Jan. 25, 1927. 1,615,778

G. A. WALSTEAD

DEVICE FOR APPLYING PASTE TO LABELS

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Fig. 1.

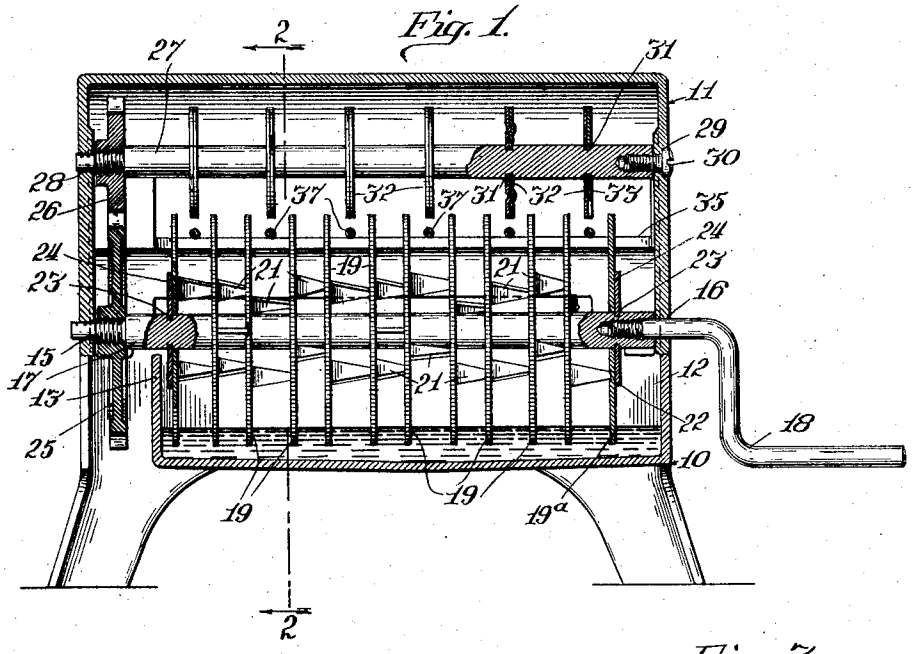


Fig. 2.

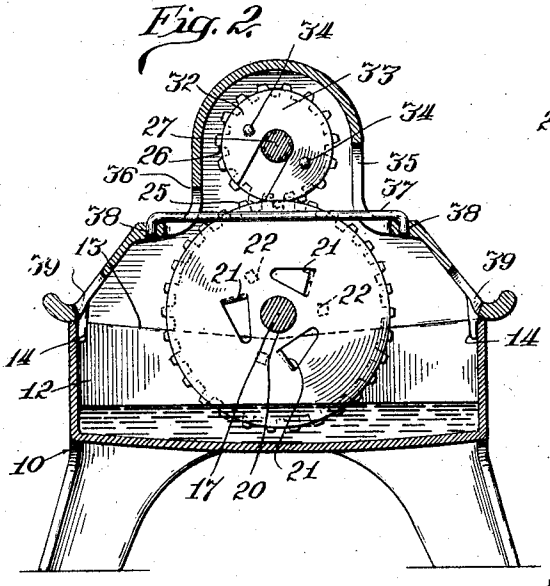


Fig. 3.

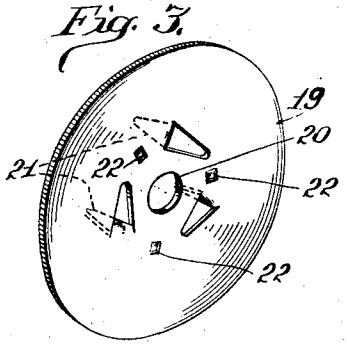
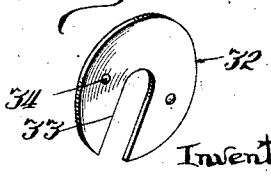


Fig. 4.



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Fig. 5.

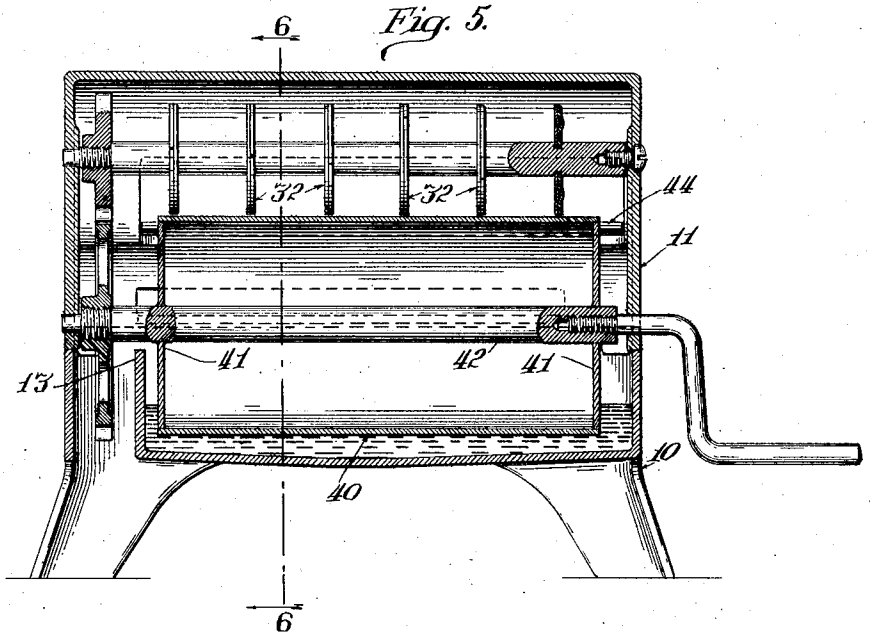


Fig. 7.

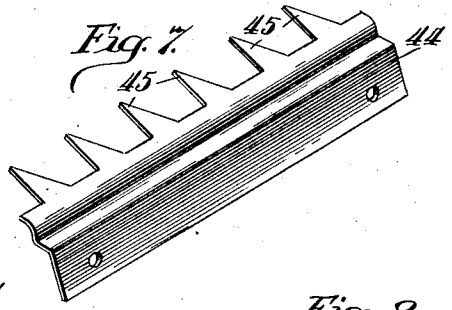


Fig. 6.

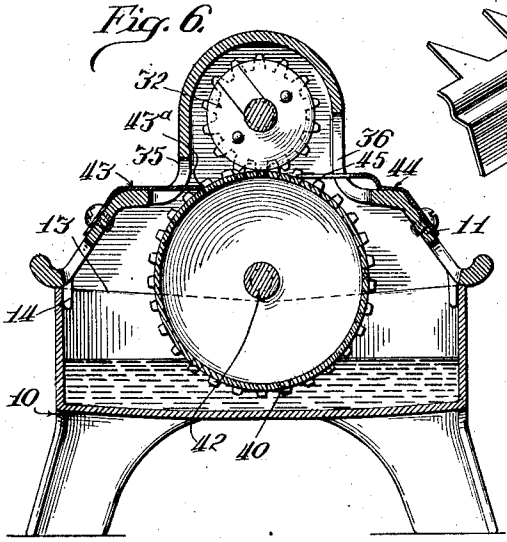
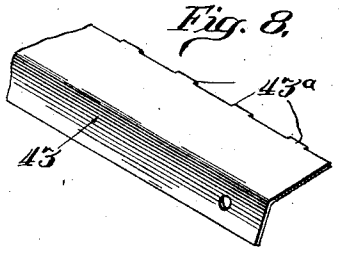


Fig. 8.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR APPLYING PASTE TO LABELS.

Application filed November 24, 1923. Serial No. 676,674.

My invention relates to a device for applying paste to labels such as is described in United States Patent No. 1,395,056 issued October 25th, 1921, to Arthur F. Nelson and in which a plurality of spaced paste applying discs are mounted on a shaft, the labels being carried through the device and pressed into engagement with the peripheries of said discs by a plurality of pressure applying discs which are mounted on a countershaft operatively connected with the first-mentioned shaft.

The primary object of my invention is the provision of an improved device of the type referred to which will be of very simple construction, inexpensive to manufacture, easy to keep in a clean and sanitary condition, and strong and durable in service.

A further object of my invention is the provision of means integrally formed with the paste applying discs for maintaining said discs in spaced relation and preferably also for holding them against angular movement relative to each other, thereby reducing the cost of making the discs to a minimum and also facilitating the assembling of the discs on their shaft.

Another object of my invention is the provision of improved means for locking or clamping the paste applying discs on their shaft.

Still another object of my invention is the provision of a shaft having a plurality of spaced, transverse grooves in combination with pairs of slotted discs so formed that they will be self-locking when forced into co-operative relationship in the respective grooves on said shaft.

It is another object of my invention to provide improved means for mounting the respective shafts in the device and so arranged that they may be readily removed from or replaced in the device.

In machines of the type referred to, the labels enter through one slot, pass between the paste applying and pressure discs and pass out through another slot; and, it is a further object of my invention to provide improved means to prevent the labels from following the paste applying discs and to guide them through the outlet slot.

In connection with labels for certain purposes, it has been found desirable to apply a thin film of paste to substantially the entire under surface of the label; and, it is a further object of my invention to provide a roller for applying the paste to the labels in combination with the pressure applying discs and a scraper to remove the excess paste from the roller, the scraper preferably being arranged so that it has spaced portions which bear directly on and remove the paste from those portions of the roller which are engaged by the respective pressure discs and thus prevent the paste from collecting on the pressure applying discs.

The invention consists in the novel constructions, arrangements and devices to be hereinafter described and claimed for carrying out the above-stated objects and such other objects as will appear from the following description of a certain preferred embodiment, illustrated in the accompanying drawings, wherein—

Fig. 1 is a longitudinal sectional view of a device embodying certain principles of my invention;

Fig. 2 is a transverse sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of one of the paste applying discs;

Fig. 4 is a perspective view of one of the pairs of discs which may be employed for pressing the labels against the peripheries of the paste applying discs;

Fig. 5 is a longitudinal sectional view of a device embodying certain principles of my invention and of a slightly modified construction;

Fig. 6 is a transverse sectional view taken on the line 6—6 of Fig. 5;

Fig. 7 is a perspective view of the means for stripping the labels from the paste applying means shown in Figs. 5 and 6; and

Fig. 8 is a perspective view of a fragmentary portion of the scraper for removing excess paste from the paste applying means shown in Figs. 5 and 6.

Like characters of reference designate like parts in the several figures of the drawings.

Referring first to Figs. 1 to 4, inclusive, the mechanism of the device is housed within a suitable casing preferably comprising a base member 10 and a cover member 11. A paste receptacle 12 is provided in the base member. This receptacle is made a little shorter than the base by providing a transverse wall or partition 13 so as to provide room for the driving mechanism hereinafter

described. The cover member is provided with a plurality of depending lugs 14 which engage the base member and prevent it from shifting laterally thereon. The base and cover members are preferably cast from any suitable metal.

The cover member is provided with bearings 15 and 16. One end of a shaft 17 is journaled in the bearing 15. One end of a crank handle member 18 projects through the bearing 16 and has threaded engagement with the other end of the shaft 17. The paste applying discs 19 are formed with a central aperture 20 and, excepting the end disc 19[a], have a plurality of tongues 21 stamped therefrom and a similar number of recesses 22 formed therein, the tongues and recesses of the discs being so arranged that, when the discs are assembled on the shaft 17, the extremities of the tongues of one disc will fit into the respective recesses of one of the adjacent discs, by which arrangement the discs are maintained in spaced relation and are held against relative angular movement. The shaft 17 is preferably provided, adjacent its respective ends, with circumferentially extending grooves 23 into each of which a slotted locking member or disc 24 may be forced. The grooves 23 are so located that the discs 19 must all be assembled in proper relation on the shaft 17 and forced closely together in order to force the members 24 into their respective grooves. The shaft 17 carries a gear 25 which meshes with a gear 26 mounted on a countershaft 27.

The cover member 11 is also provided with bearings 28 and 29. One end of the shaft 27 is journaled in the bearing 28. A screw 30 extends through the bearing 29 and has threaded engagement with the other end of the shaft 27. The shaft 27 is provided with a plurality of spaced circumferentially extending grooves 31, a plurality of pairs of pressure applying discs 32 being forced into said respective grooves. One of the discs 32 is shown in Fig. 4. It will be noted that the disc is provided with a slot 33 and that it is also punched to provide depressions 34. When the discs 32 are mounted on the shaft 27, one disc of each pair is slipped into the groove in the shaft from one side and the other disc of that pair is slipped into said groove from the other side, the depressions 34 of one disc snapping into the depressions of the other disc, thus locking the two discs on the shaft and holding them against relative movement. The discs 24 and 32 are preferably formed from the same die.

The discs 19 and 32 are of such diameters as to cause their peripheries to pass substantially through a common plane when the discs are mounted in the manner described. The discs 32 are mounted on the shaft 27 so that they operate substantially midway between certain of the discs 19 which prevents any paste on the discs 19 from being transferred to the discs 32. The discs 19 and 32 may be stamped out of any suitable metal. It will be obvious that discs formed substantially like the discs 19 may be mounted on the shaft 27, if desired, also that discs like the discs 32 may be mounted on the shaft 17 for applying the paste to the labels. The arrangement shown in the drawings is preferred, however, because the larger discs are less likely to wabble when they are provided with the tongues 21 and recesses 22 and are firmly held on the shaft.

The cover member on one side is provided with a longitudinal slot 35 through which the labels are inserted or fed into the device and on the other side with a longitudinal slot 36 through which the labels pass as they leave the device. As the labels are fed through the device between the discs 19 and 32, the discs 32 press the labels into engagement with the peripheries of the discs 19, the labels being slightly corrugated as they pass through between the two sets of discs. When the shaft 17 is rotated, the discs 19 turn with it, the peripheries of these discs passing through the body of paste. A certain amount of paste will adhere to the peripheries of these discs and will be carried thereon and transferred to the labels as they are fed through the device.

In order to prevent the labels from adhering to the discs 19 and to insure their passing through the slot 36, I preferably provide a plurality of fingers 37. The cover member adjacent the slots 35 and 36 is provided with a plurality of recesses or apertures 38. As shown in Fig. 1, the fingers 37 lie between certain of the discs 19 and the extremities of said respective fingers are bent around substantially at right angles so that they may be inserted into the recesses or apertures 38. When the fingers are arranged in the manner described, they are independent of the shaft 17 and they do not interfere in any way with the removal or replacing of said shaft and the discs assembled thereon. The labels may, if desired, be fed through the device from either side. Any paste which may flow down the respective sides of the cover member will pass back into the paste receptacle through the longitudinal slots 39.

The operating mechanism being mounted in the cover member, may be removed with the cover as a unit. The paste receptacle may then be easily cleaned and refilled. The cover member with the operating mechanism may be positioned over a basin of hot water so that the paste carrying discs project thereinto and the crank given a few turns, which usually results in freeing the discs of all paste. However, if paste still adheres to these discs, the discs may be re-

moved with the shaft 17 by unscrewing the crank 18. The shaft 17 and the discs 19 mounted thereon may then be placed in water and the accummulated paste soaked off.

In the embodiment illustrated in Figs. 5 to 8, inclusive, the paste applying means is in the form of a tubular roller 40 closed at its respective ends by heads 41 soldered or otherwise fixed to the shaft 42. The shaft 42 may be mounted in the base member 10 in the same manner as the shaft 17. In this embodiment a scraper 43 is mounted on one side of the cover member 11, the scraper projecting through the slot 35. The scraper is positioned so that the spaced portions 43^a thereof bear directly on the roller 40, that part of the scraper between the portions 43^a being close to but not bearing on the roller. A member 44 is fixed to the other side of the cover member 11 and is formed with a plurality of fingers 45 which project through the slot 36, the extremities of said fingers bearing on the roller 40. The portions 43^a of the scraper and the fingers 45 are so located that they are in alignment with the pressure applying discs 32. The portions 43^a scrape those portions of the roller 40 which are directly underneath the respective discs 32 and are engaged by the respective fingers 45, and, therefore, the transference of any paste to the discs 32 and the fingers 45 is prevented.

I do not intend to limit the invention to the details of construction shown and described, except only in so far as certain of the appended claims are specifically so limited, as it will be obvious that modifications may be made without departing from the principles of the invention.

I claim:

1. In a device of the class described, the combination of supporting means, a shaft journaled in said means, a plurality of discs on said shaft, said respective discs having a plurality of tongues stamped therefrom and so arranged that when the discs are assembled on said shaft the extremities of the tongues of one disc will bear against one of the adjacent discs thereby maintaining the discs in spaced relation, and means to secure said discs on said shaft in said relation.

2. In a device of the class described, the combination of supporting means, a shaft journaled in said means, a plurality of discs on said shaft, said respective discs having a plurality of tongues stamped therefrom and a similar number of recesses formed therein, the tongues and recesses of said discs being so arranged that when the discs are assembled on said shaft the extremities of the tongues of one disc will fit into the respective recesses of one of the adjacent discs thereby maintaining the discs in spaced relation and holding them against relative angular movement, and means to secure said discs on said shaft in said relation.

3. In a device of the class described, the combination of supporting means, a shaft journaled in said means, a stop member on and adjacent one end of said shaft, a plurality of discs on said shaft, one of the end discs bearing against said stop member, means to maintain said discs in spaced relation, said shaft having a groove adjacent the other end disc, and a slotted locking member adapted to be driven into said groove and against the other end disc thereby holding said discs in said relation.

4. In a device of the class described, the combination of supporting means, a shaft journaled in said means, said shaft having a plurality of spaced transverse grooves, and a plurality of pairs of co-operating slotted discs, said pairs of discs being adapted to be driven into said respective grooves, for the purpose described.

5. In a device of the class described, the combination of supporting means, a shaft journaled in said means, said shaft having a plurality of spaced transverse grooves, and a plurality of pairs of co-operating slotted discs, said pairs of discs being adapted to be driven into said respective grooves, one disc of each pair having a recess and the other disc having a projecting portion adapted to snap into said recess when the discs are brought into co-operative relation thereby holding the discs against relative movement.

6. In a device of the class described, the combination of vessel-like supporting means, rotatable label engaging means, a bearing in said supporting means for one end of said label engaging means, a second bearing in said supporting means, and a member projecting through said second bearing and detachably engaging the other end of said label engaging means within said supporting means, for the purpose described.

7. In a device of the class described, the combination of vessel-like supporting means, rotatable label engaging means, a bearing in said supporting means for one end of said label engaging means, a second bearing in said supporting means, and a member projecting through said second bearing and having threaded engagement with the other end of said label engaging means within said supporting means, for the purpose described.

8. In a device of the class described, the combination of vessel-like supporting means, rotatable label engaging means, a bearing in said supporting means for one end of said label engaging means, a second bearing in said supporting means, and a crank member having a portion projecting through said second bearing and detachably engaging the

other end of said label engaging means within said supporting means, for the purpose described.

9. In a device of the class described, the combination of paste containing and housing means, a shaft journaled in said means, spaced paste applying members mounted on said shaft, said housing means having inlet and outlet slots through which the labels pass, and a member having its extremities fastened to said housing means adjacent said respective slots and extending between two of said paste applying members, for the purpose described.

10. In a device of the class described, the combination of paste containing and housing means, a shaft journaled in said means, spaced paste applying members mounted on said shaft, said housing means having inlet and outlet slots through which the labels pass, said housing means having recesses adjacent said respective slots, and a member having its extremities positioned in said respective recesses and extending between two of said paste applying members, for the purpose described.

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