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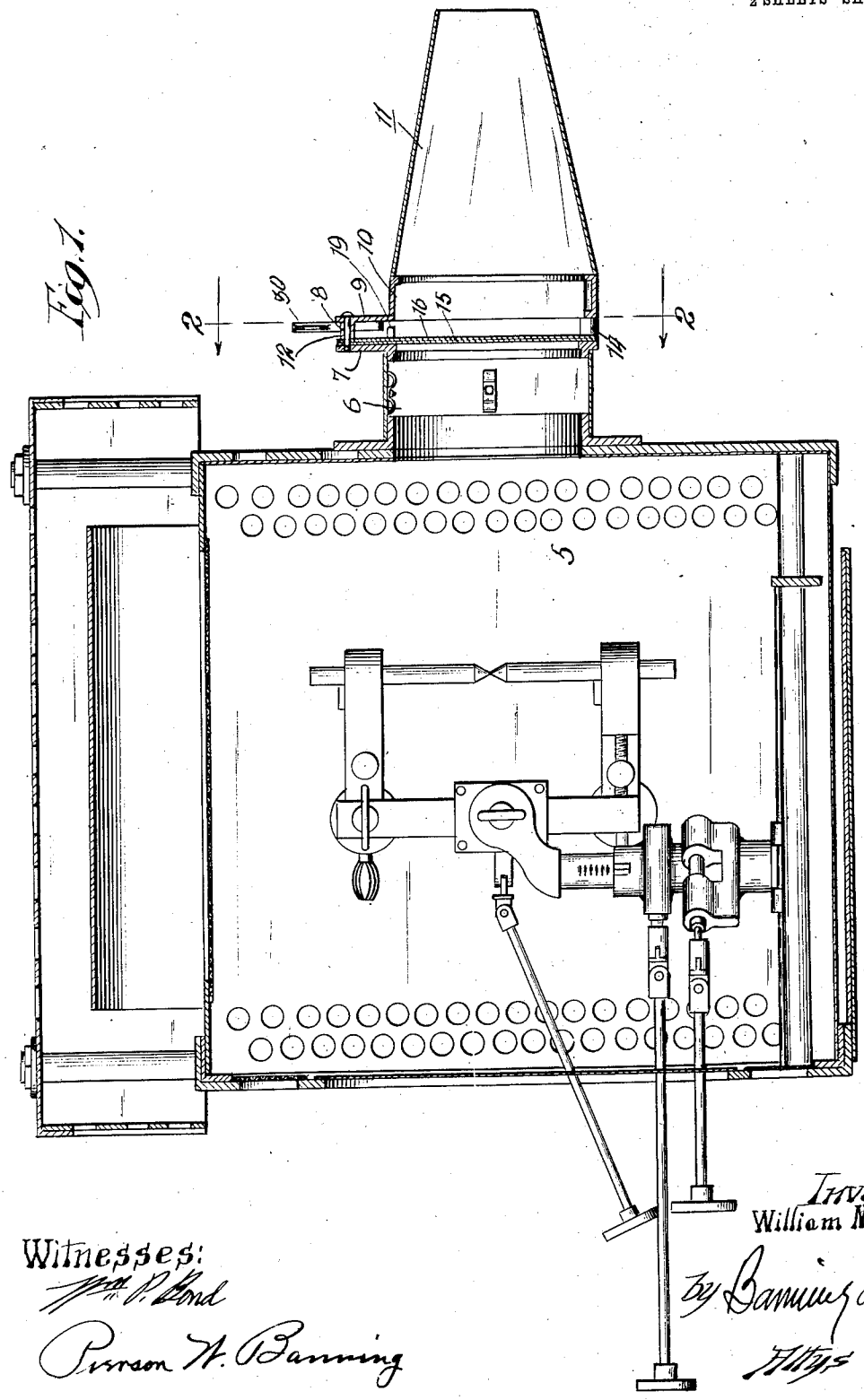
SAFETY SHUTTER FOR MOVING PICTURE LANTERNS.

APPLICATION FILED APR. 20, 1909.

928,804. Patented July 20, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2

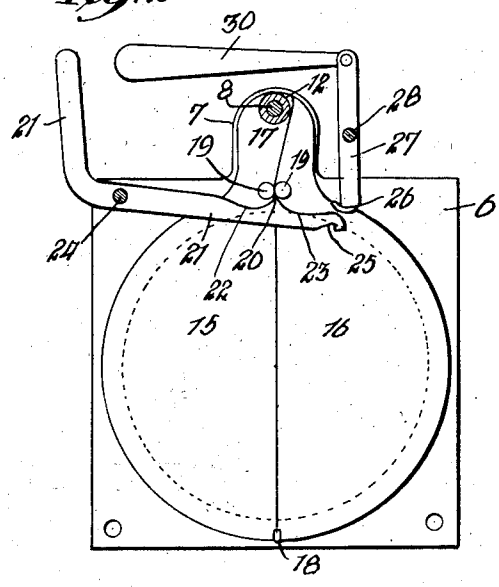


Fig. 4

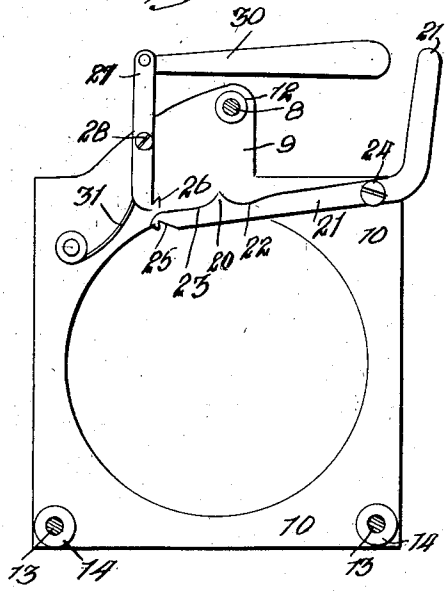
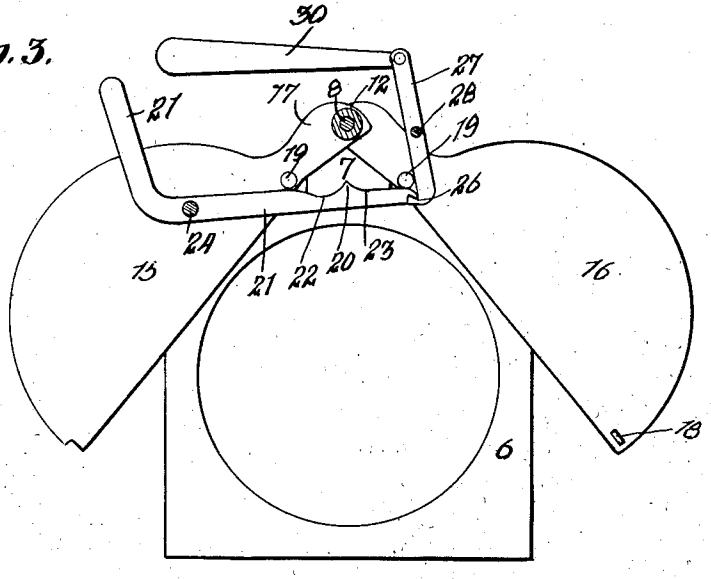


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SAFETY-SHUTTER FOR MOVING-PICTURE LANTERNS.

No. 928,804. Specification of Letters Patent. Patented July 20, 1909.

Application filed April 20, 1909. Serial No. 491,026.

To all whom it may concern:

Be it known that I, WILLIAM N. SELIG, 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 Safety-Shutters for Moving-Picture Lanterns, of which the following is a specification.

Moving pictures are ordinarily photographed on a film of transparent celluloid of a highly inflammable nature, so that explosions and fires sometimes result by reason of the ignition of the film from the heat of the projecting lantern. Such accidents usually take place when the travel of the film is stopped, or very materially slackened by reason of the concentration of light and heat on a particular section of the film for a comparatively long period of time. When the film is running in front of the lantern at the regular rate of speed, ignition is impossible by reason of the comparatively short period of time to which any section of the film is subjected to the heat of the lantern; but a section of film will ignite almost immediately if the travel of the film is stopped, and the light unobstructed.

The object of the present invention is to provide a safety shutter which can be operated instantly to cut off the light of the lantern in case of emergency, and which can be easily opened to permit the projection of the light when desired. The shutter also serves the ordinary function of a shutter as applied to a projecting lantern of the general character under discussion.

The invention consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a sectional elevation of a projecting lantern, showing the position and general arrangement of the shutter; Fig. 2 a sectional view, showing the trigger mechanism and the shutter closed, taken on line 2—2 of Fig. 1, looking toward the lantern; Fig. 3 a similar view, showing the shutter open; and Fig. 4 a view of the trigger mechanism, looking in the opposite direction.

The shutter is applied to a lantern comprising a box-like body 5, having in its forward end a projecting chamber 6 of rectangular shape, provided on its top forward edge with an upwardly projecting tongue 7, which receives the end of a screw 8, which is entered through a flange 9 formed on the top inner edge of a rectangular outer frame 10, which carries a converging hood 11 through which the light is projected. It will be understood that the chamber 6 and the frame 10 are open to afford a free and unobstructed passage for the light, and that the exact arrangement of these features of the lantern forms no part of the present invention. The screw 8 is entered through a spacing block or sleeve 12; and the frame is further connected in a similar manner at its two lower corners by screws 13, which are entered through spacing blocks or lugs 14, as best indicated in Fig. 4. The shutter, as a whole, comprises two sections or plates 15 and 16 respectively, substantially semi-circular in shape, which, when closed, are adapted to have their inner or straight edges overlap one another slightly to furnish a perfect closure for shutting off the passage of the light. Each of the shutter sections is provided at its upper side near its inner edge, with a hanger 17 in the form of a tongue, which is hinged on the screw 8, between the spacing sleeve 12 and the adjacent face of the tongue 7, which allows the two sections or plates in the shutter, when released, to swing from the position shown in Fig. 3 to the position shown in Fig. 2. One of the sections of the shutter is provided, near its lower inner edge, with a stop shoulder 18 in the form of a small lug, against which the edge of the companion shutter section is adapted to abut. Each of the shutters, near its inner upper edge, is provided with a rounded stud or roller 19, so located that when the shutters are swung to closed position the rounded studs or rollers will be closely adjacent to one another, as shown in Fig. 2, and immediately above the apex 20 of an L lever 21, which is inwardly rounded at the points 22 and 23 on opposite sides of the apex, to furnish cam surfaces between which the studs or rollers are adapted to lie during the movement of the lever. The operating lever is pivoted, near its elbow, on a pin or stud 24, which is entered into the wall of the frame 10, near one of the upper corners thereof, as best shown in Fig. 4. The oper-

ating lever, near its free end and on its under side, is provided with a notch 25, which is adapted to be engaged by the hooked end 26 of a trigger 27, which is pivoted to a pin 28 on the flange 9, and is provided with an angularly disposed handle 30, the end of which is in close proximity to the end of the operating lever. A spring 31 is provided for inwardly projecting the hooked end of the trigger.

In use, when it is desired to open the shutter, the end of the operating lever is drawn down, which forces the apex 20 between the studs or rollers 19, forcing the said studs or rollers apart and causing the two sections of the shutter to separate and swing into the position shown in Fig. 3, and this movement of the operating lever throws its notched end into position to engage the hooked end 26 of the trigger, which holds the operating lever in position to prevent the closing of the shutter. When it is desired to close the shutter, a slight depression of the handle 30 will serve to withdraw the trigger away from the end of the operating lever and release the same, thereby allowing the two sections of the shutter to fall by gravity and instantly cut off the light. The arrangement is one which enables the operator, in case of emergency, to close the shutter in the fraction of a second by merely touching the trigger handle, the parts being adjusted with sufficient delicacy to permit the release to be effected by the slightest movement. The arrangement, however, is one which firmly and rigidly holds the shutter against accidental falling, so that there is no danger of a release from jarring, or pressure against the shutter sections. The trigger is pivoted, near its engaging end, and the trigger handle is made quite long, so that the force required to throw the trigger will be reduced to a minimum by reason of the leverage afforded.

What I claim as new and desire to secure by Letters Patent is:

1. In a projecting lantern for moving pictures, a shutter comprising two sections pivoted in position to fall by gravity, a lever for swinging up the sections to open the shutter, and a catch trigger adapted to hold the sections elevated and adapted, when moved, to release the sections, substantially as described.

2. In a projecting lantern for moving pictures, a shutter comprising two sections pivoted in position to fall by gravity, a lever for swinging up the sections to open the shutter, and a catch trigger adapted to engage and hold the lever when the sections are moved to open position and adapted, by movement, to release the lever and allow the sections to fall, substantially as described.

3. In a projecting lantern for moving pictures, a shutter comprising two sections pivoted in position to fall and swing together by gravity when released, a stud on each of the sections, a lever having cam surfaces adapted to bear against said studs, and move the sections in opposite directions when the engaging end of the lever is elevated, and a trigger adapted to hold the sections in elevated position and adapted, on movement, to release the sections, substantially as described.

4. In a projecting lantern for moving pictures, a shutter comprising two sections pivoted in position to fall and swing together by gravity when released, a stud on each of the sections, a lever having cam surfaces adapted to bear against said studs, and move the sections in opposite directions when the engaging end of the lever is elevated, and a trigger adapted to engage and hold the operating lever when moved to opening position and adapted, upon movement, to release the lever and permit the sections to fall and close the shutter, substantially as described.

5. In a projecting lantern for moving pictures, a shutter comprising two sections pivoted in position to fall and swing together by gravity when released, a stud on each of the sections, a lever having cam surfaces adapted to bear against said studs, and move the sections in opposite directions when the engaging end of the lever is elevated, and a pivoted trigger adapted to engage the end of the operating lever and provided with an angularly disposed handle adapted, when depressed, to throw the trigger to releasing position, substantially as described.

6. In a projecting lantern for moving pictures, a shutter comprising two sections each of which is provided with an upwardly extending tongue, a pivot entered through both of the tongues and in position to permit the sections to swing together by gravity and close the shutter, a stud on each of the sections, and an operating lever having cam surfaces uniting in an apex occupying a position between the two studs when the shutter is closed, and adapted, when the lever is elevated, to cause the studs to move along the cam surfaces in opposite directions, substantially as described.

7. In a projecting lantern for moving pictures, a shutter comprising two sections each of which is provided with an upwardly extending tongue, a pivot entered through both of the tongues and in position to permit the sections to swing together by gravity and close the shutter, a stud on each of the sections, an operating lever having cam surfaces uniting in an apex occupying a posi-

tion between the two studs when the shutter is closed and adapted, when the lever is elevated, to cause the studs to move along the cam surfaces in opposite directions, and a trigger adapted to engage the end of the operating lever when moved to opening position, and adapted, when moved, to release the operating lever and allow the shutter to close, substantially as described.

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