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F. WALLER

2,397,713

MOTION PICTURE PROJECTOR

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Fig. 1.

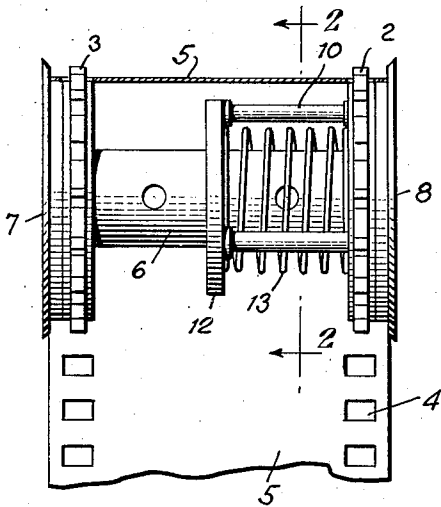


Fig. 2.

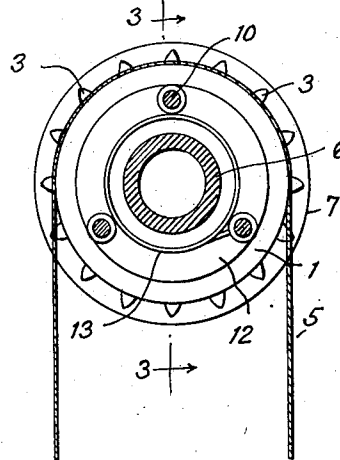
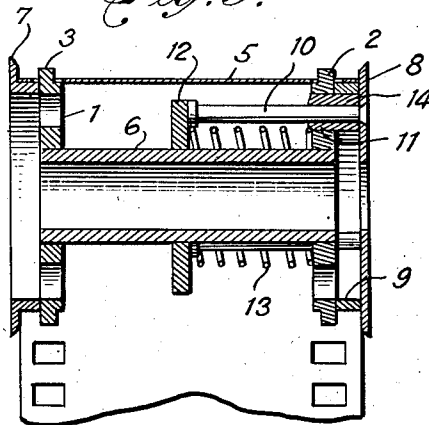


Fig. 3.



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MOTION-PICTURE PROJECTOR

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1 Claim. (Cl. 74—243)

This invention relates to motion picture projectors and pertains more particularly to intermittent feed sprockets by means of which the film is advanced through the gate of the projector.

In projecting motion pictures, it is important that the film be accurately guided as it passes through the gate, for any transverse motion of the film at that point results in displacement of the image on the screen. Heretofore it has been customary to provide spring pressed guides in the gate assembly, and in some instances rollers having a spring pressed guide flange have been used to guide the film as it advances toward the gate. It is an object of the present invention to provide an intermittent feed sprocket adapted to guide the film very accurately, and I have found that by the use of such a sprocket the accuracy of the travel of the film through the gate may be greatly improved, even if the gate guides are dispensed with.

Other objects and advantages of the invention will appear hereinafter.

A preferred embodiment of the invention selected for purposes of illustration is shown in the accompanying drawing, in which

Figure 1 is a front elevation of the sprocket.

Figure 2 is a section on the line 2—2 of Figure 1, and

Figure 3 is a section on the line 3—3 of Figure 2.

Referring to the drawing, the intermittent feed sprocket comprises a pair of sprocket wheels 1 and 2 having the usual sprocket teeth 3 for engaging the perforations 4 of the film 5. As is customary in such sprocket wheels, the width of the teeth is less than the width of the film perforations, thus permitting lateral displacement of the film with respect to the teeth.

The sprocket wheels 1 and 2 are mounted rigidly on a tubular member 6 which may be pinned to a suitable shaft, which said shaft may be rotated intermittently by any suitable intermittent movement such as a Geneva movement.

The film is guided by the guide flanges 7 and 8, the guide flange 7 being mounted on and rigidly secured to the sprocket wheel 1 and constituting a fixed guide flange for one edge of the film. The guide flange 8 is mounted on the

sprocket wheel 2, being spaced therefrom by a ring 9 fixed to the sprocket wheel, but instead of being rigidly secured to the sprocket wheel, the flange is laterally movable with respect thereto. For this purpose the flange 8 is secured to a cage comprising a plurality of rods 10 extending through apertures 11 in the sprocket wheel 2, which said rods, in turn, are secured to a disk 12 which is slidably mounted on the tube 6, concentrically therewith. A spring 13 surrounds the tube 6 and is held under compression between the disk 12 and the sprocket wheel 2. If desired, one or more of the rods 10 may have an enlarged portion 14 engaging one or more of the apertures 11 to prevent lost motion and to keep the flange accurately centered.

The distance between the flanges 7 and 8 in the absence of film is slightly less than the minimum width of the film, so that as the film is fed by the sprocket, it is constantly urged against the fixed guide flange 7 by the spring pressed movable guide flange 8. The disk 12 not only provides a bearing point for one end of the spring, but also retains the flange 8 in true alignment at all times, i. e. in a plane at right angles to the shaft.

It will be understood that the invention may be variously modified and embodied within the scope of the subjoined claim.

I claim as my invention:

An intermittent feed sprocket for motion picture projectors, comprising, a tubular member, a pair of toothed sprocket wheels rigidly mounted on said member in fixed spaced relation, a fixed guide flange rigidly mounted on the outside of one of said sprocket wheels, a laterally movable guide flange mounted on the outside of the other of said sprocket wheels, a plurality of rods secured to said movable guide flange and extending through the other of said sprocket wheels, said rods engaging the other of said sprocket wheels so that said guide flange is positively driven thereby, a disk slidably mounted on said tubular member and secured to said rods, and a compression spring mounted between said disk and the inside of the other of said sprocket wheels to urge said flange toward said sprocket wheel.

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