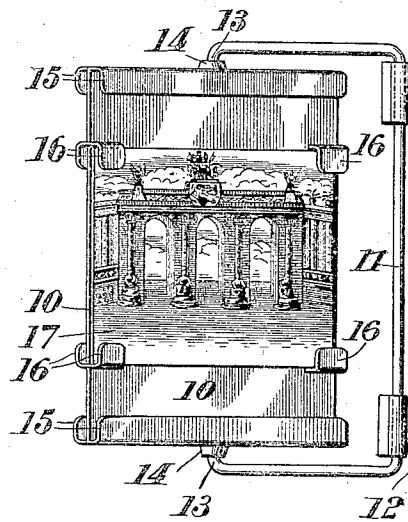
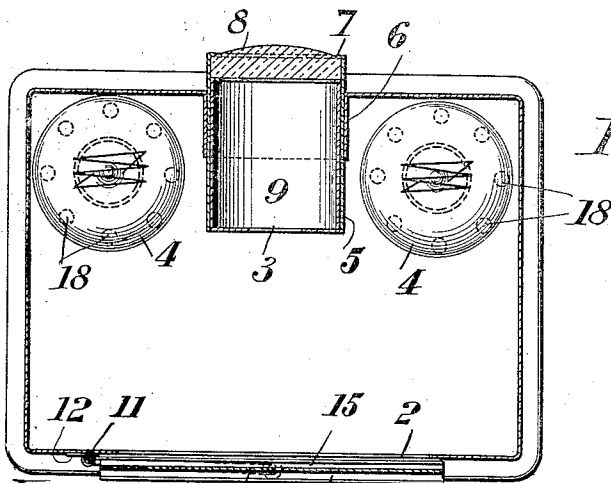


Fig. 2.



Witnesses: 10 15

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UNITED STATES PATENT OFFICE.

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OPTICAL TOY.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ARMAND DEPERDUSSIN, a citizen of the French Republic, and resident of Paris, France, have invented certain new and useful Improvements in and Relating to Optical Toys, of which the following is a specification.

The present invention relates to improvements in optical toys and more especially to the supporting plate intended to receive the objects to be exposed such as illustrated post-cards and the like.

In the accompanying drawing:—Figure 1 is an elevation view of the back side of the device; Fig. 2 shows a horizontal section on line A—B of the preceding figure. Fig. 3 is a perspective view of the supporting plate for the post cards and of its stirrups.

The optical toy intended to project images such as illustrated post cards and the like on a white screen is based upon the well known principle of reflecting surfaces and comprises substantially a box 1 having a rectangular shape, closed on all sides and the front and rear walls of which are respectively provided with an opening 2 and an objective 3.

4 are incandescent lamps representing the source of light.

The objective comprises a sleeve 5 adapted to frictionally slide in the bent borders 6 of the front wall of the box. The sleeve is provided at its front end with a narrow rim 7 against which bears the lens 8. The latter is held in place by a second sleeve 9 having a blackened inside and adapted to be forced into the said sleeve 5.

The opening 2 before which the illustrated post cards or opaque images of any kind appear is covered by a plate 10 having a rectangular or quadrilateral shape and which is secured to the back of the box by means of a hinged stirrup 11. As readily seen, this stirrup 11 is held by means of hinges 12 and is provided at the free ends of its branches with pivots 13 adapted to engage step bearings 14 secured by soldering to the middle part of the upper and lower borders of the supporting plate 10. This plate is provided at its upper and lower borders and on both sides with guide-ways 15. It carries besides on both sides four hooks 16 made of sheet metal and the vertical distance of which corresponds to the width of an illustrated post card 17. In order to cause the plate 10 to surround exactly the edges of the opening 2,

the guide-ways 15 may be covered with a thin layer of felt or of fabric.

The function and the manipulation of this toy are as follows: The illustrated post-cards 17 or other opaque objects are slid between the hooks or between the guide-ways 15 according to whether the image or post-card is to be read in the direction of the height or in the direction of the width. While the post card secured to one side of the card carrier 10 is lighted or projected, that card which is on the other side is withdrawn and replaced by another one. The supporting plate 10 is afterward removed from the opening 2 by causing it to revolve through an angle of 180° and is then again applied against the opening 2 so that the card inserted last is now opposite the objective.

It will be readily understood that the incandescent lamps might be replaced as well by another equivalent source of light such as a gas burner, a petroleum lamp or the like.

18 are air holes arranged in the bottom of the box and adapted to admit fresh air to the inside of the latter.

Having now fully described my said invention, what I claim and desire to secure by Letters Patent is:—

1. In an optical toy the combination of a box, a lens slidably mounted in the front wall of the said box, a source of light provided inside the said box, there being a rectangular opening arranged in the rear wall of said box opposite the said lens, and a reversible hinged image carrier arranged on the outside of said back wall of said box opposite the said rectangular opening, substantially as and for the purpose set forth.

2. In an optical toy the combination of a box, a lens slidably mounted in the center of the front wall of said box, a source of light provided inside the box, there being a rectangular opening in the rear wall of said box opposite the said lens, and a reversible hinged image carrier arranged on the outside of said back wall and adapted to be applied against the said opening so as to close it, substantially as and for the purpose set forth.

3. In an optical toy the combination of a box, a lens slidably mounted in the front wall of the box, a source of light provided inside the said box, there being a rectangular opening arranged in the rear wall of said box opposite the said lens, an image receiv-

ing plate arranged outside the said rear wall opposite the said opening, means for securing an image to both sides of the said image receiving plate; means permitting rotating the said plate on its vertical axis and permitting it to be swung about a second and parallel axis, substantially as and for the purpose set forth.

4. In an optical toy the combination of a box, a lens adjustably mounted in the front wall of said box, a source of light provided inside the said box, there being a rectangular opening arranged in the rear wall of said box opposite the said lens, an image receiving plate arranged on the outside of said rear wall of the box behind the said rectangular opening, image receiving and holding means provided on both sides of said plate, a step bearing on the upper and the lower edge of the plate and in the middle of the said edge, a stirrup hingedly connected to the said rear wall of the box at one side of the said plate and a pivot provided at the free end of each of the branches of said stirrup and adapted to engage the said step bearings of the plate, substantially as and for the purpose set forth.

5. In an optical toy the combination of a box, a lens adjustably mounted in the front wall of said box, a source of light provided inside the said box, there being a rectangular opening provided in the rear wall of said box opposite the said lens, an image carrying plate arranged on the outside of said rear wall of the box behind the said rectangular opening, a guide-way arranged at the top and the bottom of each side of said plate and adapted to receive the edges

of the images to be projected, image holding hooks arranged on each side of said plate intermediate the said guide-ways, a step bearing provided in the middle of the upper and the lower edge of said plate, a stirrup hingedly connected to the said rear wall of the box at one side of said plate and a pivot provided at the free end of each of the branches of said stirrup and rotatably engaged in the said step bearings, substantially as and for the purpose set forth.

6. In an optical toy the combination of a box having a cylindrical hole having inwardly bent borders provided in the front wall of said box, a sleeve provided with a small inwardly bent front edge and slidably engaged into the said cylindrical opening, a lens arranged in the said front end of said sleeve against the inwardly bent border of the latter and a lens holding sleeve forced into the said sleeve and applied against the said lens, a source of light provided inside the said box, there being a rectangular opening provided in the rear wall of said box opposite the said lens and a reversible image carrier arranged at the outside of the said rear wall opposite the said rectangular opening and means for insuring tightness between the said rear wall and the said image carrier when the latter is applied against the said rear wall, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two witnesses.

ARMAND DEPERDUSSIN.

Witnesses:

ADOLPHE STURM,
HANSON C. COXE.