A. MEHLFELDER.

MOVING PICTURE MACHINE.

APPLICATION FILED MAY 15, 1913.

1,245,755.

Patented Nov. 6, 1917.

3 SHEETS—SHEET 1.

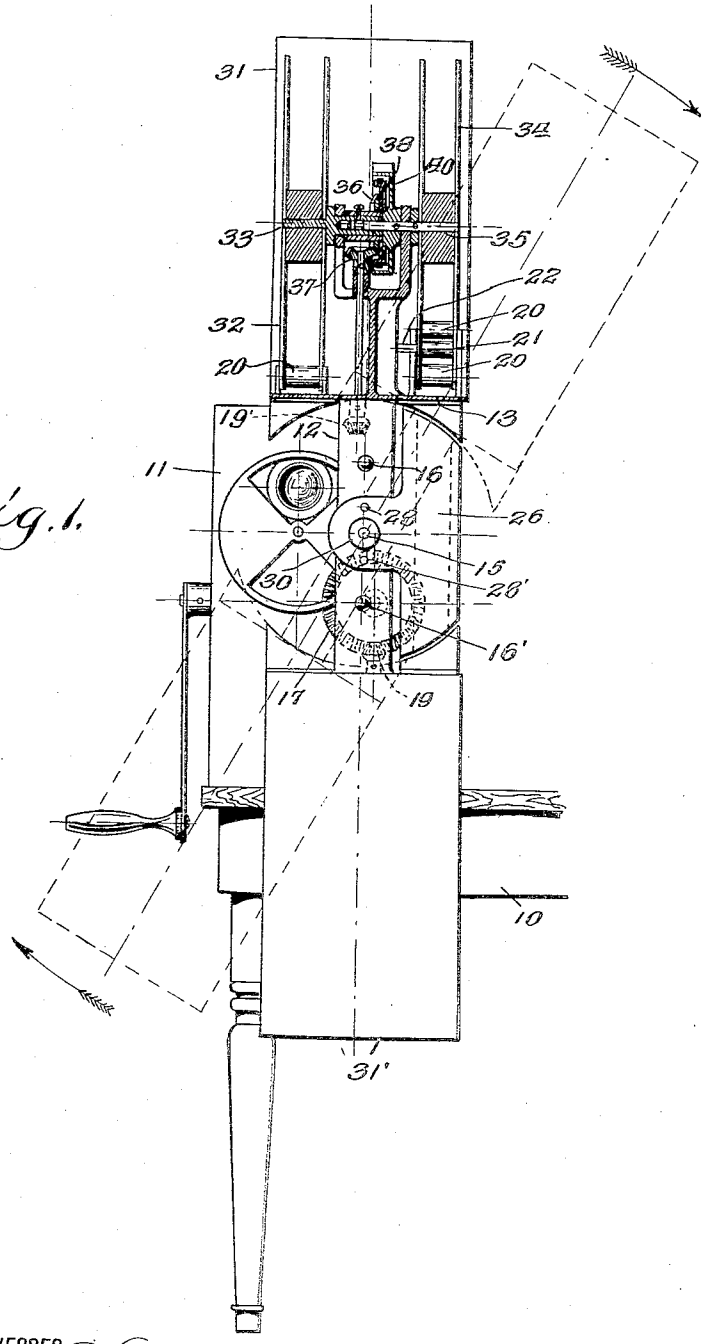


Fig. 1.

WITNESSES:

Helen Van Etten

INVENTOR

Anton Mehlfelder,

BY

E. A. O. Rosell

ATTORNEY

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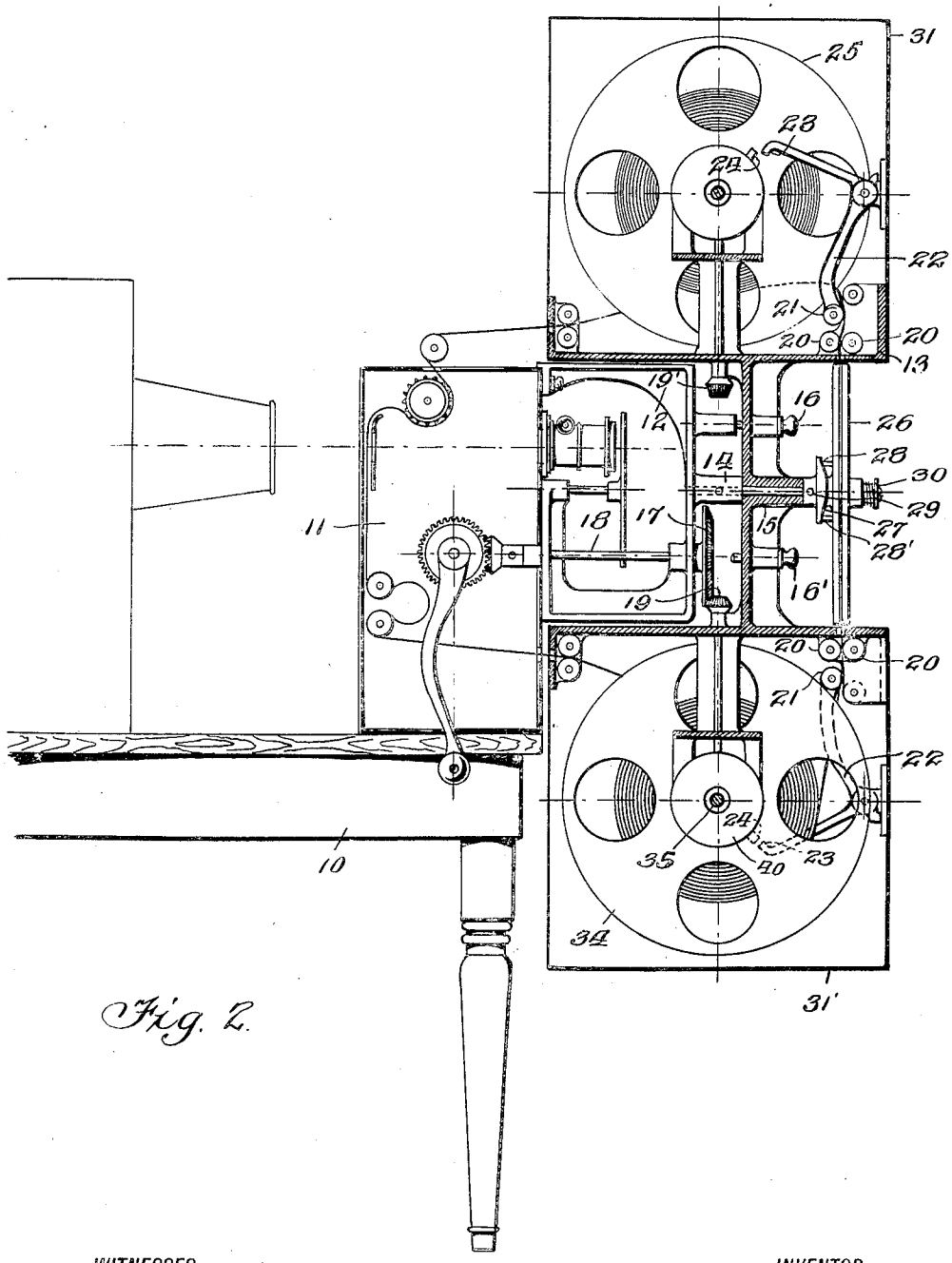


Fig. 2.

WITNESSES:

Helen Van Ettisen

INVENTOR

Anton Mehlfelder

BY

C. A. O'Neill,

ATTORNEY

A. MEHLFELDER.

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3 SHEETS—SHEET 3.

Fig. 4.

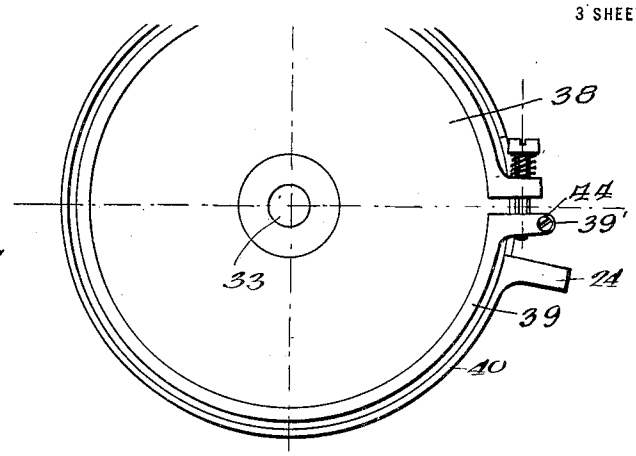
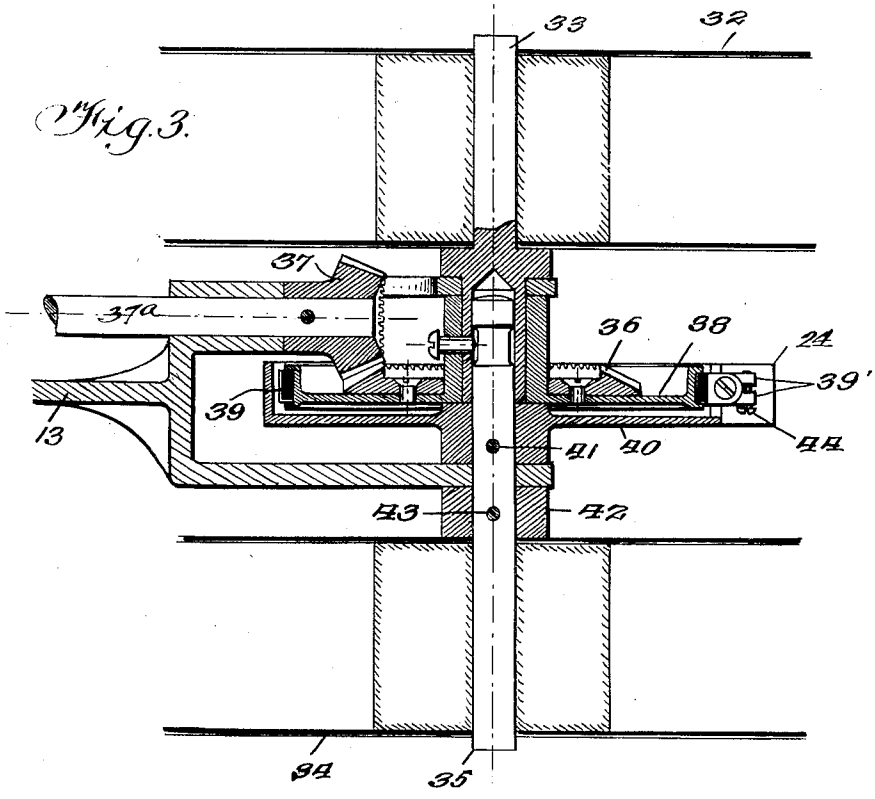


Fig. 3.



WITNESSES:

Geo. L. Thom

Helen Van Etten

INVENTOR

Anton Mehlfelder,

BY

A. O. Knell,

ATTORNEY

UNITED STATES PATENT OFFICE.

ANTON MEHLFELDER, OF NEW YORK, N. Y., ASSIGNOR TO JOHN F. GILMORE, OF NEW YORK, N. Y.

MOVING-PICTURE MACHINE.

1,245,755. Specification of Letters Patent. Patented Nov. 6, 1917.

Application filed May 15, 1913. Serial No. 767,890.

To all whom it may concern:

Be it known that I, ANTON MEHLFELDER, a citizen of Germany and resident of New York, in the county of New York and State of N. Y., have invented certain new and useful Improvements in Moving-Picture Machines, of which the following is a specification.

This invention relates to motion picture apparatus or moving picture machines, and has in view the production of a machine in which one reel is being rewound while another is being exhibited, and in which the films alternately take a position in the upper and the lower part of the motion picture apparatus, as will now be explained, reference being had to the following specification and claims and the drawing in which—

Figure 1 is a front view of the apparatus, partly in section,

Fig. 2 is a vertical section of the apparatus showing the reels,

Fig. 3 is a detail showing the arrangement of the reels and,

Fig. 4 is a detail showing the arrangement of the friction band.

Referring to the drawings, there is shown a support 10 for the motion picture apparatus 11, the latter carrying a bracket 12 to which is pivotally attached a reel holder 13 revolving on a shaft or pivot 15 attached to a projection 14 from the bracket 12. The holder 13 is held firmly in perpendicular position by the spring pins 16, 16′. Connected to the shaft 18 of the motion picture apparatus is the bevel gear 17 meshing with the bevel gear 19, on the lower part of the frame. The bevel gear 19 is fastened on shaft 37ª. On the opposite side of the frame is a bevel gear 19′ which will be in mesh with the bevel gear 17 when the position of the reel support is reversed. At each end of the reel support are stationary guide rollers 20 and a movable guide roller 21 attached to a bent lever 22 having at one end a projection 23, which when the bent lever is released moves against a pin or detent 24 fastened to the reel 25. In moving from the lower to the upper part of the reel support or vice versa the film passes through a fire proof channel 26. This channel opens automatically by a cam 27 attached to frame 13, which cam moves the pins 28 attached to one of the sides of the channel 26 at the time when the position of the reel support is reversed. The cam 27 is held in place by means of the fastening screw 29. On one side of the channel 26 is the spring 30 pressing against the same and causing it to be closed after the film has entered into the channel from the side, when the pressure on the pins 26 is released by the cam 27.

The frame 13 revolving around the pivot 15 has at its ends boxes 31 and 31′ identical in structure, and the reel 32 in the lower box fastened to the shaft 33 receives the film that is being unwound in the upper box. The reel 34 receives the film that is being exhibited. This reel is attached to the shaft 35 as shown in Fig. 3. On shaft 33 is fastened a bevel gear 36, engaging the bevel gear 37, the latter being fastened to a friction plate 38 around which passes a steel band 39 similar to those used in ordinary friction brakes to allow the axle to slip with the reel.

The band 39 is fastened by a screw 44, passing through the projecting portions 39′ of the band 39. The shaft 33 is driven positively by the gears 36 and 37. The friction band 39 is fastened around the hollow wheel 40, fastened to shaft 35. The wheel 40 is fastened to shaft 35 by a pin 41. Around the shaft 35 the collar 42 is fastened by means of the pin 43. The reel 34 is fastened to the shaft 35 by any suitable means. On account of the fact that the shaft 35 is driven by friction it and the reel 34 fastened to it may therefore be restrained from revolving at any time.

The operation of the device is as follows:

As the film is delivered and exhibited from one of the reels in box 31 it is received on a reel in box 31′. Simultaneously a reel is being delivered from another reel in box 31 and rewound on another reel in box 31′. When the rewinding is finished the movable roller 21 is released, the detent 23 falls against the pin 24 and the revolution of the unwound reel is stopped. As the frame 13 is revolved around the pivot 15 the cam 27 actuates the pins 28 and

the channel 26 is opened by the cam 27 and afterward closed by the pressure of the spring 30 as the frame assumes a perpendicular position. In using this apparatus the films in the reels when taken out are ready for exhibition without rewinding and the rewinding in the frame is effected slowly and carefully. In place of a frame holding four reels a frame holding any desired number of reels may be used. In this way all the reels needed at one session of an exhibition may be inserted in the reel support at once.

The film is taken from the reel 32, which is in line with the focal axis of the motion picture apparatus. This film is threaded through the motion picture apparatus on to the reel in the lower box 31', which is in line with the focal axis of the motion picture apparatus. When all the film is passed through the motion picture apparatus, the arm holding all reels is revolved around shaft 15, so that the reels that have been on the top of the motion picture apparatus are now on the bottom of the motion picture apparatus, and consequently the two reels which have been in focal axis are now not in focal axis, but in line with the fire-proof channel, and the reels which have been heretofore out of the focal axis are now in focal axis. The reels not in focal axis will now be re-wound from one to the other while another reel in focal axis is being exhibited.

The fire-proof channel is opened and closed by the cam 27, which cam is revolved as the position of the reels is changed.

What I claim as new is:

1. In combination with a pivotally mounted motion picture apparatus, a movable reel support for a plurality of reels above and below the focal axis of the motion picture apparatus for the purpose of moving the reels below the motion picture apparatus to the top of the motion picture apparatus by revolving the movable support around its pivot.

2. In combination with a motion picture apparatus, a pivotally mounted movable reel support for a plurality of reels above and below the focal axis of the motion picture apparatus for the purpose of moving the upper reels to the bottom of the motion picture apparatus by revolving the movable support around its pivot.

3. In combination with a motion picture apparatus and means for feeding a film through a motion picture apparatus across an aperture, a pivotally movable reel support for a plurality of reels above and below the focal axis of the motion picture apparatus for the purpose of simultaneously moving the lower reels to the top of the motion picture apparatus together with its support and the upper reels to the bottom of the motion picture apparatus together with its support by revolving its supports around the common pivot point.

4. In combination with a motion picture apparatus having means for feeding a film across its aperture, a pivotally mounted reel support for a plurality of reels above and below the focal axis of the motion picture apparatus, means for bringing the lower reels to the top of the motion picture apparatus, and means for driving one of the lower reels positively and means for driving another reel frictionally.

5. In a motion picture apparatus, means for feeding a film through a motion picture apparatus across an aperture, in combination with a pivotally mounted reel support for a plurality of reels above and below the focal axis of a motion picture apparatus, means to revolve the pivotally mounted supports thereby bringing the upper reels to the bottom of the motion picture apparatus, and means for driving one lower reel positively and means for driving another lower reel frictionally.

6. In a motion picture apparatus, means for feeding a film through a motion picture apparatus across an aperture, in combination with a pivotally mounted movable reel support for a plurality of reels above and below the focal axis of the motion picture apparatus, means for moving the reels from the bottom to the top of a motion picture apparatus by revolving the support on its pivot, means for automatically stopping a lower reel in its upper position, and means for driving one lower reel positively and means for driving the other reel frictionally.

7. In a motion picture apparatus, means for feeding a film through a motion picture apparatus across an aperture in combination with a pivotally mounted movable reel support for a plurality of reels above and below the focal axis of the motion picture apparatus, means for moving the lower reels to the top of the motion picture apparatus by revolving said support on its pivot, a film channel through which travels the film that is not being exhibited, and means for automatically opening and closing said channel at the time the reel supports are being revolved.

8. In a motion picture apparatus, the combination of a movable reel support and a plurality of reels adapted to be carried by the support above and below the focal axis of the motion picture apparatus, the latter being pivoted to the motion picture apparatus so as to bring the reels alternately to the top and bottom by revolving the movable reel support on its pivot.

9. In a motion picture apparatus, the combination of a movable reel support pivoted to the same, a plurality of reels carried by said support, receiving reels being

carried on the lower part of the support and delivery reels on the upper part of the same, the reels being so arranged that the reels are alternately adapted to turn to the lower and to the upper part of the motion picture apparatus by revolving the movable reel support on its pivot.

Signed at New York in the county of New York and State of N. Y. this 12th day of May A. D. 1913.

ANTON MEHLFELDER.

Witnesses:

C. A. O. ROSELL,

ARTHUR SELIGMULLER.