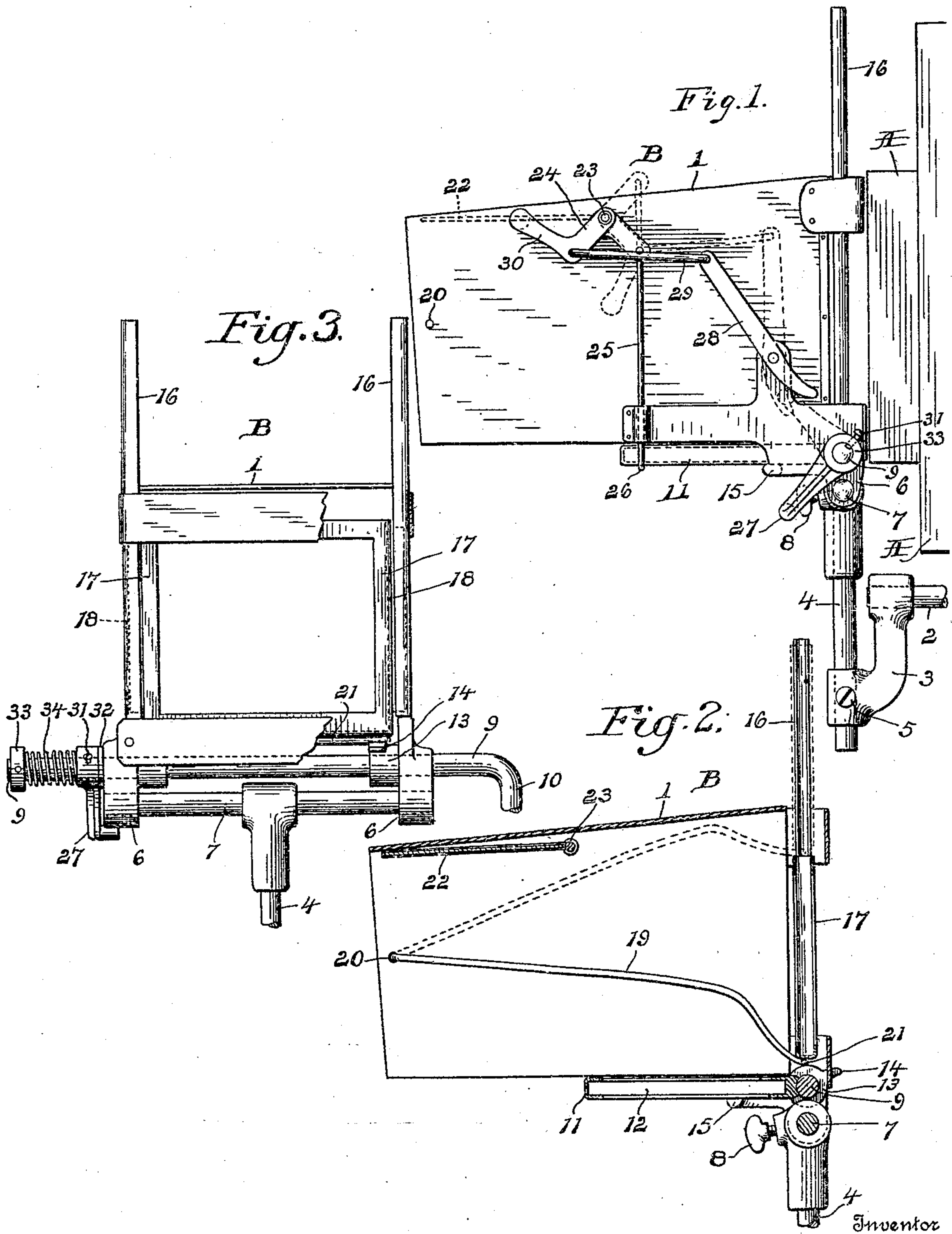


VIEW DISSOLVER FOR MAGIC LANTERNS.

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Patented May 17, 1910.



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VIEW-DISSOLVER FOR MAGIC LANTERNS.

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To all whom it may concern:

Be it known that I, OTIS C. CURRIE, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in View-Dissolvers for Magic Lanterns, of which the following is a specification.

This invention relates to improved means for holding and manipulating view plates for magic lanterns, and more particularly to that class of such devices known as view dissolvers.

The object of this invention is to provide a simple, cheap, and efficient device for handling the plates to bring one into focal position before the lens as another is withdrawn, producing a pleasing effect, and to automatically intercept the light rays during such operation to obscure the movement.

To this end the invention consists in a device constructed to turn one plate in a direction longitudinally of the path of the light rays into focal position as the other plate is moved vertically from said position, and vice versa, a suitable flap or blind automatically operated in timed relation to the movement of the plates being provided to intercept the light rays during the shifting of the plates.

The invention further consists in certain other new and useful features all as hereinafter more fully described reference being had to the drawing in which,

Figure 1 is a side elevation of a device embodying the invention and showing the same in position for use upon a lantern casing. Fig. 2 is a longitudinal vertical section of the device. Fig. 3 is an end elevation of the same with parts broken away to show the construction.

As shown in the drawing A represents a magic lantern casing of any suitable construction, and B is the view holder embodying this invention which consists of a rectangular sheet metal casing 1 open at its bottom and forward end. The rear or lantern end of the casing is provided with a rectangular opening through which the light rays from the lantern are projected, the casing being adjustably supported in proper alinement with the lantern lens by means of a horizontally extending rod 2 secured

in any suitable manner to the lantern casing and provided at its free end with a socket member 3 for a vertical post 4 which is made adjustable in the socket by means of a screw 5. Secured to the rear end of the casing 1 at its lower edges are castings formed with downwardly extending bearing ears 6 in which is secured a fixed shaft 7, and the upper end of the post 4 is provided with a socket member to receive the shaft 7 which is adjustably held by means of a screw 8 in said socket member. Extending parallel with the fixed shaft 7 and mounted in suitable bearings in said castings is a rock shaft 9 provided with a bent end forming a handle 10, by means of which it may be turned. Secured upon this rock shaft 9 is a plate holder 11 consisting of an open frame into which a view plate may be inserted through the open side 12 thereof. This holder is secured to the shaft 9 in any suitable manner as by the rings 13 upon the shaft to which the holder is secured, said rings being provided at one side with lugs 14 forming stops to engage the shaft 7 when the holder is turned to a vertical position, and prevent the same from being turned too far. When turned down to a horizontal position the holder 11 engages suitable lugs or stops 15 on the side castings and limits the turning in that direction. The casing is so arranged relative to the holder that when said holder is turned to its horizontal position it will lie below the lower edge of the casing so that a view plate may be inserted into the holder through its open end 12.

Secured to the lantern end of the casing 1 are suitable vertical guide ways 16 for a second frame or plate holder 17 having end flanges 18 to engage the guide ways. This frame or holder is open at its upper edge so that a view plate may be slipped into it and it is freely movable vertically in its guides. A wire loop 19 is pivotally attached at its ends 20 to the extreme forward end of the casing 1, by bending the ends of the wire at right angles and extending them into holes in the casing sides. This loop extends rearwardly within the casing with its side runs lying close to the sides of the casing and its connecting end portion 21 extending across the casing directly be-

neath the lower edge of the vertically movable holder 17. This loop thus forms a pivoted lever to lift the frame 17, the side members of the loop being adapted to be engaged by the frame or holder 11 when said holder is turned from the horizontal to the vertical position. The turning of the holder 11 thus lifts the holder 17 by means of the loop or lifter 19, and when in its vertical position it is in alinement with the ways 16, and in focal position before the lantern lens. The turning of the holder 11 from its vertical position, to the horizontal permits the holder 17 to fall into its lower or focal position and thus by turning the handle 10, first one and then the other of the holders is moved from focal position into a position where the view plate may be taken out and another put in its place.

To obstruct the light rays and prevent the shifting of the holders from being apparent upon the screen, a gravity blind or flap 22 preferably of some partially transparent material is attached at its upper edge to a transverse rod 23 extending across the casing 1 near the top thereof. On one end of said rod outside the casing, is secured a bell crank 24 to one arm of which is pivotally attached a rod 25 extending downward to a point below the lower edge of the casing with its lower end 26 bent inward to move in a vertical slot in the side of the casing so that when the holder 11 is turned to its horizontal position, it will engage the bent end 26 of the rod and pulling downward thereon turn the rod 23 and lift the flap.

An arm 27 is attached to one end of the shaft 9 to turn therewith, and pivoted intermediate its ends to the side of the casing 1 is a bar 28, the upper end of which is connected by a link 29 to one arm of the crank 24. The arm 27 is positioned upon the shaft 9 in such relation to the holder 11 that when said holder is turned to vertical position the arm 27 will engage the lower end of the bar 28, turning the same and by means of the link 29 and bell crank, turning the flap 22 upward out of the path of the light rays where it is held until the holder is again turned to the horizontal position. As soon as the shaft 9 is turned to shift the frame 11 and lower the frame 17, the arm 27 is turned away from the end of the bar 28 and the flap falls by gravity across the path of the light rays, a weighted extension 30 being provided on one of the bell crank arms to insure the falling of the flap. As soon as the holder 17 has been lowered to focal position and the holder 11 engages the end 26 of the rod 25, the flap is again turned upward out of the path of the light rays.

The arm 27 is attached to the shaft 9 by means of a pin or screw 31 engaging a longitudinal groove in the shaft so that said

arm is prevented from turning upon the shaft but is free to move longitudinally thereof. Upon said shaft between said arm and the adjacent bearing, is a friction washer 32 and a collar 33 is secured upon the outer end of the shaft with a coiled spring 34 sleeved upon the shaft between the collar and the arm 27. Said arm 27 is thus held by the spring 34 in frictional contact with the washer 32 and the shaft 9 is thus frictionally held against turning too freely and will remain in any position to which it may be turned by its handle 10.

In this construction the view plates may be very quickly and easily inserted and removed from either holder, and the holders are quickly and easily shifted in timed relation to each other, such shifting movement being obscured by the flap which is automatically turned from and across the path of the light rays.

Having thus fully described my invention what I claim is:

1. In a device of the character described, means for turning a view plate in a direction longitudinally of the path of the light rays from a lantern, out of focal position before the lens of said lantern, and means for simultaneously moving another plate transversely across the path of the light rays into focal position.

2. In a device of the character described, a holder for view plates adapted to be turned pivotally upon its pivot in a direction longitudinally of the path of the light rays into focal position transversely of said path, a second holder, and means for moving said second holder in timed relation to the turning of the first holder.

3. In a device of the character described, a pivoted view holder, a sliding view holder, and means for moving one holder by the movement of the other.

4. In a device of the character described, a pivoted view holder, a vertically movable view holder, and means for lifting the vertically movable holder adapted to be engaged and operated by the turning of the pivoted holder.

5. In a device of the character described, a pivoted view holder, a sliding view holder, means for turning the pivoted holder, and means actuated by the pivoted holder to move the sliding holder.

6. In a device of the character described, a view holder pivoted at one edge and adapted to be turned from a horizontal position to a vertical focal position, and a vertically movable holder and means adapted to be raised by the turning of the pivoted holder into focal position to raise the vertically movable holder out of focal position.

7. In a device of the character described,

a casing adapted to be supported in alinement with a lantern lens and open at its ends and bottom, vertical guide ways, a view holder in said ways, a horizontally pivoted view holder adapted to be turned upon its pivot into a vertical position in the path of the vertically movable holder, and means for lifting the vertically movable holder operated by the turning of the pivoted holder to its vertical position.

8. In a device of the character described, a casing adapted to be supported in alinement with a lantern lens, and having an open lower side, a rock shaft extending across said open side, a view holder secured at one edge of said rock shaft to be turned upward within the casing to focal position, vertical ways on the casing in alinement with said rock shaft, a holder movable in said ways, and means for engaging and lifting the holder in its ways adapted to be engaged and operated by the pivoted holder.

9. In a device of the character described, a casing adapted to be supported in alinement with the lens of a lantern, a pivoted view holder adapted to be turned from a horizontal to a vertical position within the casing, a vertically sliding view holder adapted to be moved into and out of focal position in timed relation to the turning of the pivoted holder, a blind within the casing extending across the same and pivotally supported at one edge, means operated by the pivoted view holder when turned to horizontal position for turning the blind across the casing and holding the same so turned to expose the view in the sliding holder, and means for similarly turning and holding the blind when the pivoted view holder is turned to its vertical position to expose the view therein.

10. In a device of the character described, a casing adapted to be supported in alinement with a lantern lens, a horizontal rock shaft extending across the lower side of the casing, a view holder secured at one edge to said rock shaft and adapted to be turned to a vertical position within the casing, a transverse rod extending across the casing, a blind attached to said rod within the casing, an arm on the outer end of the rod, an arm on the end of the rock shaft, and means engaged and operated by the arm of the rock shaft for turning the rod.

11. In a device of the character described, a casing adapted to be supported in alinement with a lantern lens, a view holder pivotally supported at one edge and adapted to be turned from a horizontal to a vertical position within the casing, a rod extending across the casing near its upper side, a blind attached to the rod at one edge, a bell crank lever secured to the outer end of the rod, a rod attached to one arm of the bell crank

and adapted to be engaged at its opposite end by the view holder when turned to a horizontal position, and means connected to the other arm of the bell crank adapted to be operated by the turning of said holder to its vertical position.

12. In a device of the character described, a casing adapted to be supported in alinement with a lantern lens and open at its ends, vertical ways at one end of the casing, a view holder slidable in said ways, a rock shaft mounted in bearings at the lower end of said ways, a view holder secured to one side of said shaft to be turned thereby into a vertical position in alinement with the ways, and a lifting member pivoted at one end to the casing and engaging beneath the vertically movable view holder at its opposite end and adapted to be engaged intermediate its ends by the pivoted holder to lift the vertically movable holder.

13. In a device of the character described the combination of a casing open at its ends and lower side, means for adjustably supporting said casing in alinement with a lantern lens, a transverse rock shaft supported in bearings at the lower side of said casing a view holder secured to said shaft to be turned from a horizontal position below the lower edge of said casing to a vertical position at the end of the casing, vertical ways in alinement with said rock shaft, a view holder movable vertically in said ways, a blind pivotally supported within the casing and extending across the same, a lifting member forming a loop with its ends pivoted to the sides of the casing and its side members extending along within the casing adjacent to each side, and its cross member engaging beneath the vertically movable view holder, said side members being adapted to be engaged by the pivoted view holder and lifted to lift the vertically movable holder, and means to turn the blind operated by the turning of the pivoted holder.

14. In a device of the character described, the combination of a casing open at its ends, means for adjustably supporting said casing in alinement with a lantern lens, a vertically movable view holder at one end of the casing, a pivoted view holder adapted to be turned vertically into the path of the vertically movable holder, a lifting member adapted to be engaged by the pivoted holder to lift the vertically movable holder, a transverse rod extending across the casing near its upper side, a blind secured at one edge to said rod, a bell crank lever on one end of the rod, a rod pivotally attached to one of the arms of the bell crank and adapted to be engaged at its other end by the pivoted holder when said holder is turned to a horizontal position to turn the bell

crank and raise the blind, a bar pivoted intermediate its ends, a link connecting one end of said bar to the other arm of the bell crank, and an arm movable with the pivoted
5 holder to engage the opposite end of the bar and actuate the blind when the pivoted holder is turned to a vertical position.

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

OTIS C. CURRIE.

Witnesses:

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