Dec. 19, 1961 J. M. JONES, JR 3,013,738

REPEATER OR CONTINUOUS LOOP MECHANISM FOR FILM

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FIG. 1

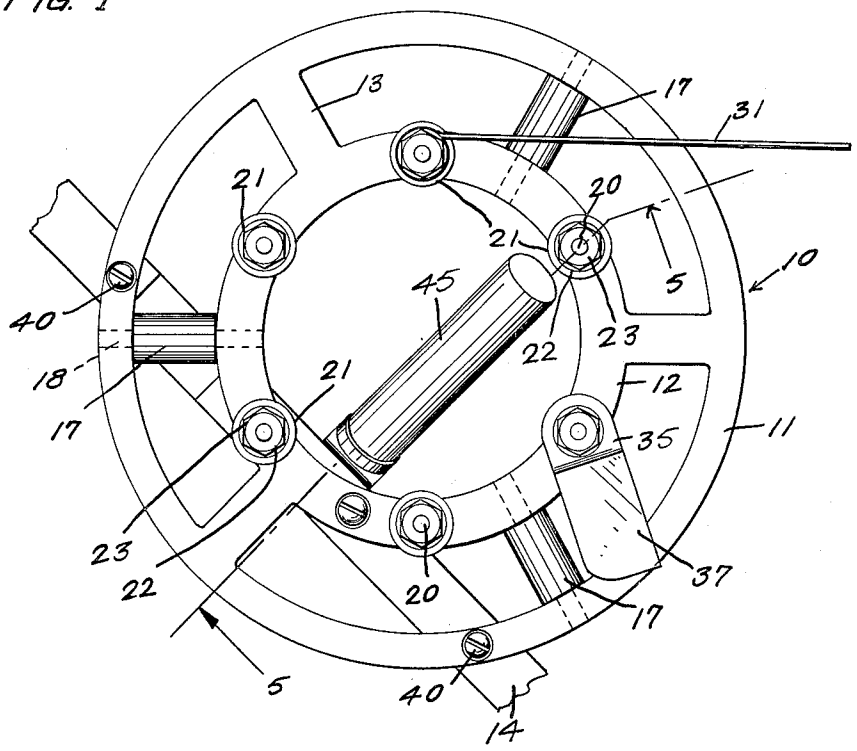
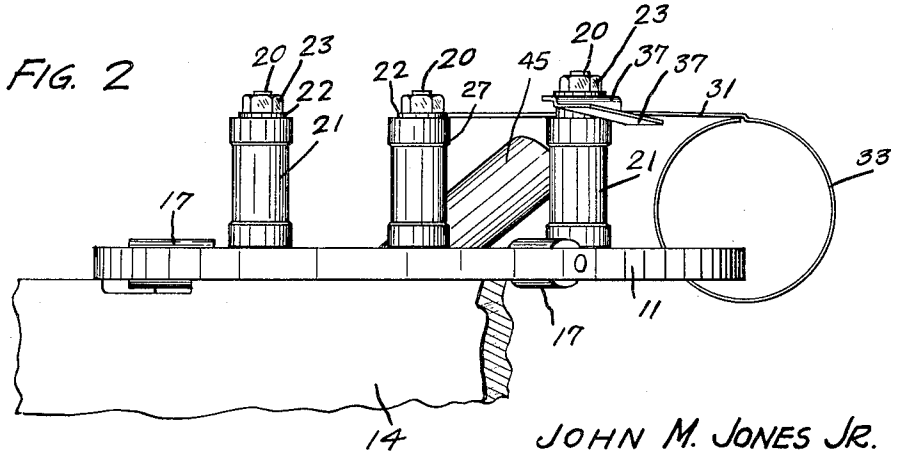


FIG. 2



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FIG. 3

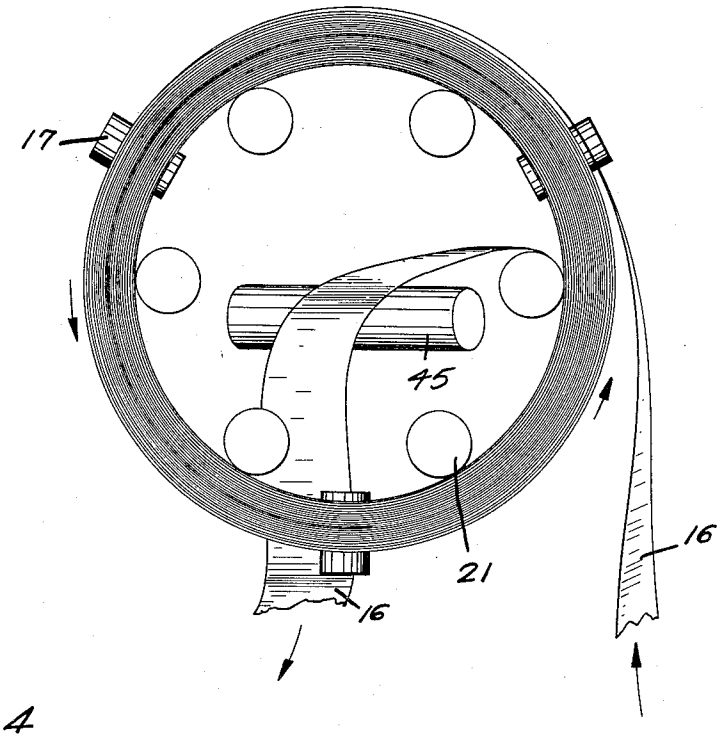
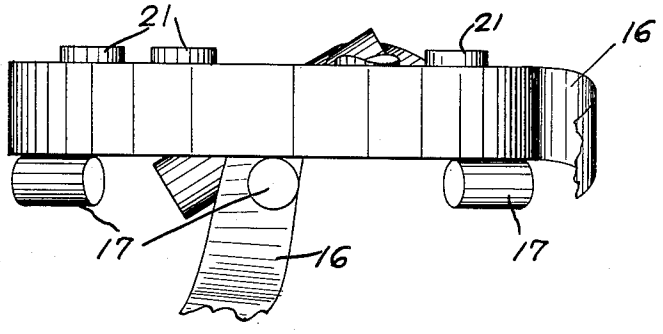


FIG. 4



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FIG. 5

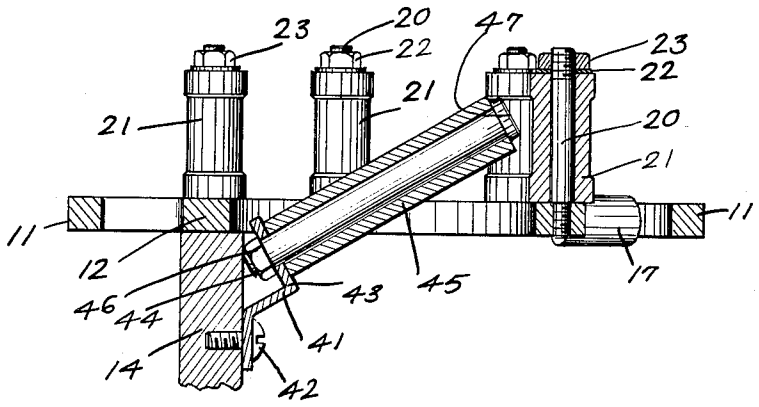
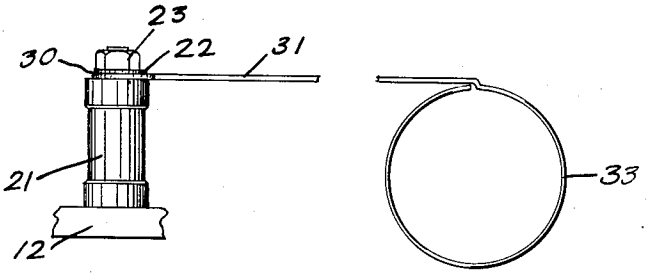


FIG. 6



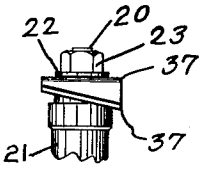


FIG. 8

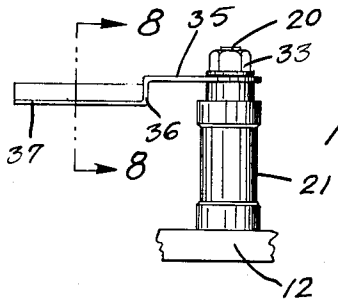


FIG. 7

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3,013,738

REPEATER OR CONTINUOUS LOOP MECHANISM FOR FILM

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Filed Nov. 21, 1958, Ser. No. 775,579
2 Claims. (Cl. 242—55.19)

This invention relates to a repeater or a continuous loop mechanism for film, and comprises basically the provision of a reel upon which film may be continuously unwound and rewound during showing, so that the same is ready for reshowing after use.

An additional object of the invention is the provision of a device of this character which is adapted to be operated in a horizontal position, including means for insuring the accurate realignment of the film as rewound on the reel.

A still further object of the invention is the provision of such a device including means whereby the film may be unwound from the inner surface of the winding reel, for projection and rewound on the outer surface thereof, in such manner that when it is desired to reuse the film the same is in its initial position relatively, for reshowing.

A still further object of the invention is the provision of a device of this character which is sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture, assemble and utilize.

Still other objects of the invention reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter, and disclosed in the accompanying drawings wherein there is shown a preferred embodiment of this inventive concept.

In the drawings:

FIGURE 1 is a top plan view of the improved reel constituting a part of the instant invention.

FIGURE 2 is a side elevational view, partially broken away of the device as shown in FIGURE 1.

FIGURE 3 is a plan view similar to FIGURE 1 but diagrammatic, disclosing the arrangement of the film in relation to the reel.

FIGURE 4 is a view similar to FIGURE 2, but correspondingly diagrammatic, also showing the arrangement of the film relative to the device.

FIGURE 5 is a fragmentary sectional view taken substantially along the line 5—5 of FIGURE 1 as viewed in the direction indicated by the arrows.

FIGURE 6 is a fragmentary elevational view of a constructional detail.

FIGURE 7 is a fragmentary side elevational view of an additional constructional detail, and

FIGURE 8 is a fragmentary sectional view taken substantially along the line 8—8 of FIGURE 7 as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Having reference now to the drawings in detail, there is generally indicated at 10 a base plate or wheel, which includes an outer rim 11 and an inner rim 12 suitably connected by appropriate spokes 13, which is suitably mounted for nonrotation on a framework 14 of any desired conventional construction, and which is adapted to feed the roll of film 16 to a projector, from the interior of the reel in a manner to be more fully described hereinafter.

Transversely extending between the outer rim 11 and the inner rim 12 at suitable spaced intervals are support rollers 17, which are mounted on axles 18 which are suitably journalled in the inner and outer rims.

Extending upwardly from the inner rim 12 at spaced

points are a plurality of bolts 20, upon which are revolvably mounted rollers 21, which are secured revolvably in position by means of washers 22 and nuts 23 secured to the bolts 20.

Certain of these rollers 21 perform specified functions as will be detailed more fully hereinafter.

As best shown in FIGURE 6 one of the bolts 20 has positioned therearound a loop 30 of an elongated wire 31, beneath its associated washer 22, the wire 31 terminating in a circular loop 33 which serves as a film guide, in a manner and for a purpose to be more fully described hereinafter.

Another of the bolts 20 spaced from the aforementioned bolts carrying the wire loop 30 carries a guide plate 35, which includes an offset portion 36, and a tapered guiding arm 37, as best shown in FIGURES 7 and 8, the latter also being provided for a purpose to be more fully set forth hereinafter.

There is also secured to the framework 14, which, it is to be pointed out is secured to the outer rim 11 as by means of screws 40, a bracket 41, secured by one screw 42 to the inner side of the member 14.

The bracket 41 includes an angularly offset portion 43, which accommodates a bolt 44, as most clearly disclosed in FIGURE 5, the bolt 44 carrying an inclined roller 45, and being held in position by means of a nut 46, the roller 45 serving as a guide for a film in a manner to be described more fully hereinafter. The bolt 44 is provided at its opposite end with a head 47 for the purpose of securing the roller 45 in related assembly.

In the use and operation of the device as best shown in FIGURES 3 and 4 the strip of film 16 is wound about the rollers 21, and is adapted to be fed from the inside of the reel to a projector, in the direction indicated by the arrows in FIGURE 3.

Simultaneously the film, after projection is rewound on the same reel including the base plate 10, after projection from the outer side of the film, also in the direction indicated by the arrows in FIGURE 3.

In the preferred embodiment of this inventive concept, the reel or base 10 is mounted in horizontal position, and the film is fed first over one of rollers 21, and thence over the inclined roller 45, upon return of the film being guided through the loop 33, in such manner that the lateral alignment of the film is not disturbed, and thence being passed under the arm 37 in such manner to realign the same smoothly with the exterior of the roll, whereby the same will be ready for reuse when the occasion arises.

From the foregoing it will now be seen that there is herein provided an improved film guide comprising a repeater in a continuous loop mechanism, whereby film may be continuously reemployed and reutilized as desired, which accomplishes all of the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

What I claim is:

1. A film winding and unwinding mechanism comprised by a support including an outer rim, a concentrically positioned inner rim and arcuately positioned spokes uniting said rims, a first series of axles positioned between said rims and arcuately spaced with respect to said spokes, rollers carried by said axles extending slightly above one facial plane of the rims and forming a bearing support for a roll of film, a second series of axles mounted on said inner rim at right angles to said facial plane and alternately spaced with respect to said first series of axles, rollers

mounted on said second series of axles providing a support mounting said roll of film for rotation, an arm mounted on an axle of one of said second series of rollers and terminating in a loop positioned outwardly from said outer rim for guiding the incoming film toward the roll on said second series of rollers, a second arm mounted on an axle of one of the second series of rollers arcuately spaced in the line of travel of the film from the axle mounting the first arm and loop for training the incoming film onto the roll mounted on the second series of rollers, and a roller mounted within the inner rim chordally thereof and inclined at an acuate angle with respect to the facial plane of the inner and outer rims for guiding the film off the roll mounted on the second series of rollers.

2. A film winding and unwinding mechanism comprised by a frame member, a support including an outer rim, a concentrically positioned inner rim and arcuately positioned spokes uniting said rims, a first series of axles positioned between said rims arcuately spaced with respect to said spokes, rollers carried by said axles extending slightly above one facial plane of the rims and forming a bearing support for a roll of film, a second series of axles mounted on said inner rim at right angles to said facial plane and alternately spaced with respect to said first series of axles, rollers mounted on said second series of axles providing a support mounting said roll of film for

rotation, a first arm mounted on an axle of one of said series of rollers and terminating in a loop positioned outwardly from said outer rim for guiding the incoming film toward the roll mounted on said second series of rollers, a second arm mounted on an axle of one of the second series of rollers arcuately spaced in the line of travel of the film from the axle mounting the first arm and loop for training the incoming film onto the roll mounted on the second series of rollers, a bracket secured to the frame member within said inner rim, an axle held by said bracket, and a roller mounted on said axle and positioned chordally of the inner ring and at an acute angle to the facial plane of the inner and outer rims for guiding the film off the roll mounted on the second series of rollers.

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