S. REIFF.

PASTE APPLYING MACHINE.

APPLICATION FILED MAR. 4, 1918.

1,278,384.

Patented Sept. 10, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

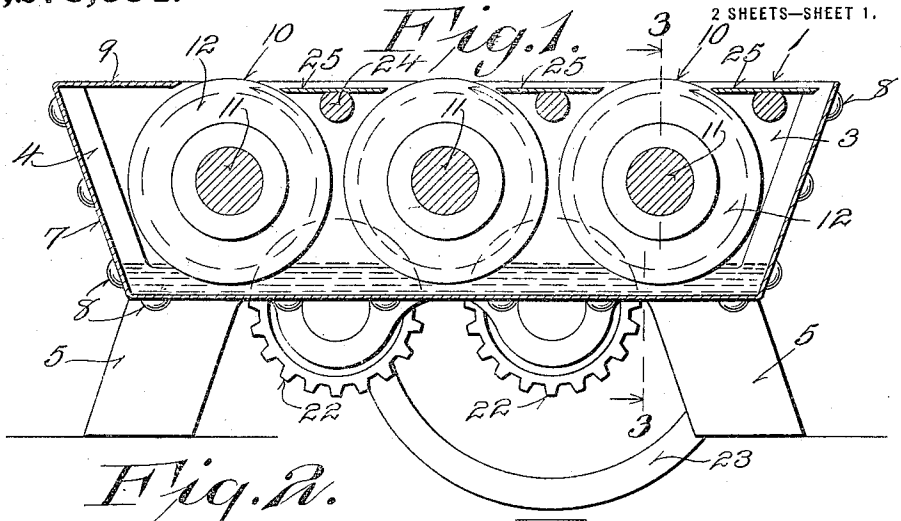
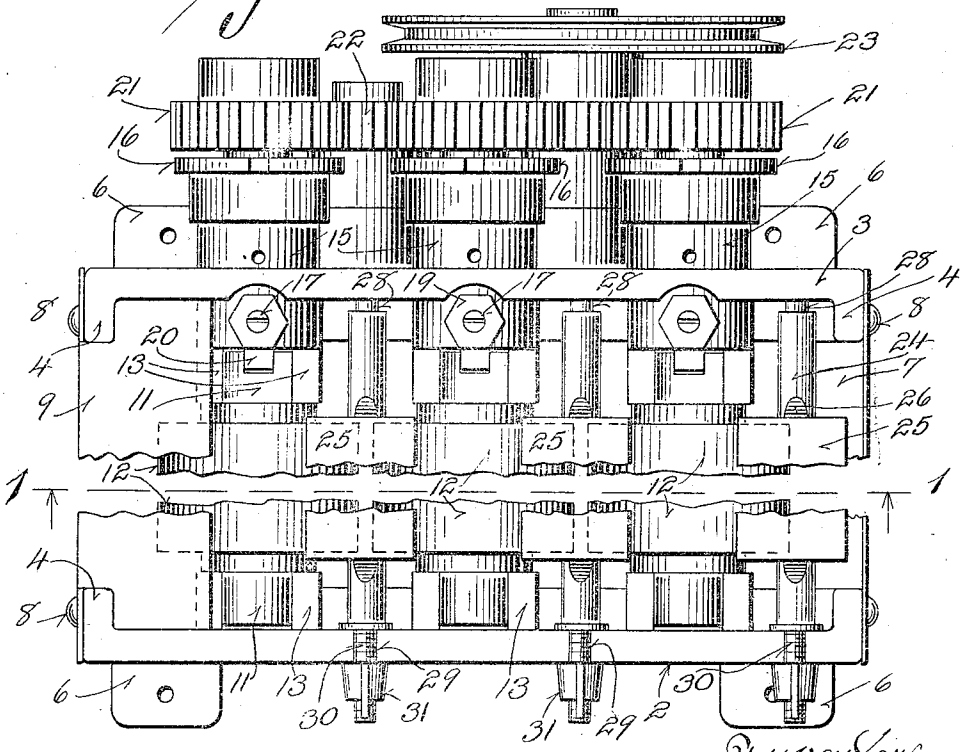


Fig. 2.



Witness:

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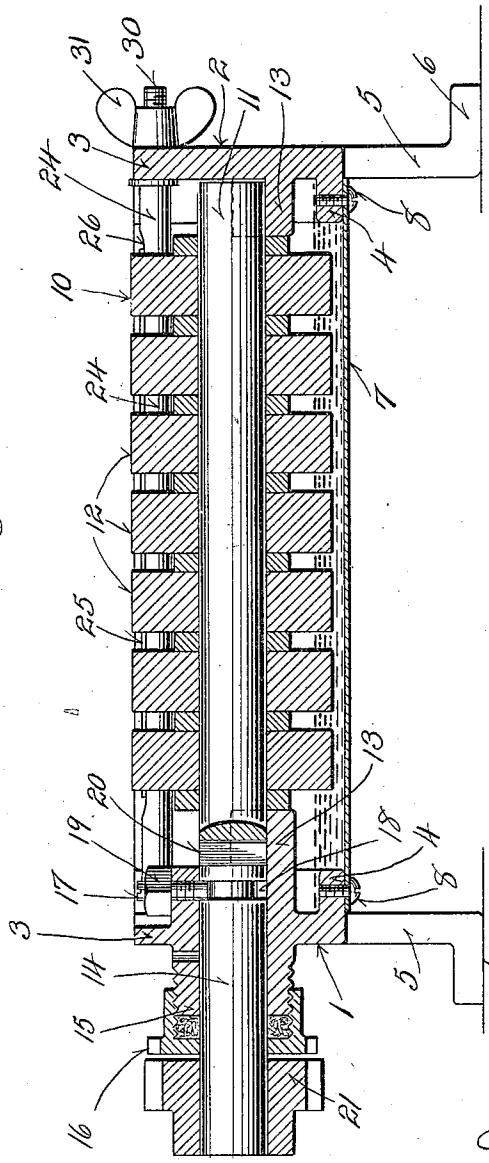
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2 SHEETS—SHEET 2.

Fig. 3.



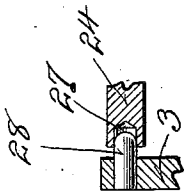


Fig. 4.

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PASTE-APPLYING MACHINE.

1,278,384. Specification of Letters Patent. Patented Sept. 10, 1918.

Application filed March 4, 1918. Serial No. 220,362.

To all whom it may concern:

Be it known that I, SAMUEL REIFF, a citizen of the United States, and resident of Beaver Dam, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Paste-Applying Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to improvements in paste applying machines, particularly those which are adapted to supply adhesive to fabric shoe linings.

In the attachment of fabric linings to shoe uppers it is only necessary to apply a very small quantity of cement or paste to the lining; the application of too great a quantity will cause stiffening of the leather upper and also materially add to the thickness thereof. Most machines at present in use tend to add a too great thickness of paste; therefore the principal object of the present invention is to evenly distribute a relatively small amount of cement at predetermined intervals.

An additional object is to provide a simply constructed highly efficient machine of this nature which can be inexpensively manufactured and operated. Owing to the simple construction of the machine the parts thereof are readily disassembled for cleaning, repairing and the like.

The invention resides in certain novel features of construction, combination and arrangement of parts which will be hereinafter more particularly described and claimed.

In the accompanying drawings:—

Figure 1 represents a vertical cross sectional view of a paste applying machine constructed in accordance with my invention, said section being taken on the plane of the line 1—1 of Fig. 2.

Fig. 2 is a plan view of my improved machine, the intermediate portions thereof being broken out.

Fig. 3 is a longitudinal vertical sectional view on the plane of the line 3—3 of Fig. 1, and

Fig. 4 is a detail sectional view through the attaching portion of one end of one of the scraper members.

The invention consists broadly of a paste receptacle, a plurality of rotatably mounted paste applying rollers, means for revolving the rollers simultaneously in the same direction, and a plurality of scraper members for removing surplus paste from the rollers. The paste receptacle portion of the invention is formed from a pair of preferably cast end members 1 and 2, each of which includes an end wall 3, laterally and inwardly extending attaching flanges 4 and supporting legs 5, said legs having laterally extending attaching feet 6 whereby the device may be secured to a suitable support.

From the several figures of the drawings it will be noted that the attaching flanges 4 extend from the bottom and side edges of the walls 3 and have a trough shaped sheet metal body portion 7 secured thereto by bolts or rivets 8. One side wall of the body 7 has its upper edge portion bent inwardly as at 9 to form a guard, which guard is parallel to the bottom of the paste receptacle and substantially coincident with the upper edges of the end walls 3. This portion partially closes the paste receptacle, but otherwise its top is open.

Any desired number of paste applying rollers 10 may be journally mounted in the paste receptacle, they being disposed longitudinally thereof and having their opposite ends journaled in the end members 1. Each of the rollers 10 consists of a shaft 11 and a plurality of cylindrical spaced apart paste applying surfaces projecting from said shaft. In the present embodiment of the invention these paste applying surfaces are provided by the peripheries of a plurality of spaced collars 12 which are shrunk, keyed or otherwise secured in spaced apart relation on the shaft 11. The diameter of the collars is such that the uppermost point in their peripheries extends only slightly above the horizontal plane of the top of the paste receptacle.

The collars 12 are spaced from the ends of the shafts, and the latter are journally mounted in semi-cylindrical bearing seats 13 which are formed integrally with and projecting inwardly from the walls 3 of the paste receptacle. The seats 13 for each shaft are alined, and when said shafts are in operative position they are arranged parallel to each other. The weight of the rollers 10 is sufficient to retain the ends of the shafts 11 within the seats 13 without other retaining means.

The rollers 10 are revolved by the rotation of shaft sections 14, one of each is detach-

ably connected with one end of each of the shafts 11. These shaft sections are journaled in bearings formed in hollow bosses 15 which extend outwardly from the wall 3 of the end member 1, said bearings being extended through said wall 3 into the seats 13 carried by the same. Said hollow bosses 15 form elements of stuffing boxes with which packing glands 16 coöperate.

The shaft sections 14 are retained against longitudinal shifting in their bearings by the disposition of the end of a set screw 17 in an annular groove 18 in each of said sections. The set screws are locked in adjusted position by lock nuts 19. As hereinbefore mentioned the rollers 10 are detachably connected with the shafts 14, this being carried out by means of a tongue and groove connection 20 between one end of each shaft 11 and the end of the adjacent shaft section. In other words the ends of the shafts 11 which are adjacent the shaft sections 14 are transversely grooved and the inner ends of the latter have transverse tongues projecting therefrom.

Any preferred means may be employed for rotating the shaft sections and consequently the rollers 10; for instance a gear 21 is secured to the outer end of each shaft section and meshed with an idle gear 22. A suitable pulley wheel 23 is connected with one of the idle gears 22 as shown. Rotation of the pulley will cause the rollers 10 to revolve at a uniform speed and in the same direction.

Under some conditions too much paste may adhere to the paste applying surfaces of the rollers; therefore scraper members are employed for removing the surplus. One of these scraper members is used for each roller 10, and each comprises a rod 24 which is disposed parallel to the shafts 11 and a scraper plate 25. The rod is preferably flattened as at 26 to receive and permit ready attachment of the scraper plate which is elongated and flat.

In order that the scraper plates 25 may be adjusted toward or away from the rollers 10, one end of each rod 24 is provided with a socket 27 for engagement over a stud 28, which studs project inwardly from the wall 3 of the end member 1. The opposite wall 3 of the paste receptacle is provided with open end slots 29 which are alined with the studs 28 and receive the reduced ends 30 of the rods 24. These reduced ends are screw threaded and have wing nuts 31 threaded thereon, said nuts being adapted to clampingly engage the wall 3 to hold the rods in adjusted positions after being rotated to move the plates toward or away from the rollers.

In Fig. 1 the relative disposition of the scraper plates 25 with respect to the rollers 10 is evident, and from this figure it will be noted that these plates together with the portion 9 close the major part of the open top of the paste receptacle. These parts thus aid in preventing dust and other extraneous matters from entering the paste receptacle and also retard the circulation of air to the paste and thus prevent rapid evaporation and consequent thickening thereof. The most important feature of my invention, however, consists in separating the paste applying portion of the rollers into a plurality of relatively narrow contact surfaces; this naturally limits the amount of paste or cement which is gathered by the fabric shoe lining, or the leather uppers as the case may be, as the same is drawn over the rollers. Attention is also directed to the fact that the scraper members and the rollers may be readily lifted out of the paste receptacle to permit the latter to be cleaned, and that the reassembling is just as simple as the dismantling.

I claim:—

1. In a paste applying machine, a paste receptacle having an open end slot in one wall, a stud on the opposite wall and alined therewith, a rod having a socket in one end to receive said stud, the opposite end being reduced and disposed in said slot, a paste applying roller mounted in the receptacle substantially parallel to said rod, means for revolving said roller, and a scraper plate secured to said rod.

2. In a paste applying machine, a paste receptacle, a substantially semi-cylindrical seat formed on each end wall of the receptacle, said seats being extended inwardly toward each other and alined, a shaft section journaled in one end wall of the receptacle and extending into one of said seats, a tongue projecting from the inner end of said shaft section, a paste applying roller having its opposite ends cylindrical and disposed in said seats, one of said ends being transversely grooved to receive said tongue, said tongue and the grooved end of the roller being retained in connection by the engagement of the latter in the adjacent seat, and means connected with the shaft section to revolve the same.

3. In a paste applying machine, a paste receptacle comprising a pair of spaced end members having upright walls and laterally and inwardly extending attaching flanges projecting from the bottom and side edges thereof, a trough shaped body having its opposite ends disposed in contact with said flanges and secured thereto, the upper edge portion of one side wall of the body being bent inwardly over the bottom of the latter to form a guard, a plurality of paste applying rollers having their opposite ends journaled in the walls of the end members, the axes of the rollers being substantially parallel to the inner edge of said guard, the

outermost points in their peripheries being slightly above the plane of the latter, and an elongated scraper plate disposed between each pair of rollers, said scraper plates being in substantially the plane of the guard, whereby said rollers, the guard and the scraper plates will form a substantial closure for the top of the paste receptacle to prevent a free circulation of air therein.

In testimony that I claim the foregoing I have hereunto set my hand at Beaver Dam, in the county of Dodge, and State of Wisconsin.

SAMUEL REIFF.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."