Jan. 4, 1966 E. WÖRWAG 3,226,759

DEVICE FOR CHANGING A FLOOR TREATING MACHINE FROM A WAXING MACHINE TO A VACUUM CLEANER

Filed Dec. 19, 1962 2 Sheets-Sheet 1

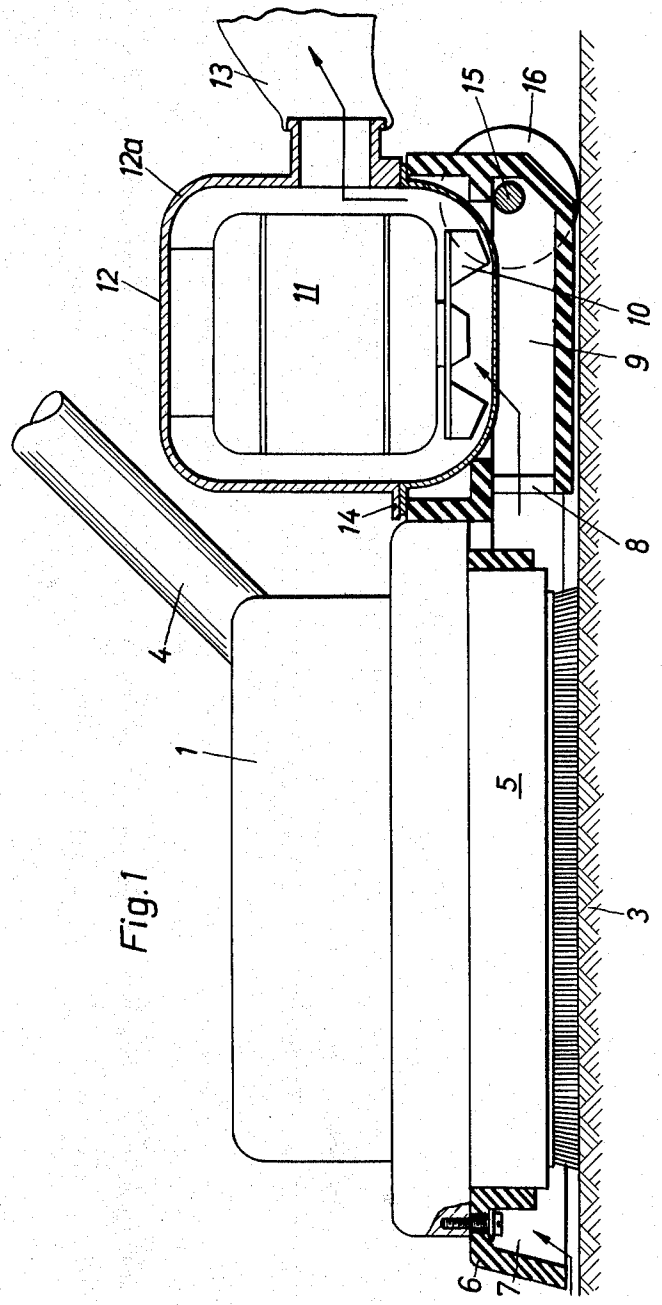


Fig. 1

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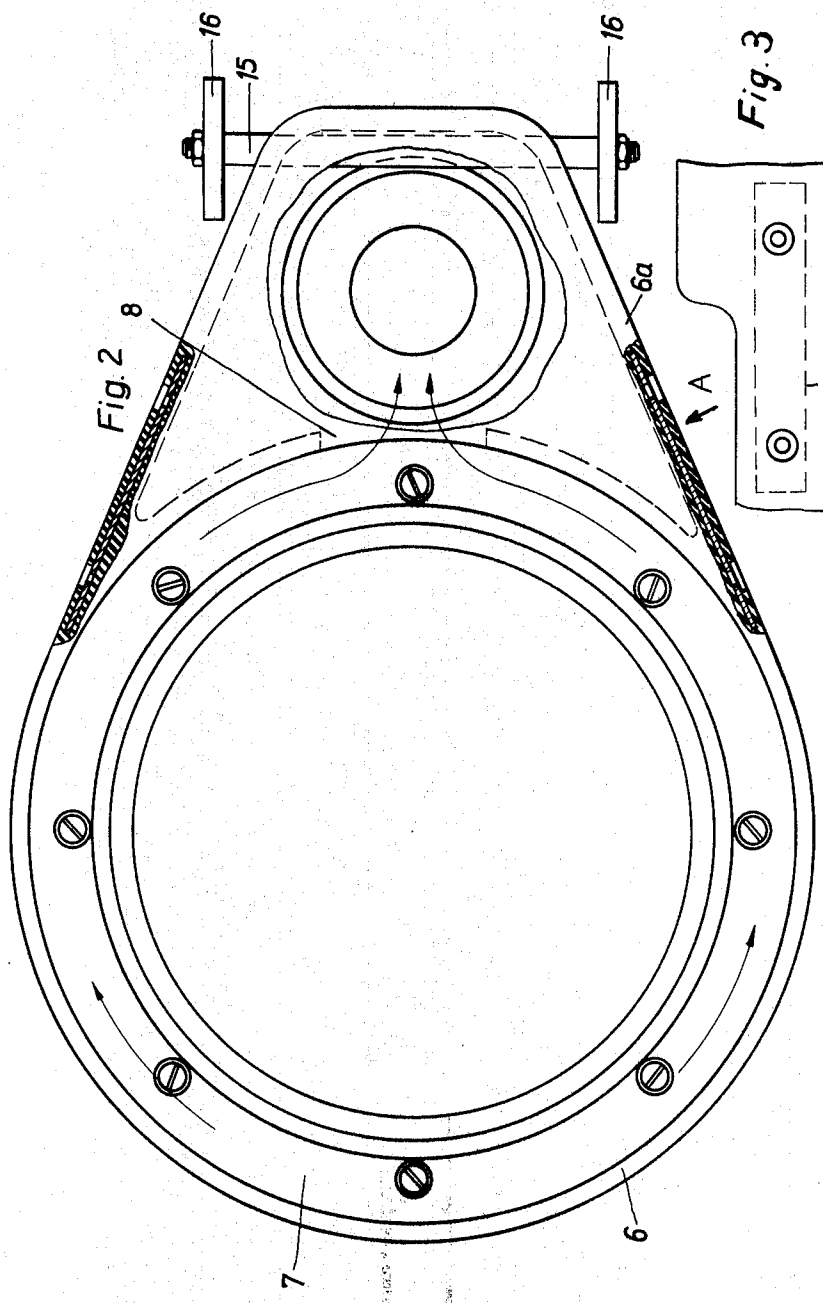


Fig. 2

Fig. 3

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3,226,759

DEVICE FOR CHANGING A FLOOR TREATING MACHINE FROM A WAXING MACHINE TO A VACUUM CLEANER

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3 Claims. (Cl. 15—328)

The present invention relates to an arrangement for use with simple waxing machines which have no vacuum cleaning unit.

It is an object of this invention to provide an arrangement by means of which a waxing machine of the type set forth in the precediing sentence will be able to operate as vacuum cleaner.

It is another object of this invention to provide an arrangement as set forth above which can easily be applied to ordinary waxing machines.

These and other objects and advantages of the invention will appear more clearly from the following specification in connection with the accompanying drawings, in which:

FIG. 1 illustrates in side view and partially in section a waxing machine equipped with an arrangement according to the present invention.

FIG. 2 is a bottom view of the arrangement of FIG. 1, the waxing brush being omitted and the bottom of the suction chamber of the vacuum cleaning unit being broken open.

FIG. 3 is a view seen in the direction of the arrow A of a reinforcement containing portion of the machine according to the present invention.

The arrangement according to the present invention primarily comprises a vacuum cleaning or suction unit having its own electric drive and being provided with a dust collector while being supported by frame means comprising conduit means connected with and extending around the waxing machine so as to form a dust pickup and dust conveying channel which opens in downward direction, i.e. toward the area to be cleaned. The conduit means is preferably arranged at the place where usually a shock-absorbing ring is connected to the housing of the waxing machine while simultaneously also acting as shock-absorbing ring. The suction unit comprising a suction blower may be driven by any high-speed small electric motor which is independent of the driving motor for the waxing machine so that it is irrelevant whether the waxing machine is driven by a cage rotor motor with relatively low speed and relatively much space requirement and weight or whether the waxing machine is driven by high speed collector motors with low volume and additional drive. The driving motor for the suction unit thus does not require an additional transmission. Furthermore, the blower wheel and also the space and weight requirement of the suction unit may be kept rather small regardless of the type of drive selected for the waxing machine.

According to a further development of the present invention, the conduit means forming the dust pickup and conveying channel may be made of a material which is sufficiently elastic to permit the mounting of said conduit means on waxing machines of different diameters or different outer contour. In this connection, it may be mentioned that the arrangement according to the invention is suitable for waxing machines of various contours, i.e. of round contour, rectangular contour, square contour or triangular contour or the like. The connection of the dust pickup and conveying conduit means to the waxing machine may be effected merely by friction, especially

when said conduit means is of elastic material, or it may be screwed to the housing in any convenient manner. If desired, the supporting means for the suction unit may consist of one piece with the dust pickup and conveying conduit means. In this instance, it may be advantageous in order to prevent a deformation at the connection of the said dust pickup and conveying conduit means with the suction unit supporting means to reinforce the material at said connection by metallic inserts of any desired type. However, if desired, the rear portion of the supporting means for the suction unit may be equipped with supporting rollers for rolling on the floor.

Referring now to the drawing in detail, the construction shown therein comprises a waxing machine having a housing **1** surrounding the drive motor (not shown) for the waxing machine which latter is provided with a brush **2** for waxing the floor **3**. Connected to the housing **1** in customary manner is a guiding bar **4** for handling the waxing machine.

Connected to the lower portion of the housing **1** preferably at the area where customarily a shock-absorbing ring is located, is a structural member **6** which extends around the housing portion **5** and forms a downwardly opening channel **7** acting as dust pickup and conveying channel. The structural member **6** has a rearwardly extending section **6a** which serves as supporting means for the suction unit generally designated **12**. The structural member **6** may be connected to the housing either by friction or in any other convenient manner as for instance by means of screws.

As will be evident from FIG. 2, the rear outer wall of the annular channel **7** is provided with an outlet opening **8** through which said channel communicates with the suction chamber **9** of the suction unit **12**. The suction unit **12** furthermore comprises a blower wheel **10** rotatable by a small auxiliary motor **11** and adapted to create a suction effect in channel **7** and to draw the dust-loaded air therefrom into said suction chamber **9** and to convey the air from the latter into a dust collector **13** connected to the suction unit **12** and acting in a manner known per se as filter. The air drawn into and from the suction chamber **9** simultaneously acts as cooling air for the motor **11**.

In order to improve the rigidity of that portion of the conduit means **6**, **7** which merges with the extension **6***a*, the said portion may be reinforced by metallic inserts.

Such inserts **17** are shown in section in FIGURE 2 and in dash lines in FIGURE 3.

According to another development of the invention, the rear portion of the suction unit 12 may be supported by supporting rollers **16** carried by a shaft **15** connected to the extension **6***a*.

It is, of course, to be understood that the present invention is, by no means, limited to the particular construction shown in the drawings but also comprises any modifications within the scope of the appended claims. Thus, for instance, the extension **6***a* may also form a separate part from the conduit means **6**, **7** and may be connected thereto or to the housing in any convenient manner. Furthermore, if the housing unit **12** forms a part separate from the conduit means **6**, **7**, it may also be mounted on top of the housing **1** and having its inlet connected through a hose with the outlet **8** while the dust collecting bag **13** may additionally be connected to the bar **4**.

What I claim is:

1. For use in connection with a floor treating implement, especially waxing machine, which has a housing, a rotary brush rotatable within and protruding downwardly from said housing, a motor arranged within said housing and drivingly connected to said brush, and a

handle connected to said housing for guiding said implement over the floor to be treated: an annular member connected to the lower portion of said housing and forming an inverted annular trough surrounding said downwardly protruding brush portion and having a substantially horizontal extension independent of said handle and located at substantially the level of said annular member, and a suction unit including a motor and being supported by said extension whereby said suction unit is located low above the floor to be treated, said extension unit having a conduit therein directly connecting said trough with said suction unit and thereby establishing a short connection therebetween, the motor of said suction unit being operable independently of the motor of said floor treating implement to thereby permit operation of said floor treatment implement selectively with and without operation of said suction unit.

2. An arrangement according to claim 1, in which said extension is integral with said annular member and tapers in a direction away from said annular member, that portion of said extension which merges with said annular member having metallic inserts therein for strengthening said merging portion.

3. An arrangement according to claim 1, which includes wheel means journalled in said extension for continuous engagement with the floor to be treated for additionally supporting said extension on the floor to be treated by said implement.

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