J. F. GILMORE.

REWINDER FOR MOTION PICTURE APPARATUS.

APPLICATION FILED NOV. 11, 1913.

1,249,376. Patented Dec. 11, 1917.

3 SHEETS—SHEET 1.

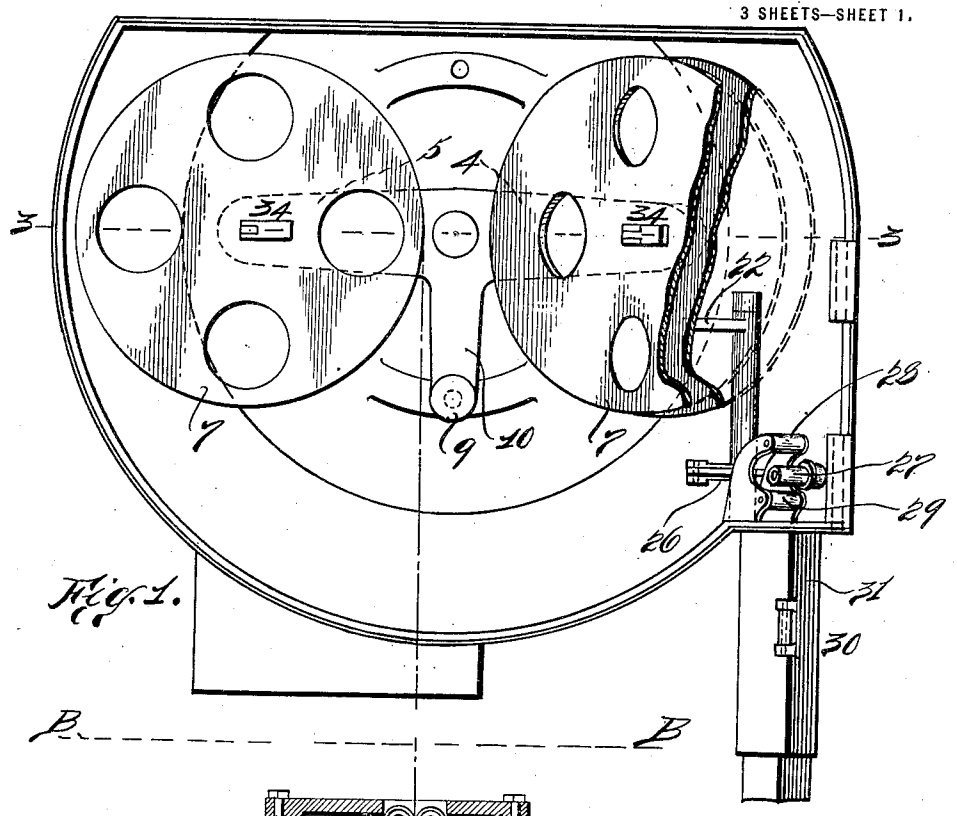

Fig. 1.

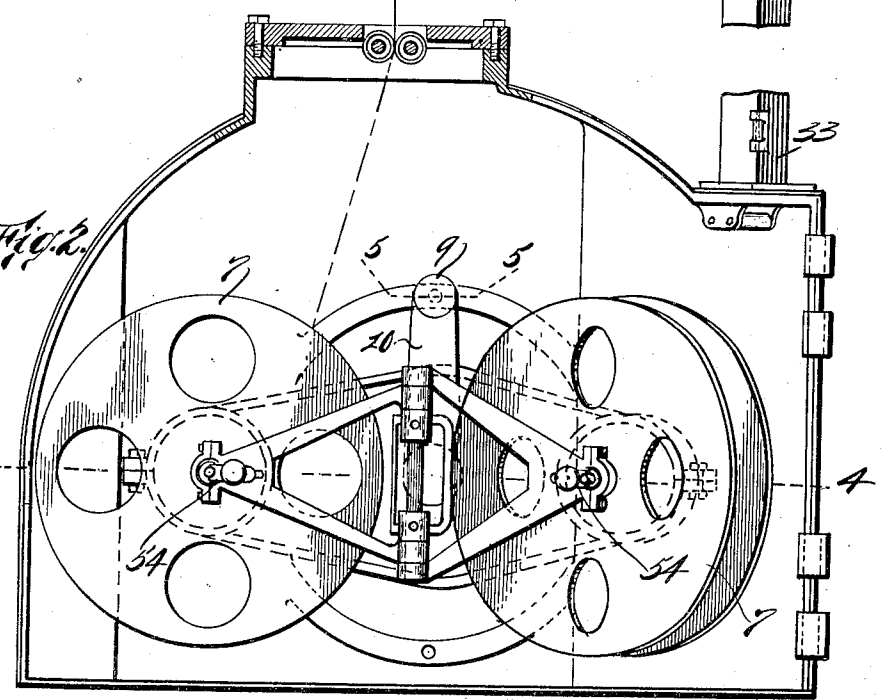

Fig. 2.

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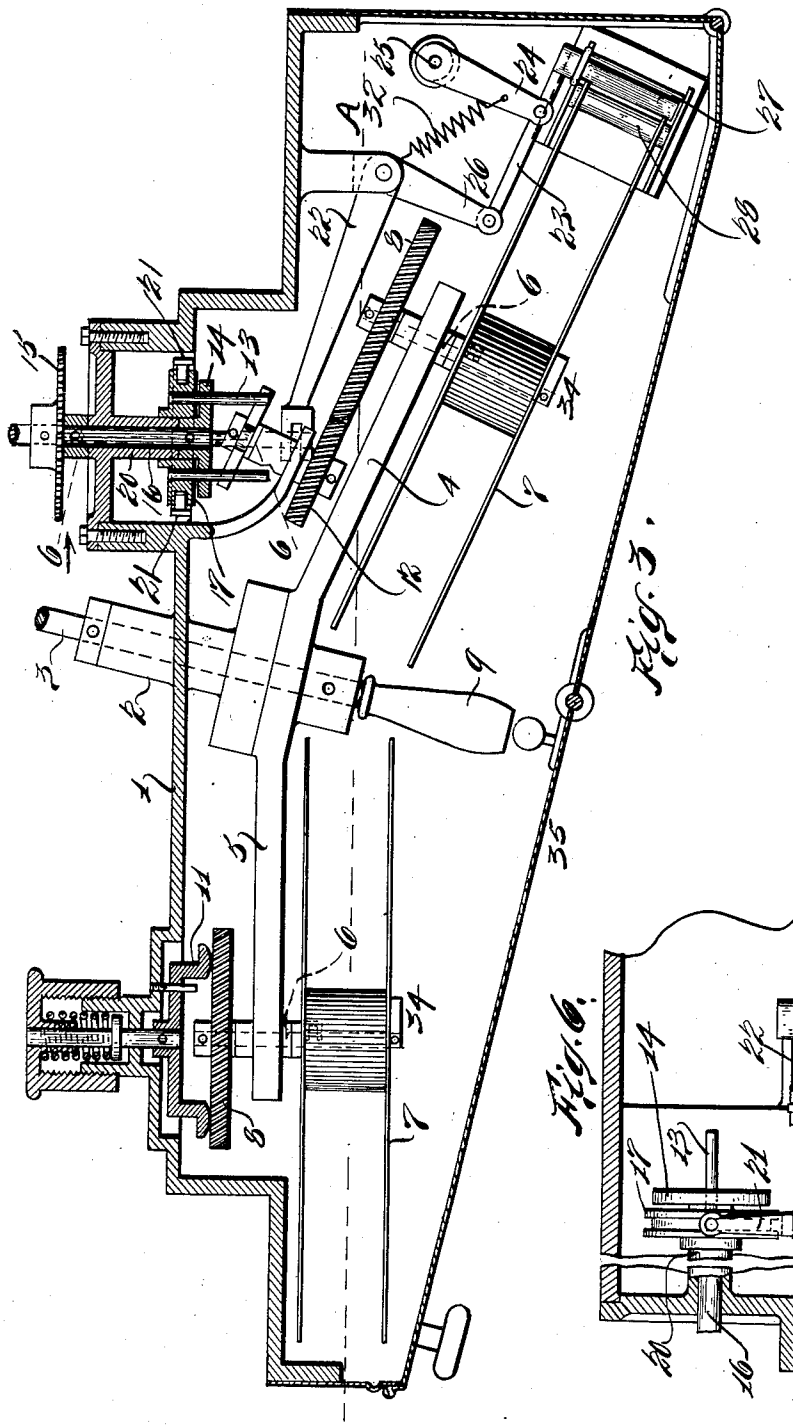

Fig. 2.

Fig. 3.

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3 SHEETS—SHEET 3.

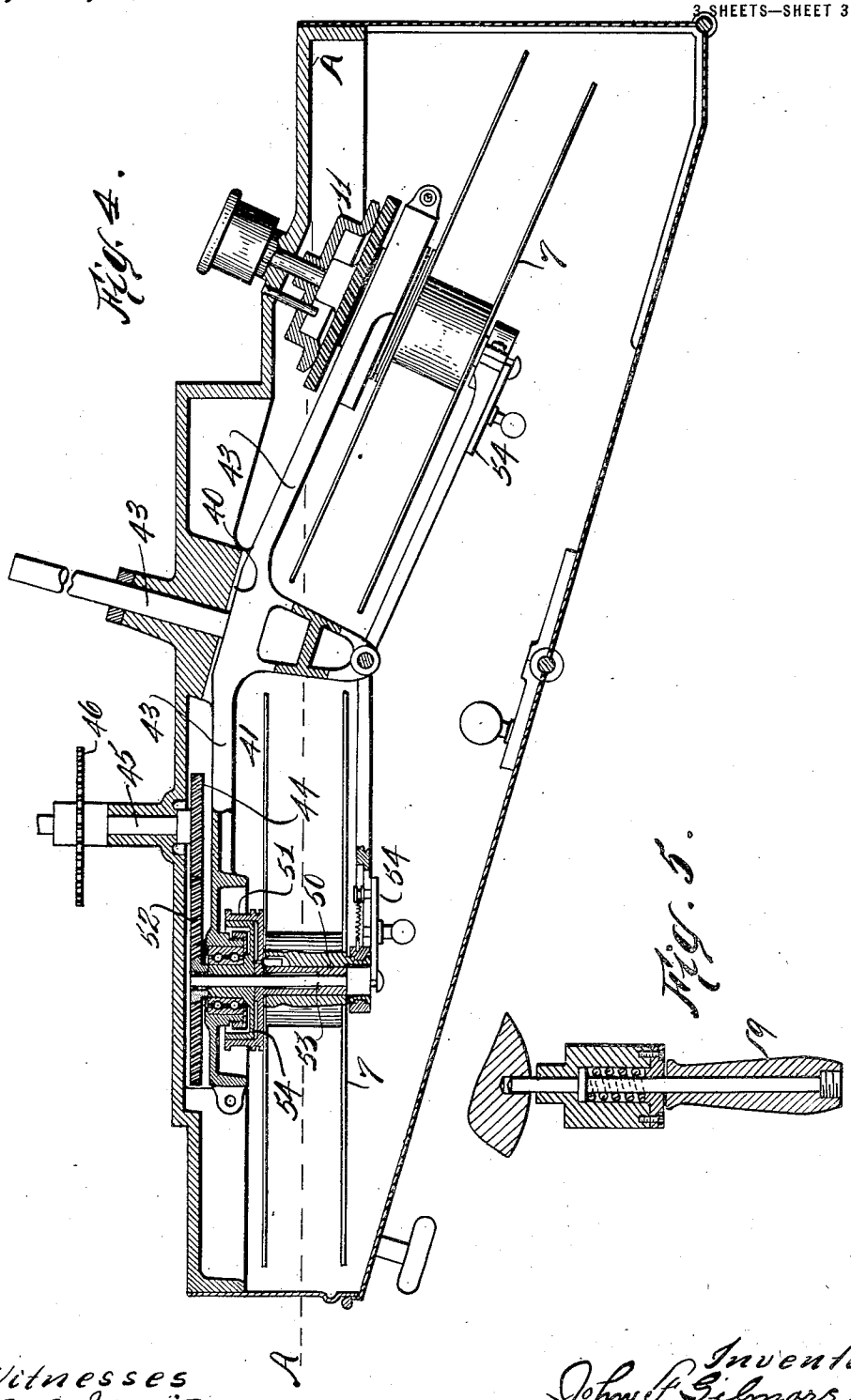

Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN F. GILMORE, OF NEW YORK, N. Y.

REWINDER FOR MOTION-PICTURE APPARATUS.

1,249,376. Specification of Letters Patent. Patented Dec. 11, 1917.

Application filed November 11, 1913. Serial No. 800,246.

To all whom it may concern:

Be it known that I, JOHN F. GILMORE, a citizen of the United States, residing at New York city, in the county and State of New York, have invented certain new and useful Improvements in Rewinders for Motion-Picture Apparatus, of which the following is a clear, full, and exact description.

This invention relates to a rewinder for motion picture apparatus.

The object of the invention is to provide a pair of reels which will rewind an exhibited film during the exhibiting of another film by the same machine.

In carrying out the invention, I provide a pair of reel shafts on two extensions at an angle to each other. The extensions have a common central axis on which they may both turn so as to bring each reel shaft into position to engage either a friction retarding mechanism or a driving mechanism and at the same time, due to the angles of the extensions, bring one reel into such position that an extended film from one of the reels will be in direct line with the optical axis, while the other, the one being rewound, will occupy a position to the side and out of the way of such optical axis.

The scope of my invention will be pointed out in the claims.

In the accompanying drawings:

Figure 1 is a side elevation partly in section of the upper mounting.

Fig. 2 is a side elevation of the lower mounting.

Fig. 3 is a sectional view on line 3—3, Fig. 1.

Fig. 4 is a sectional view on line 4—4, Fig. 2.

Fig. 5 is a sectional view on line 5—5, Fig. 2.

Fig. 6 is a sectional view on line 6—6, Fig. 3.

As shown on the drawings the optical axis of the kinetoscope is on line A—A, Figs. 3 and 4, and on line B—B, Fig. 1.

Above the optical axis there is placed a frame 1 having a boss 2 in which a shaft 3 is located carrying a pair of extensions 4 and 5 at an angle to each other.

Each extension carries a shaft 6 for a reel 7 and a gear 8 fast to such shaft. A handle 9 on a lug 10 integral with the extensions 4 and 5 serves to hold either reel in the position shown in Fig. 3.

In the frame 1 adjacent to the gear 8 of the exhibiting reel I locate a friction retarding disk 11 bearing directly on the side of the gear.

In the frame 1 adjacent to the gear 8 of the rewinding reel I locate a gear 12 to engage and positively drive the rewinding reel.

The driving gear 12 is rotated by pins 13 from a disk 15 on the shaft of the gear 12. The disk 14 is rotated by a gear 15 through their common shaft 16. The pins 13 pass through the disk 14 being fastened in a slidable disk 17 freely rotating on a boss 20. Arms 21 secured to a bell crank lever 22 serve to slide the disk 14 while a spring 32 serves to normally hold the pins 13 out of clutch with the driving gear. To one end of the bell crank lever 22 a connecting rod 23 is secured engaging a lever 24 fast on a shaft 25. To the lower end of such shaft a lever 26 is secured, carrying a roller 27 between two stationary rollers 28 and 29 immediately over a film channel 30 composed of two telescoping and hinged members 31 and 33 extending from the upper to the lower frame.

When no film passes between the roller the spring holds the rewinding reel unclutched but when the film is passing unbroken between the rollers it overcomes the spring and holds the reel clutched so long as the film does not break or until it is unwound.

The reels 7 are positively rotated by their shafts and held in place by a catch 34.

A hinged cover 35 incases the apparatus except for the apertures through which the two films pass.

Below the optical plane, I provide a frame 40 having a boss 41, shaft 42 and two extensions 43 at an angle to each other. I also provide a hinged cover and a handle and lug therefor exactly as on the upper frame. I also provide for the reel being unwound a friction retarding mechanism 11 like that of Fig. 3 in the upper frame for the exhibiting reel.

However, I drive the exhibiting reel shaft on the lower frame continuously by a gear 44 on a shaft 45 itself driven by a sprocket 46 from any suitable part of the kinetoscope.

Apertures and guide rollers are provided for the film and also the film guide extends to this lower frame.

In the lower frame the reels are slid onto a barrel 50 having a flanged drum 51 at one end. A driving gear 52 on shaft 53, carries a drum 54 within the drum 51 substantially as shown in my pending application, Serial Number 760,166 filed July 11, 1913.

A clutch 54 serves to hold the reel in place. Hence friction prevents the positive motion of the reel on which the exhibiting film is being wound as well as on the other.

It is thought that the operation and advantages of this invention will be obvious in view of this description and drawings filed herewith.

In carrying out this invention, details of construction may be varied from those shown, and yet the essence of the invention be retained; some parts might be employed without others, and new features thereof might be combined with elements old in the art in diverse ways, although the herein described type is regarded as embodying substantial improvements over such modifications.

As many changes could be made in the above construction, and many apparently widely different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted in an illustrative and not in a limiting sense.

It is furthermore desired to be understood that the language used in the following claims is intended to cover all the generic and specific features of the scope of the invention which as a matter of language might be said to fall therebetween.

I claim as my invention:

1. In a rewinder for motion picture apparatus, a pair of reels above the optical axis and a pair below, a single mounting for each pair of reels so shaped and mounted that the film extending from only one reel at a time will be in line with the optical axis, said mounting having a rotatable shaft and extensions at an angle to each other and a reel shaft in each extension.

2. In a rewinder for motion picture apparatus, a pair of reels above the optical axis and a pair below, a single mounting for each pair of reels so shaped and mounted that the film extending from only one reel at a time will be in line with the optical axis, said mounting having a rotatable shaft and extensions at an angle to each other a reel shaft in each extension, and driving mechanism for one reel of each pair and friction retarding mechanism for the other reel.

3. In a rewinder for motion picture apparatus, a pair of reels above the optical axis and a pair below, a single mounting for each pair of reels so shaped and mounted that the film extending from only one reel at a time will be in line with the optical axis, said mounting having a rotatable shaft and extensions at an angle to each other a reel shaft in each extension, and driving mechanism for one reel of each pair and friction retarding mechanism for the other reel, and coupling devices for connecting each reel shaft alternately on its change of position with the driving mechanism and retarding mechanism.

Signed at New York city this seventh day of November, 1913.

JOHN F. GILMORE.

Witnesses:

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