

A. B. SEABORNE.
 MEANS FOR CLEANING KINEMATOGRAPH AND LIKE FILMS.
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1,022,510.

Patented Apr. 9, 1912.

FIG. 1.

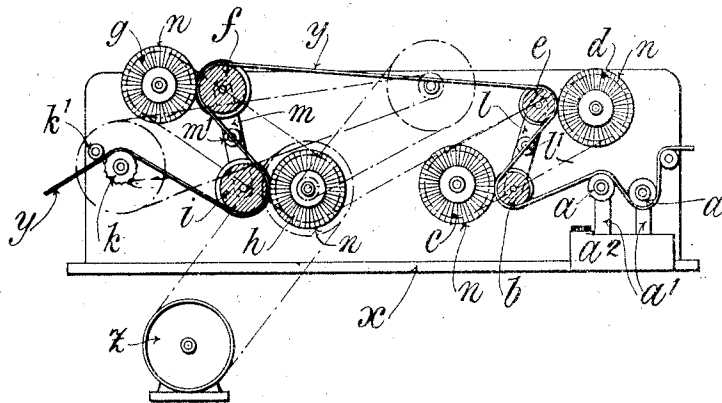
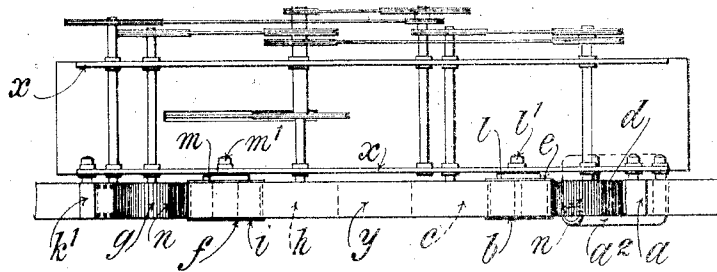


FIG. 2.



WITNESSES

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MEANS FOR CLEANING KINEMATOGRAPH AND LIKE FILMS.

1,022,510.

Specification of Letters Patent.

Patented Apr. 9, 1912.

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To all whom it may concern:

Be it known that I, ALLEVER BURTON SEABORNE, a subject of the King of Great Britain and Ireland, and residing at 3 College Court, Hammersmith, in the county of London, England, have invented a certain new and useful Improved Means for Cleaning Kinematograph and Like Films, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to an improved means for cleaning kinematograph and like films.

It is found in practice that such films after continued use becomes so dirty as seriously to mar the projected images, due doubtless to small quantities of lubricating oil from the mechanism of the projecting apparatus being deposited on the film during its passage therethrough and to the minute particles of dust and other matter settling and being retained on the film. Such films have hitherto been cleaned by hand by spreading them flat on a table and vigorously rubbing each side alternately with a mixture of methylated spirit and water; such cleaning process besides being a tedious one seriously shortened the life of the films. According to the present invention, such films are not only readily and expeditiously cleaned and that in a more effective manner than heretofore but it is also found that the films actually benefit by the cleaning process as they are rendered more supple and less liable to break or tear in subsequent use.

The present invention comprises essentially a machine for moistening one or both side or sides of the film with a suitable grease solvent such as benzolin and subsequently wiping or rubbing the surface or surfaces so treated during the passage of the film through said machine which comprises a plurality of rollers or drums preferably so arranged that the tension on both surfaces of the film is equal.

In the accompanying drawings which illustrate a convenient construction of machine in accordance with this invention:—
Figure 1 is a view in side elevation, and Fig. 2 is a view in plan.

On a suitable frame *a* at one end, the entrant end for the film *y*, is mounted a pair of rollers *a a* so arranged that the film *y* passes under one of the rollers and over the other so as to contact both sides

of the film. These rollers are covered with an absorbent material which is kept moistened with benzolin or like grease solvent having no deleterious effect on the material of which the film is composed. A convenient means for keeping the coverings of said rollers fed with solvent is by capillarity. In the construction illustrated the rollers *a a* are placed in contact with wicks *a' a'* which dip into a reservoir *a''* containing the grease solvent. The film then passes between a pair of rollers *b c* one of which is an idler roller *b* and the other *c* is driven at a high speed in a contrary direction to the travel of the film and is covered with a suitable material and is hereafter referred to as a "brush" roller. The film then passes upward between another pair of idler and brush rollers *d e* alternately arranged, that is to say, the brush roller *d* is driven at the same speed as the first brush roller *c* but in the same direction as the film is traveling and acting on the opposite surface thereof to that acted on by the first brush roller *c*. The film is then led over one or more pairs—preferably two as illustrated—of idler and brush rollers *f g* and *h i*, each two pairs of which are arranged in the manner above described. At the exit end of the machine is arranged a pair of guide rollers *k k'*, one *k* of which is adapted to engage the perforations in the margin of the film *y* and to be driven at approximately the same speed as the brush rollers.

The teeth on the roller *k* are not wholly relied on to draw the film through the machine, as this would wear the perforations of the film to an undesirable extent. The film is partially drawn along by contact with the roller *k*, and also by contact with the cleaning rollers *h* and *e* which are revolved in the same direction as the roller *k*.

The idler rollers *b c* and *f i* are provided with flanges and made adjustable so as to allow their being easily and rapidly caused to approach or recede from their respective brush rollers *d e* and *g h*, and a convenient means to insure the film being placed under the same tension during its passage between the pairs of brush and idler rollers is to mount the idler rollers *b c* and *f i* of each said pair on levers *l m* rocking on central pivots *l'* and *m'* respectively and provided with means for locking them in position.

The brush rollers are each preferably formed of a stock having pieces of chamois

leather *n* or the like radially and transversely arranged on the periphery thereof and attached thereto in any convenient manner so as to form a roller, the peripheral surface of which although presenting a closed unbroken surface formed from the axially arranged edges of the leather pieces is yet of a yielding nature. The brush rollers *c d* and *g h* are geared together as shown so as to rotate in their respective directions and are driven at a high rate of speed preferably from an electric motor *z*.

In some cases the rollers *a a* may be immersed in the reservoir *a'* so as to cause the film to travel through a bath of the liquid employed.

What I claim as my invention, and desire to secure by Letters Patent is:—

1. In a machine for cleaning films, the combination, with a supporting frame, of moistening devices arranged to bear against both sides of the film, a pair of cleaning rollers journaled in the frame, an adjustable support secured to the frame and arranged between the pair of cleaning rollers, idler rolls carried by the said support and adapt-

ed to press the opposite sides of the film against the respective cleaning rollers, and driving devices for drawing the film between the said cleaning rollers and idler rolls.

2. In a machine for cleaning films, the combination, with a supporting frame, of moistening devices arranged to bear against both sides of the film, a pair of cleaning rollers journaled in the frame, an adjustable arm or lever having its middle part pivoted to the frame between the said cleaning rollers, idler rolls journaled at the end portions of the said arm or lever and adapted to press the opposite sides of the film against the respective cleaning rollers, and driving devices for drawing the film between the said cleaning rollers and idler rolls.

In testimony whereof I have signed my name in the presence of two subscribing witnesses.

ALLEVER BURTON SEABORNE.

Witnesses:

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G. V. SYMES.