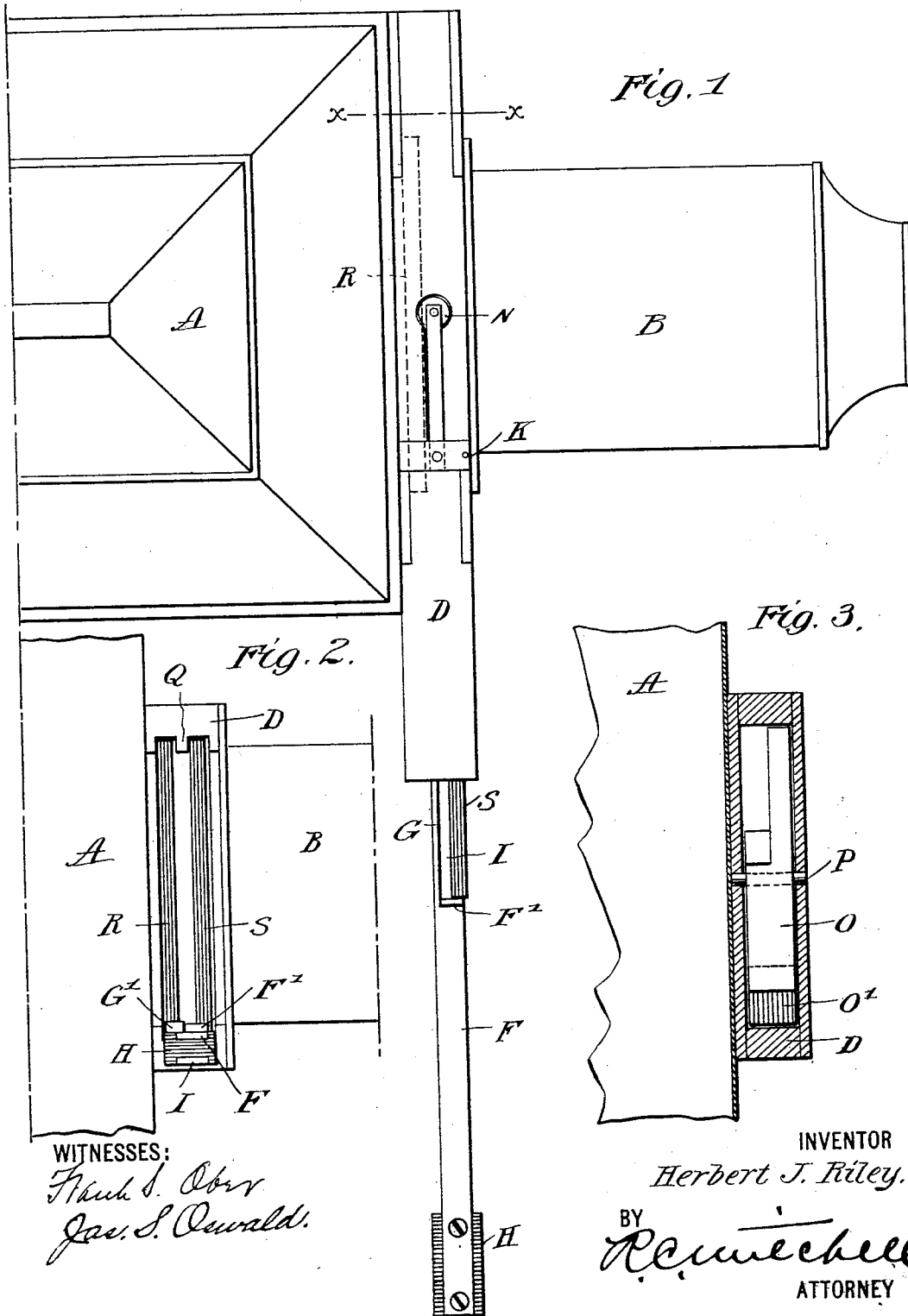


H. J. RILEY.
LANTERN SLIDE CARRIER.

No. 586,245.

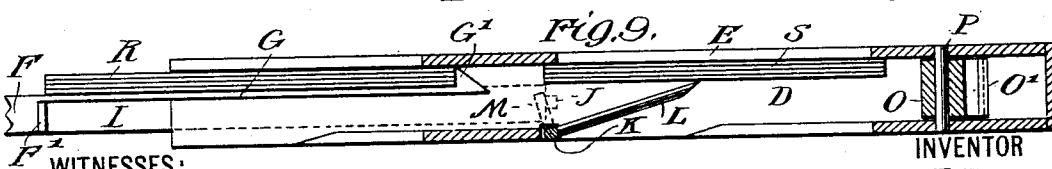
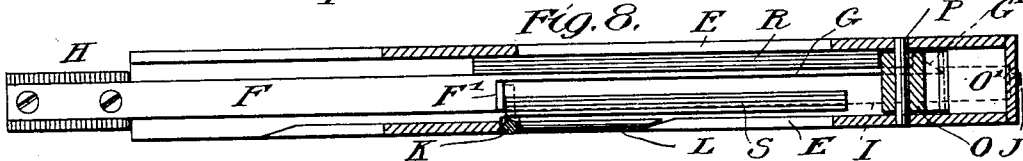
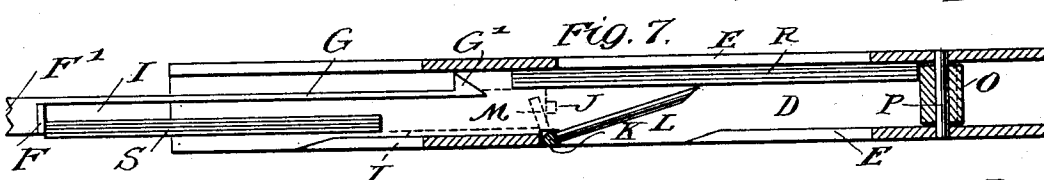
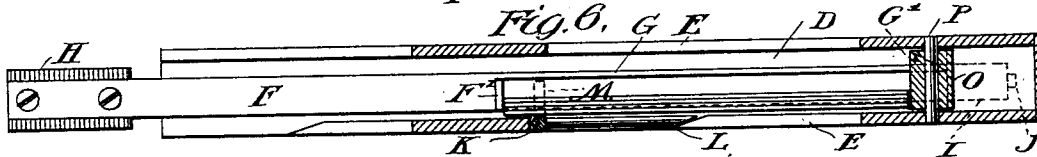
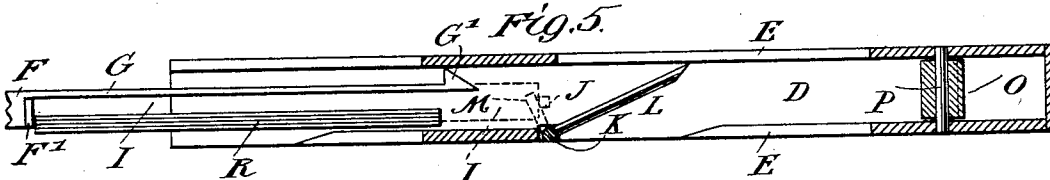
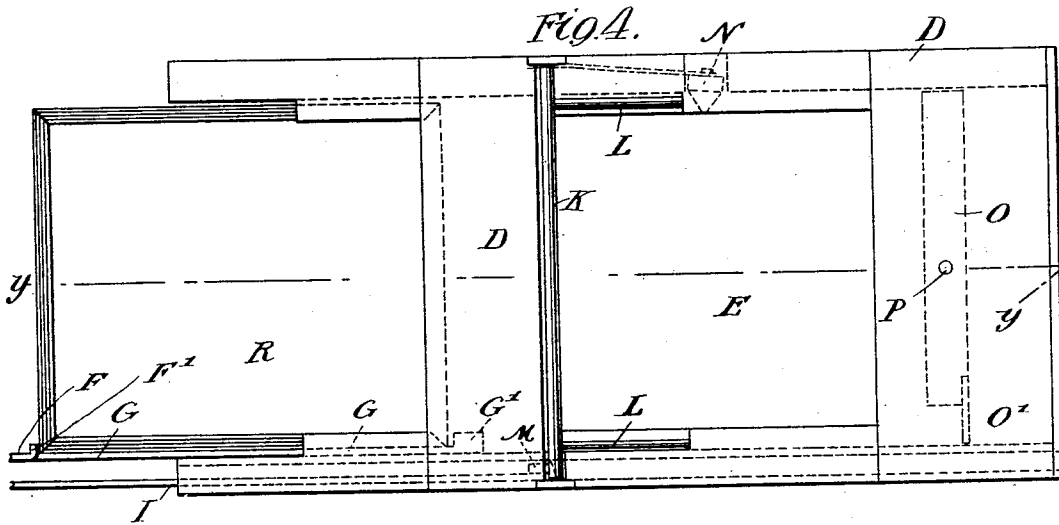
Patented July 13, 1897.



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WITNESSES:

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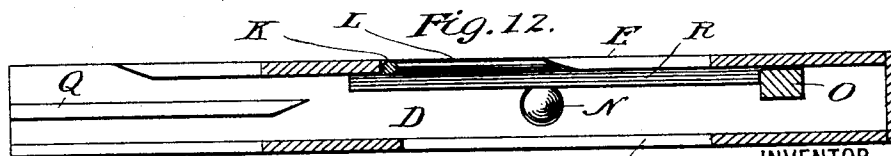
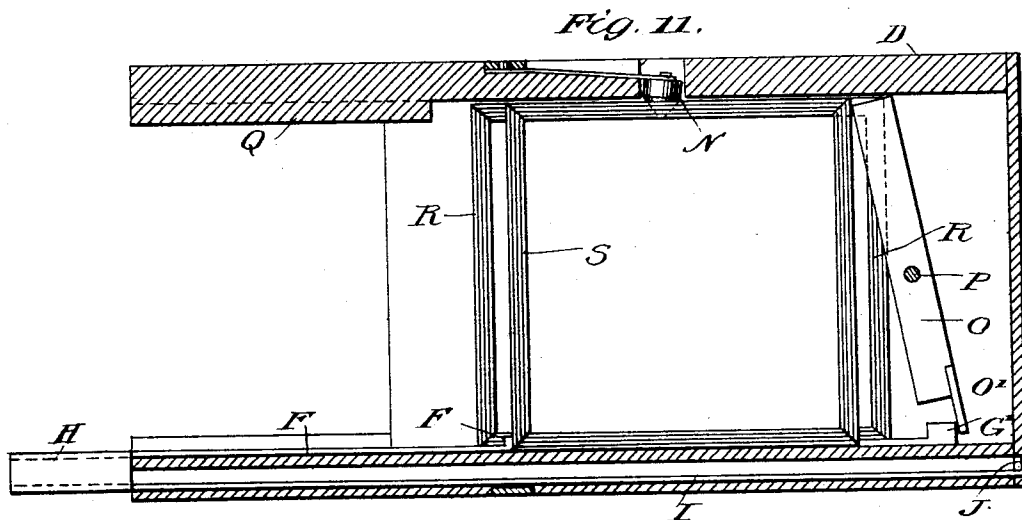
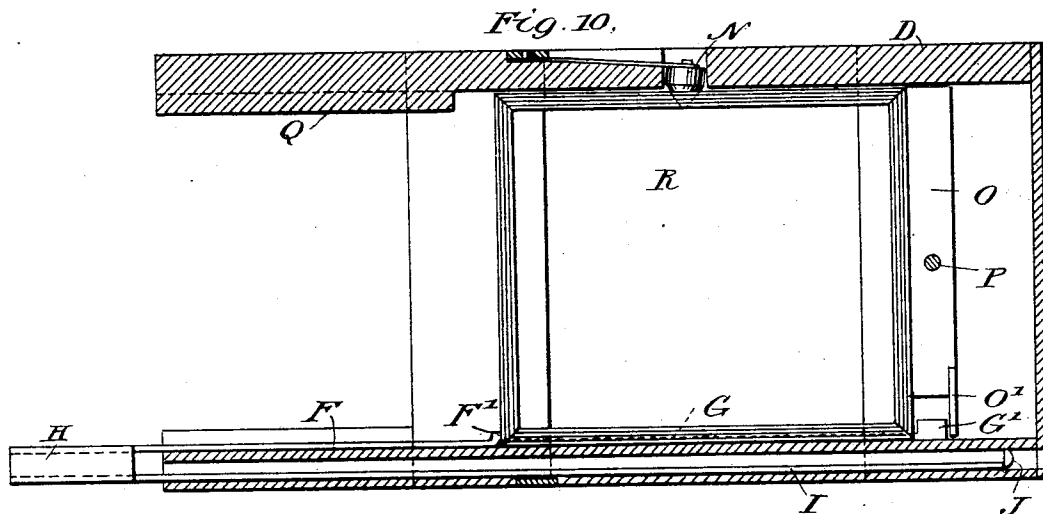
(No Model.)

3 Sheets—Sheet 3.

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UNITED STATES PATENT OFFICE.

HERBERT J. RILEY, OF HACKENSACK, NEW JERSEY.

LANTERN-SLIDE CARRIER.

SPECIFICATION forming part of Letters Patent No. 586,245, dated July 13, 1897.

Application filed November 25, 1896. Serial No. 613,358. (No model.)

To all whom it may concern:

Be it known that I, HERBERT J. RILEY, a citizen of Great Britain, residing at Hackensack, in the county of Bergen, State of New Jersey, have invented a new and useful Improvement in Lantern-Slide Carriers, of which the following is a full, clear, and exact specification.

My invention relates to an improvement in magic lanterns or stereopticons; and it consists particularly in the novel mechanical construction of the slide-carrier used therewith.

The object of my invention is to provide a simple, cheap, and effective slide-carrying device to be used in connection with a magic lantern or stereopticon, by means of which the successive views to be thrown upon a screen may be shifted without removing or shutting off the light from said screen, thereby accomplishing substantially the same result as is accomplished by the well-known devices by which the so-called "dissolving" effect is produced, which devices are far more expensive and not as readily adapted to all kinds of lanterns.

My invention is illustrated by the accompanying drawings, in which—

Figure 1 is a plan view of a portion of a lantern, the same being fitted with my improved slide-carrier. Fig. 2 is a side elevation of the part shown in Fig. 1, the upper portion of the lantern being broken away. Fig. 3 is a section on the lines X X, Fig. 1. Fig. 4 is a front view of the slide-carrier. Figs. 5, 6, 7, 8, and 9 are sectional views taken on the line y y, Fig. 4, and illustrating the said device in the various operative positions. Fig. 10 is a vertical section of the slide-carrier on the plane of the line z z, Fig. 6, the parts being in the position indicated in said figure. Fig. 11 is a similar view, the parts being in the position illustrated in Fig. 8. Fig. 12 is a sectional view showing the under side of the top of the slide-carrier frame, the parts shown being in the position shown in Figs. 6 and 10.

Similar letters refer to similar parts.

A is a lantern; B, a lens-tube, and fitted thereto in any well-known manner and in the path of light is my improved slide-carrier.

D is the slide-carrier frame. At a point

intermediate in the length of said frame, as at E, is a suitable opening, through which the light from the lantern passes. When the lantern is in operation, a slide is located in said opening and centered directly in the path of light and in the position indicated in Figs. 7 and 9.

F is a reciprocating slide. This slide F is provided with an extension-arm G, carrying a hook G'. This arm G passes within the frame D, as shown in Figs. 4 to 11. The hook G' has by preference a beveled face, as shown.

H is a suitable handle by which said slide F is reciprocated. The handle H is supported by a reciprocating rod I, which finds its bearings in the said frame D. Toward the inner extremity of said supporting-rod I is provided a hook J.

K is a pivotal support mounted adjacent to the opening E in the frame and carrying the slide-seating arms L L, hereinafter described. M is a lever-arm fixed to said pivotal support K so as to project into the path of the hook J on the arm I.

N is a spring-detent having a beveled nose which projects into the frame D, as shown, and for the purpose hereinafter described.

O is a slide-centering stop loosely mounted upon a pivotal support P within the frame D.

F' is a shoulder which, if desired, may be provided on the slide F.

The centering-stop O is by preference cut away on one side and toward one end, as shown in Fig. 3, for the purpose hereinafter described.

Q, Fig. 12, is a rib extending along the inner side of the frame opposite the arm G. This rib Q extends to a point nearly adjacent to the light-opening E, and the inner end of the same is by preference beveled, as shown. This rib Q and the arm G form two sets of grooves on opposite inner sides of the frame, and the lantern-slides are inserted into the frame through one set and retracted and taken therefrom through the other set, as hereinafter described.

There are two standard sizes of lantern-slides, one standard being termed "English," in which the slide is substantially square, the other being termed "American," in which, while the slide is rectangular, two of its sides are slightly longer than the other

sides. The purpose of the stop O is to center in the opening E either of the standard sizes of slides above referred to.

In the drawings, R represents the American slide, and S the English slide.

In operation the handle H is retracted to the position shown in Figs. 1, 4, and 5. The slide R is then inserted into the forward set of grooves within the frame D and in front of the shoulder F'. (See Fig. 5.) The handle H is then advanced and the slide is pushed into the position indicated in Fig. 6, in which position it abuts against the centering-stop O. The handle H is again retracted until the hook J upon the support I engages and trips the lever-arm M, throwing the slide-seating arms L L into the position shown in Fig. 7, the said arms L L shifting the slide R laterally into the proper focus. During this shifting process the beveled nose on the detent N retracts from one side of the slide and springs into position on the other side of the slide to hold the same in said position, Fig. 7, when said arms L L shall be retracted. The slide S is then slipped into place in front of the shoulder F' and the handle H is advanced, pushing the slide into the position shown in Fig. 8. To prevent the said English slide, which is shorter than the American slide, from passing the light-center, the hooked extremity of the arm G engages an extension O' on the rear of the centering-stop O, as shown in Fig. 11, thus tilting said stop and causing its opposite end to advance and check the forward movement of the slide S. During this movement last described the hook G' passes along the lower front edge of the slide R until it reaches the end of said slide, around which it snaps, as shown. By retracting the handle H the hook G' engages and retracts the slide R, as shown in Fig. 9, and the hook J again trips the lever-arm M, causing the arms L L to shift the slide S into the position (see Fig. 9) formerly occupied by the slide R. Additional slides may be inserted, shifted, and retracted in the manner above described.

It will be seen that at no time during the operation of shifting these slides is the light shut off from the screen upon which the picture is thrown; but while the slides are in the position shown in Fig. 8 the identity of the picture on each slide is lost in the indistinguishable composite view upon the screen, so that by this means substantially the result of the so-called "dissolving view" is obtained.

The reason that the slide-centering stop O is tripped when the English slide S is moved into place and not tripped when the American slide is inserted is because the hooked extremity of the arm G extends into said

frame D a greater distance from the forward or inner edge of the slide S than from the forward or inner edge of the slide R, as seen by comparing Figs. 5 and 7, so that before the slide S has been centered in the space E the forward end of the rod G engages the lower end O' of the centering-stop, tilting it as above described, causing its upper end to check the further advance of the slide S after it has reached the proper centered position. The slide-centering stop has been referred to as cut away on one side toward the upper end, as shown in Fig. 3. This cut-away portion is by preference provided to prevent the said tilting stop O from kicking back the American slide R, the cut-away portion of the said stop being on the side adjacent to the lantern-slide when the latter is in the proper focal position. Manifestly it is not essential to the successful working of my invention that this portion be cut away.

In carrying out my invention it may be desirable to make slight changes in the proportion or construction of the parts, and I therefore do not limit myself to the particular construction shown and described, but hold myself at liberty to make such alterations or changes as are fairly within the spirit and scope of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a lantern-slide carrier, the combination of a frame, an operating-handle carried by a supporting-arm I, the latter being hooked toward its inner extremity, and sliding within the lower part of the frame, and means as described for shifting the slides from the front to the rear of the frame and operated by a hook in said arm I, an extension-arm G carried by said handle and moving inside of the framework to form a groove on each side, inside of the frame, to support the slides, with a slide-centering stop pivotally mounted about midway in its length inside said carrier-frame and in the pathway of said slides, and operated by the end of the arm G.

2. In a lantern-slide carrier, means for inserting, seating and retracting separate lantern-slides, with a slide-centering stop O cut away on one side and toward its upper end, said stop being pivotally mounted about midway in its length in said carrier-frame and in the path of said lantern-slides, and means for tripping said slide-centering stop when a slide of reduced proportions is inserted into the frame of the carrier, substantially as and for the purpose described.

HERBERT J. RILEY.

Witnesses:

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H. M. SKINNER.