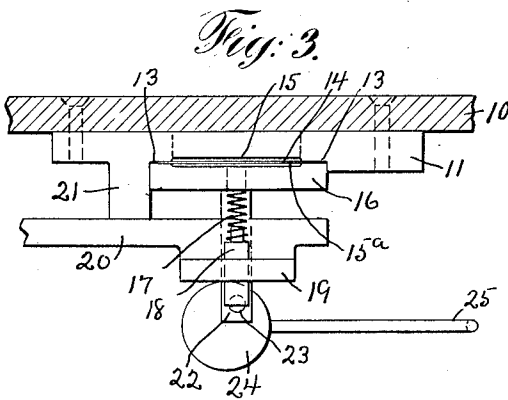
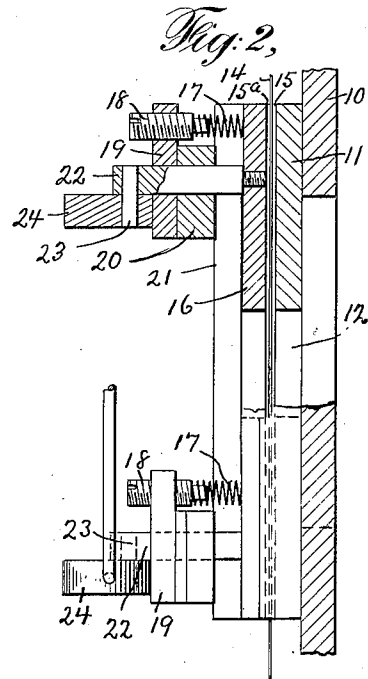
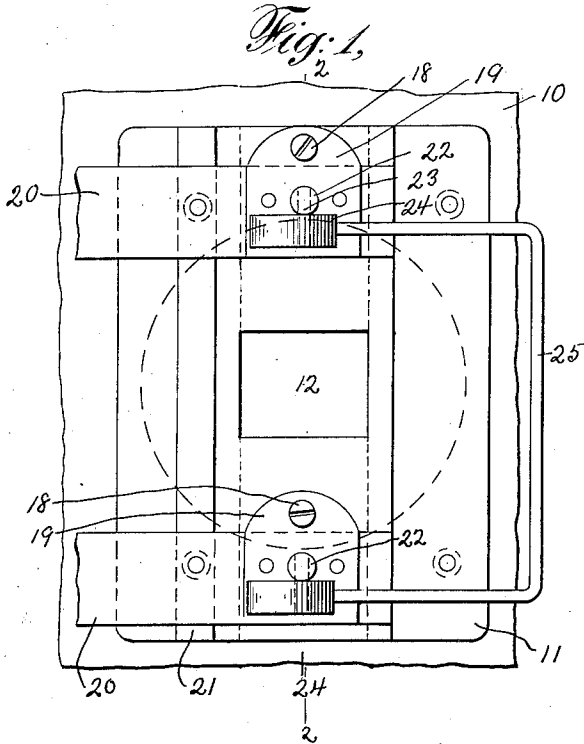


B. A. PROCTOR.
 FILM GATE FOR MOVING PICTURE MACHINES.
 APPLICATION FILED DEC. 20, 1911.

1,064,252.

Patented June 10, 1913.



Witnesses:
 Max B. A. Doring.
 Arthur L. Daniel.

Barton A. Proctor, Inventor.
 By his Attorney,
 W. B. Hutchinson.

UNITED STATES PATENT OFFICE.

BARTON A. PROCTOR, OF NEW YORK, N. Y., ASSIGNOR TO PICTUREGRAPH COMPANY,
OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

FILM-GATE FOR MOVING-PICTURE MACHINES.

1,064,252.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed December 20, 1911. Serial No. 667,045.

To all whom it may concern:

Be it known that I, BARTON A. PROCTOR, of the city, county, and State of New York, have invented a new and useful Improvement in Film-Gates for Moving-Picture Machines, of which the following is a full, clear, and exact description.

My invention relates to improvements in film gates for moving picture machines. Such machines are generally provided with a film gate which serves to guide the picture film and hold it in its proper taut position and right relation with the light opening or projection opening of the machine. As these film gates have generally been made, they are not so convenient as they should be, and many of them have a swinging action so that as a result the film is likely to be caught and bound, or at least held with too much friction as it passes over the light projection. Moreover, the means for fastening the gate so as to hold it against the film properly, has been rather complicated, and the gates do not usually hold the films as smooth as could be desired.

The object of my invention is to simplify this film gate construction and produce a film gate which is extremely simple and inexpensive, which for this reason is not likely to get out of order, which can be instantly adjusted so as to release or clamp the film, and which when in position to guide the film will hold it resiliently or yieldingly and yet in a manner to perfectly guide it. As a result the film is held smooth and straight and yet permitted to move freely through the machine.

Another object of my invention is to arrange and construct the film gate so that it will be movable bodily in and out with relation to the film, thus rendering it unlikely to catch and bind the film.

I further provide means whereby the gate can be readily moved, but whereby when in its operative position to hold the film it will be held in place only by light springs, but the releasing movement is positive and not dependent on the springs.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is an inside elevation of a portion of a moving picture machine showing my improved attachments. Fig. 2 is a sec-

tion on the line 2-2 of Fig. 1, and Fig. 3 is a sectional plan of the attachment.

The body or case 10 of the machine is as usual, and to it is applied a plate 11 which serves as a support for the gate attachments presently described, and which has the customary light opening 12 through which the picture from the film is projected. The plate 11 is provided with a way 13 which extends usually in a vertical direction across the plate 11 from top to bottom, so as to traverse the light opening, and the back of the way is relieved in the center as shown at 15, this part coming opposite the picture portion of the film and being the same width as the light opening 12, while the side edges of the film are held on the side portions of the way 13. The gate 16 is in the form of a plain plate which fits snugly but yet so as to be easily mounted in the way 13, and which is movable in and out with relation to the plate 11. The gate 16 is relieved in the center as shown at 15^a, this part coming opposite the relieved portion 15 in the part 11 so that there will be no possible friction or contact of parts on the picture portion of the film 14 while the edges of the latter are held securely, smoothly, and yet resiliently, as presently described between the side portions of the gate 16 and the wall of the way 13 which is directly opposite said side or unrelieved portions. The gate 16 is open in the center to correspond with the aperture 12 of the plate 11, and is longer than the aperture so as to exert a simple uninterrupted pressure on the side portions of the film as it passes across the aperture, thus holding the film straight and flat at this point.

The gate 16 is pressed gently but smoothly against the film 14 by light springs 17, which abut with the plate and are attached to adjusting screws 18, these turning in the lugs or ears 19 which are attached to the plates 20, and the latter are secured to a lug or offset 21 on the back of the plate 11. It will be seen that by this arrangement the tension of the spring 17 can be nicely regulated so that the gate 16 will bear with the desired pressure on the film 14, but it will of course be seen that other means can be provided for supporting the screws 18 without in the least affecting the invention. It will be observed that it is necessary to move back the gate 16 so that a

film can be slipped edgewise into and out of position, and to this end the plate is provided with posts 22 which connect by means of the journals 23 with the eccentrics or
 5 cams 24, which are preferably circular in shape and which ride on the ears 19 which serve as abutments for the cams. The cams are arranged in pairs as shown, and are connected by a bail-like handle 25. When
 10 the handle is turned to the position shown in the drawing to move the gate 16 into position to hold the film 14, the eccentrics or cams 24 are practically out of contact with the abutments or ears 19, so that the pressure on the gate 16 is effected by the springs
 15 17; but when the gate is to be opened, the handle 25 is turned back to a position at right angles to that shown in the drawing, and this pulls out the posts 22 and opens
 20 the gate against the tension of the spring 17 so as to permit the insertion or removal of the film 14.

It will be seen that by this arrangement the gate can be instantly opened or closed,
 25 and that the necessary yielding pressure is produced, and it will be further understood that while the spring attachment for tension, and the cam device for removal, are necessary, still the parts can be supported
 30 in very many different ways without affecting the principle of the invention, the essential thing of which is to have the bodily moving gate, the spring pressure, and the handle mechanism for moving the gate
 35 bodily against the tension of the spring to open it.

I claim:—

1. A moving picture machine having a way for a film, said way being apertured as
 40 usual and having the part above and below the aperture relieved and the sides left flat, a gate comprising a plate relieved in its central portion and moving bodily in and out in the said way, tension springs to press

the gate into the way, and a handle mechanism arranged to move the gate bodily out of the way and against the tension of the springs.

2. In a moving picture machine having a way for a film, a spring pressed gate comprising a flat apertured plate moving bodily in and out of said way and having its side portions arranged to fit flatwise against the way at the sides of the aperture, and mechanism for moving out the gate against said
 55 spring tension.

3. In a moving picture machine having an apertured film way therein, a gate comprising an apertured plate having all its parts arranged to move simultaneously in and out of the said way, tension springs behind the said gate, and a handle cam mechanism for effecting the movement of the gate against the springs.

4. In a moving picture machine having a film way, a gate movable bodily in and out of said way, adjustable tension springs serving as a backing for the gate, cams provided with a handle and rotatably mounted behind the gate, and posts jour-
 70 naled eccentrically to the cams and connected to the gate, whereby the latter may be moved bodily against the tension of its springs.

5. In a moving picture machine having a film way, a gate movable bodily in and out of said way, adjustable tension springs serving as a backing for the gate, handled cams turning on a suitable abutment behind the gate, and an operative connection between the cams and the gate whereby the latter is moved against the tension of its
 80 springs.

BARTON A. PROCTOR.

Witnesses:

WARREN B. HUTCHINSON,
 WILLIAM H. COE.