Sept. 5, 1933. J. B. KINTZING 1,925,925

AGITATOR

Filed Nov. 18, 1929

FIG. 1.

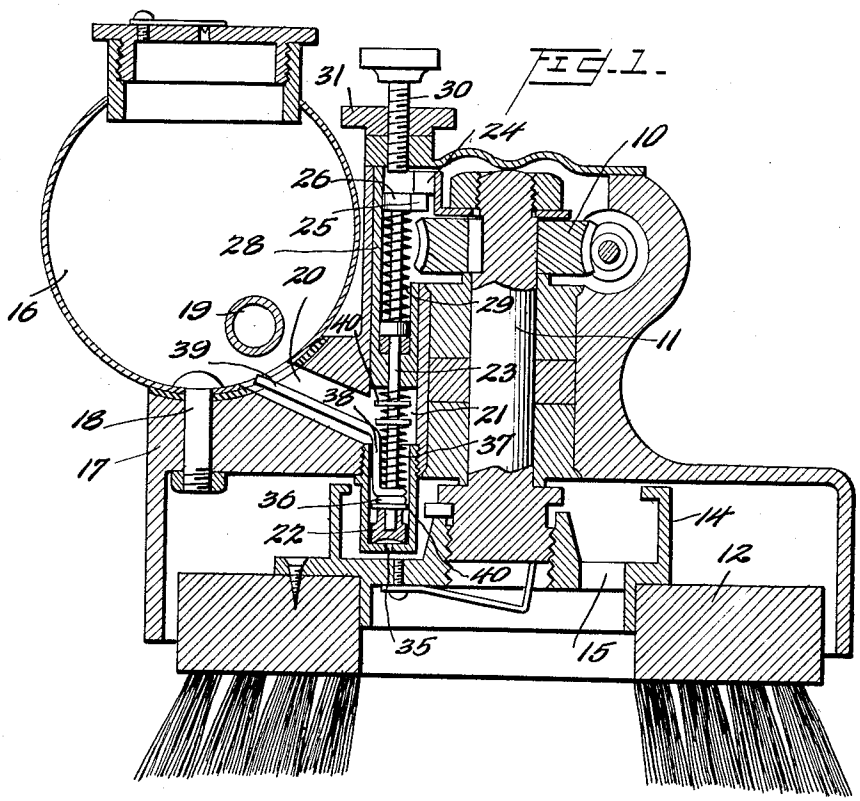


FIG. 2.

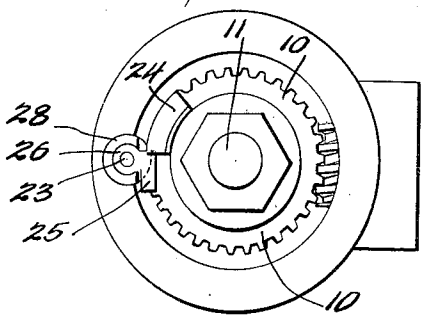


FIG. 3.

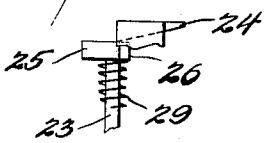
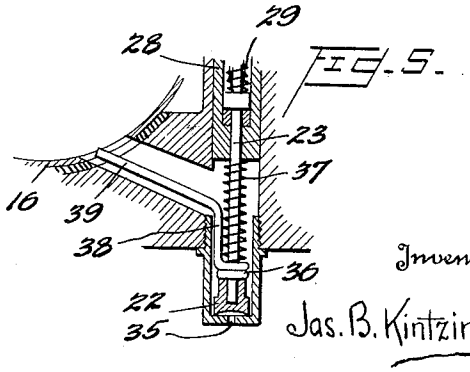


FIG. 4.



FIG. 5.



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Patented Sept. 5, 1933 1,925,925

UNITED STATES PATENT OFFICE

1,925,925

AGITATOR

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Application November 18, 1929
Serial No. 408,042

7 Claims. (Cl. 91—39)

This invention relates to pumps and has for its principal object the provision of an agitating means in the passage through which a readily congealable fluid passes to the pump.

A specific use of the present invention relates to waxing machines and a further object of the invention is the provision of an agitating means carried by and operated with the usual reciprocating pump so as to keep clear the passage thru which the liquid wax flows from the reservoir to the pump to be discharged by the pump in proximity to the revolving brushes preferably within the central space of one or both of the annular brushes.

A further object of the invention is the provision of a loosely mounted agitator, spring pressed against a pump head to clear a receiving passage by wabble motion.

In the waxing machines now on the market some little difficulty has been had by reason of operators refusing to consider the carefully prepared instructions furnished with the waxers and because of a slight convenience or because of relative cheapness purchasing and using an inferior pasty wax instead of using the freely flowing wax recommended. When these sticky waxes, intended for use in a totally different manner, are used in the waxing machines they frequently clog and blame is placed upon the manufacturer even tho the machine is perfect for the work intended. The present invention obviates the possibility of clogging the waxing machine when using a pasty wax.

In the drawing:—

Figure 1 is a vertical section thru the stem of a duplex waxer showing particularly the vertically reciprocating pump.

Figure 2 is a top plan view of the pump stem.

Figure 3 is a fragmentary view showing the cam in side elevation.

Figures 4 and 5 are details.

The waxer illustrated is of a well known and very popular type employing two annular brushes which are used for waxing or for polishing, both brushes being driven by a centrally positioned motor the armature of which is extended on both sides driving a pair of worm gears, only one of which is shown in the figure, this bearing the numeral 10. The wheel 10 is keyed on the brush shaft 11 carrying at its bottom a brush having an annular back 12 secured to a head 14 thru which there are a number of openings 15 leading to the circular space within each brush.

A wax reservoir or tank 16 is secured to the body 17 as by the bolt 18 and is heated in the usual fashion by means of the pipe 19, the tank opening to a passage 20 leading to a vertical pump cylinder space 21 in which reciprocates a pump head 22 carried at the bottom of a pump stem 23 which latter is reciprocated by a cam 24 secured to the main vertical brush carying shaft 11.

A cam follower 25 integral with a collar 26 secured to the pump stem 23 projects thru the slabbed off portion of the pump bearing 28 so that it may be pressed by the spring 29 into the path of the cam 24 which depresses the pump stem at each revolution of the brush. A screw 30 presses down upon the pump stem 23 at all times to prevent it from rising above the cam 24 and when so desired the screw 30 may be manipulated to compress the spring 29 and hold the pump stem out of the path of the cam, for example, when using the waxer as a polisher. The lock nut 31 is merely to prevent accidental moving of the screw 30.

The device as heretofore described is absolutely satisfactory as long as the purchaser or user of the device is careful to fill the tank 16 with the proper grade of waxing fluid but when a pasty wax fluid is used the passage 20 and the portion of the pump cylinder bore 21 above the pump head 22 become clogged. There seems to be no difficulty with clogging at the lower portion of the pump cylinder possibly because the pump head 22 fits the bore somewhat snugly and the positive movement of the pump by its cam action at all times keeps the hole 35 at the bottom of the pump clear even tho this hole is very small, being made with a No. 64 drill. I find that I can keep the waxer clear at all times by mounting an agitator on the stem 23 but the clearing action is much aided by having the agitator loose upon the stem as the action of the agitator in this manner is not truly reciprocating but has a decided lateral movement, just why I cannot explain, but the action is very apparent in practice.

My preferred form of agitator consists of a wire one end of which 36 is coiled about the stem 23 just above the pump head or piston 22, the coil being pressed against the head by a spring 37 which surrounds the stem resting on the coil 36 and pressing against the bottom face of the pump stem bearing 28. The agitator extends vertically from the coil 36 as at 38 and then slopes outwardly and upwardly as at 39 preferably extending slightly into the tank 16. As the pump is reciprocated at the usual rapid rate

the agitator wabbles in the passage 20 and also in the bore 21 and I find that I can readily start the device cold with a pasty fluid ever so much thicker than should be used in a device of this kind.

What I claim is:

1. In a pump, a cylinder, a passage opening at an angle to the cylinder for entry of fluid to the pump bore, a pump stem, pump head on the stem, and means carried by the pump stem located in part in said cylinder and in part in said passage to keep the passage and the bore clear.

2. In combination, a pump having a bore and a lateral passage leading into said bore, a pump stem in said bore, a pump head on said stem, an agitator carried by said stem and projecting laterally therefrom beyond the bore into said passage.

3. The device of claim 2 in which the agitator is loose on the stem and engages the pump head.

4. The device of claim 2 in which the agitator extends laterally from the pump stem at one end and is coiled about the pump stem at the other end and resilient means are provided to hold the coil end of the agitator against the pump head.

5. In a waxer, a reservoir for the wax, a pump having a reciprocating piston for discharging the wax in small spurts, a lateral passage leading from the reservoir to the pump, and an agitator independent of the pump parts and movable with the piston for keeping said passage clear.

6. In a waxer a pump cylinder having a fine orifice in one end for discharging the wax, a reciprocating piston in said cylinder, a wax reservoir, a lateral passage leading from the reservoir to the pump cylinder, and means independent of the pump parts and movable with said piston for agitating the wax flowing through said cylinder and said passageway so as to prevent clogging of the passageway and the cylinder bore.

7. In a revolving brush waxer of the type employing a pump and having a reciprocating piston to discharge waxing fluid from a reservoir to the brush: an agitator loosely engaging and independent of the pump parts and movable with the pump and having a wabble movement.

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