June 13, 1944. J. W. WARREN 2,351,565

CIGARETTE MACHINE PASTER

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Fig. 1.

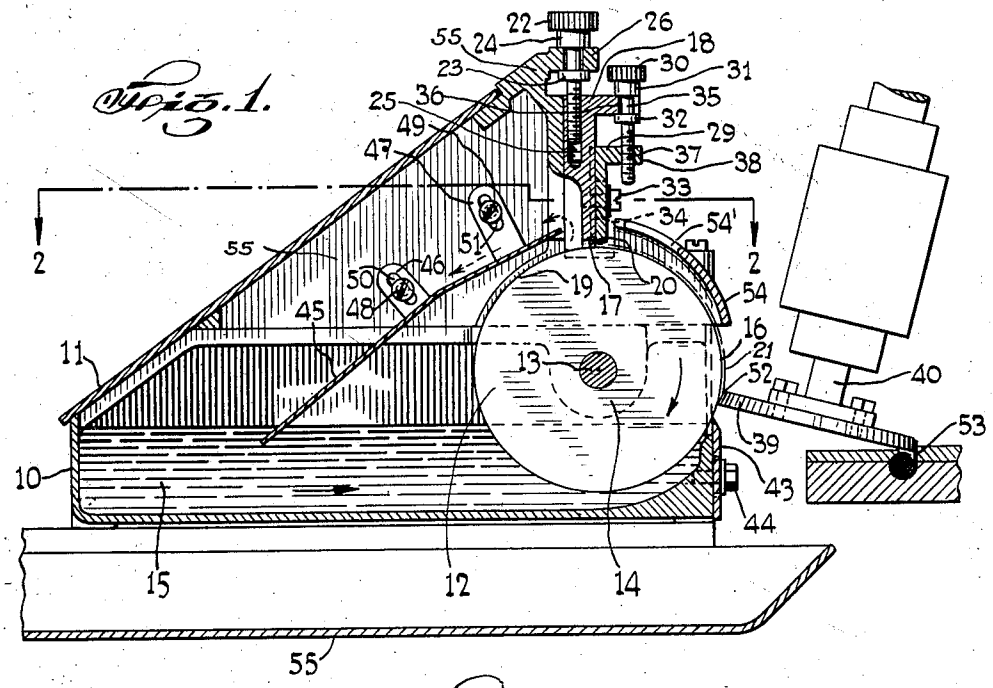


Fig. 2.

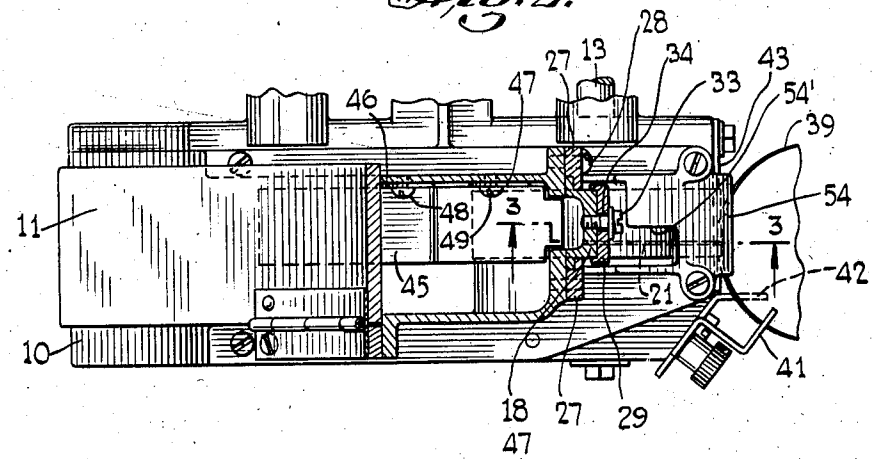
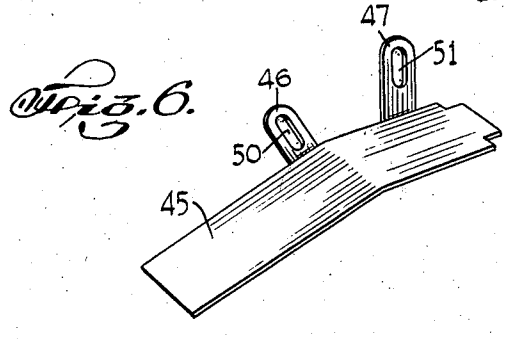


Fig. 6.



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Fig. 3.

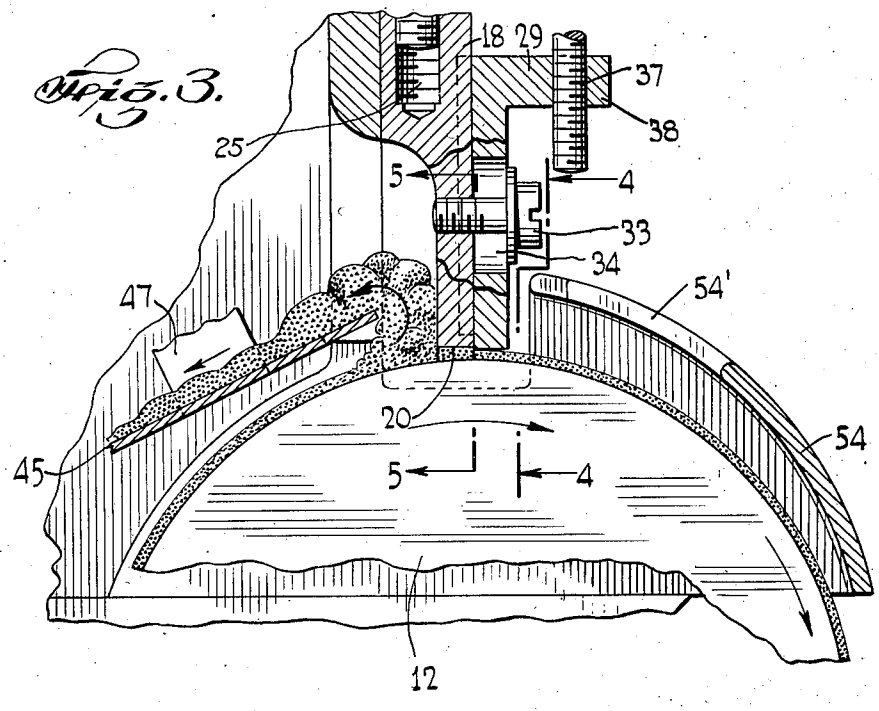


Fig. 4.

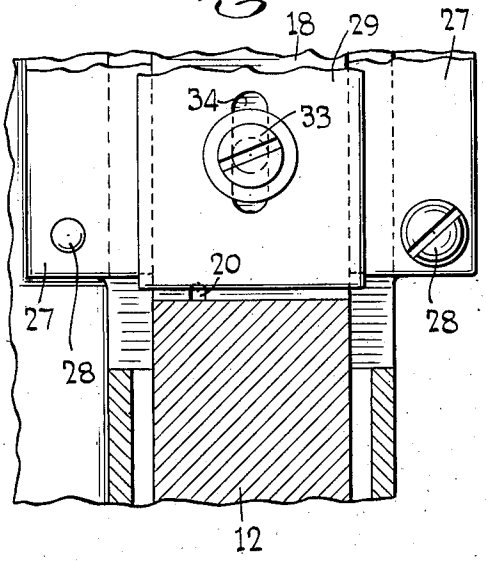
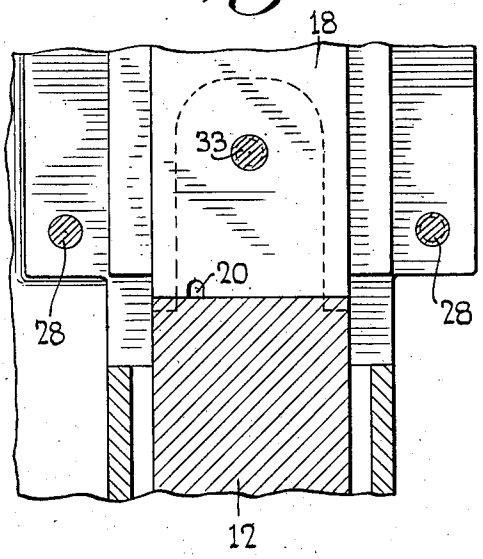


Fig. 5.



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UNITED STATES PATENT OFFICE

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CIGARETTE MACHINE PASTER

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Application August 3, 1940, Serial No. 350,189

2 Claims. (Cl. 91—51)

This invention relates to improvements in pasting devices of the character utilized in such machines as rod forming cigarette machines and relates especially to improvements in devices for pasting the lengthwise marginal seam of a cigarette paper web.

Pasters heretofore used in connection with cigarette machines and the like have customarily had some type of mechanical agitator in the paste pot to prevent the paste from settling and to keep it uniform in density. One of the purposes of the present invention is to eliminate the necessity of having a separate mechanical agitator.

An additional object of my invention is to provide an improved and simplified means for circulating the paste in a reservoir of a pasting device.

Another object is to prevent a surplus of paste from building up on top of the paste transfer wheel which would cause voids to form in the paste strip due to the retarding effect of the surplus on the ascending paste.

A further object is to provide an improved and simplified means for returning surplus paste from a paste wheel to a remote portion of the paste reservoir.

An additional object is to provide an improved and simplified means for placing a uniform strip of paste onto a transfer wheel.

Another object is to provide an improved and simplified means for keeping paste uniform in density which can be adapted for use with different kinds of paste.

With these and other objects not specifically mentioned in view, the invention consists in certain combinations and constructions which will be hereinafter fully described, and then set forth in the claims hereunto appended.

In the accompanying drawings which form a part of this specification, and in which like characters of reference indicate the same or like parts:

Figure 1 is a side view, partly in section, showing the novel features of the present invention;

Figure 2 is a plan view, partly in section, taken along line 2—2 of Figure 1;

Figure 3 is a side view, partly in section, taken along line 3—3 of Figure 2;

Figure 4 is an end view, partly in section, taken along line 4—4 of Figure 3;

Figure 5 is an end view, partly in section, taken along line 5—5 of Figure 3; and

Figure 6 is a perspective view of the surplus paste return plate.

In the embodiment shown in Figure 1, a paste pot 10 is removably mounted on the paster drive housing, which in turn is adjustably mounted on the bed of the cigarette machine. Secured to the top of a paste pot enclosure 55 is a hinged cover 11. A rotating paste transfer wheel 12 is fixed to shaft 13 which rotates in a bearing 14 of paste pot 10 so that part of the wheel travels in the paste 15 and part 16 of the paste wheel 12 travels outside of the paste pot. Rotating motion is imparted to shaft 13 by a moving part of the machine (not shown). The bottom end 17 of slide 18 fits the contour of the periphery 19 of paste wheel 12 and formed in said slide 18 is a slot 20 which permits a stripe of paste 21 to pass by slide 18 onto the outside portion 16 of paste wheel 12. Slide 18 can be raised and lowered by means of adjusting screw 22 having a lower collar 23 and an upper collar 24, and which screws into a threaded hole 25 formed in slide 18. A lug 26 fixed to enclosure 55 and located between collars 23 and 24 holds adjusting screw 22 stationary while it is rotated in raising or lowering slide 18. Side guides 27 are removably fixed to enclosure 55 by means of screws and dowels 28 and hold slide 18 in a vertical position while it is being raised and lowered. Normally, slide 18 is screwed against paste wheel 12 and is only raised for purposes of cleaning.

A second slide 29 is positioned adjacent to the first named slide 18 and is held against slide 18 by means of a clamp screw 33 passing through slot 34. An adjusting screw 30, having collars 31 and 32, passes through an opening 35 of flange 36 formed on the top of slide 18 and screws into a threaded hole 37 of flange 38 formed on the top of slide 29. By turning screw 30, slide 29 can be raised or lowered at will in front of slot 20 thereby regulating the amount of paste passing through said slot onto the outside portion 16 of paste wheel 12. Tangent to said outside portion 16 is a paste applying wheel 39 which is fixedly mounted on shaft 40. A pulley (not shown) fixedly mounted on another part of said shaft imparts rotating motion to the paste applying wheel 39.

A pair of scrapers 41 and 42, adjustably fixed by means of clamp screws to paste pot 10, remove any paste which may have been placed on the rim sides of the paste applying wheel 39. Another stationary knife-like scraper 43, located beneath that part of the paste transfer wheel 16 which comes in contact with the paste applying wheel 39, rides against wheel 12 to remove any surplus paste which may not have been taken up by the paste applying wheel 39 and is adjustably fixed to paste pot 10 by means of clamp screws 44.

An elongated sloping plate member 45, having flanges 46 and 47, is adjustably fixed to the inside wall of enclosure 55 by means of clamp screws 48

and 49 passing through slots 50 and 51 formed in said flanges. It will be noted that not only the space between paste wheel 12 and member 45 can be adjusted but also the degree of slope of member 45 can be adjusted to accommodate different type pastes used in this device.

A cover 54, forming part of enclosure 55, is provided to prevent tobacco trimmings and dust from coming in contact with the stripe of paste on wheel 16. An opening 54' is formed in said cover to allow the operator to observe the paste stripe being formed on wheel 16. The opening 54' also facilitates the cleaning of paste wheel 16 and slides 18 and 29. A tray 55 is provided beneath the pasting members to catch the paste, which is removed by scrapers 41, 42 and 43.

The operation of the invention may be briefly described as follows:

As a result of its connection to a driving part of the cigarette machine, paste wheel 12 rotates in the direction indicated by the arrow. A small amount of the paste adhering to wheel 12 manages to continue with the wheel by passing through slot 20 of slide 18, the size of which opening is regulated by slide 29. The surplus paste piles up against slide 18 and finally rolls over on the upper side of plate 45 to be returned via its inclined upper surface by gravity to the rear portion of the reservoir. The stripe of paste 21 is picked up by the periphery 52 of the paste applying wheel 39, which rotates as a result of its connection to a driving part of the cigarette machine and is wiped on the lengthwise marginal seam of the cigarette paper 53. The surplus paste, which has been returned to the rear portion of the paste pot, runs forward again to the lower portion of paste wheel 12 and causes the paste therein to circulate thereby keeping its density uniform. This simple but novel invention has eliminated the necessity of using mechanical or other types of agitators to keep the paste from settling, which have heretofore been used to prevent the formation of voids and spaces in the stripe due to the settling and densification of the paste. Although this paster is particularly well suited for pastes, such as casein and Arabol, it may be used for other types of pastes also.

The invention above described may be varied in construction within the scope of the claims, for the particular device, selected to illustrate the invention, is but one of many possible concrete embodiments of the same. It is not, therefore, to be restricted to the precise details of the structure shown and described.

What is claimed is:

1. A paster for a cigarette machine and the like comprising a reservoir adapted to contain a supply of paste, a rotary paste transfer wheel partially submerged in the paste in said reservoir, a vertical member arranged above said wheel to engage the top of the periphery of said wheel, said member being provided with a slot through which paste may be carried on the periphery of said wheel, and means for returning the excess paste from the portion of said wheel adjacent said member to said reservoir.

2. Pasting mechanism comprising a paste reservoir adapted to contain a supply of paste, a paste transfer wheel partially submerged in the paste in said reservoir, a member arranged above said wheel to engage the top of the periphery thereof, said member being provided with a slot through which paste is carried on the periphery of said roller, and a plate sloping downwardly from said member and adapted to return the excess paste to said reservoir, and means for moving said plate toward and away from said transfer wheel to vary the spacing therebetween.

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