Nov. 16, 1943. L. VAVRIK ET AL 2,334,364

SURFACE TREATING MACHINE

Original Filed May 4, 1942 2 Sheets-Sheet 1

FIG-1-

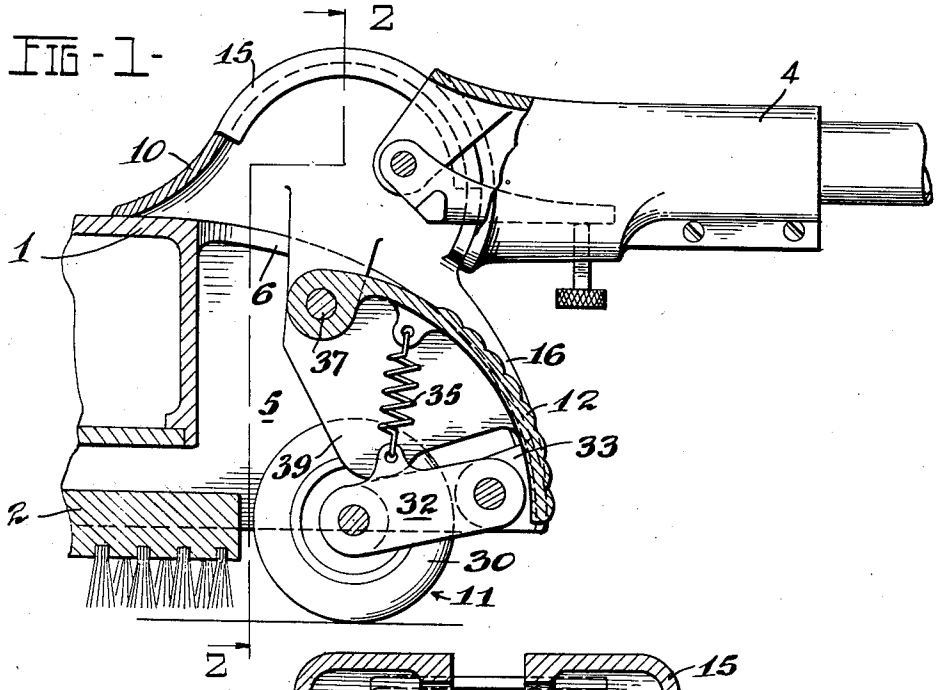
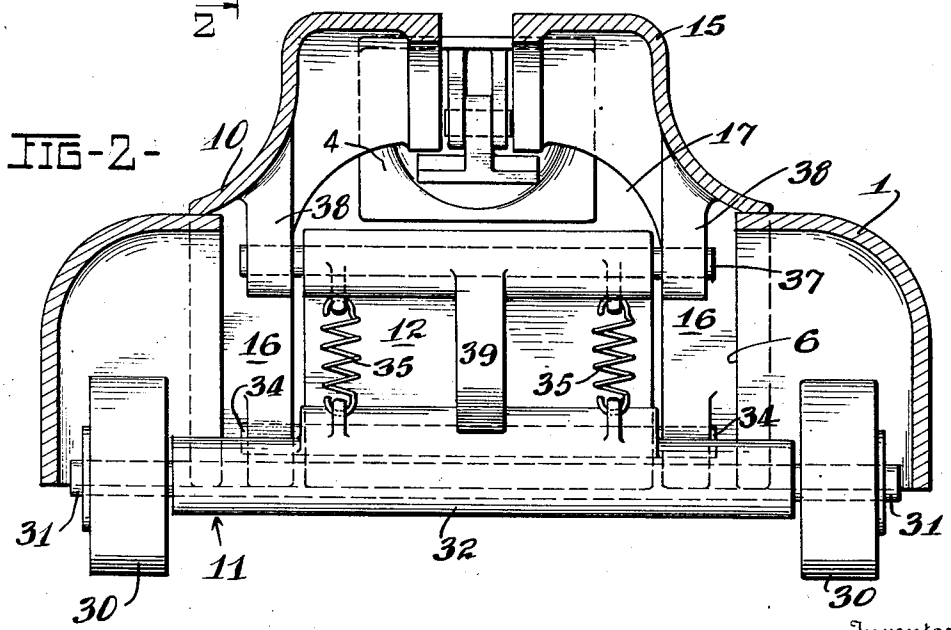


FIG-2-



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FIG-3-

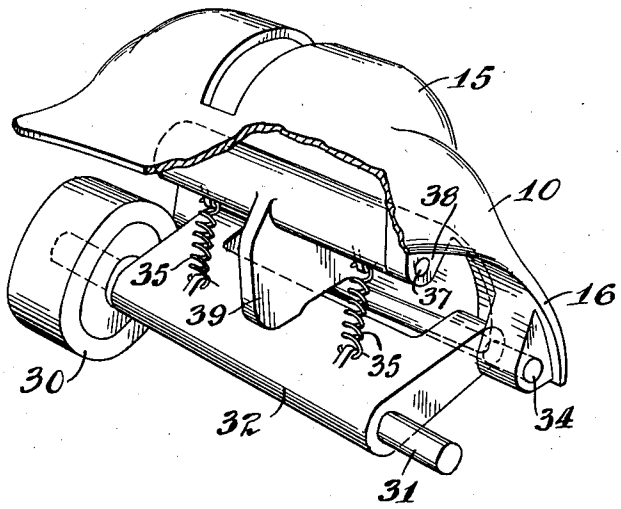


FIG-5-

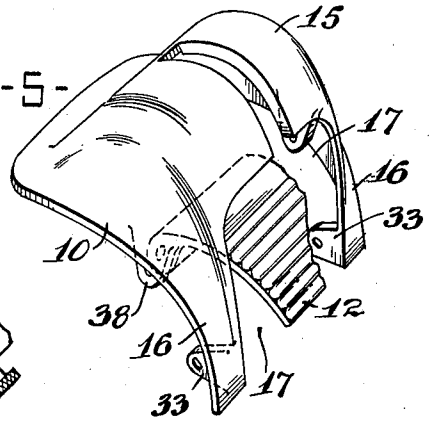
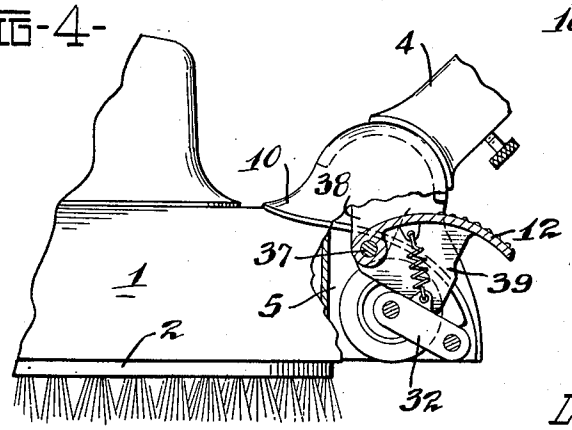


FIG-4-



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UNITED STATES PATENT OFFICE

2,334,364

SURFACE TREATING MACHINE

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Original application May 4, 1942, Serial No. 441,684. Divided and this application November 27, 1942, Serial No. 467,112

3 Claims. (Cl. 280—44)

This invention relates to machines adapted for abrading, polishing or scrubbing surfaces, and is herein illustrated in connection with a horizontally rotating brush type of machine used for polishing and scrubbing. This application is a division of application Serial No. 441,684, filed May 4, 1942, now Patent Number 2,327,229, dated August 17, 1943.

In hand machines of this character, having a horizontally rotatable surface treating element, the entire weight of the machine during operation is customarily borne by such element, which rests on the surface being treated, and a truck is provided at the rear of the machine frame or housing and adapted to be placed in raised or inoperative position or to be lowered into usable position to facilitate moving the machine from place to place when not operating, or to serve as a supporting fulcrum to assist in regulating the working pressure of the treating element.

An object of this invention is the provision of a novel mounting and adjustment control for a truck in a machine of the class described, whereby the operator by foot action can easily and quickly place the truck in one or the other of its positions.

Other objects and advantages of the invention will be apparent from the following detailed description, and from the accompanying drawings illustrating one embodiment thereof, in which—

Figure 1 is a central vertical fragmentary longitudinal section of the rear portion of a machine embodying the invention, with the truck in lowered position; Fig. 2 is a section on the line 2—2 in Fig. 1; Fig. 3 is a front perspective view of a portion of the machine embodying the invention, with parts broken away and one truck wheel removed; Fig. 4 is a reduced fragmentary side elevation of a machine embodying the invention, with parts broken away and with the truck in raised position, and Fig. 5 is a rear perspective view of the removable truck carrying means.

Referring to the drawings, 1 designates the body housing of a machine embodying the invention and 2 the horizontally rotatable brush or other floor treating element of the machine, which is driven in any suitable manner, as well understood in the art.

In the present embodiment of the invention the housing 1 is provided with a rear extension or part forming an open bottom compartment 5 having its top formed midway between its sides with an opening 6 extending to the lower rear edge of the housing skirt. The supporting truck 11 for the machine is mounted in the chamber 5 for vertical raising and lowering movements, and in the present instance is carried by a mounting plate 10 which seats on the housing 1 over the chamber 5 and has the portion thereof which carries the truck 11 projected through the opening 6. The plate 10 rests on the housing with its edge in overlapping relation to the marginal edge wall of the opening 6 and is secured to the housing by screws, or in any other suitable manner, thus forming a fixed separable part of the housing. The plate or mounting structure 10 also forms a mount for the machine handle 4, but as the mounting of the handle thereon is claimed in said former application and forms no part of the present invention, it need not be described.

In the present instance, the upper end portion of the plate 10, within its marginal side and upper end edge portions, is bowed upwardly to form a dome 15 to which the handle 4 is attached, and its lower end portion is notched in inverted U-form to form the side legs 16 and the notch or opening 17 therebetween.

The truck 11 includes a pair of wheels 30, 30, mounted on the ends of an axle or on stub shafts 31 carried by and projecting from opposite ends of the outer edge portion of a bolster 32. This bolster projects rearwardly from the axle and is pivotally connected at its inner or rear edge to bosses 33 on the lower end portions of the respective plate legs 16 at their inner sides, as shown at 34, and is adapted to have limited swinging movements in a vertical plane. Springs 35 act on the bolster 32 to normally retain the truck retracted in inoperative position within the compartment 5 of the machine housing, as shown in Fig. 4, and the truck is forced down to usable position, as shown in Figs. 1 and 2, by a depression of the foot lever or pedal 12.

The foot lever 12 is preferably of plate-form, being substantially the width of the base opening 17 of the plate 10 in which it is mounted, and is provided at its inner end with a cross-shaft 37 that is journaled at its ends in bosses 38 depending from the respective side wall portions of the dome part 15. On the under side of the foot lever 12 is provided a web 39 forming a cam which, in the present instance, when the lever is raised, coacts with the upper side of the bolster 32 to limit its upward movements, and, when the lever is lowered to the position shown in Fig. 1, coacts with the bolster to force the truck down into usable position and hold it there. The springs

35, in the present instance, connect the truck bolster 32 and foot lever 12 and tend to hold them in engaged relation. It is apparent that the manner of coaction of the cam 35 with the bolster 32 causes the foot lever to be yieldingly retained in either its raised or lowered position of adjustment. The foot lever is raised from the lowered position shown in Fig. 1 by the operator engaging under and raising up on the lower edge of the lever with the toe of one foot, and it is lowered by a downward pressure of a foot on the lever.

It is apparent from the foregoing that the truck may be raised or lowered by movement of the foot lever 12 and that when such lever is raised the truck is raised, due to the action of the springs 35, and when the lever is lowered the web 39 thereon has camming coaction with the bolster 32 to force it down to usable position and hold it in such position until the foot lever has again been raised. It is also apparent that by mounting the truck and its operating parts on the plate 10 and projecting said truck and parts through an opening in the machine housing, all of said parts, together with the handle 6, if it is mounted on the plate 10 as in the present instance, may be removed as a unit from the machine for the purpose of repair or replacement. It is to be understood, however, that the provision of the removable plate 10 as a mounting for the truck parts and also the attachment or mounting of the machine handle on such plate are not necessary parts of the invention, and the plate 10 may, if desired, constitute an integral part of the housing.

We wish it understood that our invention is not limited to any specific construction, arrangement or form of the parts, as it is capable of numerous modifications and changes without departing from the spirit of the claims.

Having thus described our invention, what we claim as new, and desire to secure by United States Letters Patent, is:

1. In a machine of the class described, a housing having a rear portion forming an open bottomed truck receiving compartment with a rear opening, a truck vertically movable in said compartment and including a rearwardly projecting bolster extending across said opening and pivoted at its rear end to the housing for vertical swinging movements and carrying supporting wheels at its forward end, a lever member pivoted to the housing above the forward end portion of the truck bolster for vertical swinging movements through said opening and having a portion coacting with said bolster forwardly of its pivot and intermediate the wheels to force the truck to lowered position when the lever is moved in one direction and to permit a raising of the truck when the lever is moved in the opposite direction, and means operating to raise the truck when the lever is moved to permit same.

2. In a machine of the class described, the combination with a housing having an opening in its rear end portion and forming a chamber in advance of said opening for receiving a truck, a mounting plate mounted on the housing over said compartment and having an opening therein in register with the compartment opening, a supporting truck for the housing having a bolster pivotally mounted at its rear end on said plate crosswise of its opening for vertical swinging movements, said truck projecting forwardly from the plate through the housing opening and into said compartment, a foot lever pivotally carried by said plate crosswise of said opening for vertical swinging movements and operable through the plate and housing opening, said lever having at its under side a cam for coacting with the truck bolster forwardly of its pivot to force the truck down into usable position when the lever is depressed and permitting upward movement of the truck to inoperative position when the lever is raised, and means yieldingly acting on the truck to retain it in coaction with said cam.

3. In a machine of the class described, the combination with a housing having its rear skirt portion provided with a rearwardly and downwardly extending opening and forming an open bottomed truck receiving compartment in advance of the opening, a truck vertically movable in said compartment and including a bolster and truck wheels carried thereby with the bolster pivotally connected at its rear end to the housing at the sides of said opening near its lower end with the truck wheels disposed at the forward end portion of the bolster, a lever member pivoted at its upper end to the housing within said opening and above the forward end portion of the bolster and normally extending downwardly and rearwardly therefrom in substantial closing relation to said opening, said lever having a cam projection on its inner side in engagement with said bolster forwardly of its swinging axis and intermediate of said wheels, said cam portion permitting a raising of the truck to inoperative position when the lever is raised a predetermined extent and acting on said bolster to force the truck downward to operative position when the lever is swung downward to the limit of its lowering movement, and means yieldingly acting to raise the truck when the lever is raised to permit the same.

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