Aug. 29, 1961 F. DIERKS 2,997,730

SURFACE CLEANING APPARATUS FOR REMOVING OLD PAINT COATS

Filed Dec. 8, 1958

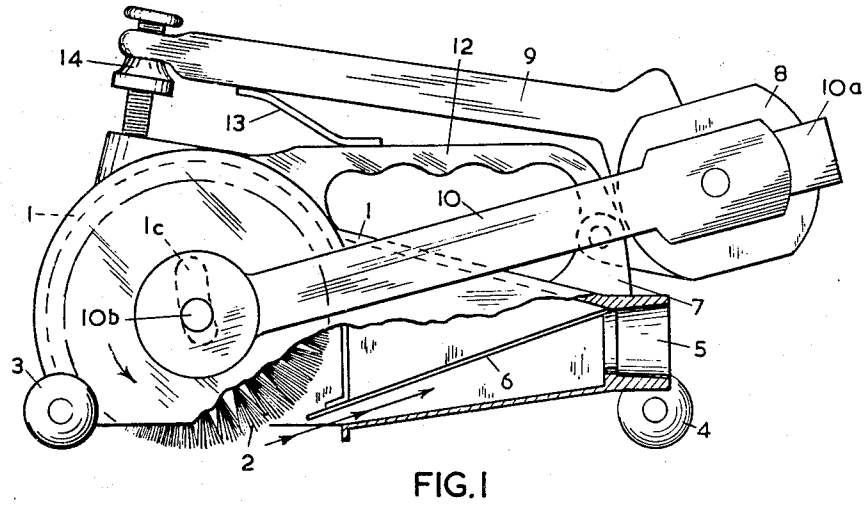


FIG. 1

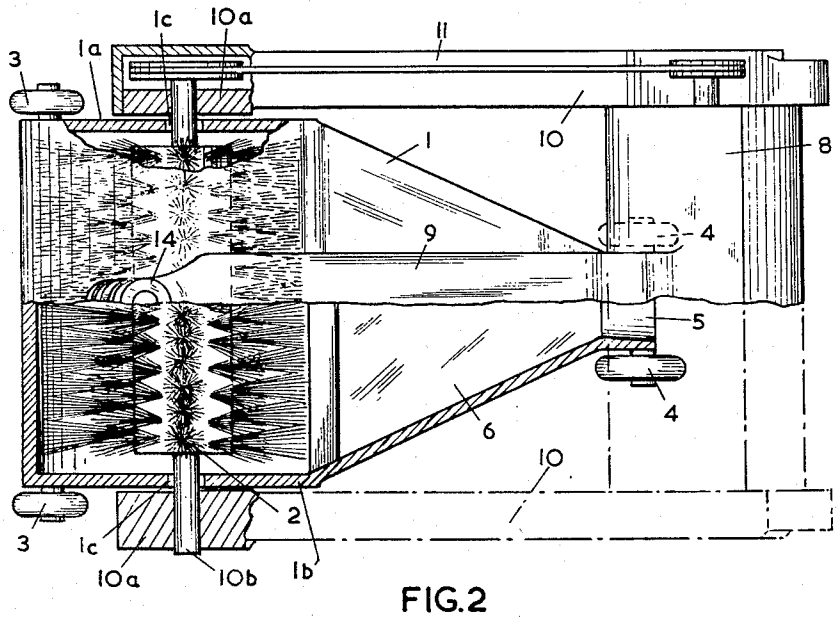


FIG. 2

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SURFACE CLEANING APPARATUS FOR REMOVING OLD PAINT COATS

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3 Claims. (Cl. 15—368)

A known apparatus for the removal of old coats of paint consists of a casing enclosed on all sides and open only in the direction towards the surface to be cleaned, in which there are arranged the drive motor and a brush roll rotating in a direction tangential to the sucking air current and scraping away the coat of paint, a suction nozzle being provided on the housing to suck away the paint dust. The brush roll is arranged with its drive motor and the gearing on a chassis hingeable out of the housing by means of a hinge, which is held in the housing by an adjusting device, so that the distance between the roll and the surface to be cleaned is adjustable in order to prevent damage to the wall surface or the plaster by excessively vigorous action of the brush which is preferably provided with wire bristles.

In this previously-known construction the housing of rectangular longitudinal section is mounted on four rollers arranged beneath the edges and extending parallel to the side parts of the housing, so that the four-point support is produced. This in fact gives good resting upon the wall or similar working surface but it is not possible to prevent tilting and thus lifting away of the apparatus in the upward and downward motion or lateral movement back and forth of the apparatus upon the working surface, because in these movements at the same time bending and stretching of the arm is always necessary. Tilting and lifting away of the apparatus from the surface to be worked occurs especially when the walls, ceilings or the like possess irregularities, which however is mostly the case, since entirely smooth walls or the like, that is to say without irregularities hardly ever occur.

This disadvantage is avoided in accordance with the invention due to the fact that for the housing, in place of the four-point support used hitherto, only a three-point support or a similarly acting support is provided for. Here the mobile housing, of approximately triangular form in its longitudinal direction, rests under the edge of its end side upon two wheels disposed parallel to the side parts of the housing and on the tapering, opposite housing side on two wheels arranged at a very small distance from one another or one roller, that is to say on a three-point support or a support of similar effect. Due to such supports now tilting and thus lifting away of the apparatus from the working surface is no longer possible.

All of the known devices are usually provided with one or more handles and during the work must be pressed upon the surface to be worked, so that the arm must constantly exert a force acting in the direction of the working surface in addition to the force necessary for the working movement.

This disadvantage is removed in the case of the surface-cleaning apparatus as claimed due to the fact that the handle consists of two arms connected in hinged fashion at one end, which are pressed apart by spring action and can be compressed by manual force. Thus the tiring pressing of the apparatus against the working surface becomes superfluous and the contact of the rotating brush with the wall to be worked becomes possible if necessary by simple compression of the hand, so that the arm force is available for the working movement and the holding of the apparatus. In this case, a bracket formed as a handle and serving in part as cover to the housing is arranged on the upper narrow side of the housing, upon which bracket a two-armed lever is pivotably mounted,

upon the short lever arm of which there is situated the drive motor and the longer lever arm of which, formed in forked shape, carries the brush roll, which is driven by the motor shaft through a V-belt. The short lever arm is disposed at a distance above the bracket and carries on its free end a set-screw for the adjustment of the distance between the short arm of the lever and the bracket.

An example of the device is represented in the accompanying drawing, wherein:

FIGURE 1 shows a lateral elevation of the apparatus, partially in section.

FIGURE 2 shows a plan view according to FIGURE 1 also partially in section.

The housing **1**, which is of approximately triangular form in its longitudinal direction, closed on all sides and provided only on the underside with an opening for the brush roll **2**, rests on its end side on two wheels **3** disposed parallel to the housing side parts, while on the tapering, opposite side of the housing there are arranged two wheels **4** at a very slight distance from one another. In place of the wheels **4** it is also possible for only one wheel or a roller to be provided. The tapering part of the housing opens into a suction channel **5**, to which a suction cleaner is connected. The upper side of the suction channel is formed by a guide plate **6**, which is disposed at an acute angle to the brush roll.

On the upper narrow side of the housing there is arranged a bracket **7** formed into a handle **12** and serving partly as cover to the housing, upon which a two-armed lever is mounted for pivoting in the vertical plane, upon the short lever arm of which the drive motor **8** is situated and the longer, fork-shaped lever arm **10** of which has bearings **10***a* for an axle **10***b* carrying the brush roll **2**, which is driven by the motor shaft through a V-belt **11**. The short lever arm is additionally formed as a handle portion **9** disposed at a distance above the handle **12** and carries on its free end a set-screw **14** for the setting of the distance between handle portion **9** and handle **12**. Between these there is arranged a leaf spring **13**, which holds these pressed apart when in the rest position. To permit adjusting movement of the pivoted two-arm lever, the side walls **1***a*, **1***b* of the housing are slotted as at **1***c*.

I claim:

1. An apparatus for the stripping from wall and ceiling surfaces of paint and distemper coatings, comprising a hollow housing having an opening in its underside, a suction nozzle adjacent said opening, roller means journalled on the housing adjacent the underside thereof to carry the housing with its opening spaced a short distance from a surface to be cleaned, a hand-grip bracket on the upper part of the housing, a two arm lever journalled on the bracket for movement about a transverse axis parallel to the plane of the underside opening, said lever having a first arm constituted by two parallel fork legs disposed one at each side of the housing, said lever having a second arm projecting from an end of the housing and extending over the bracket to serve as a handle, a brush roller mounted on an axle passed through slotting in the side walls of the housing, said axle being carried in bearings at the free end of the fork legs and having its axis of rotation parallel to the axis of rotation of the two arm lever, about its journal, said brush roller being disposed within the housing for movement through the underside opening, an electric motor mounted on the second lever arm, a belt and pulley driving connection between the brush roller and the motor, and an adjusting screw threaded through the free end of the second arm to act as a stop limiting the approach of said second arm to the bracket.

2. A stripping apparatus, as claimed in claim 1, wherein the housing is approximating triangular in section

taken in a plane parallel to the plane of the opening in its underside, the roller means for the housing comprising a wheel journalled at each side at the broader end, and a pair of adjacent wheels journalled at the narrower end.

3. A stripping apparatus, as claimed in claim 1, including a spreader spring disposed to act between the bracket and the second arm of the lever to urge the said second arm away from the bracket and thereby cause rotation of the two-arm lever in the direction to lift the brush roller away from the surface to be cleaned.

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