March 28, 1939. P. G. CAZES 2,151,742

CINEMATOGRAPHIC PROJECTION APPARATUS

Filed Jan. 10, 1938

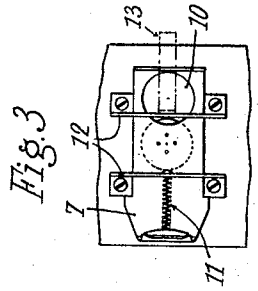


Fig. 3

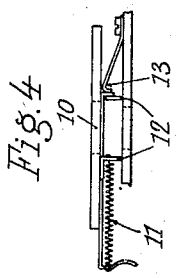


Fig. 4

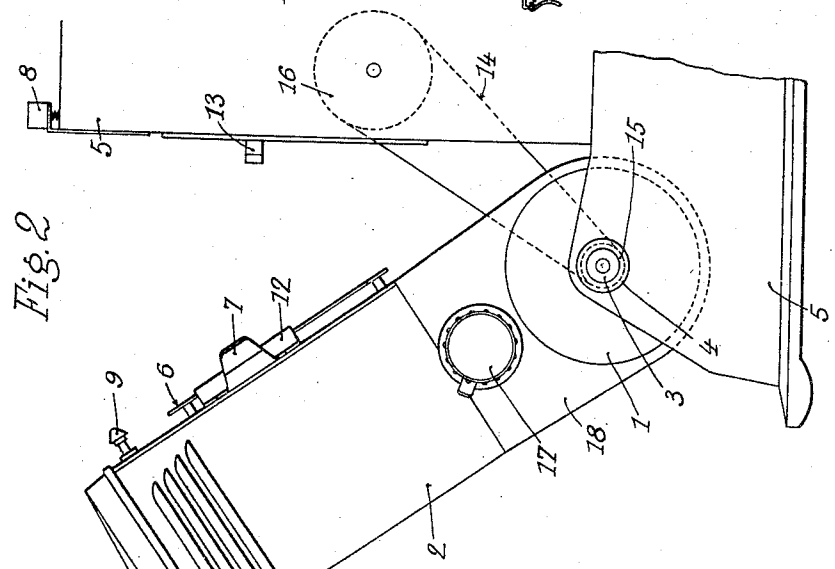


Fig. 2

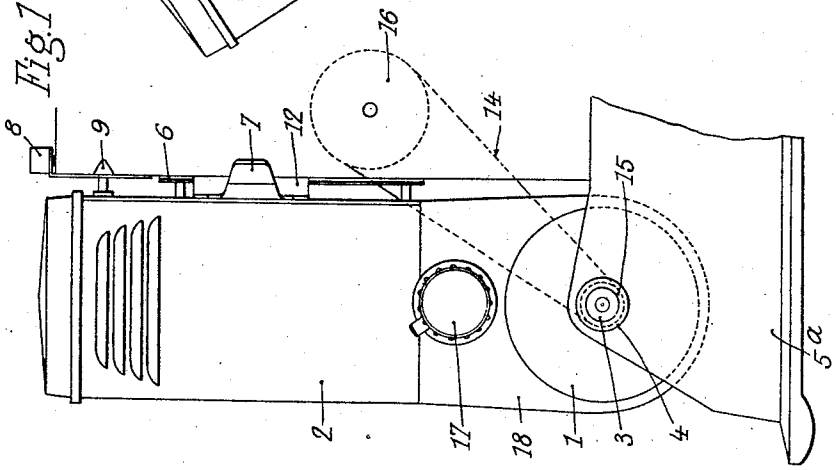


Fig. 1

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Patented Mar. 28, 1939

2,151,742

UNITED STATES PATENT OFFICE

2,151,742

CINEMATOGRAPHIC PROJECTION APPARATUS

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Application January 10, 1938, Serial No. 184,231
In France April 1, 1937

2 Claims. (Cl. 88—17)

This invention relates to cinematographic projection apparatus and it has for its object to provide means whereby the apparatus can be easily loaded and the gate and pressing frame can be easily cleaned and the working of the feeding mechanism can be easily tested before starting the projection without any risk of the film being injured by the heat of the light beam.

The invention consists in an apparatus for cinematographic projection in which the motor, the lantern and their accessory parts such as the speed regulating rheostat, the ventilating means and the film pressing device form an independent structure which is pivotally mounted on the stationary frame of the apparatus about an axis which coincides with the axis of the motor.

According to a further characteristic, the lantern is provided with a shutter which is urged by a spring to its closed position and which may be held in its open position by a spring stop member carried by the stationary frame, said stop member being so arranged that the shutter is left in its closed position when the said pivoted structure is brought to operative position.

In the accompanying drawing, which is given solely by way of example:

Fig. 1 is a partial side view of a projection apparatus, improved according to the invention, which is shown in the position for projection.

Fig. 2 is a partial side view of the same apparatus when stopped, in the loading position.

Fig. 3 is a front view of the semi-automatic protecting shutter, in the closed position.

Fig. 4 is a plan view of the said shutter, in the open position.

In the embodiment herein represented, the driving motor 1 with its accessories such as the speed regulating rheostat 17 and the ventilating device is secured to the projection lantern 2 and forms therewith an independent structure which is pivoted on the stationary frame 5 of the apparatus. The end-plates of the motor carry two journals 3 which are concentric with the motor shaft and rotate freely in bearings 4 secured to the base 5a of the frame 5. Upon the front face of the lantern 2 is yieldingly supported the pressing frame 6 for the film, and between the lantern 2 and the pressing frame 6 is mounted a safety shutter 7, which is slidable in a horizontal direction in two guides 12 (Fig. 3). The said shutter 7 has an aperture 10 whose diameter is greater than that of the beam of light. A tension spring 11 secured at one end to one of the guides 12 and at the opposite end to said shutter tends to pull the shutter towards the right to the closed position as shown in Fig. 3. An elastic stop member 13 (Fig. 4) is secured to the stationary frame 5 of the apparatus in such position that the shutter will be held in the open position when the right end of said shutter makes contact with the said stop as shown in Fig. 4.

A spring latch 8 is provided on the stationary frame and engages with a knob 9 on the lantern in order to hold the lantern in operative position.

The operating mechanism in the stationary frame is actuated by the motor 1 through any desired means (belt, chain, gearing, etc.). In the example shown a pulley 15 on the motor shaft is connected by a belt 14 to a pulley 16 mounted on the stationary frame and used to drive the mechanism.

In order to load the projector, the lantern is released by pressing upon the latch 8 and then drawing back the pivoted structure, which will then turn about the axis of the motor upon the journals 3, thus disengaging the gate and the pressing frame. At the same time, the shutter 7, which is no longer held by the spring stop 13 is moved to the right (Fig. 3) by the spring 11 and thus brought to its closed position. The gate and the pressing frame are then wide apart and they can thus be readily cleaned. On the other hand, as the pivoted structure has turned about the axis of the motor, the driving belt 14 or the like is left undisturbed.

After the film has been put in place, the pivoted structure is brought back to its operative position in which the gate is closed and it is locked there by the latch 8. In said movement, the shutter 7 will act to press the spring stop 13 downwardly in Fig. 4 so that the shutter remains in the closed position. If the motor is then put in operation, the lamp will light up, but the shutter 7 will not allow the light beam to pass.

When the feeding of the film has been found to be correct, the operator will pull the shutter 7 to the left whereby the stop 13 will hold said shutter in the open position. The projection can thus take place.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a cinematographic projector, a stationary casing provided with a film gate, bearings provided on said casing, a frame pivotally mounted in said bearings and provided with a face adapted to be moved towards and away from said gate when said frame is pivoted about said bearings, a motor mounted in said frame concentrically

to said bearings, a lantern mounted in said frame directly above said motor and adapted to project light on said gate, and film pressing means secured on said face of said frame and adapted to cooperate with said film gate, a driving shaft in said casing adapted to control the mechanism of the cinematographic projector, and transmission means between said motor and said driving shaft.

2. A cinematographic projector according to claim 1, comprising further a shutter slidingly mounted on said face of said frame and adapted to be brought into a closed and an open position corresponding respectively to the shutter intercepting and giving passage to the light issuing from said lantern towards said gate, elastic means on said frame cooperating with said shutter and urging said shutter towards its closed position, operating means on said frame adapted to bring said shutter into its open position, and resilient stop means adapted to hold said shutter in its open position against the action of said elastic means.

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