FLOOR POLISHER WITH ATTACHMENT FOR CLEANING RUGS

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This invention relates generally to floor polishers, and more specifically to an attachment for a floor polishing machine which permits the use as a rug cleaner of a floor polisher of the type referred to in my co-pending patent application for a "Floor Machine" filed August 3, 1950, and bearing Serial Number 177,404, the patent having been issued on April 20, 1954, Patent No. 2,676,067.

A floor machine of the type mentioned has interchangeable rotating brushes, or buffing heads as the primary cleaning or polishing members. When the machine is in use these brushes or buffing heads are directly in contact with the surface to be cleaned and rotate in a plane parallel to that surface. Above them is housed the driving mechanism, the entire weight of the apparatus resting upon the brushes or buffing heads. Such an arrangement is perfectly satisfactory for the cleaning or polishing of a surface of the nature of linoleum or hardwood. The arrangement is even desirable with such a surface, for a more thorough job is done when a greater pressure is applied to the floor contacting parts.

The same apparatus could be applied to the cleaning of rugs with brushes used as the cleaning member. Necessarily, in order not to damage the rug fabric or nap, a softer brush would have to be used than would be used in the cleaning of floors. But regardless of the nature of the brush used, such an apparatus simply would not work in the cleaning of rugs if the full weight of the apparatus were to rest on the brushes. This would be so because the nap of the rug would catch the fibers of the brush, impeding rotation of the brushes, and this result would be aggravated with pressure on the brushes. Even if rotation did occur, grave damage to the rug might result.

The primary object of this invention, therefore, is to provide a removable attachment for a floor machine having cleaning brushes rotatable in a horizontal plane, which will itself carry the weight of the machine, relieving the cleaning brushes of the necessity of carrying the said weight. In this manner an additional use may be made of the floor machine even more versatile, becomes possible.

Since in the cleaning of a rug with an apparatus of the type mentioned it is necessary to move the cleaner over the surface of the rug, it is a further object to provide means in the attachment for a floor polishing machine whereby it is possible to freely move the entire assembly over the surface of the rug.

Another object is to make the members of the attachment which render it movable, of such nature that no damage to the rug will result in moving the cleaner about. Still another object is to include in the attachment means for adjusting the spacing between the brushes of the supported floor machine and the rug. This adjustment is necessary because of the varying height and thickness of nap in different rugs.

A further object is to provide means whereby the attachment may in a very simple manner be attached to the floor machine, and with equal ease be removed.

A still further object of this invention is to put into the hands of the housewife a practical means by the use of which rugs may be cleaned in the home eliminating the inconvenience of sending rugs out to be cleaned, and making rug cleaning far more economical.

A final object is to provide an attachment for a cleaner of the type mentioned which is light, durable, and which may be made and sold at moderate cost.

How these and many other objects are to be implemented will become apparent through a consideration of the accompanying drawings wherein:

Fig. 1 is a plan view of the attachment.

Fig. 2 is a section taken along line 2—2 of Fig. 1, and

Fig. 3 is a similar section to that shown in Fig. 2 demonstrating the operation of the spacing adjusting mechanism.

The attachment comprises a carrying member 10 having as part thereof two U-shaped portions 10a and 11. The carrying member supports the floor machine on ledge 12 which forms a part of portions 10a and 11, the ledge engaging a rim of the floor machine which is not shown. Additional support is also furnished by means of cross-member 13 beneath which shaft 22 passes.

In attaching the floor machine to the carrying member, the machine is placed on ledge 12, with stationary catch 14, which is immovably mounted upon the main carrying member, engaging the floor machine and holding the floor machine down. Before the floor machine is placed on ledge 12 and under catch 14, pivotable latch 15 is manually depressed in the direction of the arrow in Fig. 2. When the machine is then placed in position on the adapter frame, latch 15, acting under the motive supplied by spring 16, pivots into the position shown in dotted lines in Fig. 2, in which position it engages the floor machine and securely anchors it in the carrying member. Because latch 15 is freely pivotable in both directions when it is in engaging position with the floor machine, its anchoring action will persist when the spacing between the machine and the rug 16 is adjusted up or down by the means hereinafter to be described.

Rollers 18 are affixed to the attachment to provide the necessary mobility of the carrying member 10. Wide rollers are used in order that the weight carried by the attachment be distributed over a large surface to minimize any possible deleterious effect to the rug being cleaned. The rollers are carried on roller shafts 19 and 20.

The height adjustment is made through rotation of shaft 22 which may be rotated through manipulation of knurled knob 23. The shaft has two threaded portions 24 and 25, one portion having a right hand thread, the other a left hand thread. Rider 26, having two external pins 27 as a part thereof, has a threaded internal surface through which threaded portion 24 of shaft 22 passes, so that rotation of the shaft causes rider 26 to move along threaded portion 24. Similarly a second rider 28 will move along threaded portion 25 of the shaft. The lateral motion of the riders is converted to a vertical motion for adjusting vertical spacing between the floor machine and the rug by engaging pins 27 in channels 29 provided for them in rockers 30 and 31, as shown in Fig. 3. Roller shafts 19 and 20 pass through the rockers 30 and 31 which act as fixed points about which the rockers may pivot. The rocker members are further pivotedally connected to the main carrying member by pins 32 and 33. It may thus be seen that rotation of shaft 22 will, through the action of the riders 26 and 28 cause rotation of rockers 30 and 31 about the roller shafts 19 and 20. The effect is to impart a vertical motion to the carrying member 10 which is transmitted therewith to the rockers by means of pins 32 and 33. It will be remembered that threaded portions 24 and 25 of shaft 22 are oppositely threaded so that rockers 30 and 31 will act cooperatively to raise or lower
the main carrying member upon rotation of shaft 22. Fig.
3 illustrates the change in position of the component parts
when the said carrying member has been lowered from the
position of Fig. 2.

While I have described a specific embodiment of my
invention, it is apparent that modifications and alterations
in the structure described may be made without departing
from the spirit of my invention. For example, stationary
catch 14 as well as latch 15 may be made pivotable so
that both are capable of being swung out of the way when
the floor machine is placed in carrying member 10.

I claim:

1. An attachment for a machine having cleaning means
rotatable in a plane parallel to the rug to be cleaned, com-
prising a carrying member having an open portion capable
of supporting said machine, the cleaning means of said
machine extending through said open portion of said
carrying member when so supported, whereby said clean-
ning means are adapted to operatively contact and treat
the rug, means for releasably attaching said attachment
to said machine, and means for adjusting the vertical
spacing between said carrying member and said rug, said
adjusting means comprising rockers disposed on oppo-
site sides of said open portion of said carrying member,
and pivotably pinned at pivot points to said carrying
member, said rockers having channels therein, roller shafts
upon which said rockers are also pivotably mounted, roll-
ers mounted upon said roller shafts, internally threaded
riders having pins integral therewith, said pins being en-
gaged by said channels in said rockers for slidable move-
ment within said channels, and a rotatable shaft having
oppositely threaded surface portions, each of said por-
tions passing through one of said riders, whereby upon
lateral movement of said riders along said rotatable shaft
upon rotation of said shaft and consequent slidable move-
ment of said pins within said rocker channels pivoting of
said rockers about said roller shafts occurs, with conse-
quently vertical displacement of said pivot points at which
said rockers are pivotably pinned to said carrying member.

2. An attachment as claimed in claim 1 wherein said
means for releasably attaching said attachment to said
machine comprises a plurality of hooks mounted on said
carrying member for engaging said machine, at least one
of said hooks being pivotable.

3. The combination for cleaning rugs comprising a
machine having cleaning means rotatable in a plane par-
allel to the rug to be cleaned, and an attachment releas-
ably attached thereto, said attachment comprising a car-
rying member having an open portion capable of support-
ing said machine, the cleaning means of said machine ex-
tending through said open portion of said carrying mem-
ber when so supported, whereby said cleaning means are
adapted to operatively contact and treat the rug, means
for releasably attaching said attachment to said machine,
and means for adjusting the vertical spacing between said
carrying member and said rug, said adjusting means
comprising rockers disposed on opposite sides of said
open portion of said carrying member, and pivotably
pinned at pivot points to said carrying member, said
rockers having channels therein, roller shafts upon which
said rockers are also pivotably mounted, rollers mounted
upon said roller shafts, internally threaded riders having
pins integral therewith, said pins being engaged by said
channels in said rockers for slidable movement within said
channels, and a rotatable shaft having oppositely thread-
ed surface portions, each of said portions passing through
one of the said riders, whereby upon lateral movement of
said riders along said rotatable shaft upon rotation of said
shaft and consequent slidable movement of said pins
within said rocker channels pivoting of said rockers about
said roller shafts occurs, with consequent vertical dis-
placement of said pivot points at which said rockers are
pivotably pinned to said carrying member.

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