

A. H. DAVIS & W. TILLOTSON.

FILM REEL.

APPLICATION FILED JAN. 17, 1914.

1,121,231.

Patented Dec. 15, 1914.

Fig. 1.

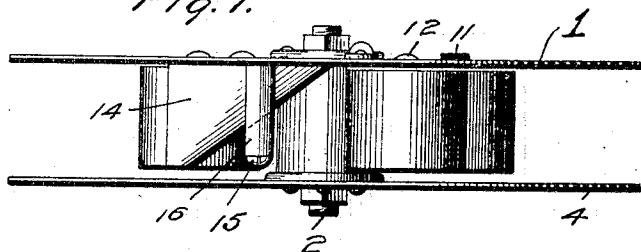


Fig. 2.

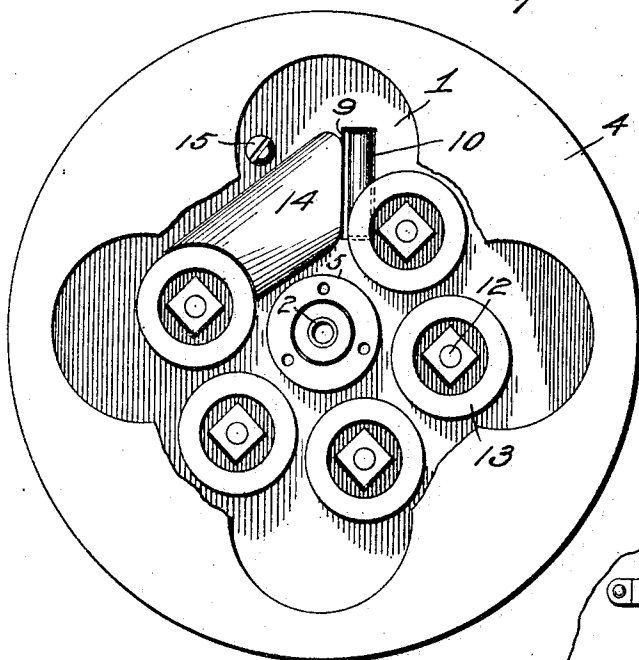


Fig. 4.

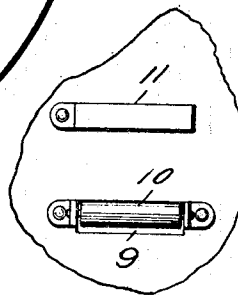
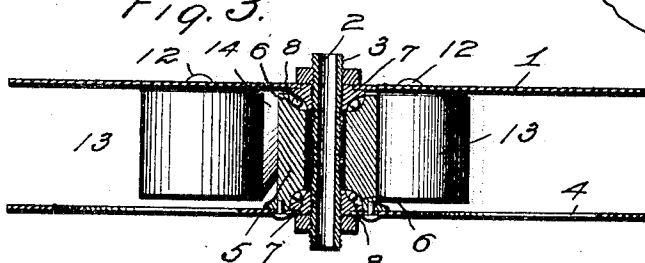


Fig. 3.



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Witnesses

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UNITED STATES PATENT OFFICE.

ARTHUR H. DAVIS AND WILLIAM TILLOTSON, OF PROVIDENCE, RHODE ISLAND.

FILM-REEL.

1,121,231.

Specification of Letters Patent.

Patented Dec. 15, 1914.

Application filed January 17, 1914. Serial No. 812,788.

To all whom it may concern:

Be it known that we, ARTHUR H. DAVIS and WILLIAM TILLOTSON, citizens of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Film-Reels, of which the following is a specification.

Our present invention pertains to film reels for use in kinetoscopes; and it consists in the peculiar and advantageous reel, hereinafter described and claimed, designed to be used first as a feed reel and then as a take-up reel, and so on alternately, with a view of obviating rewinding and unnecessary wear of the film.

In the accompanying drawings, which are hereby made a part hereof: Figure 1 is an edge elevation showing our novel reel in horizontal position for use as a feed reel. Fig. 2 is a view taken at a right angle to Fig. 1, and showing the central portion of the freely-rotatable disk of the reel as broken away. Fig. 3 is a diametrical section of the reel. Fig. 4 is a fragmentary plan view illustrative of the relative arrangement of the slot in the roll-carrying disk, the anti-friction roll adjacent thereto, and the clip for holding one end of a film to the disk.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

Fixed in suitable manner to the roll-carrying disk 1 of our novel reel, is a tubular shaft 2, exteriorly threaded at 3, and loosely surrounding said shaft is the freely revolvable disk 4 of the reel. The said disk 4 is provided with a hub 5 that extends to a point adjacent the inner side of the disk 1, and inside said hub 5 cups 6 are provided, between which and cones 7 secured on the shaft 2, anti-friction balls 8 are interposed, this with a view to assuring free rotation of the disk 4 about the shaft 2 and at the same time precluding wobbling or casual lateral movement of the disk.

Formed in the disk 1 is a slot 9 at one side of which is an anti-friction roller 10, carried by the disk, and connected to the outer side of the disk and arranged parallel to said roller 10 is a clip 11, adapted to hold one end of a film as hereinafter described.

Mounted on spindles 12 carried by the disk 1, and grouped about the hub 5 of disk 4, are five (more or less) cylindrical rollers

13; and also carried by said disk 1 at the inner side thereof are a deflector 14 and a lateral projection 15 which latter, when deemed expedient, may be provided with an anti-friction roller 16. The deflector 14 extends between one of the rollers 13 and the slot 9 in disk 1, and is provided with a curved surface and a taper as shown, so as to cause a film passing thereover to make a turn without detriment to the film. The projection 15 is designed to rest within the outer convolution of the film and to hold said convolutions away from the film portion that is passed around the deflector 14.

Our invention contemplates the use of two reels at the construction described in a moving picture apparatus. The feeding or unwinding reel is disposed horizontally as shown, with the upper disk 1 held against rotation. For feeding, the film is wound in convolutions about the rollers 13 and the roller 16, and the end of the inner convolution is passed from the roller 13 at the rear of the deflector 14, around said deflector and through the slot 9 and over the roller 10, and is then carried through the feed mechanism of the moving picture apparatus.

For winding or taking up the film from the moving picture apparatus, the reel is arranged in vertical position, and the disk 1 is rotated by a belt from the moving picture machine and around a hub (not shown) affixed to the disk 1. Precedent to such rotation of the disk 1, the end portion of the film is passed between the disks 1 and 4, around the deflector 14, through the slot 9 and around the roller 10, and is secured between the clip 11 and the outer side of the disk 1.

It will be gathered from the foregoing that our novel reel renders unnecessary the rewinding of films, and thereby prolongs the usefulness of the same; also, that our reel is simple and compact in construction, and embodies no delicate parts such as are liable to get out of order in operation.

Having described our invention, what we claim and desire to secure by Letters-Patent, is:

A film reel comprising two spaced disks rotatable with respect to each other, one disk being provided with a film outlet, rollers carried at the inner side of said disk and grouped about the center thereof, a deflector fixed to the inner side of said disk and extending from one of the rollers to the

film outlet and tapered or gradually reduced in thickness toward said outlet, and a projection carried by and extending laterally inward from said disk and spaced from the outer side of the deflector and located at a point between said deflector and the edges of the disks.

In testimony whereof we have hereunto

set our hands in presence of two subscribing witnesses.

ARTHUR H. DAVIS.
WILLIAM TILLOTSON.

Witnesses:

JAMES E. COMISKEY,
WILLIAM S. FLYNN.