

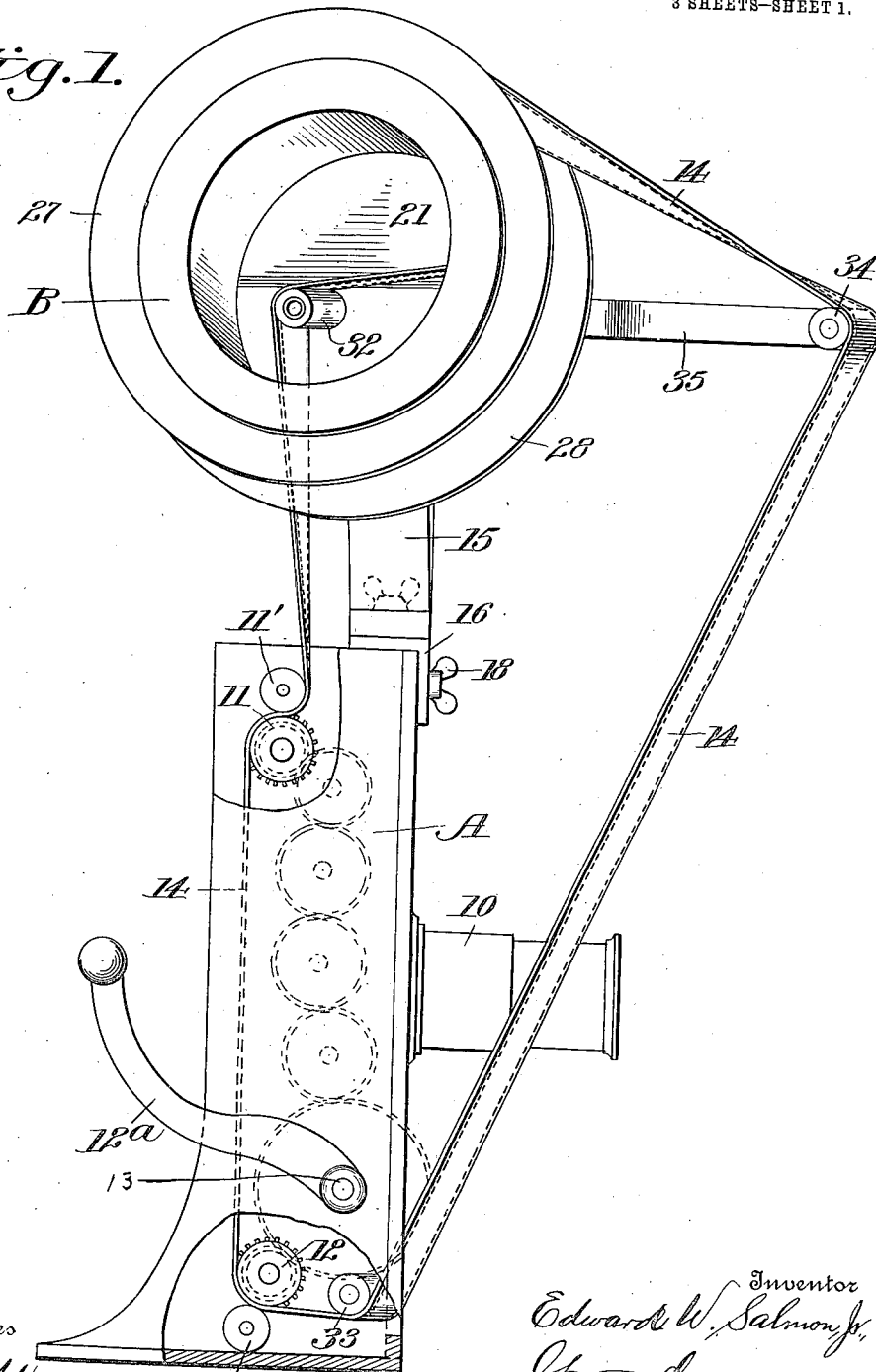
E. W. SALMON, JR.
MOTION PICTURE APPARATUS.
APPLICATION FILED OCT. 14, 1913.

1,125,729.

Patented Jan. 19, 1915.

3 SHEETS-SHEET 1.

Fig. 1.



Witnesses

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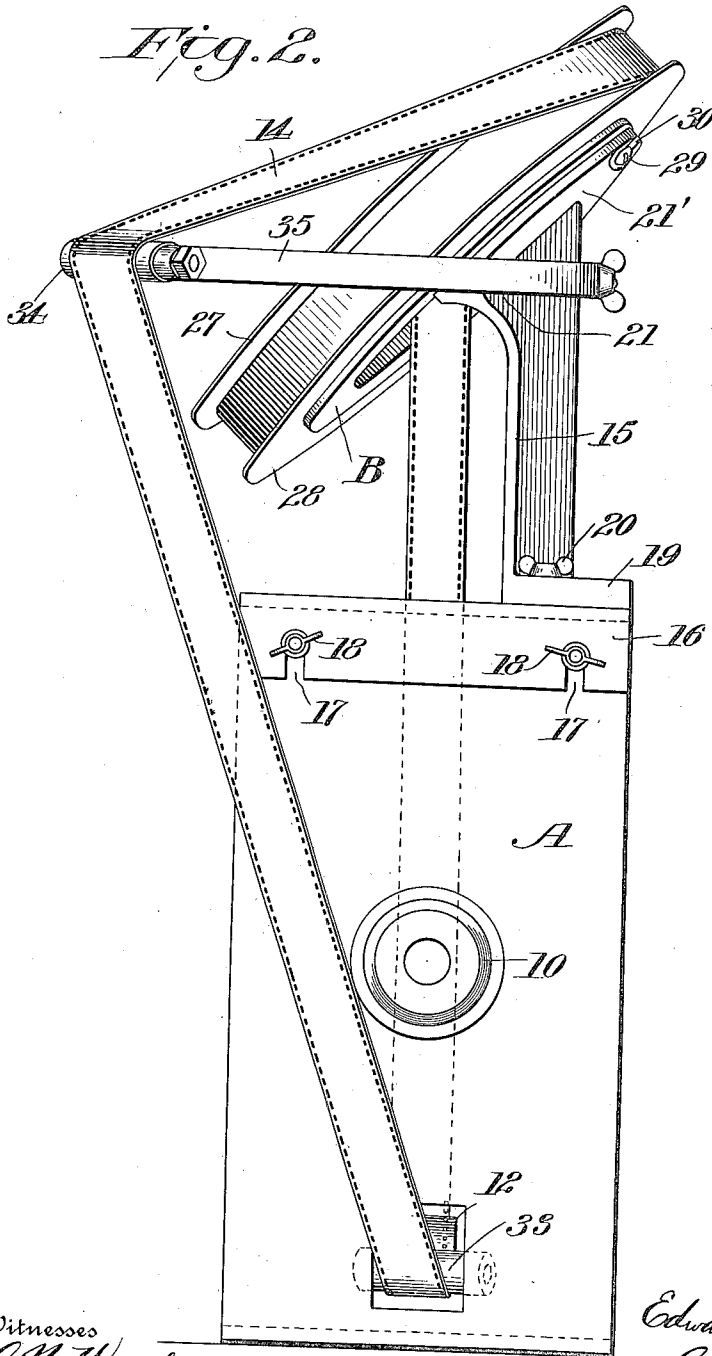
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3 SHEETS-SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 3.

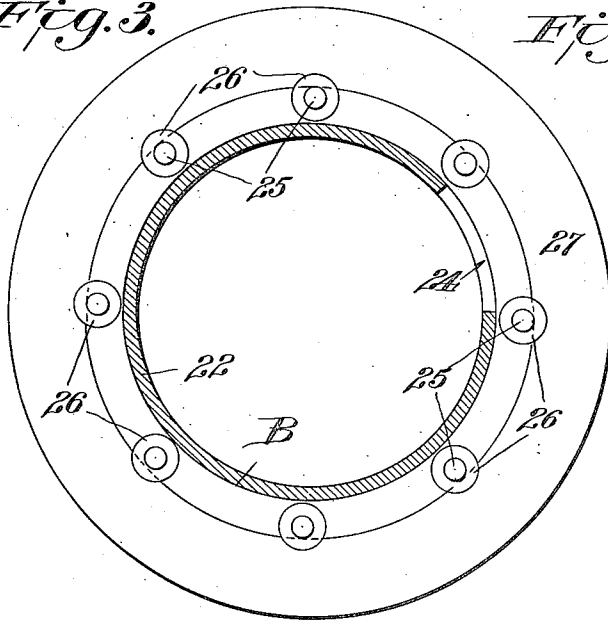


Fig. 4.

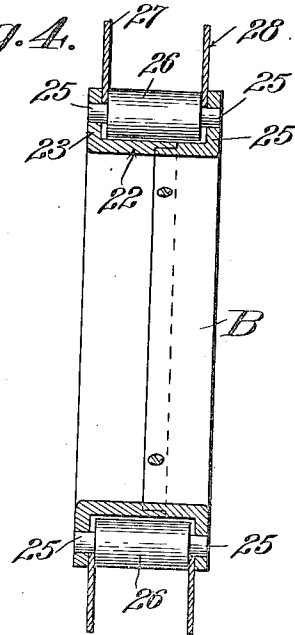


Fig. 5.

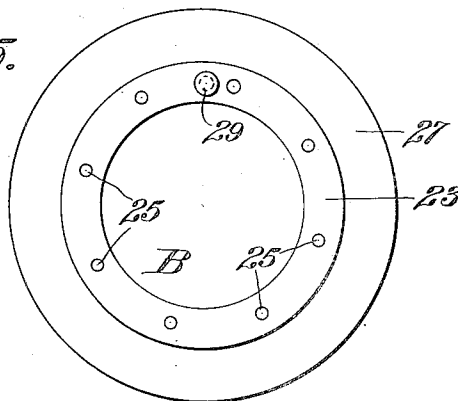
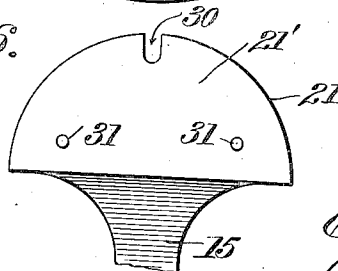


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

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MOTION-PICTURE APPARATUS.

1,125,729.

Specification of Letters Patent.

Patented Jan. 19, 1915.

Application filed October 14, 1913. Serial No. 795,157.

To all whom it may concern:

Be it known that I, EDWARD W. SALMON, JR., a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Motion-Picture Apparatus, of which the following is a specification.

This invention relates to motion-picture apparatus and particularly to the reel mechanism therefor.

One object is to provide a reel adapted to be mounted upon an incline and loosely support a coil of film in substantially edge-wise position thereon, with means arranged to unwind the film from the interior of said coil and rewind the same upon the exterior thereof during the operation of the machine.

Another object resides in the provision of a film reel arranged preferably upon an inclined plane at substantially forty-five degrees to the longitudinal axis of its supporting means and upon which may be loosely wound a film with means arranged for deflecting the film from the innermost convolution out of the plane of the reel and directing the film through the motion-picture machine and subsequently directing the film from the machine back to the outer convolution of the film coil on the reel, whereby the film is continuously unwound and rewound on the one reel.

Another object of the invention is to join the ends of a plurality of separate films, so that, combined, they may be projected through the machine continuously without manipulation or intermission.

A still further object is to provide a comparatively simple and economical film reel embodying revoluble ring members capable of revolving together or independently of each other and adapted to be engaged by the edges of the film to support the latter so that most of the weight of the film is carried by these revoluble ring members rather than on the bottom of the reel.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts herein-after more fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes may be made in the form, proportion, size and minor details without departing from the spirit or sacri-

ficing any of the advantages of the invention.

In the drawings:—Figure 1 is a view illustrating a motion-picture machine in side elevation and my improved reel in perspective. Fig. 2 is a front elevation of a moving-picture machine apparatus illustrating my improved reel in perspective. Fig. 3 is a sectional view of my improved reel. Fig. 4 is a transverse sectional view of the reel. Fig. 5 is a face view of the reel. Fig. 6 is a detail fragmentary section of the reel supporting arm illustrating the supporting surface for the reel.

Referring now more particularly to the accompanying drawings the reference character A indicates a moving-picture machine which may be of any suitable type and which includes a tubular lens holder 10, upper and lower guide rollers 11—11' and 12—12', respectively, which are preferably suitably connected together in any suitable manner so that upon operation of the handle 12^a mounted on the shaft 13 and by virtue of suitable connections between the shaft 13 and the guide roller 12 the film 14 may be driven or fed through the machine for the projection of the picture in the usual manner.

Mounted on top of the casing of the machine A in any suitable manner is an arm 15 arranged preferably perpendicularly. Along the upper front edge of the casing of the moving-picture machine A is disposed an angle plate 16, one web of which has slots 17 whereby upon loosening the thumb nuts 18 the angle plate 16 may be readily fitted down over the front face of the casing of the machine A and by tightening the thumb nuts 18 this plate 16 may be clamped firmly to the casing of the moving-picture machine. It is to one of the webs of this angle plate 16 that the perpendicular arm 15 is preferably secured. One means for securing the perpendicular arm 15 to the plate 16 is to provide the arm 15 with a foot piece 19 through which may be passed one or more bolts 20 so as to fasten the arm 15 firmly on the plate 16.

The upper end of the perpendicular arm 15 is preferably enlarged as at 21 with its enlarged portion provided with a flat face 21' and which face is preferably inclined upwardly and rearwardly in a plane substantially at a forty-five degree angle with

relation to the axis of the perpendicular arm 15.

The flat face 21' at the upper end of the supporting arm 15 provides a supporting surface for the film reel B. This film reel B may be of any suitable construction. It is preferably composed of an annular channeled member including a bottom 22 and side flanges 23, there being an opening or film passage 24 formed in the bottom 22 for a purpose presently explained. Journaled by trunnions 25 in the side flanges 23 of the annular body member of the reel B are spaced rollers 26 designed to facilitate winding and unwinding of the film with relation to the reel. Loosely mounted between the inner faces of the side flanges 23 and the ends of the rollers 26 and adapted to ride upon the trunnions 25 of the rollers 26 are spaced rings 27 and 28 against the inner faces of which the edges of the film C are adapted to bear so that when the film is driven through the machine in a manner hereinafter explained the edges of the same may engage either one or the other of the rings 27 and 28 and cause them to rotate. The film is arranged loosely over the rollers 26 and they are supported mainly on their edges by the revoluble rings 27 and 28 incident to the inclined disposition of the reel and the winding and unwinding of the film.

To support the film reel B on the inclined face 21' of the head 21 of the perpendicular supporting arm 15 the annular flange 27 may be provided with a headed projection 29 adapted to be easily removably seated in the notch 30 at the upper edge of the head 21 with the head 21 having projecting from its flat face 21' the pins or studs 31 designed to engage against the outer face of the bottom portion of the annular channeled member which forms the body of the reel. In this way the reel is hung or suspended from the upper end of the perpendicular arm 15 and thereby firmly supported in operative position.

As the film coil on the reel B is rotated the inner convolution is directed from the reel out through the film passage 24 in the reel to and over the guiding element 32 which is preferably in the form of a roller, as shown, and which projects from the flat face 21' of the head 21 at substantially a right angle to the longitudinal axis of the arm 15, extending into the area bounded by the bottom of the annular body member of the reel and preferably midway of opposite sides of said body member on an imaginary horizontal line adjacent the bottom edge of the film passage opening 24. From this guide roller 32 the film, is driven by the driving mechanism between the aforesaid shaft 13 and the guide roller 12 and the driving connections be-

tween the guide rollers 11-11' and 12-12' to and over these last mentioned guide rollers and consequently through the reel. The film is guided from the lowermost guide rollers 12-12' over a guiding element 33 which is disposed preferably parallel with the guiding element 32 with the guiding elements 32 and 33 arranged at an angle with relation to the plane of the guide rollers 11-11' and 12-12' so that the run of the film which extends beyond the guiding element 33 may be deflected to one side of the tubular lens holder 10 so as not to interfere with the picture projecting from that part of the film passing between the guiding rollers 11-11' and 12-12'. The film is continued upwardly from the guiding element 33 off to one side of the tubular lens holder 10 as just stated to a guiding element 34 which latter is preferably disposed in a parallel plane with the guiding element 32 and which guiding element 34 is preferably carried by an arm 35 secured to the perpendicular arm 15 in the rear of the head 21, as shown. This guiding element 34 may be secured in any suitable manner on the interior of the usual film magazine casing (not shown) instead of being secured to the arm 35, as specified. In any event, the function of the guiding elements 33 and 34 is to direct the film back to the reel so that it may be returned to the outermost convolutions of the film coil on the reel B.

It will thus be seen that I provide a film reel and means for guiding the film whereby the film coil on the reel may be loosely carried thereby and directed from said reel from the innermost convolution of the film out of the plane of the reel to the motion-picture machine and then guided from the machine back to the outer convolution of the film coil on the reel whereby the film is continuously unwound and rewound on the one reel. The result is that I obviate the practice of unwinding the film from one reel to another and subsequently shifting the positions of the reels to repeat the pictures. By virtue of my improved reel I am enabled to provide for a continuous performance by continuously winding and unwinding the film on the one reel, thereby obviating the necessity of shifting one reel with relation to another and also rendering it possible to simply remove the reel with its film thereon at the end of a performance and substitute another reel with a film thereon and continue to wind and unwind the film on the one reel until the end of the performance.

What is claimed is:—

1. In a motion picture apparatus, a reel, means for supporting said reel, means for winding and unwinding a film thereon, rollers journaled in said reel and rings rotatable upon the trunnions of said rollers.

2. In a motion picture apparatus, a reel, means for mounting said reel, means for winding and unwinding a film thereon; said reel comprising two sections, means for removably connecting said sections, parallel flanges formed upon said reel, in spaced relation to each other, said flanges having openings provided therein, rollers journaled in said openings and rings rotatable upon the trunnions of said rollers and slidably

engaging the outer ends of the rollers and inner sides of the flanges, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD W. SALMON, JR.

Witnesses:

JOSEPH NATHANSON,
MAX JOSEPH.