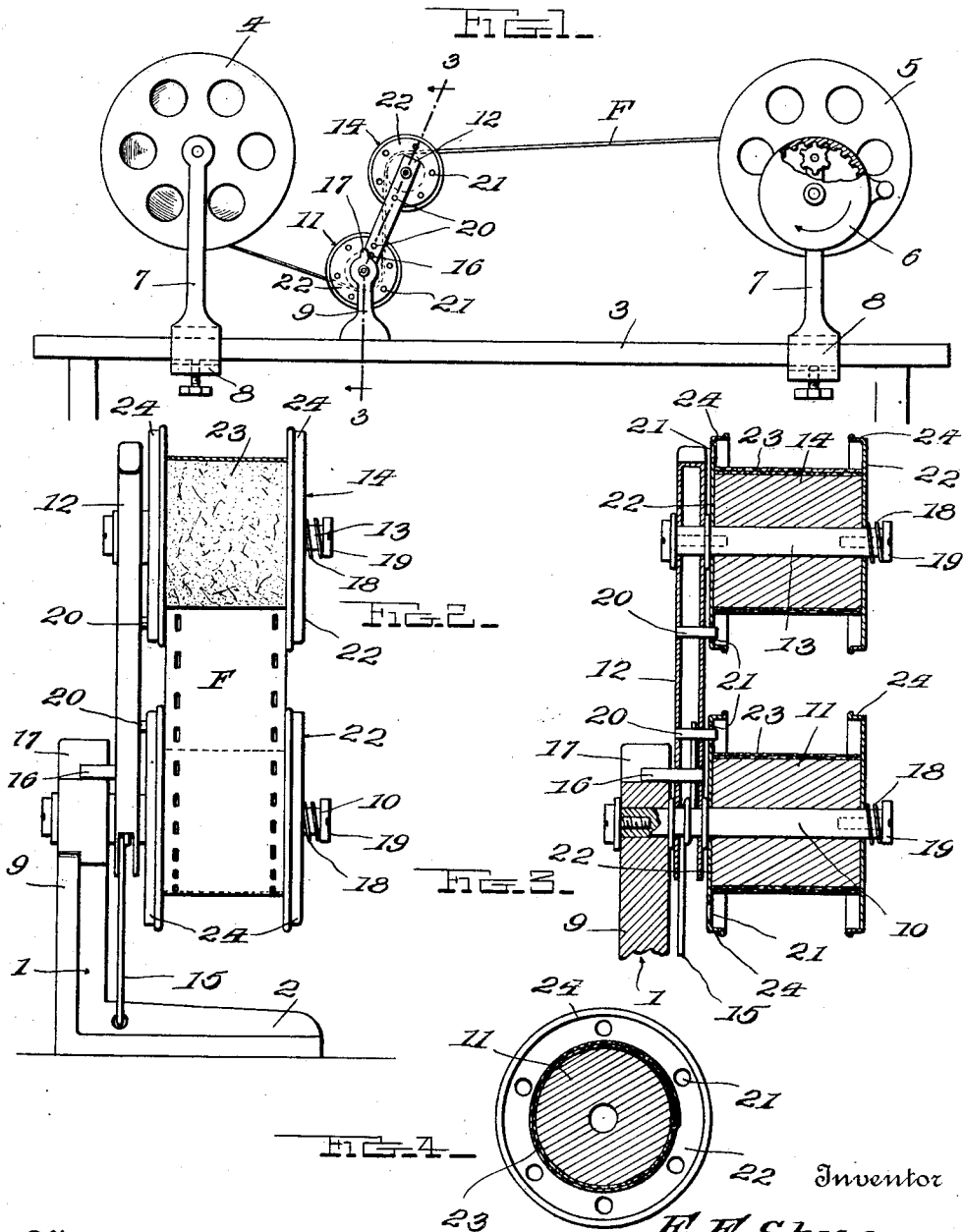


E. F. SHUE.
MOTION PICTURE FILM CLEANER.
APPLICATION FILED SEPT. 16, 1915.

1,189,633.

Patented July 4, 1916.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD F. SHUE, OF NEW YORK, N. Y.

MOTION-PICTURE-FILM CLEANER.

1,189,633.

Specification of Letters Patent.

Patented July 4, 1916.

Application filed September 16, 1915. Serial No. 51,050.

To all whom it may concern:

Be it known that I, EDWARD F. SHUE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Motion-Picture-Film Cleaners; 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.

My invention relates to improvements in devices for cleaning the films of motion picture machines and has for its object to provide a device of this class which although being extremely simple and inexpensive in construction, will be highly efficient and durable.

To this end, the invention resides in certain novel features of construction and in novel combinations of parts to be hereinafter fully described and claimed, the descriptive matter being supplemented by the accompanying drawings wherein like reference characters designate corresponding parts throughout the several views, and wherein:—

Figure 1 is an end elevation of the invention showing the application thereof; Fig. 2 is a side view of the device; Fig. 3 is a vertical section taken on the planes indicated by the irregular line 3—3 of Fig. 1; and Fig. 4 is a detail vertical transverse section through one of the rollers.

In this drawing, the numeral 1 indicates an L-shaped attaching bracket whose horizontal arm 2 is adapted to be secured in any appropriate manner to a table top or the like 3 between a feed reel 4 and a winding reel 5, the latter having any preferred type of driving mechanism 6 preferably so constructed as to rotate the same at a high rate of speed. The reels 4 and 5 may be supported in any preferred manner, but they are preferably provided with standards 7 having clamps 8 on the lower ends to be secured to a table top 3 as indicated in Fig. 1.

The upright arm 9 of the bracket 1 is provided with an appropriate rigid shaft 10 projecting laterally therefrom above the arm 2, this shaft serving to support a lower film cleaning roller 11 as well as an inclined hollow arm 12 which carries an additional horizontal shaft 13 upon which an upper cleaning roller 14 is mounted. The lower end

of the arm 12 is so mounted on the shaft 10 as to allow it to yield toward the winding reel 5 against the tension of a spring 15, one end of said spring being anchored to the arm 2 while the other end thereof is disposed in the hollow arm 12, the intermediate portion of the spring being coiled around the shaft 10. Thus the spring 15 exerts its tension to move the arm 12 normally toward the feeding reel 4 and retains a stop 16 on said arm in contact with an additional stop 17 formed on the upper end of the arm 9.

The two rollers 11 and 14 are so mounted on their respective shafts as to allow them to shift axially away from the arm 12, but normally they are moved toward said arm by coiled springs 18 interposed between their other ends and appropriate stops 19 on the ends of said shafts. By this means, studs or the like 20 carried by the arm 12 are received in circumferentially spaced openings 21 in outstanding end flanges 22 with which the opposite ends of said rollers are provided. Thus it will be evident that said rollers may be rotated throughout a partial revolution and then held against further movement. By so doing, different portions of cleaning bands 23 which surround said rollers may be presented for contact with the film, thereby always allowing a comparatively clean area of such bands to be presented for use. The bands 23 may be formed of any appropriate material, and they are preferably in form of strips of cloth wound around the rollers and having their ends secured in any appropriate manner.

When a film F is passed between the flanges 22 of the rollers as shown in Fig. 1, it becomes expedient to provide means whereby the sprocket openings in the edges of such film may not engage the edges of the bands 23, since otherwise fraying of the latter would be caused. For this purpose, the edges of the flanges in question are extended inwardly and beaded to form guard rings 24 spaced from each other a distance equal to the width of the film and less than the distance between the edges of the bands 23.

When the invention is set up for use as shown in Fig. 1, the film is passed under the lower roller and above the upper one, whereby, when said film is wound on the reel 5, both sides thereof will be effectively cleaned at the same operation. When now the active portion of the bands 23 become so

soiled as to prevent effective cleaning, the rollers are partially rotated to present additional portions of said bands. Obviously, the bands in question may be removed from time to time and replaced by others which have been previously cleaned. During the winding operation, should excessive strain be placed on the film F, the arm 12 will yield toward the winding reel 5, thus preventing breakage of said film.

From the foregoing description, taken in connection with the accompanying drawings, it will be obvious that although I have provided a very simple device and one which may be easily and inexpensively manufactured, it will be highly efficient and durable.

In the drawings, certain specific details of construction have been shown for illustrative purposes, but obviously numerous changes may be made within the scope of the invention without sacrificing any of the advantages thereof.

I claim:

1. A film cleaner comprising an axially shiftable roller having on its periphery a cleaning material, spring means for shifting said roller axially in one direction, and stop means applied to use when said roller is so shifted, whereby to hold the same against rotation.

2. A film cleaner comprising an axially shiftable roller having outstanding end flanges, one being provided with a series of circumferentially spaced openings, a fixed stop for successive reception in said openings to hold the roller against rotation, a cleaning material on the periphery of the roller, and spring means for shifting the roller axially to engage the stop with the aforesaid openings.

3. A film cleaner comprising a roller having outstanding end flanges whose edges are extended inwardly to form guard rings concentric to the roller, and a cleaning band surrounding the roller and having its edges

spaced greater distances than the distance between the two rings.

4. A film cleaner comprising a bracket, a shaft extending therefrom and carrying a film cleaning member, an oscillatory arm extending from such shaft and carrying an additional film cleaning member, and spring means for normally holding said arm in one limit of its oscillation.

5. A film cleaner comprising a bracket, a shaft extending therefrom, a roller mounted on said shaft, an oscillatory arm extending from the latter, an additional shaft carried by said arm, an additional roller mounted on said additional shaft, cleaning means on the two rollers, and spring means normally holding the arm in one limit of its oscillation.

6. A film cleaner comprising a bracket including an upright arm having on its upper end a stop, a shaft extending from said arm and carrying a film cleaning roller, an oscillatory arm mounted on the shaft and having a stop abutting the aforesaid stop, an additional film cleaning roller carried by the oscillatory arm, and spring means for normally moving said oscillatory arm to dispose its stop in contact with that on the other arm.

7. A film cleaning device comprising a pair of spaced parallel rollers having cleaning bands surrounding their peripheries and adapted to contact with the opposite sides of a film drawn therebetween, and releasable means for simultaneously holding both rollers against rotation but for allowing them to be partially rotated at will to expose additional areas of the bands for contact with the film.

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

EDWARD F. SHUE.

Witnesses:

FRANK SIMONORRI,
ABERKU AFSBERZ.