April 13, 1926. **1,580,969**

A. DINA

SAFETY OPERATING ATTACHMENT FOR MOTION PICTURE MACHINES

Filed Feb. 23, 1925 3 Sheets-Sheet 1

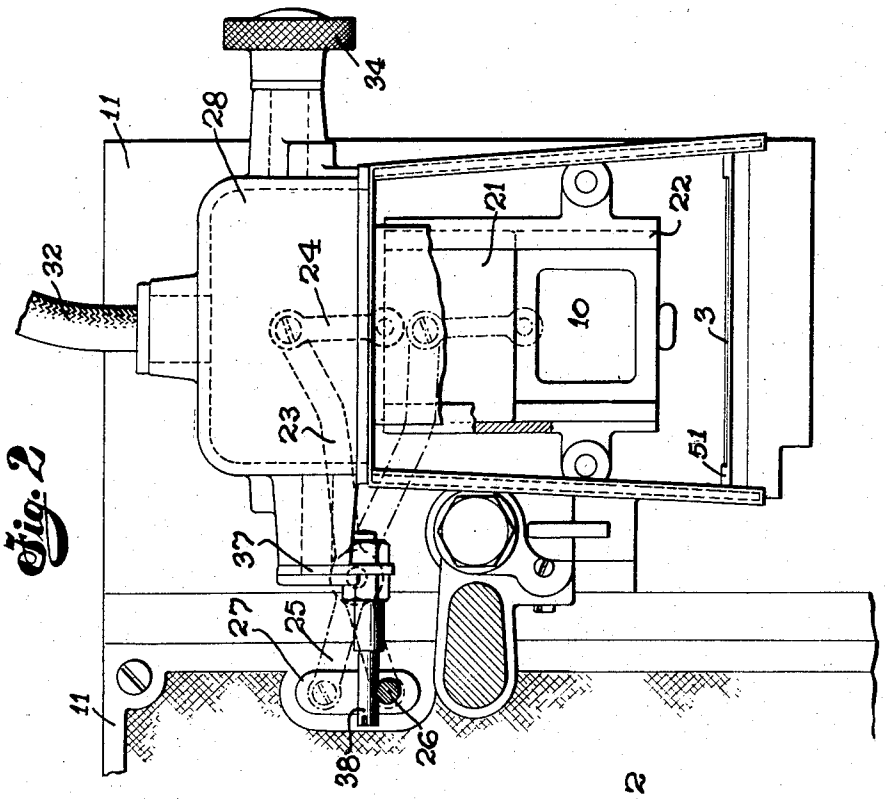


Fig. 2

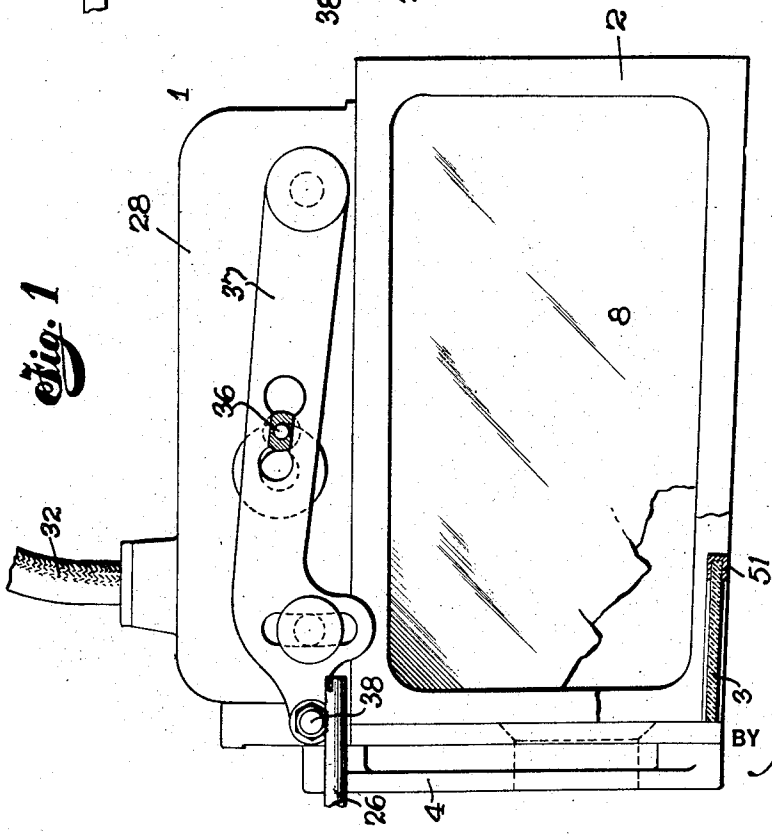


Fig. 1

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SAFETY OPERATING ATTACHMENT FOR MOTION PICTURE MACHINES

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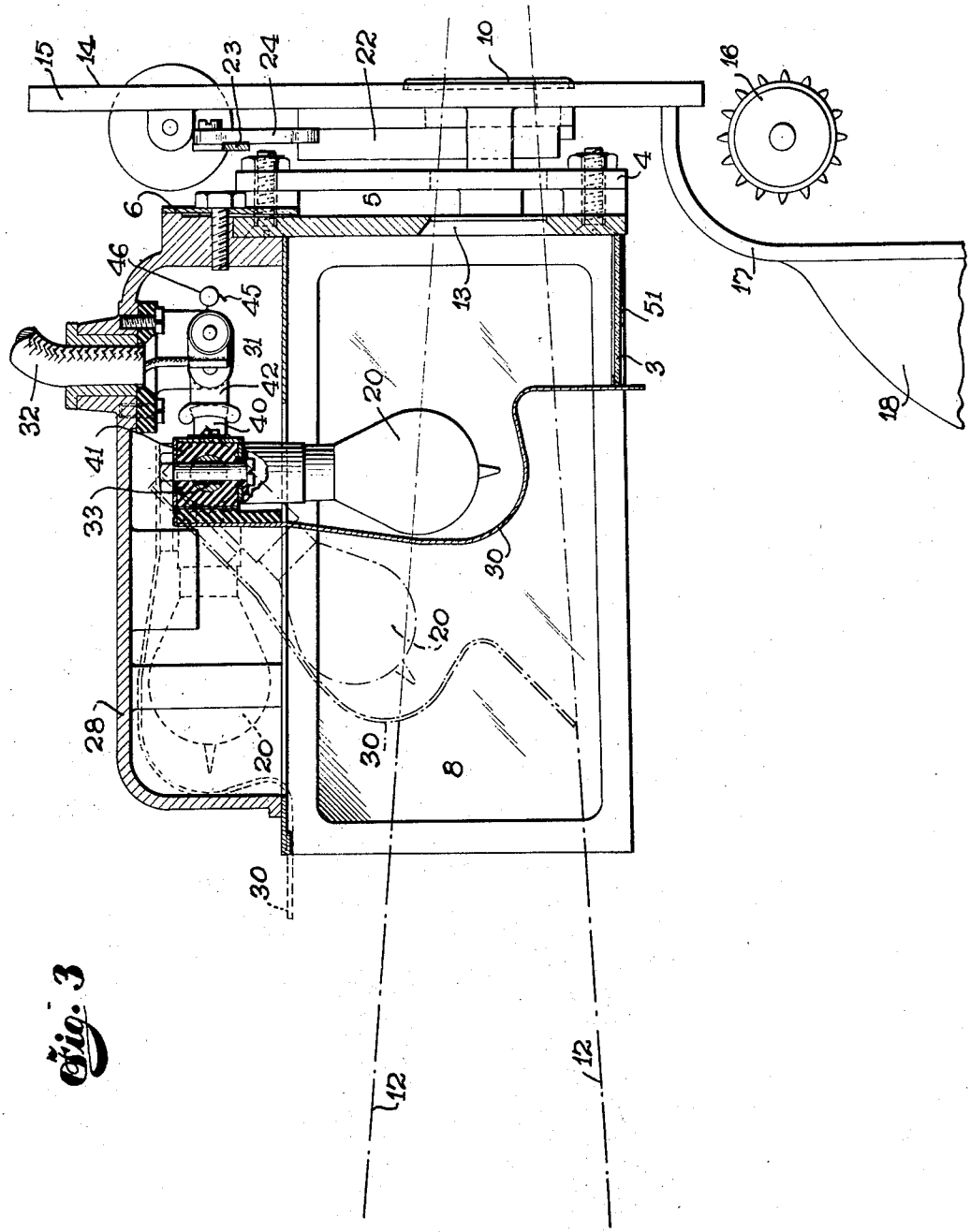


Fig. 3

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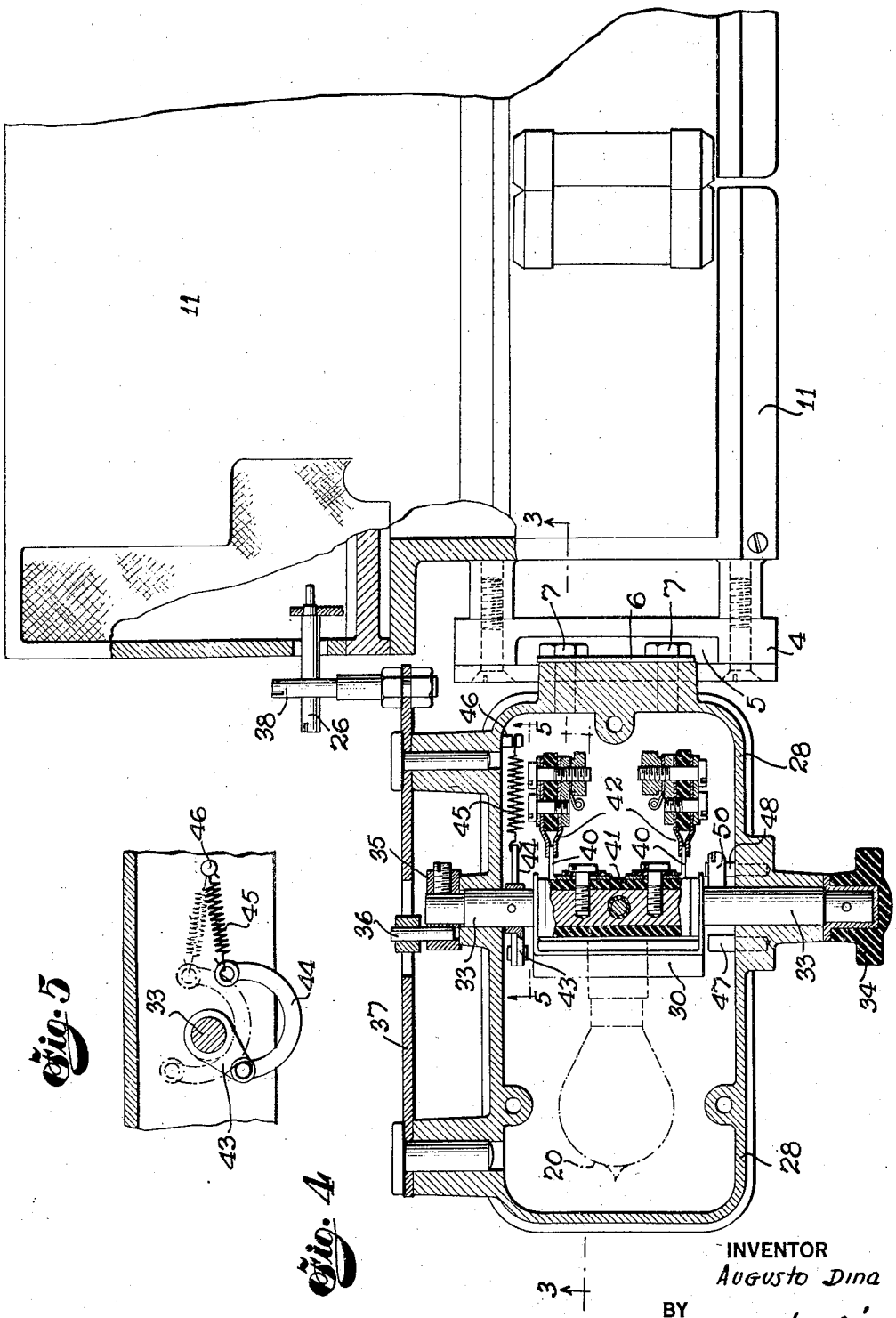


Fig. 4

Fig. 5

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Patented Apr. 13, 1926. 1,580,969

UNITED STATES PATENT OFFICE.

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SAFETY OPERATING ATTACHMENT FOR MOTION-PICTURE MACHINES.

Application filed February 23, 1925. Serial No. 10,988.

To all whom it may concern:

Be it known that I, AUGUSTO DINA, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented an Improvement in Safety Operating Attachments for Motion-Picture Machines, of which the following is a specification.

This invention pertains to a novel attachment for motion picture projecting machines whereby the safety of operation is materially increased as well as providing manifestly greater convenience in the operation of the machine. In fact the use of this new and improved attachment provides definite safety means which substantially reduces the fire hazard while the necessary operations required in the proper operation of the machine are completed with greater facility and safety.

My invention has to do with a complete unit attachment which permits efficient correct and safe framing of the film in the machine, which shields the operator's eyes when he watches the "light spot" on the aperture plate, and which permits illumination of the interior of the head when the flap door is swung back and while the door is in this position my apparatus acts to prevent any excess film of the lower loop from coming within the light beam of the projecting lamp. It is well known that this light beam is of such heat intensity that film passing into the beam at a slow rate of speed will ignite, and for this reason should the film for any cause "back up" and form an oversized lower loop, a portion of my improved attachment will guide the film away from the beam of light thus aiding in eliminating another fire hazard. It is of course to be understood that the projection machine is not to be operated with the flap door open, but in actual operation it is opened when trouble develops in the movement of the film through the head of the machine and the operator does not in practice close down the machine unless absolutely necessary. In other words, the operator will invariably risk further trouble rather than stop the machine. One of the functions of my improved attachment prevents this risk from becoming an actuality.

It is well known in the operation of motion picture projecting machines that after the film has been originally threaded through the machine it must be framed or properly positioned. This operation may be accomplished in several different ways. The more usual method has been to light the projecting lamp, open the fire shutter, permit some or all of the projecting light to pass to the film to illuminate it. The operator then looks or peeks through another part of the machine to note the position of the film. If the film is out of frame the operator moves the framing mechanism until the film is brought into proper registry with the aperture in the aperture plate. By reason of the ungainly position the operator is in when looking or "peeking" he is required to employ the same hand that is holding the fire shutter open to operate the framing mechanism. Thus his hand moves from the fire shutter lever to the framing mechanism and back again. It is a cut and try method. The dangerous part of this operation is that the film is exposed several times to some or all of the intense heat of the projecting lamp and the ignition of the film therefore becomes a very common occurrence. Very often the operator wedges the fire shutter open to accomplish the framing operation, and he more often forgets to remove the wedge. Thus when the projecting light is thrown on the film during the starting a fire results.

Another method is to provide a pilot lamp, such as a small electric lamp, and to place it in position as a substitute for the projecting lamp. Even with the use of the pilot lamp the cut and try method is not eliminated in most instances and the operator is also required to perform the framing operation while he is in an ungainly and cramped position. The use of the pilot lamp does, however, eliminate the danger of the film becoming ignited, as the intensity of the lamp is very low.

The main object of my invention is, therefore, to provide a novel complete unit attachment that is readily affixed to a motion picture projection machine and that has for its main purpose to give greater safety and efficiency to the complete operation of such a projecting machine.

A further object of the invention is to provide a new unit attachment that overcomes

the difficulties and dangers above outlined relating to the proper positioning of the film in the machine before starting, and that assists in the safety of operation of the machine during its running.

Another object of my invention is to provide an efficient framing lamp mechanism, a light shield and a safety illumination means all combined into a unit attachment that is readily positioned on a projection machine.

A still further object of the invention is to provide in a film framing device which includes a relatively small pilot lamp, a mechanism which automatically lights the pilot lamp, places a guard or fire shield between the film and the projecting lamp, and raises the fire shutter mounted in the head of the projecting machine to thereby permit the proper and convenient framing of the film without danger of fire.

Another and important object of my invention is to provide in my improved complete unit attachment a pilot lamp framing mechanism or device which by the movement of one member causes the closing of an electrical circuit to the pilot lamp, the placing of a fire shield between the projection lamp and the film, and the raising of the fire shutter mounted close to the film, and in addition to have an indicator which will show to attract attention when the pilot lamp framing mechanism has not been returned to its normal position.

A further and detailed object of this invention is to provide in a complete unit attachment a safety means operating to guide film away from the beam of the projecting light when the film is moving in an abnormal path.

Other objects and advantages will be appreciated from the detailed description set forth below.

The preferred embodiment of my novel attachment is illustrated in the accompanying drawings wherein:

Fig. 1 is a side plan view of my novel attachment partially broken away to show a guard;

Fig. 2 is an end view of my attachment as mounted on the head of a motion picture projecting machine;

Fig. 3 is a sectional view of the attachment taken on the line 3—3 of Fig. 4.

Fig. 4 is a sectional view taken just below the top portion of my attachment as shown in Fig. 3 with a further showing of part of the head of a motion picture projecting machine; and

Fig. 5 is a plan view of a spring operating mechanism.

As above noted, there has always been some means provided for framing the film which has been threaded through a motion picture projecting machine, and there has been a shield means provided to absorb some of the rays of the projecting light or to permit observation of the light beam so that as the operator watches the light on the aperture plate he does not become blinded. It is my desire to provide a novel attachment which is so constructed that it embodies apparatus for accomplishing both the film framing and the light observing purposes and is of further advantage in that it carries a guide means which substantially eliminates a fire hazard that has heretofore always been present.

In general, my device comprises a pilot lamp framing mechanism 1, a shield 2, and a guard 3. These various parts are made up into one complete unit to form a satisfactory new attachment for a motion picture projecting machine so that the various operations of framing the film and running the machine are more safely, satisfactorily and conveniently accomplished while all the various parts of my attachment cooperate to give safe operation of the machine.

Every motion picture machine is provided with a heat protecting shield 4 illustrated in Figs. 1, 3 and 4, and this shield is so constructed that there is provided a suitable space 5 to permit hot air to escape before it can be blown against the film passing through the machine. It is my desire to fasten my improved unit attachment to this heat protecting shield, although it may be attached to the machine in any other desired manner. The particular form of means for fixing my attachment to the shield is by providing a suitable plate 6 to the front of the attachment and after positioning the attachment in its normal place on the heat protecting shield, the clamp 6 is tightened into position to squeeze against the heat shield by means of suitable bolts 7.

It will be seen from Fig. 3 that my improved attachment extends from the top of the heat protecting shield to the bottom thereof and the red glass sides 8 of the light shield 2 extend to points below an aperture 10 formed in the head 11, of the projecting machine. The dash lines 12 in this figure represent the width of the beam of light coming from the projecting lamp provided in such a projecting machine. As the structure of the projecting lamp is well known in the art it has not been illustrated in these drawings. It will be noted that the beam of light enclosed by lines 12 passes through opening 13 in the heat protecting shield 4 and through the aperture 10. The film in passing through the machine moves down along surface 14 of a plate 15 and over the aperture 10 to intermittent sprocket 16 from which it passes to the lower magazine of the machine.

It is well known that the film after

leaving the sprocket 16 forms what is known as the lower loop and a suitable loop door 17 is provided with an extension or bulge 18 which allows this lower loop to be of most any convenient size. The beam of light from the projecting lamp is usually of such width as to cover the opening 13 and when the operator watches to see whether this beam of light is properly positioned to give correct projection of the film he becomes blinded unless some means is provided for absorbing or reducing the brightness of this light, and for this purpose the shield 2 permits the operator to look through the glass 8 and readily note the light spot or position of the beam on the shield 4.

In making my improved unit attachment of maximum use, I have provided a simple means for assistance in the operation of framing the film properly in registry with the aperture 10 so that at the start of the machine there is proper projection of the film on the screen. As heretofore noted, I have eliminated the necessity of lighting the projection lamp and have provided in its stead a suitable pilot lamp 20 which may be lighted to cause sufficient illumination on the film which covers the aperture 10 so that the framing mechanism (not shown) mounted in head 11 may be operated to place the film in proper registry with this aperture 10.

It is well known in the manufacture of motion picture projecting machines that a fire shutter must be provided, and it is also well known that this fire shutter must operate to automatically close the aperture opening 10 from the light beam 12 when the speed of the machine falls to a point below a certain number of revolutions per minute. Referring to Fig. 2 it will be seen that there is provided a suitable fire shutter 21 which slides in an adapted frame 22. The fire shutter is responsive to the movement of arm 23 and a joining link 24. The other end 25 of arm 23 is provided with a fire shutter operating arm or pin 26 which moves in slot 27 formed in the head 11. It will be noted that when pin 26 is pushed downwardly the fire shutter 21 is raised to open aperture 10 to the beam of light coming from the projection lamp. This lever 23 is automatically operated when the machine is running to hold the shutter in raised position, but for framing purposes the pin 26 is moved downwardly by hand. Thus the film in front of aperture 10 is subject to some or all of the light of the projecting lamp of the machine during framing unless a suitable pilot lamp as herein disclosed is used.

In providing my pilot lamp framing mechanism I desire to be understood as providing therein such a mechanism as will light the pilot lamp 20 and provide a means for protecting the film from any beam of light from the projection lamp and will also automatically move the fire shutter from in front of the film. In the disclosure herein set forth I have shown a preferred construction of apparatus for accomplishing such results and as I believe this arrangement is new and novel, I am therefore making this description in a manner that will entitle me to broad consideration thereof. In addition, I have provided such a pilot lamp framing mechanism with a light shield and with a protecting guard, and I also consider that such combination is new and novel in the art and believe I am entitled to broad consideration therefor.

In the particular construction of pilot lamp framing mechanism herein disclosed, I have provided a suitable support or housing 28 which encloses the lamp 20 and a suitable fire shield 30 and an electrical switch 31 which is provided with supply leads 32 for connecting the lamp to any ordinary lamp socket. I prefer to mount in the support 28 a suitable shaft 33 which has an operating knob 34 provided threon. In this particular construction I have arranged to mount the lamp 20 on the shaft 33, and in addition to mount the shield 30 also on the shaft 33 so that as the knob 34 is oscillated the shield 30 is brought into position to protect the film from any light from the projecting lamp and to bring the pilot lamp 20 into position for framing operation. Also mounted on this shaft 33 is a suitable collar 35 which carries a pin 36 positioned off center of the shaft 33. Pivoted on support 28 is an oscillating arm 37 which carries a pin or extension 38 on its free end, and has pin 36 mounted to engage arm 37 for oscillating the same. This pin 38 is adapted to engage the fire shutter operating arm 26. Thus when there is a movement of shaft 33 to bring the lamp 20 and shield 30 into operative position there is also an automatic movement of oscillating arm 37 which moves fire shutter operating arm 26 to raise the fire shutter 21 above the aperture 10 to permit the pilot light 20 to illuminate the film in the machine. Any suitable means may be provided for lighting the light when it has reached a definite position. My preferred means for accomplishing this purpose is to provide movable contacts 40 on insulating bushing 41 carried by shaft 33. I also provide stationary contacts 42 which are engaged by the contacts 40 when the shaft 33 is oscillated. Thus when the pilot lamp 20 is brought into full line position as shown in Fig. 3 the lamp will automatically be lighted. While I have disclosed a mechanism that moves the pilot, it is to be understood that it is within my disclosure to have the lamp stationary and the fire shield movable.

It will readily be seen from the foregoing

description that the movement of knob 34 will cause the pilot lamp 20 to be lighted and that the fire shield 30 will also be brought to operating position and at the same time the fire shutter is automatically raised. It is to be particularly noted that all of these actions are accomplished by the movement of a single member. Referring to Fig. 3 the shield 30 and the pilot lamp 20 are shown in the inoperative or up position by the dotted lines. In this same figure the lamp 20 and the shield 30 are shown in dash lines in a position after a movement of substantially 45° or half of their travel so that the shield 30 will intercept any light issuing from the projection lamp of the machine. The construction of the pilot lamp framing mechanism is such that the shield 30 is brought into this dash line position before the fire shutter 21 starts to uncover the aperture 10. Thus I have provided a means for fully protecting the film in the machine from any light issuing from the projection lamp. A further movement of the shaft 33 operates the lever 37 so that the fire shutter operating arm 26 will be forced down and the fire shutter 21 raised to fully uncover the aperture 10. It will be noted that the sequence or succession of operation is to first move the fire shield 30 to a position to protect the film and to thereafter light the pilot lamp and move the fire shutter to uncover the aperture 10.

In most instances it is desirable to move the fire shutter and the fire shield positively so that they will be either in operative position or in inoperative position, and for this purpose I have provided an offset collar 43 which is attached to shaft 33 in any suitable manner and have provided a yoke 44 for engaging the collar 43 and a spring 45 attached to a suitable pin 46. With this particular construction it will be noted that when knob 34 has been moved a certain distance the yoke 44 and spring 45 will form a line on one side of the center of shaft 33 and will thereby exert an effort to further move or rotate the shaft 33. Thus the lamp and this shaft 33 and the fire shutter operating arm will be positively moved to either their down or operative positions or to their up or inoperative positions.

When the lamp 20 is shown in the position represented by the full lines as shown in Figure 3 it will be lighted as above described and this will act as an indicator to the operator that he has not returned the pilot lamp framing mechanism to its off position. It will be noted from Fig. 4 that I have provided suitable stops 47 and 48 against which a pin 50 carried by the shaft 33 will contact when the pilot lamp and the fire shield are moved to their off or on positions. These stops are particularly advantageous in that they prevent the operating parts from being strained or jambed. Thus I have eliminated many strains on the more or less delicate switch members and on the fire shield 30 which otherwise might bump against the support 28.

The bottom part of the shield 2 is so constructed as to permit me to mount the guard 3 in edges 51. This guard is preferably made of glazed glass. This glass guard serves two purposes, the first being to admit some of the light caused by the projecting beam 12 to the interior of the head 11 of the machine when the loop door 17 is open, and the second being to prevent the lower loop which passes around the intermittent sprocket 16 from reaching the beam of light 12 from the projection lamp when this loop is traveling in an abnormal path. It is well known as hereinbefore stated that when there is trouble with the film passing through the machine the loop door 17 is usually opened and oftentimes the lower loop becomes enlarged due to a poor takeup mechanism in the lower magazine and the film continues to pass down and around sprocket 16 and thus the lower loop expands and moves in an abnormal path. By providing guard 3 the loop is automatically guided away from the beam of light coming from the projecting lamp. By this means I eliminate another fire hazard. In some instances if desired the guard 3 may be made of other material than glass as it is not absolutely necessary that it be transparent for light to pass to the interior of the head of the machine, although it is to be understood that the transparent guard is desirable. If desired the guard 3 may be extended to give a further guiding surface.

From the foregoing descriptions it will be seen that I have provided an improved type of attachment which has several advantages over any other constructions employed to accomplish the purposes herein outlined in that I have provided a combined pilot lamp framing mechanism with a light shield and with a guard, all of which operate or may be operated in the proper time intervals during the complete cycle of operation of a motion picture projecting machine to thereby increase the safety, the efficiency and the convenience of such operation. While I have described in detail a particular construction which moves the pilot lamp 20 to a down or operating position it will be understood that such movement is not necessary as the lamp may be positioned in a definite rigid position so long as the light therefrom may sufficiently illuminate the film in the machine so that the operation of framing may be satisfactorily completed. In the instance where the framing lamp is mounted stationary it is desirable to have the fire shutter 30 movable and under such circumstances the operating mechanism of

the shutter 30 would cooperate with the oscillating lever 37 and its attendant levers to move the fire shutter from in front of the film registering with aperture 10. It will also be seen that there are many advantages in my particular attachment herein described and that substantially all of these advantages are new in the operation of motion picture projecting machines and I therefore believe that I am entitled to the broad consideration thereon. It will also be seen that with one operation of a single member that satisfactory light is provided, that fire shutter lifting means, and fire protecting means have been brought into operative position so that the framing operation will be quickly and readily completed. These features combined with features which are inherently obtained by reason of the light shield and the guard give greater safety and convenience in the operation of a motion picture projecting machine, and all of these features cooperate to give safe, efficient and convenient operation of a projection machine.

It will be understood that while I have herein described in detail a particular embodiment of my invention for purposes of full disclosures and some detailed features which I am specifically claiming for a special advantage, many changes and modifications may be made in the particular construction and arrangement of parts without departing from the broad scope of my invention.

What I claim is:

1. In an attachment for a motion picture projecting machine the combination of a pilot lamp, means for lighting the same, a fire shield, means for moving said shield into a position to intercept a light beam from a projecting lamp during a film framing operation, a mechanism cooperating with the means for lighting said pilot lamp and the means for moving said fire shield for moving a fire shutter from in front of the film, a light shield to permit observation of the rays from the projecting lamp of said projecting machine during running operations, and a transparent guard mounted at the base of said shield for permitting light to pass to the interior of a projecting machine when the loop door is open and for guiding the film when it is moving in an abnormal path.

2. In an attachment for a motion picture projecting machine the combination of a pilot lamp, means for lighting the same, a fire shield, means for moving said shield into a position to intercept a light beam from a projecting lamp during a film framing operation, spring means for moving said fire shield near the end of its travel to a normal operative position or to a normal inoperative position, a mechanism cooperating with the means for lighting said pilot lamp and with the means for moving said fire shield for moving a fire shutter from in front of a said film, a light shield to permit observation of the rays from the projecting lamp of said projecting machine during running operations, and a transparent guard mounted at the base of said shield for permitting light to pass to the interior of a projecting machine when the loop door is open and for guiding the film when it is moving in an abnormal path.

3. In an attachment for a motion picture projecting machine the combination of a pilot lamp, means for lighting the same, a fire shield, means to move said shield into position to intercept light rays from a projecting lamp when said pilot lamp is lighted, a mechanism cooperating with the means for lighting said pilot lamp and with the means for moving said fire shield for moving a fire shutter from in front of a film in said machine, and a light shield to permit observations of the light rays from the projecting lamp of said projecting machine during running operations.

4. In an attachment for a motion picture projecting machine the combination of a pilot lamp, means for lighting the same, a fire shield, means to move said shield into position to intercept light rays from a projecting lamp before said pilot lamp is lighted, spring means for moving said fire shield near the end of its travel to a normal operative position or to a normal inoperative position.

5. In an attachment for a motion picture projecting machine, the combination of a light shield for permitting observation of the projecting light at the aperture plate of said machine, and a pilot light framing mechanism, said mechanism including a fire shield mounted to be moved to a position to intercept the projecting light during the operation of framing a film in said projecting machine, and a pilot light of low intensity adapted to be lighted during the framing operation to illuminate the aperture plate to a sufficient extent to permit proper framing of the film at the aperture plate.

6. In an attachment for a motion picture projecting machine the combination of a light shield for permitting observation of light rays from a projecting lamp, and a transparent guard positioned at the base of said shield for deflecting the lower film loop from the light rays and permitting light to pass to the interior of the projecting machine when a door of said machine is open.

7. In an attachment for a motion picture projecting machine the combination of a light shield for permitting observation of the projecting light at the aperture plate of said machine, a pilot light framing mechanism, and means for fastening said attachment to the heat protecting shield of said

machine, said framing mechanism including a fire shield adapted to be moved relatively to said light shield to a position to intercept the projecting light, a pilot lamp of low intensity also adapted to be moved relatively to said light shield and to be brought to a position to illuminate the aperture plate to permit a film framing operation to be completed, and switching means for automatically lighting said pilot lamp.

8. In an attachment for a motion picture projecting machine, a light shield for permitting observation of light rays from a projecting lamp, a pilot lamp framing mechanism movable with respect to said shield and comprising a lamp, a fire shield adapted to be moved to a position to protect a film in said machine from the rays of the projecting lamp of said machine, a fire shutter mounted between said projecting lamp and film, and means for moving said fire shield to intercept the light rays and simultaneously open said fire shutter.

9. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising a pilot lamp, a switch for closing an electrical circuit thereto, a fire shield adapted to be moved to a position to protect a film in said machine from the rays of the projecting lamp of said machine, spring means cooperating with said switch for assisting in moving said shield, a fire shutter operating arm positioned adjacent to said attachment, and means for moving said shutter arm to raise said fire shutter to permit said pilot lamp to illuminate said film.

10. In an attachment for a motion picture machine, a pilot lamp framing mechanism comprising a pilot lamp and a fire shield movable to intercept the light rays from the projecting lamp of said machine, said fire shield being positioned substantially perpendicular to the back of said projecting machine when in the non-intercepting position and movable in a plane at right angles to the plane of the back of said projecting machine to intercepting position.

11. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising a lamp, means for lighting the lamp, a fire shield, means for moving said shield to a position to protect a film in the projecting machine from the rays of the projecting lamp of said machine, means for moving a fire shutter adjacent to said film, mechanism including a shaft for operating the lamp lighting means, the shield moving means and the means for moving said fire shutter, and a knob mounted on said shaft to assist in rotating the same about its axis.

12. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising a lamp, means for lighting the lamp, a fire shield, means for moving said shield to a position to protect a film in the projecting machine from the rays of the projecting lamp of said machine, means for moving a fire shutter mounted adjacent to said film, mechanism including a shaft for operating the lamp lighting means, the shield moving means and the means for moving said fire shutter, a knob mounted on said shaft to assist in rotating the same about its axis, and stops for limiting the rotation of said shaft member.

13. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising a lamp, a switch for closing an electrical circuit thereto, a fire shield adapted to be moved to a position to protect a film in said machine from the rays of the projecting lamp of said machine, means cooperating with said switch for moving said shield, and a spring means for throwing said switch and said shield to operative position and thereafter to an inoperative position.

14. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising a lamp, a switch for closing an electrical circuit thereto, a fire shield adapted to be moved to a position to protect a film in said machine from the rays of the projecting lamp of said machine, means cooperating with said switch for moving said shield, a spring means for throwing said switch and said shield to operative position and thereafter to an inoperative position, a fire shutter operating arm positioned adjacent to said attachment, and means for moving said shutter arm to raise said fire shutter to permit said pilot lamp to shine onto said film.

15. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising a lamp, means for lighting said lamp, a fire shield, manually operated means for moving said fire shield, spring means for assisting said manual means beyond a certain point, a fire shutter operating arm adapted to move a fire shutter from in front of a film in said machine, said lamp lighting means and said fire shield moving means cooperating to have said fire shield move to a point to intercept any of the rays of light from a projecting lamp of said machine before said lamp is lighted.

16. A single attachment for a motion picture projecting machine, comprising a light shield for observing the light rays from a projecting lamp on an aperture plate during the running operations of said machine, and a framing mechanism, parts of which are movable with respect to said light shield, said mechanism including a fire shield adapted to intercept the light rays from said projecting lamp during the operation of framing the film in said machine, and means for illuminating the film by a light

of low intensity during the framing operation.

17. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising a lamp, means for lighting the lamp, a fire shield, means for moving said shield to a position to protect a film in said machine from the rays of the projecting lamp of said machine, means for moving a fire shutter adjacent to said film, and a single member for operating the lamp lighting means, the shield moving means and the means for moving said fire shutter, said shield moving means and said fire shutter means moving in succession to have said shield positioned to interrupt any light from the projecting machine before the fire shutter is moved from its normal closed position.

18. A single attachment for a motion picture projecting machine comprising a light shield for observing the light rays from a projecting lamp on an aperture plate during running operations, a framing mechanism movable with respect to said light shield, said mechanism including a fire shield adapted to intercept the light rays from said projecting lamp during a framing operation, means for illuminating the film at a relatively low light intensity during such framing operation, and means associated with said fire shield and the fire shutter mechanism and operated when said fire shield is moved to move said fire shutter and thereby expose the film in front of the aperture plate.

19. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising an oscillating pilot lamp, a switch for closing an electrical circuit thereto, a fire shield adapted to be moved to a position to protect a film in said machine from the rays of the projecting lamp of said machine, means cooperating with said switch for moving said fire shield, a fire shutter operating arm positioned adjacent to said attachment, and means for moving said shutter arm to raise a fire shutter to permit said pilot lamp to shine onto said film after said pilot lamp has been moved out of its inoperative position.

20. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising a lamp adapted to be moved to a down position for framing operation and to be moved to another position during the running operation of said machine, means for lighting the lamp, a fire shield, means for moving said shield to a position to protect a film mounted in said machine from the rays of the projecting lamp of said machine, means for moving a fire shutter positioned adjacent to said film, a single member for operating the lamp lighting means, the shield moving means and the means for moving said fire shutter, and means for assisting the movement of said member beyond a predetermined point.

21. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising a lamp adapted to be moved to a down position for framing operation and to be moved to another position during the running operation of said machine, means for lighting said lamp, a fire shield, means for moving said shield to a position to protect a film mounted in said machine from the rays of the projecting lamp of said machine, means for moving a fire shutter positioned adjacent to said film, a single member for operating the lamp lighting means the shield moving means and the means for moving said fire shutter, and a spring means for assisting in throwing said shield and said lamp to normal operating position and thereafter to an inoperating position.

22. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism, comprising a lamp adapted to be moved to a down position for framing operation and to be moved to another position during running operation of said machine, means for lighting said lamp when in its down position, a fire shield, a rotatable shaft, connections between said shaft and fire shield, for moving said fire shield, a fire shutter operating arm adapted to move a fire shutter from in front of a film in said machine, connections between said arm and said shaft, said lamp lighting means and said fire shield moving means cooperating to have said fire shield move to a point to intercept any rays from a projecting lamp of said machine before said lamp is lighted.

23. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising a pilot lamp carried on an oscillating shaft, a switch for lighting said lamp, some of the switch contacts being carried on said shaft, a fire shield adapted to be moved to intercept the light from the projecting lamp of said machine, a fire shutter operating arm positioned adjacent to said attachment, means for operating said operating arm to raise the fire shutter mounted in the head of the machine, said means cooperating with said shaft so that in turning said shaft said fire shield is moved to interrupt light from the projecting lamp of said machine and to thereafter light said pilot lamp and to move the fire shutter operating arm to withdraw the fire shutter from in front of the film in said machine.

24. In an attachment for a motion picture projecting machine, a pilot lamp framing mechanism comprising a pilot lamp carried on an oscillating shaft, a switch for lighting said lamp, some of the contacts of said switch

being carried on said shaft, a fire shield adapted to be moved to intercept the light from the projecting lamp of said machine, said fire shield being mounted on said shaft, a fire shutter operating arm positioned adjacent to said attachment, means for operating said arm, said means cooperating with said shaft so that in turning said shaft said fire shield is moved to interrupt the light from the projecting lamp and to thereafter light said pilot and to move the fire shutter operating arm to withdraw the fire shutter from in front of the film in said machine.

25. In an attachment for motion picture projecting machines, a pilot lamp framing mechanism comprising a support, an oscillating shaft passing through said support, an electric lamp mounted on said shaft and movable therewith, switch contacts for said lamp being mounted on said shaft and adapted to engage stationary contacts mounted within said support, a fire shield mounted on said shaft and adapted to be moved to a position to intercept the beam of light from the projecting lamp of said machine, an oscillating arm pivotedly mounted on said support and having an extension to engage a fire shutter operating arm, an off center pin carried by a collar mounted on said shaft for oscillating said pivoted arm, a manual operating knob to move said shaft to cause said fire shield to intercept the light beams from the projecting lamp and to thereafter cause said movable contacts to engage said stationary contacts to light said pilot lamp and to move said oscillating arm to move said fire shutter operating arm to thereby withdraw said fire shutter from a film in said machine.

26. In an attachment for a motion picture projection machine the combination of a pilot lamp mounted on an oscillating shaft, means for lighting said lamp when it is moved to a down position, a fire shield mounted in said attachment and adapted to be moved with said lamp to intercept a beam of light from the projecting lamp in said machine, an oscillating arm adapted to move the operating arm of a fire shutter which is positioned adjacent to a film in said machine, said operating arm being moved by the same means that moves said pilot light and said fire shield, the cooperating moving means adapted to move said fire shield into a position to intercept any light from said projecting lamp before said fire shutter is moved, a light shield for absorbing stray rays of light from said projecting light, and a glazed glass mounted in the base of said light shield for guiding film passing in an abnormal path away from the beam of light from said projecting lamp.

27. A single attachment for a motion picture projecting machine, said attachment comprising a light shield for obstructing the light rays from a projecting lamp on an aperture plate during running operations, means for affixing said attachment to said projecting machine, a pilot light framing mechanism movable with respect to said light shield, said mechanism including a fire shield movable to intercept light rays from a projecting lamp during a framing operation, a pilot light arranged to illuminate a film in front of the aperture of said machine, and means associated with said fire shield and with the fire shutter mechanism and operated when said fire shield is moved, to move said fire shutter and thereby expose the fi m in front of the aperture plate.

28. A single attachment for a motion picture projecting machine comprising a light shield for observing the light rays from a projecting lamp on an aperture plate during running operations, a framing mechanism movable with respect to said light shield, said mechanism including a fire shield adapted to intercept the light rays from said projecting lamp during a framing operation, means for illuminating the film at a relatively low light intensity during such framing operation, a fire shutter associated with said aperture plate, a rotatable shaft for moving said framing mechanism, and a pivoted lever operatively connected with said shaft and said fire shutter, and adapted to operate said shutter upon operation of said framing mechanism.

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