

May 6, 1958

E. F. MANN ET AL
FLOOR POLISHERS

2,832,978

Filed April 13, 1954

4 Sheets-Sheet 1

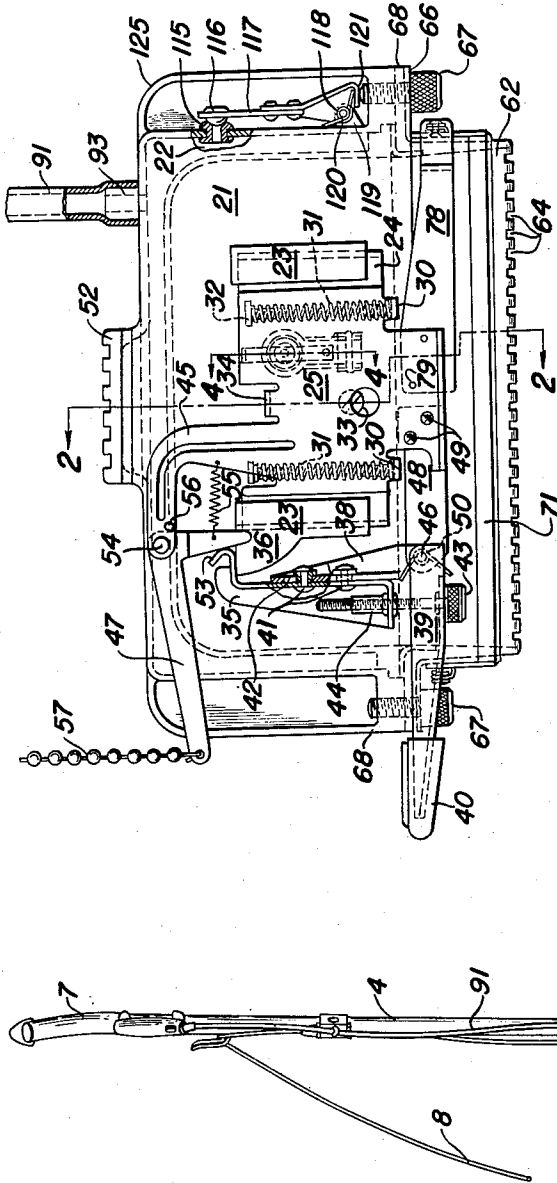


Fig. 1

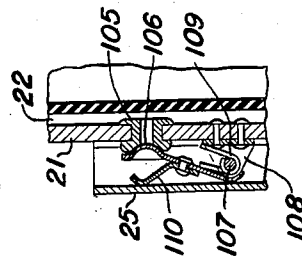


Fig. 3

Fig. 4

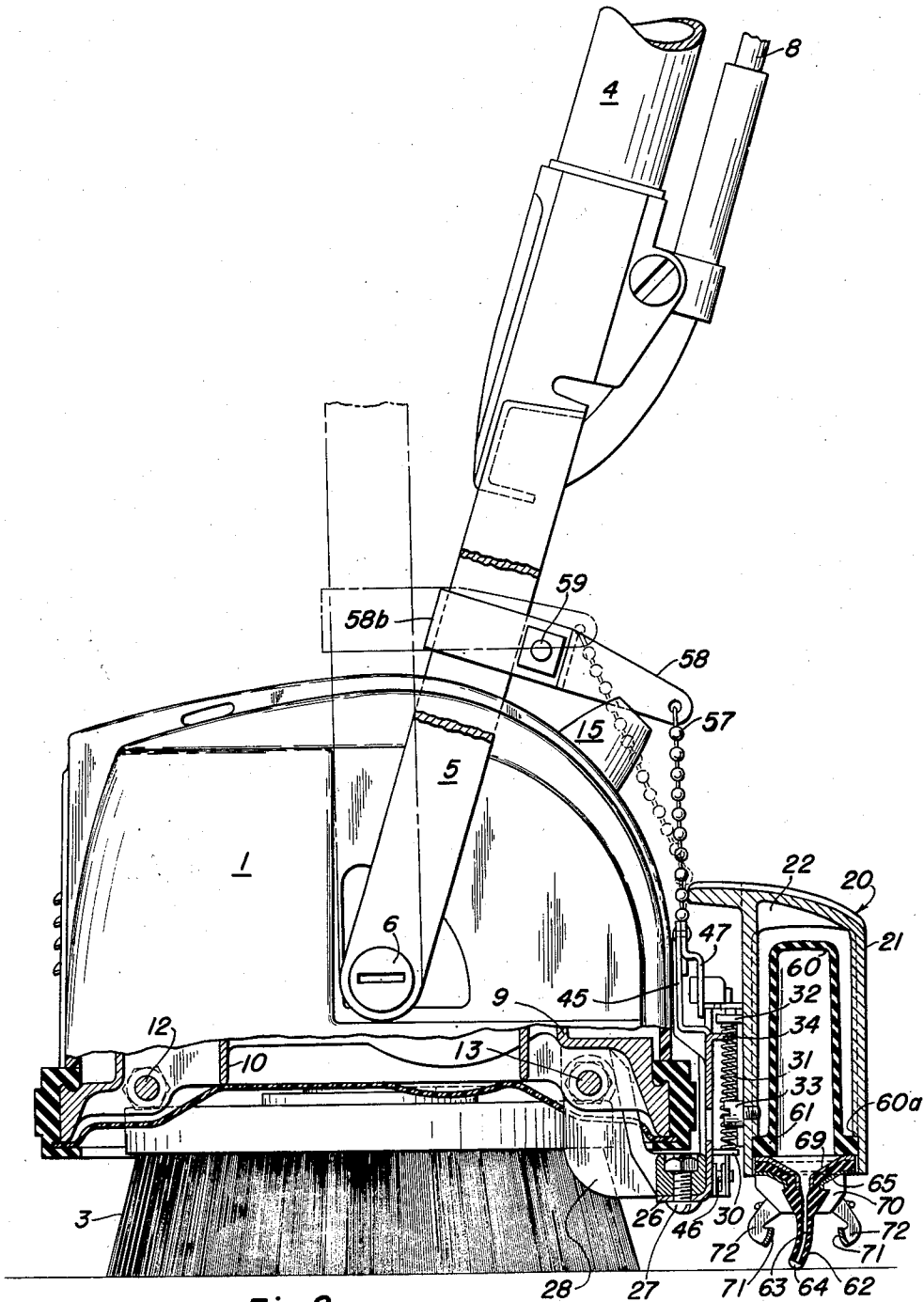
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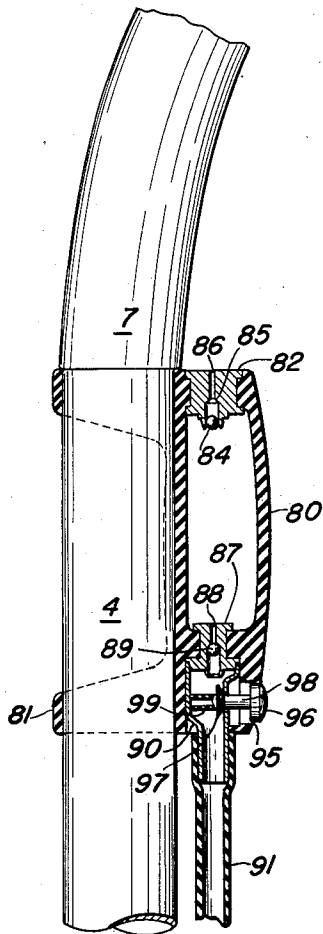


Fig. 7

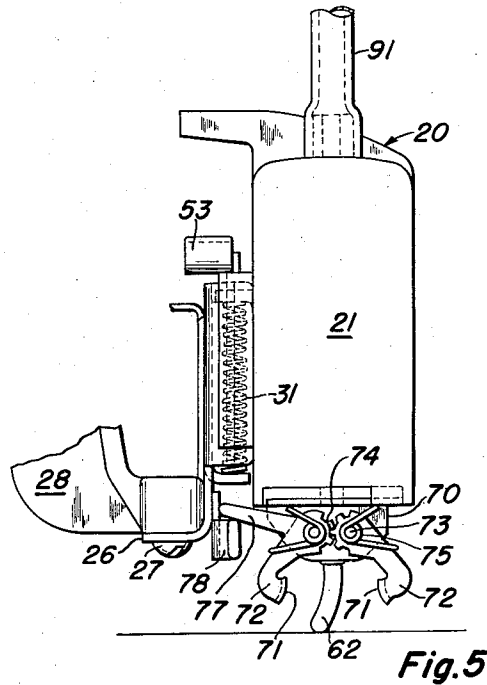


Fig. 5

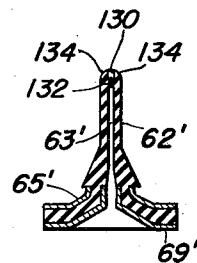


Fig. 9

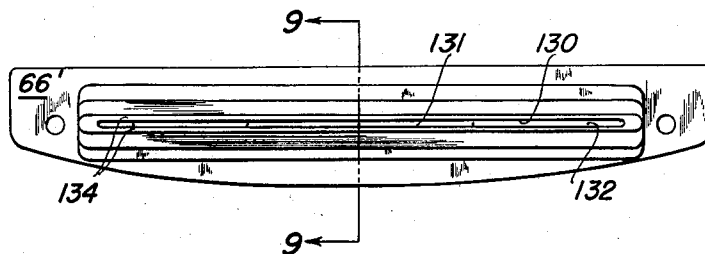


Fig. 8

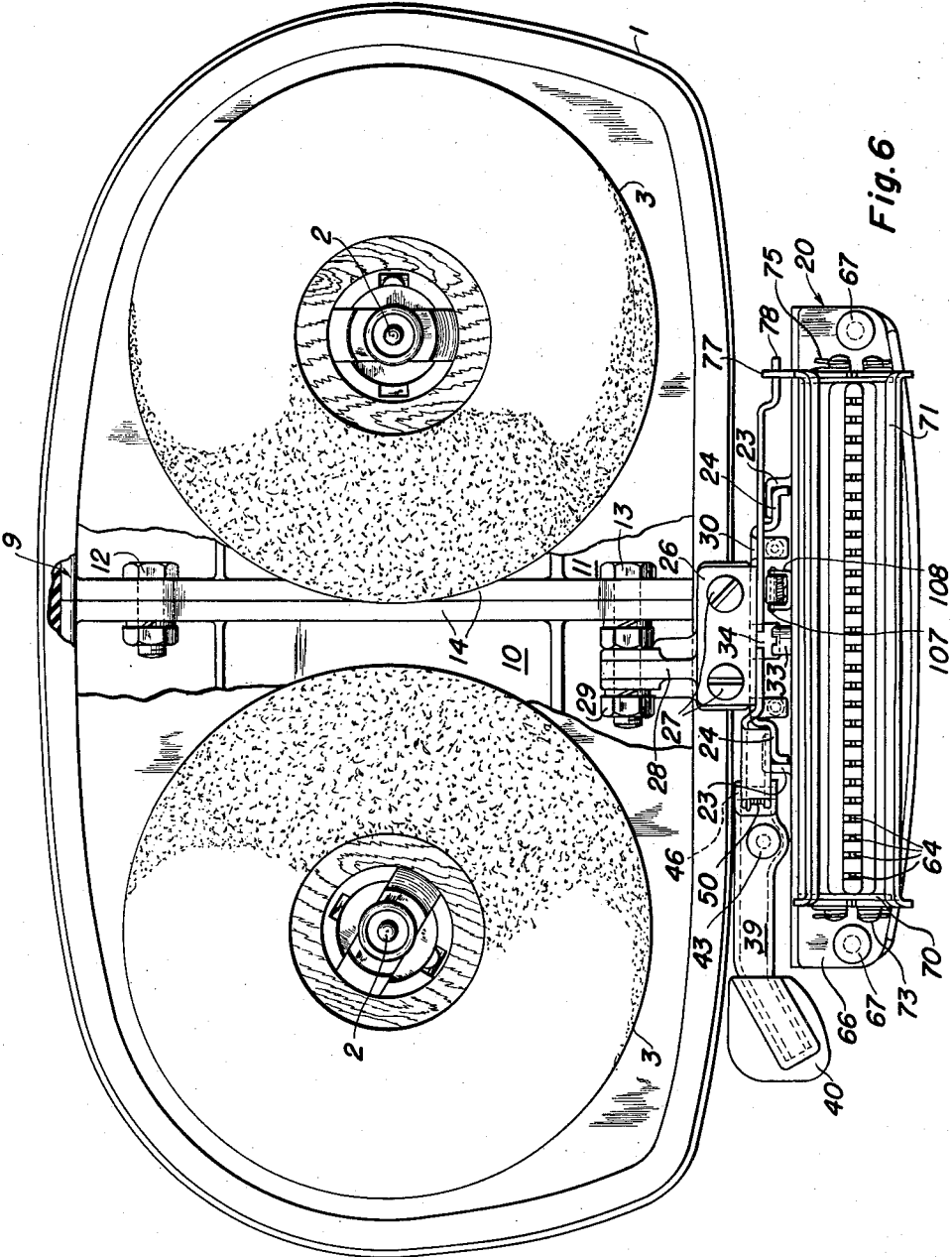
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FLOOR POLISHERS

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Application April 13, 1954, Serial No. 422,883

15 Claims. (Cl. 15—50)

Our invention relates to the art of floor polishing machines and is particularly directed to a floor polishing machine provided with a novel form of wax applying device mounted thereon which may be placed in or out of use at the will of the operator without in any way altering the waxing machine per se.

It is a principal object of our invention to provide a floor polishing machine of a type incorporating one or more power-driven rotary brushes for the purpose of polishing wax applied to the floor in cooperation with a novel form of wax applicator which is mounted on the polishing machine frame and is arranged to be placed into and out of operative relation to the floor at the will of the operator so that the machine may be used as a combined applying and polishing machine or as a polishing machine only without alteration thereof.

It is a further object of our invention to provide a floor polishing machine provided with a wax applicator of a character such that it will operate to apply a thin, evenly distributed film of wax on the floor utilizing waxes of widely varying viscosity.

It is a further object of our invention to provide a floor polishing machine provided with a wax applicator in which the wax is fed in a thin, even stream onto the floor by means of a flexible applicator tongue engaging the surface of the floor which receives the wax from a reservoir which is placed under controlled air pressure so as to provide for even, steady flow of wax from the reservoir to the applicator as the machine is operated.

It is a further object of our invention to provide a floor polishing machine provided with a selectively usable wax applying device wherein the applicator maintains the wax in a reservoir out of the presence of air and so seals the wax when the applying device is not actually engaged in feeding wax to the surface to be polished that the wax is maintained in its original form without caking, hardening, discoloring or sticking.

Other objects and advantages of my invention will become apparent as the description proceeds when taken in connection with the accompanying drawings wherein:

Figure 1 is a small-scale, rear elevational view in perspective of a floor polishing machine embodying our invention;

Figure 2 is a side elevational view of a floor polishing machine partly in section, having our novel wax applicator applied thereto and shown in a section taken on the line 2—2 of Figure 3 looking in the direction of the arrows;

Figure 3 is a rear elevational view of the wax applicator shown in Figures 1 and 2 with parts thereof broken away to illustrate internal construction;

Figure 4 is a detailed, sectional view taken along line 4—4 of Figure 3 looking in the direction of the arrows illustrating an air pressure release valve;

Figure 5 is an end elevational view of the wax applicator of Figure 3;

Figure 6 is a bottom plan view of the apparatus of Figure 2 with parts thereof broken away to illustrate underlying construction;

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Figure 7 is a view partly in section of the upper end of the propelling handle of the waxing machine illustrating an air pump attached thereto;

Figure 8 is a bottom plan view of a modified form of applicator tongue; and

Figure 9 is a sectional view taken along the line 9—9 of Figure 8 looking in the direction of the arrows.

Referring now to the drawing in detail, and first to Figures 1 and 2 thereof, there is illustrated a floor polishing machine of a known type such as that illustrated and described in the application of Edward O. Kohl, Serial No. 91,980, filed May 7, 1949 now U. S. Patent No. 2,683,884, dated July 20, 1954 for "Floor Polishers" and assigned to the assignee of this application comprising a cover housing 1 in which is contained a drive motor and gearing suitably connected to drive downwardly-dependent shafts 2 (see Figure 6) upon the lower end of which polishing brushes 3 are detachably mounted by a known type of brush and shaft connection. The polisher housing 1 overlies and covers a main frame structure 9, see Figures 2 and 6, which carries the drive motor, gearing and brush shafts 2. The polisher is manipulated on the floor by a propelling handle 4 attached at its lower end to a mounting bail 5 which is pivotally supported on studs 6 mounted on frame 9 and projecting from opposite lateral sides of the housing 1. The upper end of the handle is provided with a slightly curved hand grip portion 7 which is held by the hand of the operator when the device is in use. Electrical energy is supplied to the motor within the housing 1 by means of a service cord 8 which enters the housing 1 in any suitable manner as by passing through one of the pivot studs 6.

The main frame 9 consists of separate sections 10 and 11, as shown most clearly in Figure 6, which are held together by bolts 12 and 13 passing through mating, downwardly-projecting flanges 14 on the frame sections 10 and 11. The energization of the motor within the casing 1 which drives the brushes 3 is controlled by a suitable foot-operated push-push switch 15 mounted on the housing 1 and projecting upwardly at an angle on the rear face thereof, as shown most clearly in Figures 1 and 2.

A wax applicator structure designated generally by the reference character 20 is mounted on the rear side of the frame 9 in a manner to be described hereinafter. The applicator comprises a hollow reservoir or container housing 21, open at its bottom, as viewed in Figure 2. The bottom of the casing 21 is closed by a structure to be described hereinafter. The housing 21 is preferably made of metal such as a die casting and is provided on the forward face thereof with a pair of spaced-apart, forwardly-projecting and vertically-extending angle guides 23 which face each other to define a guide channel therebetween (see Figure 6). Guides 23 receive flattened, extending portions 24 forming the lateral sides of a mounting and guide bracket 25 having a forwardly-projecting flange 26 at the lower end thereof which is secured by nuts and bolts 27 to a mounting and support arm 28 carried by the stud 13 which also serves to maintain the main frame sections 10 and 11 in assembled relation. As shown most clearly in Figure 6, the stud 13 is considerably longer than the stud 12 thereby providing a space on which the support arm 28 may be mounted and secured by an anchoring nut 29. As shown in Figures 2 and 6, the mounting of the support arm 28 on the frame structure is normally concealed from view and that the arm 28 extends downwardly and then rearwardly around the lower edge of the frame 9 to support the mounting plate 25 in a vertical position upwardly just rearwardly of the frame 9. The interengagement between the members 23 and 24, as shown most clearly in Figures 3 and 6, provides for a slidable mount of the container or housing 21 on the bracket 25. The mounting plate 25 is provided with

a pair of rearwardly-projecting, spaced-apart tongues 30 forming seats for spaced compression springs 31. The upper ends of springs 31 engage against lugs 32 projecting forwardly of the front face of the container 21. The bias of the compression springs 31 tends to lift the casing 21 to the extent permitted by a stop lug 34 on plate 25 which is positioned to engage a cap stud 33 threaded into the front wall of container 21. The stop lug 34 and stud 33 are so positioned that springs 31 cannot lift container 21 to its upper, inoperative position sufficiently to disengage the guiding and sliding mount structures 23 and 24. In the operative position of the parts illustrated in Figures 2 and 3, the casing 21 is held in lowered position by means of a catch or latch arm 35 engaging over a laterally-projecting latching lug 36 on the left-hand guide 23 as viewed in Figure 3. The latch arm 35 is carried by an upstanding channel section leg 38 of a bell crank lever having a horizontally and laterally projecting channel section leg 39 terminating laterally of the casing 21 in a foot pedal 40. The latch 35 is attached to the bell crank arm 38 by means of a pair of rivets 41 which extend through adjusting slots 42 in the bight portion of arm 38. The position of the latch 35 on the arm 38 is adjusted by means of a stud 43 rotatably mounted on the bight portion of bell crank arm 39 and threaded into a nut 44 secured to the lower end of the latch arm 35. By turning the adjusting stud 43 the catch 35 may be raised or lowered on the arm 38 of the bell crank to vary the lower position of casing 21.

The bell crank is mounted on a pivot pin 46 which is carried by a laterally-projecting, channel-shaped supporting bracket 48 secured to the mounting plate 25 by means of rivets 49. A torsion spring 50 is wrapped about the pin 46 having one end thereof bearing on the bight portion of the arm 38 and the other end thereof extending through a cutout in the bight portion of arm 39 to bear on the bight portion of the supporting member 48 so as to bias the latching structure in a clockwise direction as viewed in Figure 3. When the pedal 40 is depressed by the operator the latch 35 is disengaged from the lug 36 and the springs 31 then slide the reservoir housing upwardly in the guides 23 until the screw 33 contacts lug 34. When it is desired to restore the housing 21 to the operative position, foot pressure is applied to a treadle section 52 mounted on the top wall of housing 21. The housing is then depressed against the bias of the springs 31 causing the rounded, lower edge of the lug 36 to engage the tapered end portion 53 of the latch 35, biasing the latch structure in a counterclockwise direction against the force of the spring 50 until the latch 35 snaps over the flat upper portion of the lug 36 to hold the housing 21 in the lowered position.

An additional means are provided for releasing the latch 35 to permit the springs 31 to elevate the wax applying mechanism to inoperative position whenever the manipulating handle 4 is raised to the upright storage position illustrated in Figures 1 and 2. This is an optional means which may be omitted if desired. The mounting plate 25 is provided with an upstanding L-shaped arm 45 provided with a stiffening rib as shown in Figures 2 and 3. The arm 45 is offset forwardly of the plate 25 as shown in Figure 2 and has the horizontal leg thereof extending to the left as viewed in Figure 3 where it terminates above the latch 35. The arm 45 is offset to lie in the space between the rear of casing 1 and the wax container 21 and clear all movable portions of the applicator mechanism. A bell crank lever 47 is pivotally mounted on a pin 54 carried by the extreme end of the horizontal leg of the arm 45. A tension spring 55 is connected between the downwardly extending leg of bell crank 47 and arm 45 to bias the bell crank for counterclockwise rotation, as viewed in Figure 3, to the limit allowed by a stop pin 56 carried by arm 45. The generally horizontal leg of bell crank 47 projects to the left, as viewed in Figure 3, to a point outwardly of the outer

side wall of the wax container casing 21 and is connected at its end to a flexible ball chain 57. The ball chain 57 is also connected to the rearwardly projecting portion of a bracket 58 connected by an offset 58a to a U-shaped strap portion thereof 58b receiving one leg of the handle bail 5 to which it is secured by a clamping stud 59. When the handle is placed in the upright storage position of Figure 1, dashed line position of Figure 2, chain 57 is tensioned and rotates bell crank 47 in a clockwise direction against the bias of spring 55 causing the generally vertical leg of the bell crank 47 to engage the latch 35 which projects forwardly beyond the catch 36, so as to rotate the latch to disengage the same from catch 36. The proportions illustrated in the drawing are such that the bell crank 47 reaches the limit of its movement allowed by stop 56 when the handle is rotated to an angle of approximately 16° from the vertical, that is to say, the handle must be in a nearly vertical position before it begins to operate the latch releasing mechanism and in all other positions of the handle the latch is unaffected thereby and under the sole control of the pedal 40. Thus, the chain 57 provides a lost motion connection from the handle to the latch so that the latch is not operated until the handle is well above its normal operating range of movement. The length of bracket arm 58 and offset 58a are proportioned so that the arm 58 will clear the end of bell crank 47 and pedal 40 when the handle is lowered to a substantially horizontal position. The handle operated latch release provides absolute certainty that the applicator will not be left in operative position should the user of the machine suddenly leave the same as the handle must be placed in the storage position with this type apparatus before it is released by the operator.

The container 21 is elongated and open-ended at its bottom. An elongated flexible reservoir 60 constructed of rubber or suitable plastic material is mounted within the container 21 and is provided on its open end with an enlarged bead 61 which rests against the shoulder 60a formed around and slightly within the open lower end of the container 21. The bead 61 is preferably cemented to the shoulder 60a and engages the projecting wall of the container 21 to form an air-tight joint therebetween, thus hermetically sealing the space 22 between the container 21 and reservoir 60 except for certain ports to be described hereinafter. The reservoir 60 is formed complementally to the container 21 but has external dimensions slightly smaller than the internal dimensions of casing 21 and is a reservoir in which liquid or paste wax may be stored. In the form of the invention illustrated in Figures 1 to 7 the apparatus is arranged primarily for paste wax.

The lower end of the container 21 and reservoir 60 is closed by a wax-feeding device now to be described. The wax-feeding device comprises an elongated, flexible, tongue-like member 62 having a narrow passageway 63 extending therethrough and terminating at its lower end to define opposed wiping lips 64 which provide for feeding and spreading paste wax fed through the passageway 63. The upper end of the tongue 62 remote from the surface-engaging lips 64 is flared and received in a flaring mounting plate 65 having laterally-projecting side wings 66 adapted to receive securing studs 67 which thread into the laterally-projecting flanges 68 on the casing 21. The inner top portion of the tongue 62 is bonded to a flared metal liner plate 69 which supports and shapes the tongue and inlet to passage 63. When the studs 67 are drawn tightly the plate 65 squeezes the flared liner plate 69 against the downwardly-facing end of the bead 61 on the reservoir 60 to form an air and wax-tight seal.

Downwardly-projecting mounting flanges 70 are provided on plate 65 at opposite ends of tongue 62 which form supporting means for a closure structure for the channel 63 comprising a pair of elongated pinch plates 71 connected at their ends to the ends of curved arms 72 which are pivotally mounted on studs 73 carried by

the end plates 70. The pinch plates 71 are elongated bodies slightly curved in cross section and are slightly longer than the tongue 62 so as to be engageable on opposite sides thereof throughout its length as is apparent from Figures 2 and 3. The curved arms 72 adjacent the points on which they engage the pivot pin 73 are provided with interengaging gear teeth 74 whereby rotation of either arm rotates the other arm in the opposite direction. Each of the pins 73 is surrounded by a torsion spring 75 having one end thereof engaging the overhanging flange 66 and the other end thereof engaging the associated arm 72 biasing the same to rotate in a direction to engage the associated pinch plate with the tongue 62. In the free position of the parts the four springs 75 urge the plate 71 into engagement with the tongue 62 and close the channel 63. The springs 75 are made comparatively light so that plates 71 will engage the tongue with just enough force to collapse the same to close the channel 63 without forcing the side walls of the channel 63 together with sufficient force to cause the same to adhere permanently.

The closure plates 71 are automatically operated by a mechanism comprising an actuating arm 77 projecting forwardly from the arm 72 nearest the casing 1 on the right-hand end of the casing 21 as viewed in Figure 3. The arm 77 overlies and is engageable with a stop plate 78 which is welded to the mounting plate 25 as indicated at 79 and extends laterally between the casing 1 and reservoir housing 21 to underlie the arm 77. In the position of the parts illustrated in Figure 5 the arm 77 has engaged the arm 78 rotating the arm 77 in a clockwise direction which moves the plates 71 apart to disengage the tongue 62 to allow free flow of wax therethrough. When the latch 35 is disengaged to allow the reservoir 21 to rise to the extent permitted by stop tangs 34 and cap screw 33, the arm 77 disengages from arm 78 and the springs 75 automatically close the plates 71 against the tongue 62.

Wax is expelled from the reservoir 60 through the channel 63 to the spreader lip or tongue 62 by developing air pressure within the space 22 which causes the reservoir 60 to collapse onto the wax and force the same out. Air pressure is particularly desirable for this purpose as it applies a uniform force on all sides of the casing which is resilient and easily controlled and relieved.

The air pressure is developed by means of a flexible bulb 80 having spaced strap mounting portions 81 engaging the handle 4 just beneath the hand grip 7. The bulb 80 is a hollow member, preferably made of rubber, provided in its upper end with a valve plug 82 housing a ball check valve 84 mounted to be biased downwardly to the open position illustrated by gravity. When the bulb 80 is collapsed manually, the compressed air then forces the ball 84 upwardly against the seat 85 to close the air inlet passage 86. The lower end of the bulb 80 is provided with a plug 87 having an exhaust passage-way 88 therethrough communicating with a ball check valve 89 opening into a hollow valve housing and connecting member 90 which is secured to the lower end of the valve housing member 87 in air-tight relation. When the bulb 80 is collapsed, air pressure therein forces the ball 89 downwardly, away from the valve seat at the end of the passage 88 wherefore air compressed within the bulb 80 flows through the passage 88 into the casing 90. The lower end of the casing 90 telescopically receives the upper end of a flexible air-conducting tube 91 which extends downwardly along the handle, as shown most clearly in Figure 1, and is secured adjacent the lower end of the handle adjacent the point where the handle 4 joins the bail 5 by means of a strap clamp 92 from which the conduit 91 extends to telescopically receive a nipple 93 projecting upwardly from the upper wall of the casing 21 and opening into the air space 22. It is apparent from the foregoing that repeated collapsing of the bulb 80 by manual pressure builds up air pressure within the casing 22 to any desired degree. The operator

builds up pressure within the air space 22 until the rate of feed of the wax is satisfactory considering the nature of the wax and the nature of the surface to which it is being applied.

A manually-operated pressure relief valve is arranged in the bellows structure to permit the operator to discontinue the feed of wax instantaneously. The bellows 80 includes a downwardly-projecting skirt portion 95 which is provided with an opening to receive the operating button 96 of a rubber valve 97 mounted within the chamber 90 in position to close an exhaust port spaced around the extension 93 connecting the button 96 and valve 97. The valve 97 is provided with a tubular extension 99 extending across the chamber 90 to engage against the side wall thereof opposite the port sealed by the valve 97. The length of the tubular member 99 is made slightly greater than the space between the valve 97 and opposite wall of the chamber 90 when the valve is in closed position; wherefore, the tubular member 97 resiliently presses the valve into the seat to insure a seal therebetween and also serves as a spring against which the valve moves when actuated to open position by pressure applied to the button 96. Air pressure within the chamber 22 can be substantially instantaneously released at any time simply by pressing upon the button 96.

A means is also provided to release the air pressure automatically within the chamber 22 whenever the pedal 40 is depressed or the handle is raised to storage position to release latch 35 and permit the springs 31 to raise tongue 62 out of engagement with a supporting surface. This means comprises a hollow rivet 105 extending through the wall of the casing 21 into the space 22 and opening to the exterior of the casing 21 on the forward side thereof. The hollow rivet 105 forms an exhaust port and valve seat for a valve plate 106 pivotally mounted on a pin 107 supported by the legs of a U-shaped bracket 108 riveted to the forward face of the casing 21. A torsion spring 109 is wrapped about the pin 107 and bears between the front wall of casing 21 and valve plate 106 to bias the valve to the open position. A spring steel actuating arm 110 is riveted to the forward face of the valve arm 106 and bears against the mounting plate 25 when the casing 21 is in the lower operative position illustrated in Figures 3 and 4. The spring 110 is strong compared to the spring 109 and overcomes the bias thereof when spring 110 engages wall 25 to maintain the valve 106 in closed position illustrated in Figure 4. When the pedal 40 is depressed or the handle is raised to release latch 35 to allow the reservoir and casing 21 to be elevated, the spring 110 rides out of engagement with plate 25 and spring 109 then moves the valve 106 to the open position to relieve the air pressure within casing 22 and thus automatically to prevent a discharge of wax when the tongue 62 is disengaged from the supporting surface.

A means are also provided to relieve the air pressure within the space 22 automatically whenever the user removes the cover structure mounting the tongue 62. For this purpose a second hollow rivet 115 is mounted in the side wall of the casing 21 opening to the space 22 therein and forms a discharge port and seat for a valve 116 mounted on a spring steel support 117 which is pivotally mounted on a pin 118 carried by a U-shaped bracket 119 secured to the side wall of the casing 21. A torsion spring 120 is wrapped about the pin 118 bearing between the side wall of the casing 21 and the spring arm 117 to bias the valve 116 to the open position. The supporting arm 117 is provided with a laterally-bent, bearing section 121 in position to engage the right-hand stud 67 as viewed in Figure 3. When the stud 67 is drawn up, the projecting end thereof engages plate 121 and forces the valve 116 into a seat on the rivet 115 against the bias of spring 120 to seal the space 22. As soon as the user loosens the stud 67 the valve 116 will move to open position to relieve the air pressure within the space

22. This is a safety precaution which provides insurance that the operator will not inadvertently remove the cover on the reservoir housing 21 until air pressure therein is relieved. The casing 21 is provided with laterally-extending side wings or shields 125 forming extensions of the rear face thereof to cover and hide the valve structure 116 and studs 67 when the casing 21 is mounted on the polisher.

Referring now to Figures 8 and 9, a modified form of applicator tongue is illustrated which is particularly designed for use with low viscosity liquid wax. This form of the invention differs from that heretofore described only with respect to the discharge portion of the applicator tongue; consequently, those portions of the device of Figures 8 and 9 which are identical with portions of the device heretofore described are identified by corresponding reference characters distinguished by the addition of a prime and the applicator tongue pinching or closing mechanism is omitted for the sake of clarity in illustration.

The discharge portion of the tongue 62' comprises an elongated slot 130 separated from the passageway 63' by a transverse web 131 which is pierced by a plurality, in this instance five are illustrated, of very small holes 132. The holes 132 may, for example, have a diameter of about .036 of an inch and may be formed by piercing the web 131 with a needle. The channel 130 is defined on its opposite sides by a pair of spreader or wiper lips 134; consequently, the small amounts of liquid wax which feed into the channel 130 through the holes 132 spreads along the channel 130 and is evenly applied to the surface by the lips 134.

The applicator tongue 62' may be replaced by the applicator tongue 62' by removing the studs 67 and substituting one applicator for the other whenever the user of the device changes from one type of wax to another. Both applicators function in substantially the same way, the difference being merely to accommodate waxes of widely varying viscosity.

The reservoir 60 is filled with wax by up-ending the machine and resting the same on a suitable support after which the cover plate 65 and applicator tongue structure is removed by removing the studs 67. This automatically removes the closure structure associated with the closure plate 71 and completely exposes the interior of the container or reservoir 60 with the open end thereof facing upwardly. The operator then fills the container 60 with wax by pouring the wax in if it is sufficiently liquid to permit such use or by using a spatula if the wax is in paste form. After the container 60 is substantially completely filled with wax the applicator tongue, clamping plates and closure structure are reapplied and the studs 67 drawn up tightly by finger pressure and the apparatus is then restored to operative condition.

The present invention provides a polishing device wherein the operator may quickly convert from straight polishing application to wax application and polishing and back again by simply applying pressure to the treadle portion 52 of the reservoir housing to lower the applicator tongue into engagement with the supporting surface or by depressing the pedal 40 to elevate the applicator tongue above the supporting surface which action automatically closes the discharge passage in the applicator tongue and relieves chamber 22 of air pressure.

In each form of the invention the wax feeds through a passageway in the applicator tongue into a channel or slot in the lower end thereof defined by spaced apart, surface-contacting lips 64 or 134 as the case might be. As the polisher is reciprocated back and forth across the surface to be waxed, the applicator tongue flexes slightly in opposite directions; for example, in Figure 2 the tongue is shown flexed in the direction caused by rearward movement of the polisher. Whatever the direction of movement of the polisher may be the trailing lip for the time being spreads the polish feeding through the ap-

plicator tongue passageway in a thin and even film on the surface to be waxed and the wax thus fed and spread is immediately thereafter subjected to a polishing action by the brushes 3.

In the use of the device, the operator successively collapses the bulb 80 to pump air into the space 22 and to collapse the reservoir 60 and force wax contained therein through the applicator tongue onto the supporting surface. It has been found in practice that an air pressure actuated wax-feeding device of this character feeds the wax evenly and uniformly and provides precise control of the rate of feed. The operator quickly learns the proper rate of feed and can maintain the same by initially building up air pressure to the desired value and then occasionally collapsing the bellows 80 to maintain air pressure as the wax feeds slowly from the applicator tongue onto the surface. As the polisher is reciprocated back and forth, the wax is spread evenly and initially polished by the brushes 3 during the actual process of applying wax. Once a coat of wax has been applied to an entire surface the operator then depresses pedal 40 which elevates the applicator tongue out of contact with the surface which relieves the air pressure in chamber 22 and closes the passage 63 to discontinue the feeding of wax after which the operator may continue to use the machine to apply a finish polish to the floor. If, at any time during the use of the device, the wax feed appears to be undesirably rapid, the operator can almost instantaneously correct that condition by depressing the button 96 to bleed the air from the chamber 22 to reduce or eliminate superatmospheric pressure in chamber 22. The automatic closure of the applicator tongue and air pressure release features of our invention insure wax will not feed from the reservoir at times when the operator does not desire such operation to occur.

Though we have described the particular embodiment of our invention and illustrated the same as applied to a polisher which represents the preferred use thereof, it will be understood that our invention is susceptible of embodiment in varying forms. For example, instead of a completely flexible wall wax container as illustrated in the preferred embodiment, the wax may be put in a rigid wall container 21 which will house a collapsible bellows arranged to bear upon the wax in its container 21 and force the same through the applicating tongue. In this type of arrangement we connect the release valves 106 and 116 to the interior of the bellows in order that air pressure may be relieved automatically as disclosed herein. Our applicator is constructed so that it may be applied to a polisher as initially sold or may be sold as an accessory to be applied to existing polishers. In addition, it may be utilized, if desired, on a separate frame having floor supporting wheels or skids and be used purely as a wax applicating device in which the polisher will be brought to a high luster by separate polishing means such as a polisher of the type generally illustrated herein or a hand-operated polishing brush or pad. In the preferred form of the invention the longitudinal span of the applicator is deliberately illustrated as being considerably smaller than the total longitudinal span of the brushes 3. This is in order to insure that each layer of wax applied to the surface to be polished will receive a plurality of passes or polishing operations by the brushes as the machine is reciprocated back and forth in paths having a width approximately equal to the length of the applicator tongue. Such operation is preferred as it simplifies the complete polishing operation and tends to eliminate completely any swath marks or the like indicating the individual strokes of the machine during the wax applying process. However, longer or shorter applicators may be utilized where particular circumstances dictate the desirability thereof.

While we have illustrated and described the invention in considerable detail, it is to be understood that various changes may be made in the arrangement, proportion and

construction of parts without departing from the spirit of the invention or the scope of the appended claims.

We claim:

1. In a polisher having a main frame adapted to be supported on a surface to be polished and a propelling handle attached to the frame, the combination of a wax applying structure having a wax container, a depending wax applicator and air pressure operated means for feeding wax from the container to the applicator; means on the frame mounting the wax applying structure for movement between operative and inoperative positions, means biasing the wax applying structure to inoperative position, a releasable latch for holding the wax applying structure in operative position, a valve means operative to release air pressure from the air pressure operated means when the wax applying structure is in inoperative position, and manually operated means for releasing the latch.

2. Apparatus according to claim 1 wherein the manually operated means comprises a foot pedal supported by the main frame.

3. Apparatus according to claim 1 wherein the propelling handle is pivotally mounted on the main frame and the manually operated means comprises a linkage having a lost motion connection to the handle arranged to be operated to release the latch as the handle moves to an upright storage position from a position above the normal operating range of movement of the handle.

4. Apparatus according to claim 1 wherein the handle is pivotally mounted on the frame and is movable to an upright storage position and the manually operated means comprises a foot pedal for operating the latch and mechanism operated as the handle moves to storage position for operating the latch.

5. In a wax applying device adapted to be mounted on a supporting frame in use comprising a wax receptacle, an elongated flexible applicator tongue depending from the receptacle and having a passage therethrough for conveying wax from the receptacle to a supporting surface, fluid pressure actuated means for applying pressure to wax in the receptacle to feed wax through the applicator and means for simultaneously releasing the fluid pressure from said actuated means and for pinching the applicator to close the passage against the flow of wax or air.

6. A wax applying device comprising a rigid container having an open bottom, a flexible wall wax receptacle mounted within the container having an open bottom and having the rim thereof around the open bottom secured to the inside wall of the container adjacent the open bottom thereof, an applicator tongue of flexible material having a wiping lip and a wax feeding passage therethrough terminating in the lip, means for securing the applicator tongue to the receptacle in air sealed relation to the receptacle and with the applicator passage communicating with the interior of the receptacle, and means for applying pressure to the exterior of the receptacle to feed wax therefrom into the applicator passage for delivery to the wiping lip, said wiping lip being adapted to contact a surface to be waxed for spreading the wax thereon.

7. Apparatus according to claim 6 wherein the pressure applying means includes air compressing means connected to supply compressed air to the interior of the rigid container around the receptacle whereby the pressure of the compressed air collapses the receptacle to feed wax through the applicator passage.

8. In a floor polishing machine having a body portion, a power driven brush mounted on the body portion and a propelling handle mounted on the body portion, the combination therewith of a wax applying structure comprising a flexible wax reservoir, an applicator tongue mounted on the reservoir and having a passageway therethrough communicating with the reservoir for conveying wax from the reservoir to a surface to be waxed, said passageway terminating in a wiping lip adapted to be disposed in contact with the surface for spreading the

wax thereon, means including an actuating part on the handle and means associated with said reservoir for applying fluid pressure to the reservoir to expel wax therefrom, and means mounting the reservoir on the body portion for movement between an operative position in which the wiping lip is disposed in contact with the surface and an inoperative position in which the wiping lip is removed from contact with the surface.

9. Apparatus according to claim 8 wherein the reservoir is in the form of a collapsible flexible container, and the pressure applying means comprises a rigid container encompassing the reservoir and an air pump mounted on the handle and connected to supply air under pressure to the rigid container around the wax container.

10. Apparatus according to claim 8 wherein the wax applying structure is mounted on the body portion for slidable vertical movement between operative and inoperative positions, spring means biasing the structure to inoperative position, a spring latch for holding the structure in operative position, a foot pedal for releasing the latch, and a pedal on the structure whereby the structure may be moved to the latched operative position by foot pressure applied to the structure.

11. A wax storing and applying structure comprising a rigid housing having an open bottom, an open bottom flexible walled wax container mounted in the housing with the walls of the container about the open bottom thereof sealed to the walls of the housing about the open bottom thereof to define a sealed air space in the housing around the container, a removable bottom wall for the container and housing having an applicator projecting therefrom formed with a passageway for conducting wax from the container to a surface to be waxed, said applicator being in the form of an elongated flexible tongue extending downwardly from said removable bottom and terminating in a pair of wiping lips on opposite sides of said passageway for contact with said surface to spread wax thereon and means for compressing air in the space around the container to collapse the walls thereof and force wax through the passageway for delivering the wax to the wiping lips.

12. Apparatus according to claim 11 including an air exhaust duct through the housing for releasing pressure from the container, a valve biased to open position for controlling the duct, and means holding the valve closed when the bottom wall is secured to the housing.

13. Apparatus according to claim 11 wherein the air compressing means comprises a collapsible bulb, a conduit for conveying compressed air from the bulb to the space between the housing and container and a manually operated pressure release valve is provided in the conduit adjacent the bulb.

14. In a polisher having a main frame, a polishing device on the frame and a propelling handle mounted on the frame, the combination of a wax applying structure comprising a container for wax having a depending applicator adapted to feed wax to a surface to be waxed, air pressure operated means for applying pressure to wax in the container to feed the wax to the applicator, means on the frame mounting the container for movement between an operative wax applying position in which the applicator is disposed in contact with the surface and an inoperative position in which the applicator is removed from contact with the surface, a valve for releasing air pressure from the air pressure operated means, and automatic means for opening the valve when the container is moved to inoperative position and for closing the valve when the container is moved to operative position.

15. In a floor polisher having a body portion, a power driven polishing brush mounted on the body portion and a propelling handle attached to the body portion, the combination of a rigid closed housing carried by the body portion to the rear of said polishing brush, a wax storing and feeding structure comprising a flexible walled wax container in the housing having an applicator tongue projecting below said housing and formed with a passage-

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way for conducting wax from the reservoir to a surface to be waxed, said applicator tongue including a wiping lip for spreading wax on the surface and the passageway terminating adjacent the wiping lip, and an air pump mounted on said handle and connected to supply air under pressure to the space between the housing and wax container to force wax through said passageway.

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