(No Model.)

W. JOHNSON.

SLIDE CARRIER.

No. 598,938. Patented Feb. 15, 1898.

Fig. 1.

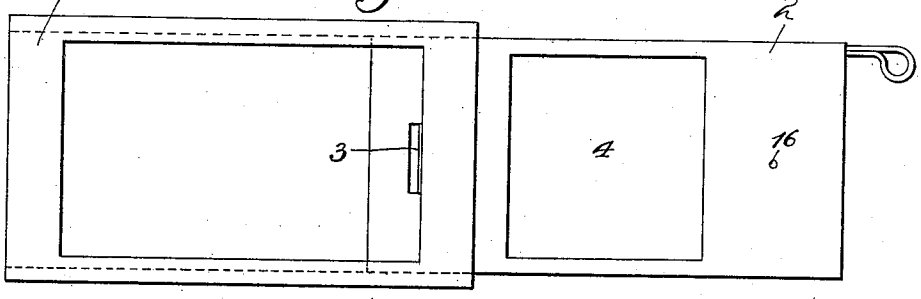


Fig. 2.

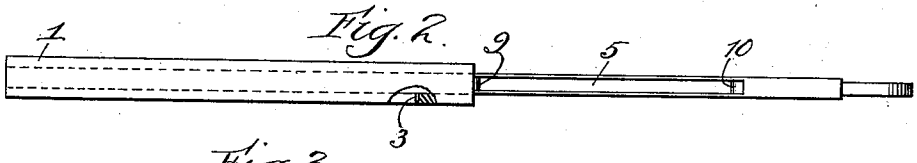


Fig. 3.

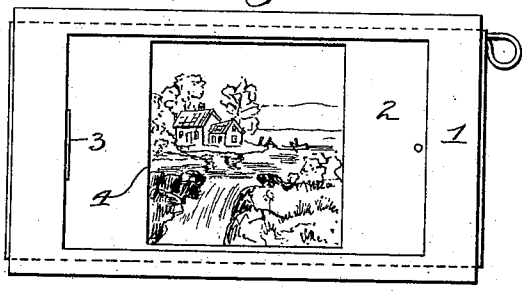


Fig. 6.

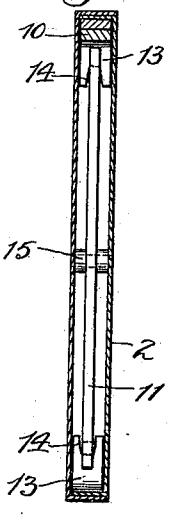


Fig. 7.

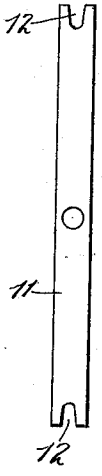


Fig. 4.

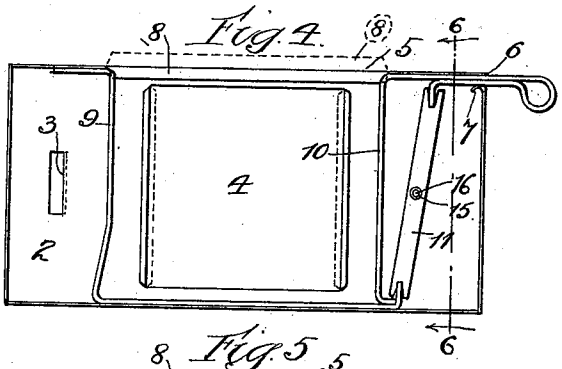
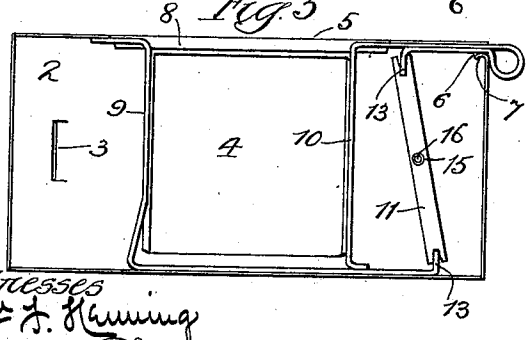


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM JOHNSON, OF CHICAGO, ILLINOIS.

SLIDE-CARRIER.

SPECIFICATION forming part of Letters Patent No. 598,938, dated February 15, 1898.

Application filed November 14, 1895. Serial No. 568,980. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOHNSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Slide-Carriers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in self-centering slide-carriers for stereopticons or magic lanterns.

It is known that picture-slides for stereopticons are for the greater part made of one width and of equal sight dimensions, but vary in length, requiring, ordinarily, a carrier adapted for each length of picture-slide, and where slides of different lengths are to be used in giving an exhibition, as is often desirable, it becomes necessary to remove one carrier and substitute and adjust another, consuming time, or a carrier must be used adapted to center the various lengths of slides.

The object of the invention is to provide a carrier of simple and efficient construction that will automatically center a picture-slide of any length within usual limits.

The invention consists in the novel features of construction, combination, and arrangement of parts hereinafter described and set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved carrier with the carrier-slide drawn out for the insertion of a picture-slide. Fig. 2 is a top plan view of the same, showing the opening in the carrier-slide for inserting the picture-slide, a small portion of the carrier-frame being broken away to show a section of the connecting frame-strips. Fig. 3 is an elevation of the carrier in a closed position with a picture-slide inserted. Fig. 4 is a side elevation of the carrier-slide with the front portion of it removed, showing the internal construction and the operating parts in a position to receive the longest picture-slide. Fig. 5 is a like view in a position to center the shortest slide. Fig. 6 is an enlarged transverse section of the carrier-slide, taken on the line 6 6 of Fig. 4; and Fig. 7 is a plan view of the pivoted lever-bar adapted for moving the picture-slide holders.

Referring to the drawings, 1 designates the carrier-frame, comprising two horizontal bars of wood provided with grooves or channels in their inner faces and held distanced apart by flat strips secured to their ends upon either side thereof, the construction being that in general use. Said carrier-frame is fixedly held in the lantern by means of plates and springs in the usual manner and is adapted to form a guide for the carrier-slide.

2 is the carrier-slide, fitted to slide in the grooves of the frame, and is provided with a stop 3, rigid therewith, adapted to strike against the inside edges of the frame connecting-strips to limit its movement therein. Said carrier-slide may be constructed of any desired or suitable material—light sheet metal, tin, or brass preferred—formed as shown in the drawings, in which some novel features of construction will be found. Said slide is formed a rectangular box with a transverse central sight-opening 4, adapted for the passage of the rays of light, and a longitudinal slot-opening 5, cut through the upper edge for the picture-slide insertion and removal. Said box or slide is made of two shallow open boxes, both alike save that the upturned edges of one fit into those of the others, both parts in practice being formed from the same blanks by bending up the sides and ends of two together, so that when separated and reversed one will exactly fit inside the other. A small opening 6 is also formed through the end of the slide-box, into which one of the holder-bars is fitted to slide, the opening being formed by bending the metal over, the bent-over portion 7 being adapted to form a support and bearing for the bar. The sight-opening through the blanks is not stamped out to its full normal size between two of its sides, but of less size, as shown by dotted lines in Fig. 4, the dotted portions being turned over to stiffen the plate and form a smooth surface to prevent the otherwise sharp edges of the metal from cutting or abrading the paper by which the parts of the picture-slides are held together in their frequent insertion and removal therein, and in like manner the longitudinal opening through the upper edge is

formed by cutting the turned-up side portion for the required length of opening and folding down a flap 8, as shown in the drawings. By the turning down of these flaps very light metal can be used, giving the desired stiffness with proportionate reduction in weight and cost.

The stop 3 is formed integral by cutting or stamping out the stop upon the ends and one side, (see Fig. 5,) which when the slide is inserted in the frame is then turned up, and may be again turned down, if desired, to remove the slide from the frame, the arrangement being extremely simple and convenient.

9 and 10 are the holders between which the picture-slide is held central with the sight-opening. Said holders are made of flat wire bent and formed to the desired shape and are adapted to be moved over equal spaces in opposite directions to center the picture-slide by means of a pivoted lever-bar 11. The connection therewith of said lever-bar to effect said movement is formed by cutting gap-openings 12 in the ends of the lever-bar, within the prongs of which the vertical turned ends 13 of the holders are fitted and adapted to be moved thereby in manner equivalent to a toothed wheel and rack. Said vertical ends of the holders are also provided with similar gap-openings 14, between the prongs of which the lever-bar is supported and held central within the carrier-slide. The upper end of holder 9 is bent to extend horizontally parallel with the lower body part, said body part being carried across to the other side and underneath the sight-opening. Said upper horizontal and lower body parts are fitted to slide between the flanged edges of the inside half of the carrier-slide. The lower portion of the upright or holder is formed at an angle extending outward, bringing the body part underneath the upper horizontal portion, thereby giving the upright holder greater movable stiffness and obviating the forming of a square corner between the body and upright for the corner of the picture-slide to fit into.

The holder 10 is bent outward horizontally at the top and fitted to slide underneath the upper flange of the carrier-slide. The outward-bent portion extends through the end opening in the slide, outside of which is formed a finger-loop, the end being carried back through the same opening, where it is turned vertically down to form connection with the lever-bar, as before described, and by means of which said lever-bar is adapted to be moved or vibrated. The lower end of said holder is also turned outward horizontally and rests upon the top of the other holder sliding thereon. Said end is also adapted to form a stop by striking against the upturned end portion of the other holder to limit the outward movement of the holders, (shown in Fig. 4,) while the reverse movement is limited by the length of the picture-slide or when no picture-slide is in by the finger-loop against the end of the carrier-slide, as in Fig. 5. The lever-bar is pivotally supported at its center upon a pivot formed by a tube 15, the ends of which support the sides of the slide against which they are drawn by the rivet 16, passing therethrough and through said tubular pivot.

The operation will be readily understood. The carrier-slide is drawn out by means of the finger-loop until the stop is brought against the stationary guide-frame, when it can go no farther, and the pull upon the finger-bar loop being continued in the same direction will open the picture-slide holders to their widest limit adapted for the insertion or removal of the picture-slides, and in like manner the pushing-in or reverse limited movement of the carrier-slide will close the holders upon the picture-slide, truthfully centering the same without care or thought upon the part of the operator with regard to the length of the picture-slide he is using.

I have shown a preferred mode of carrying out my invention; but it is obvious that the pivoted lever-bar can be connected to the holders in various ways and that the movement of the lever-bar can be effected by other means than by one of the holder-bars and within the scope of my invention.

I claim—

1. In a self-centering slide-carrier the combination of two slide-holders adapted to be moved in opposite directions in said carrier by means of a pivotally-mounted lever-bar, the ends of said lever-bar being connected to body portions of said holders which extend horizontally therefrom in the same direction and from opposite ends of said holders, substantially as set forth.

2. The combination in the described slide-carrier of a pivotally-mounted lever-bar, and two picture-slide holders, said holders formed as described, with upturned ends, provided with gaps and prongs, said prongs adapted to support and hold said lever-bar central between the sides of the carrier-slide box, substantially as set forth.

3. The combination in a self-centering slide-carrier of two movable slide-holders one upon either side of the sight-opening therein, said holders provided with body portions extending horizontally in the same direction therefrom, and a pivotally-mounted lever-bar adapted to connectedly move said holders by means of prongs formed at the ends thereof, substantially as set forth.

4. The combination in a slide-carrier adapted to center picture-slides of various lengths, of a guide-frame adapted to be held stationary in a lantern, a carrier-slide adapted to be moved longitudinally in said guide-frame, and provided with a stop to limit its movement in either direction therein, two movable picture-slide holders in said carrier-slide, and a lever-bar pivotally mounted therein, adapted to simultaneously move said slide-holders in opposite directions, said carrier-slide adapted to be moved in said frame

by a handle connected with said holders and lever-bar; in such manner that, the holders will be automatically opened when the slide is drawn out against the stop, and in like manner closed by the reverse movement and stop, substantially as set forth.

5. In a slide-carrier the combination with the carrier-frame, movable holders and pivotally-mounted lever-bar, of a carrier-slide formed of sheet-metal blanks as described, and provided with folded-down flaps upon the inside around the sight-opening to prevent injury to the picture-slides, and to stiffen the slide-plates as described, and with folded-down flaps to form the longitudinal opening through the top for the insertion of the picture-slide, adapted to stiffen the narrow bar above the sight-opening, an opening in the end of said carrier-slide for the passage of the movable finger-bar, formed by cutting and bending the metal over to support said finger-bar, and a stop formed integral with said carrier-slide by cutting through the metal upon three sides and bending the stop portion up, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM JOHNSON.

Witnesses:
WILLIAM M. JOHNSON,
HARRY M. TAYLOR.