P. WERNER.

MACHINE FOR APPLYING EMOLLIENT TO MOTION PICTURE FILMS.

APPLICATION FILED AUG. 4, 1919.

1,351,408. Patented Aug. 31, 1920.

2 SHEETS—SHEET 1.

Fig. 1

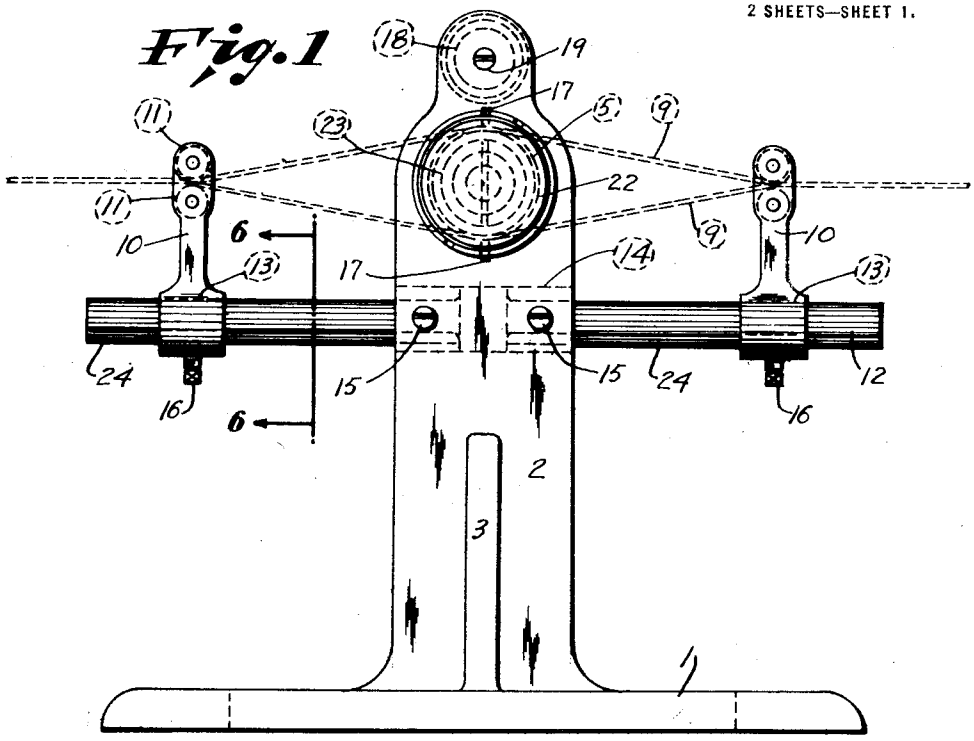
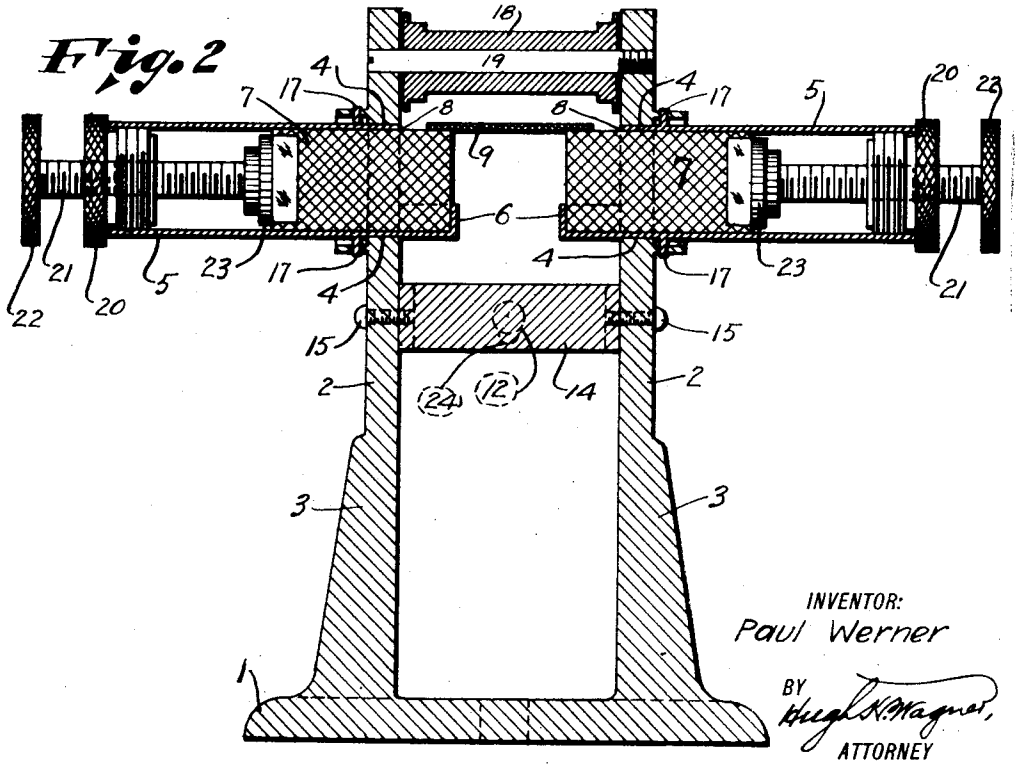


Fig. 2



INVENTOR:
Paul Werner
BY
Hugh K. Wagner,
ATTORNEY

P. WERNER.

MACHINE FOR APPLYING EMOLLIENT TO MOTION PICTURE FILMS.

APPLICATION FILED AUG. 4, 1919.

1,351,408. Patented Aug. 31, 1920.

2 SHEETS—SHEET 2.

Fig. 3

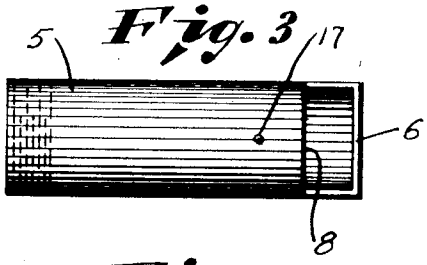


Fig. 4

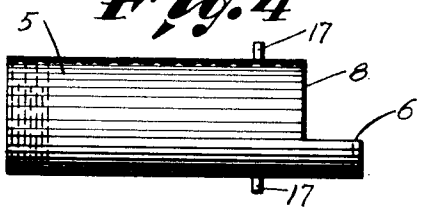


Fig. 5

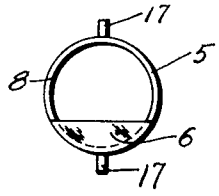


Fig. 6

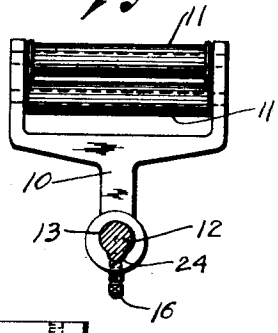
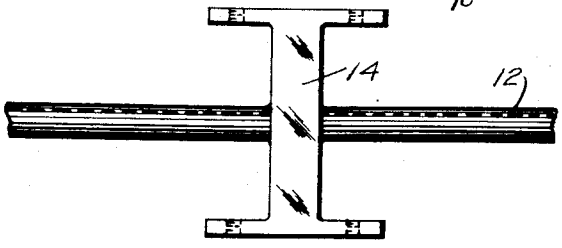


Fig. 7



INVENTOR:
Paul Werner,
BY
Hugh K. Wagner,
ATTORNEY

UNITED STATES PATENT OFFICE.

PAUL WERNER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO WERNER FILM-PROTECTOR MANUFACTURING COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

MACHINE FOR APPLYING EMOLLIENT TO MOTION-PICTURE FILMS.

1,351,408. Specification of Letters Patent. Patented Aug. 31, 1920.

Application filed August 4, 1919. Serial No. 315,242.

To all whom it may concern:

Be it known that I, PAUL WERNER, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Machines for Applying Emollient to Motion-Picture Films, of which the following is a specification.

This invention consists in improvements or alternative forms of the invention of this same inventor of a machine for applying wax or other moistener or softening material to motion-picture films.

The life of motion-picture films is quite limited because of the well known tendency of celluloid, or the like, to dry and crack and tear. The brittleness that results from such drying can be obviated by moistening or softening the edges of the films by the application of the emollient or wax adapted to be applied by this machine. The said emollient may be either solid or liquid and certain aspects of the present machine are adapted for use in connection with either solid or liquid emollient, but other features of this present machine are more especially intended for the application of emollient in solid form. The said emollient will hereinafter, for convenience of reference, be called wax.

The present invention is designed more particularly as an improvement upon the film softening machine described and claimed in my co-pending application filed April 7, 1919, Serial No. 288,421.

In the accompanying drawings forming part of this specification, in which like numbers of reference denote like parts wherever they occur,

Figure 1 is a side elevation;

Fig. 2 is a vertical sectional view;

Fig. 3 is a top plan view of one of the wax holders;

Fig. 4 is a side elevation of the same;

Fig. 5 is an end view of the same;

Fig. 6 is a sectional view taken on the line 6—6 in Fig. 1, looking in the direction indicated by the arrows; and

Fig. 7 is a top plan view of the guide support.

The base 1 may be clamped or fastened to the table in any suitable manner, the said table (not shown in the drawings) being usually the same that bears the projecting machine and, if desired, the rewind machine also. Standards 2, strengthened by webs 3, rise from the base 1, and are pierced by openings 4 to receive and hold the wax tubes 5, which, at their inner or forward ends, are pivoted with lip 6 to keep wax 7 in place. The upper part of each tube 5 is cut away, as plainly shown in Figs. 4 and 2, at 8, so as to allow the film 9 to rest directly upon the wax 7, which the film does while it is being run or while it is being rewound or during both operations.

If desired, additional guides 10, having each a pair of rollers 11 or even a single roller, may be placed at any suitable point, as indicated in Fig. 1, the said guides 10 being mounted upon rod 12, which passes through hole 13 in block 14 fastened by screws 15 in standards 2. Guides 10 are fastened to rod 12 by set-screws 16.

Tubes 5 and the sides of standards 2 are provided with coöperating snap or lock parts that constitute the bayonet clutch or clasp 17, which is a quick, easy, and convenient mode of fastening tubes 5 in holes 4 after insertion therein. The said bayonet clasp is so constructed as to lock tube 5 if the same is in the position shown in Fig. 2, or exactly the opposite, that is to say, upside down. The object of thus reversing the position of tubes 5 is to allow film 9, if desired, to run underneath the wax 7, instead of on top of it, as shown in Fig. 2. In Fig. 1, the dotted lines show film 9 as passing either above or below wax 7, it being understood that it cannot pass both above and below at the same time, but that it may pass either way and that when it passes underneath wax 7, the tubes 5 will be turned half way around from the position shown in Fig. 2.

Roller 18 is loosely mounted on shaft 19 located in the upper part of standards 2 and serves to retain film 9 in case of slack, but does not make friction thereon or retard its travel, because roller 18 rotates very freely.

Each tube 5 is provided with a cap 20 through which a screw 21 passes, which screw 21 is provided with a thumb-nut 22 for turning it. At its other end, screw 21 is provided, with a block 23, which impinges against wax 7, and, when screw 21 is turned forward, pushes the said wax 7 forward to the position shown in Fig. 2 adapted for contact with film 9. Whenever the outer

end of wax 7 wears away sufficiently to make it necessary, nut 22 will be turned, and this will cause screw 21 to force wax 7 forwardly to the position depicted in Fig. 2.

A set-screw 24 holds rod 12 stationary in the hole 13, through which it passes in block 14.

Having thus described this invention, I hereby reserve the benefit of all changes in form, arrangement, order, or use of parts, as it is evident that many minor changes may be made therein without departing from the spirit of this invention or the scope of the following claims.

I claim:

1. In a machine of the character described, the combination of the base standards rising therefrom having holes therethrough, tubes inserted through the said holes, a bayonet-clasp for each of the said tubes, a block between the said standards having a hole therethrough, a rod supported within the said block, and a guide or guides mounted on the said rod.

2. In a machine of the character described, the combination of the base standards rising therefrom having holes therethrough, tubes inserted through the said holes, a bayonet-clasp for each of the said tubes, a block between the said standards having a hole therethrough, a rod supported within the said block, and a guide or guides mounted on the said rod, the said guide or guides being provided with a roller or rollers.

3. In a machine of the character described, the combination of a pair of side members having holes therethrough, a pair of tubes inserted therethrough, and a bayonet-clasp for attaching each of the said tubes to its respective side member.

4. In a machine of the character described, the combination of a pair of side members having holes therethrough, a pair of tubes inserted therethrough, and a bayonet-clasp for attaching each of the said tubes to its respective side member, the part of the said bayonet-clasp upon each of the said side members being in duplicate so as to permit of each tube being fastened in either an upturned or downturned position.

5. In a machine of the character described, the combination of a pair of side members having holes therethrough, a pair of tubes inserted therethrough, and a bayonet-clasp for attaching each of the said tubes to its respective side member, each of the said tubes being so constructed as to expose part of its contents to the passing film.

6. In a machine of the character described, the combination of a pair of side members having holes therethrough, a pair of tubes inserted therethrough, and a bayonet-clasp for attaching each of the said tubes to its respective side member, each of the said tubes being provided with a projecting part, and an inturned lip at its inner edge.

7. In a machine of the character described, the combination of a pair of side members having holes therethrough, a pair of tubes inserted therethrough, and a bayonet-clasp for attaching each of the said tubes to its respective side member, each of the said tubes being provided with a projecting part, and an inturned lip at its inner edge, and a force-feed screw at its opposite end.

8. In a machine of the character described, a frame, a tube supported by the said frame and fastened thereto, an emollient contained within the said tube, and a bayonet-clasp for attaching the said tube to the said frame.

9. In a machine of the character described, a frame, a tube supported by the said frame and fastened thereto, an emollient contained within the said tube, and a bayonet-clasp for attaching the said tube to the said frame, the said tube having a cutaway part for exposure of the said emollient to a passing film, the said cutaway part extending through part of the circumference of the said tube at its inner end.

10. In a machine of the character described, a frame, a tube supported by the said frame and fastened thereto, an emollient contained within the said tube, and a bayonet-clasp for attaching the said tube to the said frame, the said tube having a cutaway part for exposure of the said emollient to a passing film, the said cutaway part extending through part of the circumference of the said tube at its inner end, and the other part of the said circumference being provided with an inturned lip adapted to limit the travel of the said wax or emollient.

11. In a machine of the character described, the combination with a support, of a pair of tubes mounted in alinement in said support and sticks of emollient fitted in said tubes, said tubes being formed to expose a portion only of the inner ends of said sticks.

12. In a machine of the character described, the combination of a support, a pair of tubes detachably mounted in said support in lateral alinement, said tubes having a part of their inner ends cut away, sticks of emollient in said tubes with their ends exposed at the cut-away portions of said tubes, and means for securing the tubes with their cut away portions in vertical position and means for securing the tubes with their cutaway portions in reversed vertical positions.

13. In a machine of the character described, the combination of a support, a pair of tubes detachably mounted in said support in lateral alinement, said tubes

having a part of their inner ends cut away, sticks of emollient in said tubes with their ends exposed at the cut-away portions of said tubes, and means for retaining and adjusting the sticks in the tubes.

14. A film-softening machine including material-holding tubes formed with end openings including a portion of the side and end of said tube.

15. A film-softening machine including alined material-receiving tubes formed with material-exposing openings, and means whereby said tubes may be secured in either of two relatively reversed positions.

16. A film-softening machine including material-receiving tubes formed with material-exposing openings, means for supporting said tubes in endwise alinement in the machine, and means for securing said tubes with their material-exposing openings in either of two relatively reversed positions, said means serving to limit the movements of the tubes toward each other.

17. A film-softening machine including cylindrical tubes and means for supporting said tubes in endwise alinement, each tube having a material-exposing opening, including a portion of the cylindrical wall of said tube, to thereby provide for the exposure of the material as a bearing surface for the film.

In testimony whereof I hereunto affix my signature.

PAUL WERNER.