

L. W. MERKEL.
FILM HOLDING REEL.
APPLICATION FILED JUNE 17, 1912.

1,050,371.

Patented Jan. 14, 1913.

2 SHEETS—SHEET 1.

FIG. 1

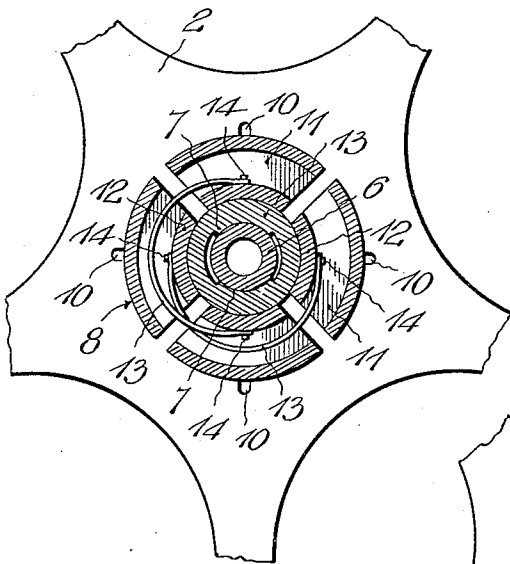
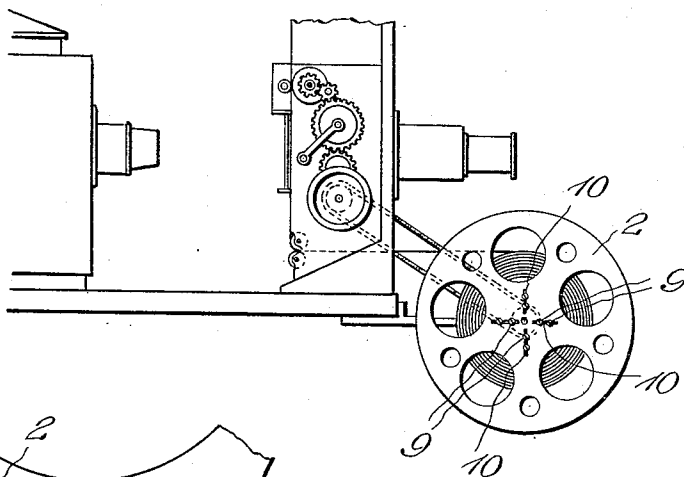
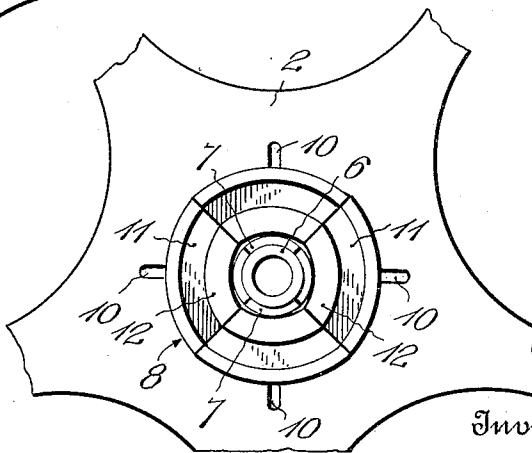


FIG. 4



Inventor

L. W. Merkel

Witnesses

E. E. ...
C. E. Hunt

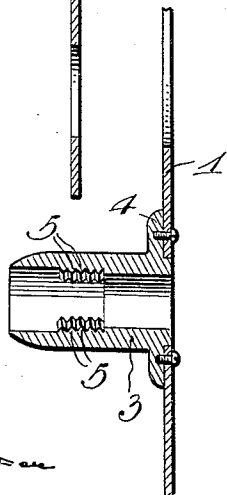
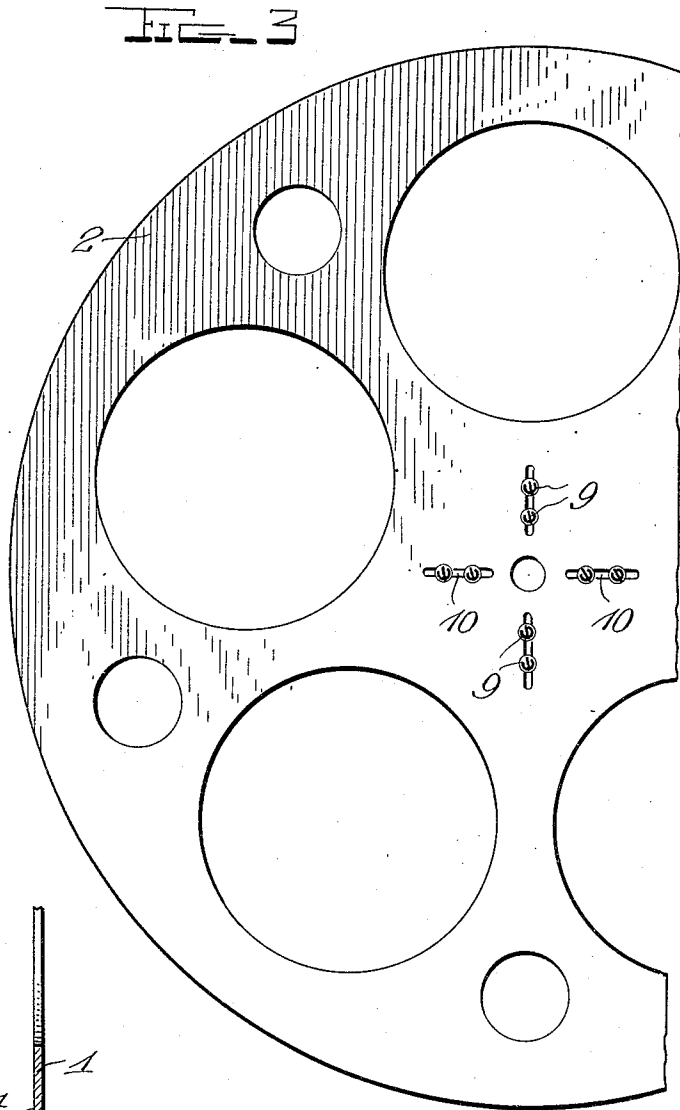
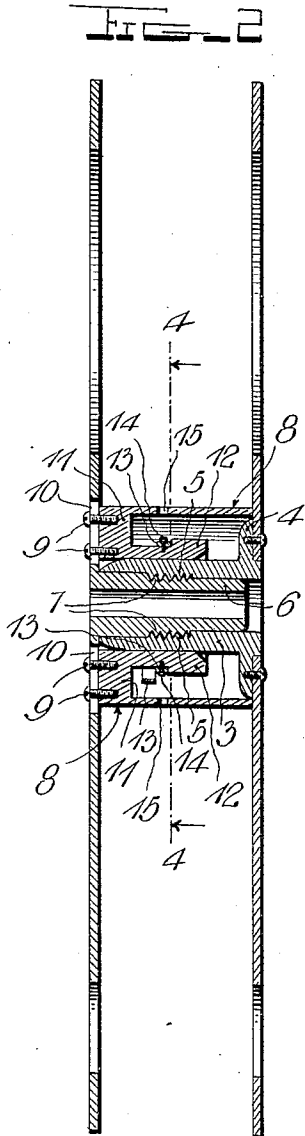
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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

LEWIS W. MERKEL, OF ALLENTOWN, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH TO HARRY G. SCHELDEN AND ONE-FOURTH TO JOHN J. HANLON, BOTH OF ALLENTOWN, PENNSYLVANIA.

FILM-HOLDING REEL.

1,050,371.

Specification of Letters Patent.

Patented Jan. 14, 1913.

Application filed June 17, 1912. Serial No. 704,175.

To all whom it may concern:

Be it known that I, LEWIS W. MERKEL, a citizen of the United States, residing at Allentown, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Film-Holding Reels; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in film holding reels for moving picture machines, or other purposes.

One object of the invention is to provide a reel of this character constructed from detachably connected sections which may be readily separated to permit the removal or the application of a roll of film without unwinding and rewinding the same.

Another object is to provide an improved means for locking the sections of the reel together in operative engagement.

A further object is to provide a film holding reel of the character described which will be simple, strong, durable and inexpensive in construction, efficient in operation and well adapted to the purpose for which it is designed.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings; Figure 1 is a side view of a portion of a moving picture machine showing the application of my improved reel; Fig. 2 is a central vertical section of a reel constructed in accordance with my invention; Fig. 3 is a side view of a portion of the reel; Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 2. Fig. 5 is a view of the inner side of a portion of one section of the reel showing the position of the clamping members of the hub before the adjoining section of the reel is engaged therewith; Fig. 6 is a detail vertical section through the outer telescoping member of the hub and the inner portion of the side plate of the reel secured thereto.

My improved reel comprises a pair of circular side plates 1 and 2 which are detachably connected together by a hub formed in separable parts which telescope and lock together to form a firm support for the film

carried by the reel. The outer telescoping member of the hub is secured to the side plate 1 and comprises a cylindrical tube 3 having a slightly reduced or tapered outer end and having on its inner end an annular radially projecting flange 4 which is spaced a slight distance from the inner end of the tube with which the plate 1 is engaged. The plate 1 when thus engaged with the end of the tube is firmly secured to the flange 4 by screws or other suitable fastening devices as shown. The tube 3 is provided at diametrically opposite points on its inner surface with series of locking teeth 5.

The inner telescoping member of the hub comprises a cylindrical tube 6 which is rigidly secured or formed integral at one end to the side plate 2 and is provided at diametrically opposite points on its outer surface with series of segmental locking teeth 7. When the side plates 1 and 2 are brought together to form the reel, the inner member 6 of the hub is inserted into the tapered outer member 3 with the segmental teeth of the member 6 engaging the space between the teeth 5 of the member 3. After the hub members have been thus engaged the side plates 1 and 2 are given a turn in opposite directions thereby bringing the teeth 5 and 7 into interlocking engagement and firmly fastening the two side plates of the reel together. The interlocking members 3 and 6 of the hub have arranged around the same a film holding sleeve 8 preferably formed of a series of segmental sections which are placed around the hub member 6 and are adjustably secured at one end to the inner side of the side plate 2 of the reel by means of set screws 9 which are inserted through radially disposed slots 10 formed in the plate 2 and are screwed into the inner sections of the sleeve 8 thereby adjustably securing said sections to the plate 2. On one end of the sections of the sleeve 8 are inwardly projecting segmental lugs 11 on the inner end of which are formed right angular inwardly projecting segmental flanges 12 which are disposed parallel with and spaced a suitable distance from the segmental members of the sleeve 8. The segmental flanges 12 thus form a substantially cylindrical socket which surrounds the outer tubular member 3 of the hub. The flanges 12 are held in yielding engagement with the member 3 of the hub by springs 13 which are

preferably of flat semi-circular shape and have their ends secured to the sections of the sleeve. In arranging the springs 13 the ends of one spring are secured to the center of the diametrically arranged sections of the sleeve while the other spring has its ends secured to the center of the flanges of the other diametrically opposite sections of the sleeve as clearly shown in Figs. 2 and 3 of the drawings. The ends of the springs are preferably fastened to the flanges 12 of the sleeve sections by screws 14 access to which is had through holes or openings 15 in the outer segmental sections of the sleeve, said holes or openings being arranged directly in line with the heads of the screws to permit a screw driver to be inserted therethrough and engaged with the screws.

When the telescoping members of the hub are engaged to form the reel, the segmental sections 8 of the sleeve will be forced a slight distance apart against the resistance or pressure of the springs 13, thus forming between said sections narrow slots with which the end of the film is engaged when wound upon the sleeve. By thus forming the reel, the sides of the same may be readily separated thus permitting the removal of the film from the reel without the necessity of unwinding the film.

While my improved reel is herein shown and described as a film holding reel for moving picture machines, it is obvious that the same may be employed in any capacity for which it is adapted, and it will therefore be understood that the present application of the reel shows only one use or purpose of the invention.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as claimed.

Having thus described my invention, what I claim is:

1. A reel comprising side members, inter-

locking hub sections secured to said members, a sleeve carried by one of said members and adjustable radially thereon, said sleeve consisting of segmental sections for frictional contact with the outer hub section, and means for holding said sections of the sleeve to the hub sections.

2. A reel comprising side members, interlocking hub sections secured to the respective side members, a sleeve secured to one of said side members, and adjustable radially thereon, said sleeve consisting of segmental sections each having an internal flange bearing against the outer hub section and yieldable means for holding said sections of the sleeve to the hub sections.

3. A reel comprising side members, an outer tubular hub section secured to one of said side members, an inner hub section secured to the opposite side member, series of locking teeth arranged on the inner side of said outer hub section and on the outer side of the inner hub section and adapted to be brought into interlocking engagement whereby said sections of the hub are detachably secured together, a sleeve surrounding said hub sections and consisting of radially adjustable segmental members, and springs for holding said members to the hub sections.

4. A reel comprising side plates, interlocking hub sections secured to the respective side plates, a sleeve surrounding said hub sections and consisting of radially adjustable segmental members, said members each having an internal flange bearing against the outer hub section, bowed springs having their ends secured to the flanges of the diametrically opposite members of the sleeve, and an annular flange on the inner end of the outer hub section to engage the adjacent side plate of the reel to which said outer section of the hub is secured.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LEWIS W. MERKEL.

Witnesses:

HELENA M. SEIPLE,
HARRY E. TRUCHSES.