

Sept. 25, 1951

W. A. ANDERSON
FLOOR WAXING MACHINE

2,568,699

Filed Oct. 6, 1947

2 Sheets-Sheet 1

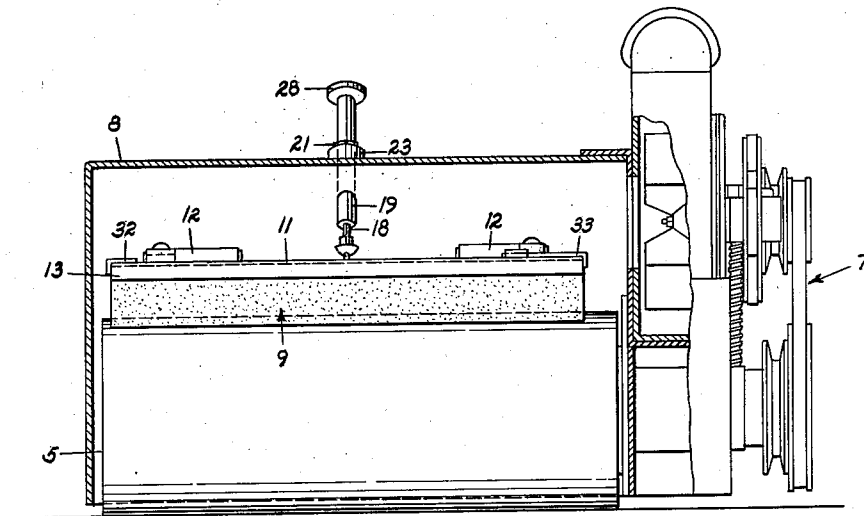


FIG. 2

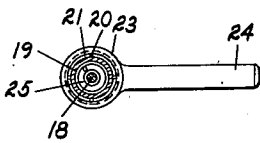


FIG. 6

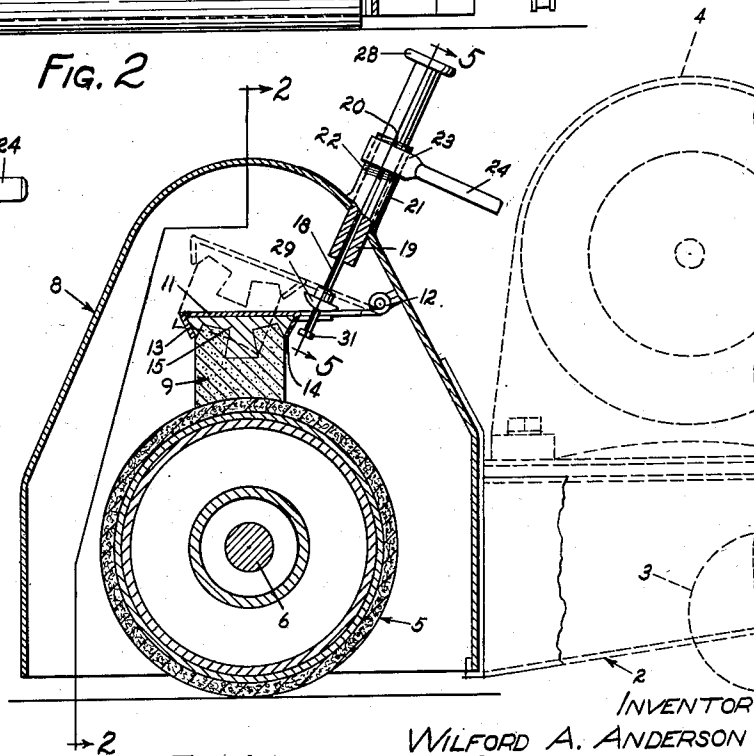


FIG. 1

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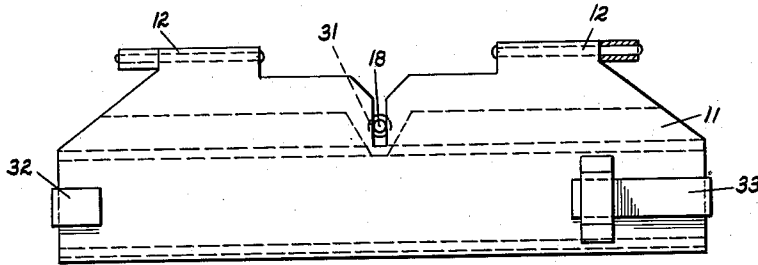


Fig. 3

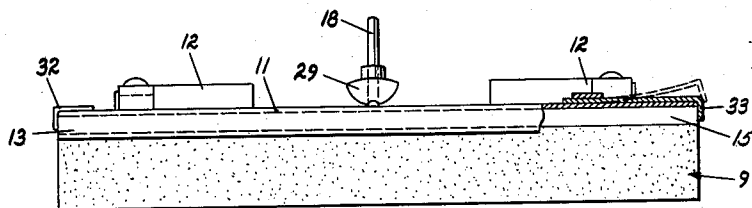


Fig. 4

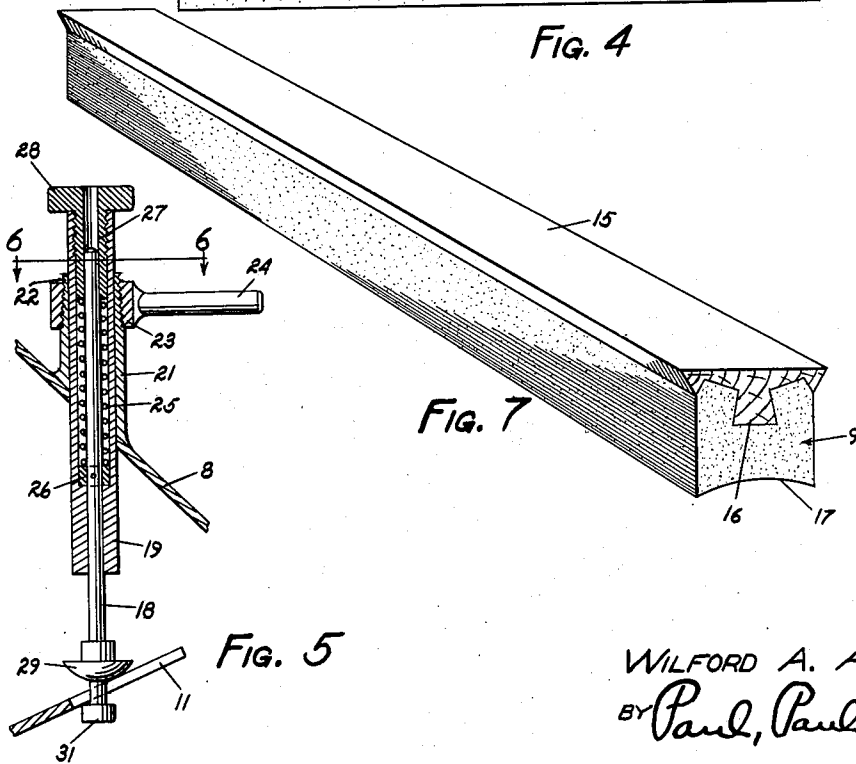


Fig. 5

Fig. 7

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FLOOR WAXING MACHINE

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6 Claims. (Cl. 91-48)

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This invention relates to an improved method of and apparatus for applying a polishing wax or similar material to a surface to be polished, and the present application is a continuation-in-part of my application Ser. No. 504,748, allowed April 9, 1947, and now Patent No. 2,429,974.

It is now common practice to apply wax to various surfaces as a protecting coating and also to impart to the surface a high luster and finish. Heretofore, wax has usually been applied to the surface in liquid form. In other instances the wax has been heated to facilitate application and has been transferred from the wax supply to the surface to be polished by various forms of devices.

So far as I am aware, no one had, prior to the conception of the present invention, attempted to mold or compress the polishing wax into a solid body or bar, and then remove the wax from the bar and deposit it upon the surface to be polished in the form of a thin film by means of a suitable polishing member, or other mechanically operated devices suitable for the purpose adapted to functionally engage the wax body and transfer portions thereof onto the surface with a polishing action.

To obtain a good polish and one having a good wearing surface, it is essential that the wax be applied to the surface in a thin film. This is made possible in a highly practical manner by the use of the present invention, wherein a mechanically driven polishing member is arranged to functionally engage a surface of a wax body in solidified form and transfer wax therefrom onto the surface to be polished. To control the application of the wax to the surface, there are several contingencies which must be controlled in order that the feeding of the wax from the wax supply onto the surface will be uniform under all operating conditions, including temperature. Obviously, when operating in high temperatures, the wax bar, because of being subject to heat, tends to soften, and when this occurs, greater quantities of the wax are removed by the transfer member, which is objectionable. This method of wax application permits the use of wax with varying melting points so that the proper material may be used depending upon the temperature under which the wax is to be applied. Variations in room temperatures and weather conditions, as well as temperatures resulting from the frictional engagement of the wax with the periphery of the polishing member, when the machine is in operation, plus variations in the operating temperatures of the motor may all affect the consistency of the wax. This

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method is extremely flexible to meet these varying conditions.

An additional advantage of this method of wax application is that it permits great latitude in the use of high-melting point material. These special materials which resist heat are often not suitable for use in a wax that is made up into emulsifications or mixtures.

An object of the present invention therefore is to provide a new method of applying a polishing wax to a surface wherein the polishing wax is formed into a composite solid body capable of being supported in a suitable holder from which the wax may be transferred onto the surface to be polished by a suitable member movably mounted between the wax supply and the surface or floor to be treated.

A further object is to provide an apparatus for polishing floors and the like, including a rotating drum or cylinder having its periphery provided with a suitable polishing material, and means being provided adjacent to said member for supporting a supply of wax in solidified form, which wax is so supported with respect to the rotating member that it may be caused to lightly engage the surface of the rotating member the length thereof, whereby a portion of the wax is transferred from the wax bar onto the floor or other surface to be polished by the action of the rotating member, and whereby the application of the wax to the surface may be accurately controlled to assure that the wax film will be uniform over the entire area of the floor so treated.

A further object is to provide a polishing wax in the form of a solid body so designed that it may readily be supported in a suitable holder in position to be engaged by a rotating member whereby said member may transfer controlled portions of the wax onto the surface to be treated without manual labor.

A further object is to provide an elongated bar of polishing wax having means embodied therein whereby it may readily and conveniently be movably supported adjacent to a revolving drum or member having its periphery covered with a suitable polishing material adapted to engage the wax bar and transfer portions of the wax onto the floor simultaneously as the rotating drum imparts a polishing action to the surface being treated.

Other objects of the invention reside in the provision of a waxing attachment which readily lends itself for use in connection with floor polishing machines of the type comprising a rotary polishing drum to the periphery of which the

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wax is applied for transfer onto the surface to be polished; in the construction of the wax bar, whereby it may be quickly inserted into a suitable holder in position adjacent to a cylindrical buffer or polishing drum, and also whereby the frictional engagement of the wax bar with the periphery of the drum may be conveniently varied to accurately control the feeding of the wax from the wax bar onto the floor being treated.

Other objects of the invention will appear from the following description and the accompanying drawings and will be pointed out in the annexed claims.

In the accompanying drawings there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown, as various changes may be made within the scope of the claims which follow.

In the drawings:

Figure 1 is a view showing a portion of a floor polishing machine with the invention embodied therein;

Figure 2 is a detail sectional view on the line 2-2 of Figure 1, showing the wax bar in engagement with the polishing cylinder and also indicating in dotted lines the position of the wax bar when moved out of engagement with the periphery of the cylinder;

Figure 3 is a plan view of the brush holder illustrated in Figure 2;

Figure 4 is a view partially in section showing only the wax bar and the holder therefor;

Figure 5 is an enlarged detail sectional view on the line 5-5 of Figure 1;

Figure 6 is a detail sectional view on the line 6-6 of Figure 5; and

Figure 7 is a perspective view of a wax bar removed from this holder.

In the selected embodiment of the invention herein disclosed there is illustrated in Figure 1 a portion of a floor finishing machine 2 having carrying wheels 3 and provided with a suitable motor 4 and a polishing roll or drum 5. The drum is detachably secured to a shaft 6 by suitable means, not shown, and the shaft is driven from the motor 4 by such means as a belt drive 7, indicated in Figure 2.

The periphery of the polishing drum or roll 5 may be in the form of bristles, fabric, steel wool, or any other suitable material capable of producing the desired results when a polishing medium such as wax is applied to the periphery thereof. The drum 5 is shown mounted within a suitable hood 8 secured to the machine frame and detachable relative thereto to provide access to the polishing drum 5 and its associated parts.

An important feature of the present invention resides in the method of applying a suitable polishing wax to a surface to be polished, whereby the application of the wax to said surface may be accurately controlled under all working conditions. To thus accurately control the application of the wax to the surface, the wax is molded or otherwise compressed into a solid mass or body 9, adapted to be received in a suitable holder positioned adjacent to the periphery of the polishing drum 5 in such a manner as to support the wax bar in frictional contact with the periphery of the drum.

To thus support the wax bar 9, there is shown in the drawings a holder 11 which may be pivoted to a wall of the hood 8 by suitable pivots 12 shown

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in Figures 1 and 3. The form of holder herein shown is provided with downwardly and inwardly turned opposed flanges 13 and 14 between which the upper enlarged portion or backing 15 of the wax bar 9 is received. The backing 15 of the wax bar 9 is shown having a longitudinally extending tongue 16 which serves to rigidly anchor the wax bar to the backing portion 15, as will be understood by reference to Figure 7. The backing 15 may be made of wood or any other material applicable for the purpose.

The holder 11 is thus swingable in a vertical plane whereby the lower face 17 of the wax bar 9 may be swung into or out of frictional engagement with the periphery of the drum 5, as will be understood by reference to Figure 1. Means is provided for controlling the frictional engagement of the wax bar 9 with the periphery of the drum 5, in order to accurately control the transfer or feeding of the wax from the wax bar 9 onto the surface or floor being polished.

To thus control the transfer or feeding of the wax onto the surface, a spring-actuated rod 18 is shown slidably supported in a tubular guide 19 mounted for axial adjustment in a hub 21 fixed to a wall of the hood 8, as clearly illustrated in Figure 5. The hub 21 has its upper end portion split longitudinally as indicated at 20 in Figure 1, and said split end is externally threaded, as shown at 22 adapted to receive a lock nut 23, shown provided with an operating handle 24.

When the nut 23 is rotated in one direction, the upper end of the hub 21 is slightly contracted to secure the guide 19 in adjusted position in the hub 21. When the nut 23 is released, the guide member 19 may be axially adjusted in the hub 21 to vary the pressure exerted on the wax to hold it in frictional contact with the periphery of the drum 5, as will be understood.

A spring 25 is mounted in the upper end of the guide 19 and has its lower end engaging a collar 26 secured to the rod 18 by a suitable pin shown in Figure 5. The upper end of the spring 25 bears against the bottom face of a sleeve-like hub 27 shown integrally formed with a hand grip or knob 28. The hub 27 is received in threaded engagement with the upper end of the guide member 19 and provides means whereby the tension of the spring 25 may be varied to suit conditions.

A head 29 is secured to the lower end portion of the rod 18 above the holder 11, and engages the upper surface of the holder when the wax bar is held in contact with the periphery of the polishing drum 5 under tension of the spring 25, as shown in Figure 1. The lower end of the rod 18 has an enlargement 31 adapted to engage the bottom surface of the holder 11 when the rod is pulled upwardly in the guide member 19, thereby to move the wax bar out of contact with the periphery of the drum 5, as indicated in dotted lines in Figure 1. Suitable spring clips 32 and 33 are provided at the ends of the holder 11 for preventing longitudinal movement of the wax bar in the holder, and to facilitate inserting the wax bar into the holder or removing it therefrom.

The present invention, in its broader aspect, resides, as hereinbefore stated, in the novel manner of applying the wax to the periphery of the polishing drum 5, whereby the application of the wax to the surface being polished may be accurately controlled under all conditions, including extreme temperature changes. This is made possible by molding or compressing the wax into

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a solid mass or body, and supporting said body in such a manner that its contact with the periphery of the polishing drum may be conveniently controlled at all times.

In addition to the use of mechanical means for regulating the application of the wax to the surface to be treated, as herein disclosed, using a wax or other polishing material in solid form, permits the greatest latitude in the use of polishing materials having the proper melting point, grain, and other characteristics whereby a desired finish may be obtained under greatly varying temperature conditions.

In the drawings there is shown a pivoted holder for supporting the wax bar which requires that the base or backing 15 of the wax bar 9 be shaped to fit into the holder 11 as shown in Figure 1. Obviously, other forms of holders may be utilized and the wax bar may be otherwise fashioned without departing from the scope of the invention. For example, the wax bar may be made rectangular in cross section whereby it may be supported in a fixed guide mounted over the drum 5 so that the wax bar may be held in feeding contact with the periphery of the drum by gravity, or, if necessary, by the application of variable pressure to the wax bar to control the transfer of the wax from the wax bar to the surface being polished by the periphery of the drum.

By compressing the wax into a solid mass or body, as shown in Figure 7, suitable anti-slip material may be introduced into the wax bar, if desired, with the assurance that when the wax is applied to a surface or floor, such anti-slip ingredients will be uniformly distributed throughout the wax bar so that such anti-slip materials will be uniformly distributed over the surface of the floor when the wax is applied thereto by the periphery of the drum 5.

Such introduction of an anti-slip material into a liquid wax is impractical because of variations in the specific gravity of such materials and the liquid wax. The present method of compressing the wax into bar form and applying it to the floor to be treated by the periphery of the drum 5 also offers a wider latitude in the use of synthetic materials having wax-like properties, which heretofore have been impossible to use in an emulsifying process.

Another important advantage resulting from using wax in bar form, as herein disclosed, resides in the safety factor. Spirit wax is inflammable, whereas wax in bar form as herein shown is safe to use at all times. Wax in bar form is also relatively inert whereby it may be stored without deteriorating effects for long periods under a wide range of temperature changes.

As hereinbefore stated, in order to obtain a good waxing job it is of utmost importance that the wax be applied to the surface of floor in a thin uniform film, and then thoroughly buffing, burnishing, or rubbing such film of wax until the desired finish is obtained. When using wax in bar form, the application of the wax may be accurately controlled at all times resulting in the production of a better job with greater economy in the use of the wax. Wax in bar form is also void of unpleasant odors, usually present in commercial waxes embodying emulsifying agents or solvents in their manufacture.

The frictional or feeding contact of the wax bar with the periphery of the rapidly rotating drum 5 is of extreme importance, as the wax should be applied to the floor in a thin uniform

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coating at all times. When operating in temperatures which may vary from time to time, it may be necessary to vary the pressure exerted on the wax bar to hold it in frictional or feeding contact with the periphery of the drum. For example, when operating a polishing machine of this type in a warm climate, the wax bar tends to soften more or less whereby greater quantities thereof may be carried away by the periphery of the drum 5, unless the pressure on the wax bar is decreased. Conversely, when operating in a relatively cooler temperature, the wax bar may harden to the extent that it may be necessary to apply relatively greater pressure on the wax bar in order to obtain the desired feeding contact between the wax bar and the periphery of the polishing drum 5.

From the foregoing, it will thus be seen that by the employment of the novel method herein disclosed, the application of a polishing wax to a floor or other surface may be accurately and conveniently controlled at all times, whereby the operation of waxing and polishing a surface is greatly facilitated and with the assurance that a high grade polishing job may be obtained under practically all operating conditions.

It will be apparent to those skilled in the art that I have accomplished at least the principal objects of my invention, and it will also be apparent to those skilled in the art that the embodiments herein described may be variously changed and modified without departing from the spirit of the invention, and that the invention is capable of uses and has advantages not herein specifically described; hence it will be appreciated that the herein disclosed embodiments are illustrative only, and that my invention is not limited thereto.

I claim as my invention:

1. In combination with a floor finishing and polishing machine, including a supporting frame, a polishing drum, a motor for driving the drum, and a hood for enclosing the polishing drum, means for applying wax to the periphery of the drum when the machine is in operation for the purpose of waxing and polishing a floor, comprising a backing member having a tongue for rigidly anchoring a wax bar to said backing member, a holder pivotally mounted on said hood engaging said backing member and supporting said wax in operative relation to said polishing drum, means for adjusting the position of the holder to vary the frictional engagement of the wax with the periphery of the polishing drum, and means connected to said adjusting means for exerting a yielding pressure on the wax bar.

2. In combination with a polishing machine of the class described, including a supporting frame, a polishing drum, a motor for driving the drum, and a hood for enclosing the polishing drum, means for applying wax to the periphery of said drum when the machine is in operation, said means comprising a holder for a wax bar, means pivotally mounting said holder on the hood, a hub secured to a wall of the hood, a tubular guide mounted for axial adjustment in said hub, and a spring pressed rod slidably mounted in said guide and having its lower end connected to said holder whereby said rod may exert a yielding pressure on the holder to hold the wax bar in frictional contact with the periphery of the polishing drum.

3. In combination with a polishing machine of the class described, including a supporting frame, a polishing drum, a motor for driving the drum,

and a hood for enclosing the polishing drum, means for applying wax to the periphery of said drum when the machine is in operation, said means comprising a pivoted holder for a wax bar, a hub mounted on a wall of the hood, a tubular guide mounted for axial adjustment in said hub, a spring pressed rod slidably mounted in said guide and having its lower end connected to said holder whereby said rod may exert a yielding pressure on the holder to hold the wax bar in frictional contact with the periphery of the polishing drum, and means for locking the guide in fixed position whereby the pressure of the wax bar on the polishing drum may be varied to control the feeding of the wax onto the floor.

4. In combination with a floor finishing and polishing machine, including a supporting frame, a polishing drum, a motor for driving the drum, and a hood for enclosing the polishing drum, means for waxing the periphery of said drum when the machine is in operation, comprising a holder for supporting a wax bar extending substantially the length of the polishing drum, said holder being pivoted to a wall of the hood, a split hub fixed to the wall of the hood over the holder, a tubular guide mounted for axial adjustment in said hub, a spring pressed rod operably mounted in said guide and having its lower end connected to the holder whereby said rod may exert a yielding pressure on the holder to hold the wax bar in frictional contact with the periphery of the drum, and a lock nut received in threaded engagement with said hub for locking the guide in adjusted position and whereby the pressure of the wax bar on the periphery of the polishing roll may be varied.

5. In combination with a floor finishing and polishing machine, including a supporting frame, a polishing drum, a motor for driving the drum, and a hood for enclosing the polishing drum, means for waxing the periphery of said drum when the machine is in operation, comprising a backing member for supporting an elongated wax

bar which extends substantially the length of said polishing drum, said backing member having opposed lateral edge faces extending lengthwise of said polishing drum, a holder for said backing member, said holder having means engaging said opposed lateral edge faces of said backing member, means whereby the holder may be manipulated to move the wax bar towards or away from the drum to vary the frictional engagement of the wax with the periphery of the drum.

6. In combination with a floor finishing and polishing machine including a supporting frame, a polishing drum, a motor for driving said drum, and a hood for enclosing the polishing drum, means for waxing the periphery of said drum when the machine is in operation comprising a backing member for supporting an elongated wax bar, said backing member having opposed lateral edges extending lengthwise of said polishing drum and end edges extending transversely of said polishing drum, a holder for said backing member pivotally mounted on the hood, said holder having means for engaging said opposed lateral edges of said backing member, retractable means mounted on said holder for engaging said end edges of said backing member, means whereby the holder may be manipulated to move the wax bar towards or away from the periphery of the drum.

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