

[54] **ROTATING PAINT SCRAPER**
 [76] Inventor: **John A. Falleson**, 288 Walzford Rd.,
 Rochester, N.Y. 14622

[22] Filed: **Sept. 15, 1971**

[21] Appl. No.: **133,186**

[52] U.S. Cl. **15/236 R**, 29/81 J, 125/3,
 144/115, 145/4.2

[51] Int. Cl. **A47I 13/02**

[58] Field of Search.....15/236 R, 93 R, 104.09,
 104.13; 125/3, 5; 29/81 J, 81 D, 81 G, 81 E, 81 L,
 103, 76 R, 97.5 R; 30/169, 171; 114/222;
 144/118, 115; 408/714; 145/4.2

[56] **References Cited**

UNITED STATES PATENTS

1,829,531 10/1931 Neilsen.....144/115

2,703,119 3/1955 Pullen 144/115
 902,732 11/1908 Horn 144/115
 1,097,673 5/1914 Restucci.....15/104.13

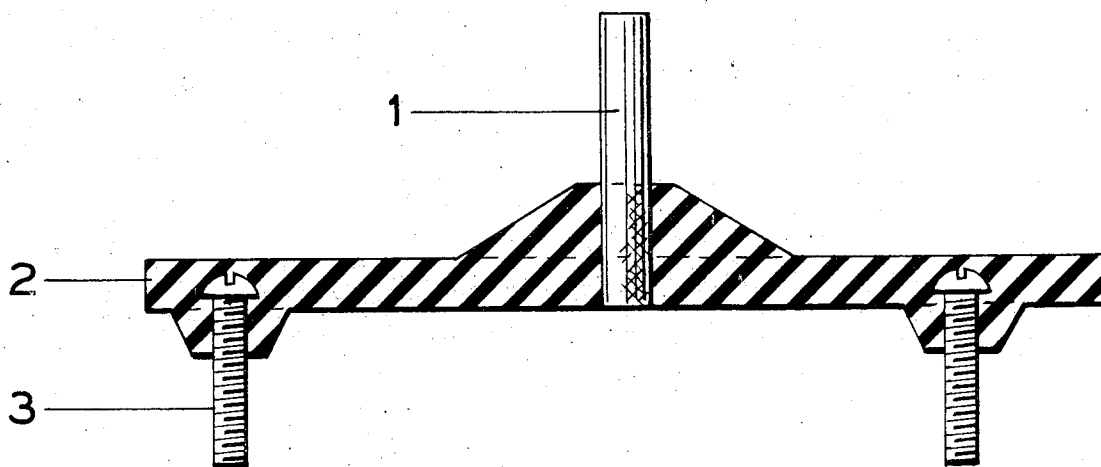
Primary Examiner—Leon G. Machlin

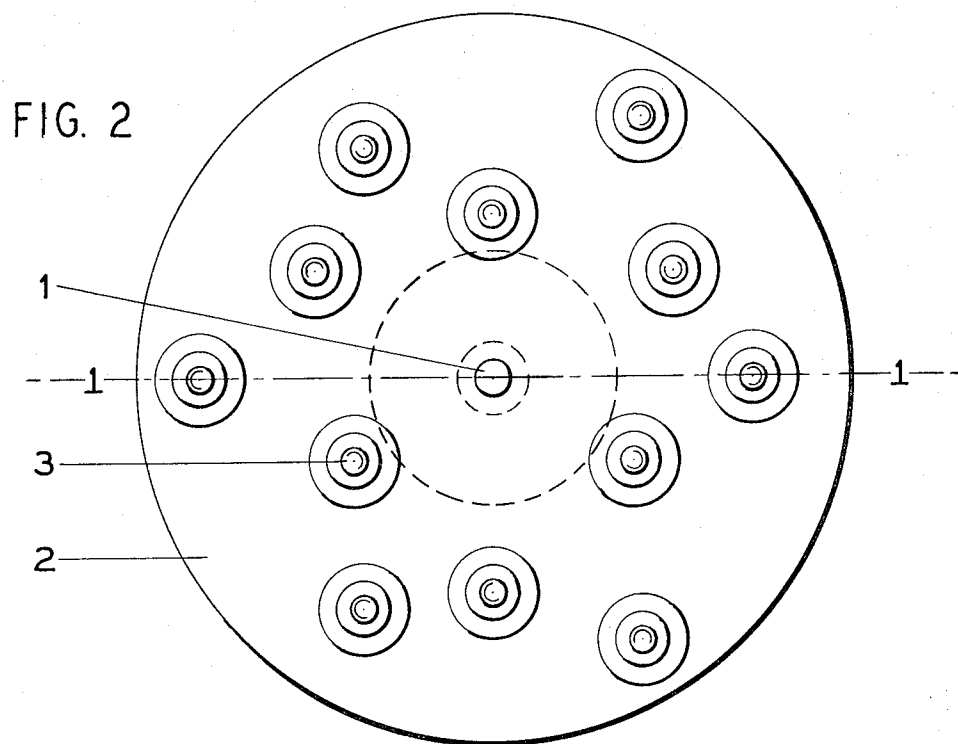
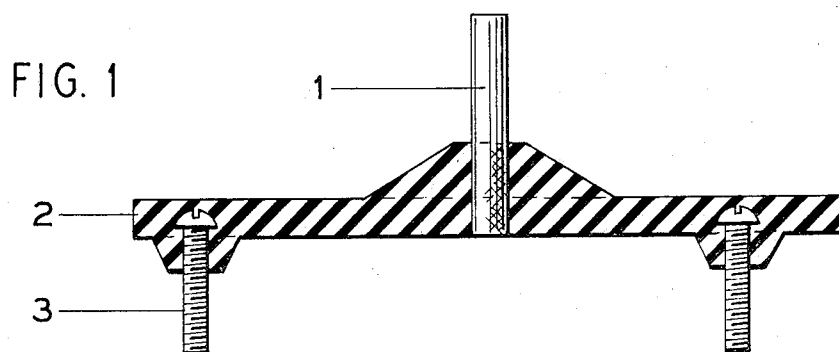
Attorney—D. Peter Hochberg

[57] **ABSTRACT**

Apparatus for removing an outer surface such as a coating of paint from a masonry base includes a rotatable, resilient disc having a support stem extending from one side of the disc, and a set of elongated members extending from the other side. To use the apparatus, the stem is secured in the chuck of a portable power drill, and the disc is rotated and positioned so that the free ends of the elongated members scrape the outer surface from the base.

8 Claims, 2 Drawing Figures





INVENTOR.
JOHN A. FALLESON

BY

D. Peter Hochberg
Attorney

ROTATING PAINT SCRAPER

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to devices for removing the outer surface from a base, and in particular to devices for removing paint from masonry.

2. Description of the Prior Art

The removal of paint from a wall or other base can be accomplished in several different ways, depending primarily on the nature of the wall. The common mode for removing paint from a wooden wall is by means of a hand operated scraper. This method is tedious but practical since the support surface is smooth and the paint is thus accessible to the scraper.

The paint on a masonry wall such as one made of brick or concrete does not lend itself to removal by conventional scraping methods, since the porosity of the wall and the irregularities thereof make substantial portions of the paint inaccessible. Therefore, paint removal from smaller buildings having brick walls is generally done by means of a wire brush. The bristles of such a brush are able to work their way into crevices and porous sections of the wall. There are serious shortcomings to the use of the wire brush, however. Paint removal with such a brush is a laborious task. Moreover, the bristles become permanently bent in a common direction after extended use of the brush, and they tend to "wipe" the paint surface rather than removing the paint.

An alternative to the use of the wire brush is sandblasting, which is usually an effective method for removing paint (or other coating such as dirt) from masonry surfaces. Sandblasting is expensive, requiring costly equipment and at least two men to operate the equipment. Moreover, sandblasting is a messy operation, and can cause damage to delicate surfaces. Hence, this method is usually reserved for larger buildings. Likewise, the use of high pressure water is disadvantageous because of the substantial equipment involved, and because of the damage caused to paint and putty by the resulting dampness.

The removal of paint from stucco buildings poses the same problems as does brick and concrete, and additionally adds further problems by virtue of the extensive irregularities in the wall surface. The surface of stucco-covered walls is characterized by waviness and frequent sunken and raised areas which result from the manner in which the stucco is applied. The tendency of the bristles of a wire brush to lean in a given direction is greater for brushes used on stucco than on other masonry because of the more frequent transverse forces applied to the bristles by the stucco as the brush is moved across the stucco surface. Sandblasting and the use of high pressure water on stucco walls poses the same shortcomings as were mentioned above.

Paint removal means which find applicability in other areas are not suitable for removing paint from masonry. Thus, chemical paint removers cannot practically be applied to masonry surfaces, especially in light of the expansive surfaces found in buildings. Abrasives such as sandpaper and sand discs become quickly clogged with paint upon being rubbed on a painted surface, and their abrasive quality is rapidly lost.

SUMMARY OF THE INVENTION

An object of the present invention is to remove an exterior surface such as a coating of paint from a base.

Another object is to remove an exterior surface such as a coating of paint from a masonry base.

A further object is to remove paint from masonry in a fast and easy manner.

Yet another object is to provide a device for removing paint or other coating from a masonry such as a stucco wall, in an efficient, practicable, safe, and inexpensive manner.

Other objects will be apparent to those skilled in the art from the description to follow and from the appended claims.

The foregoing objects are accomplished according to the invention by the provision of a rotatable, resilient member having a plurality of elongated scraping members extending from a forward portion thereof, and a support member extending from the rearward portion thereof. The support member is preferably a metal shaft adapted to be secured in the chuck of a hand held electric power drill, so that the device can be rotated at high speeds. The resilient member can be fabricated from neoprene. The elongated scraping members can be studs or nails, but conventional machine screws are preferred. The device is thus adapted for rotation at high speeds with the free ends of the elongated members held in engagement with the masonry surface to remove the paint or other coating therefrom.

BRIEF DESCRIPTION OF THE DRAWINGS

Reference is made to the accompanying drawings wherein:

FIG. 1 is a cross section through the line 1—1 of FIG. 2; and

FIG. 2 is a bottom plan view of a device according to a preferred embodiment of the invention.

DETAILED DESCRIPTION OF THE ILLUSTRATED PREFERRED EMBODIMENT OF THE INVENTION

The drawings show a device adapted to remove the exterior surface of a base. Although the invention finds its primary use in removing scale paint from an uneven masonry surface, it can be used for such related functions as removing the finish from a smooth base such as the hull of a boat, or for removing a dirty surface from concrete, brick, brownstone or the like. The device is extremely simple in structure, comprising a support shaft, a resilient base member, and a plurality of elongated scraping members such as machine screws securely fastened in the support member.

Referring specifically to the drawings, there is shown a base member 2 in the form of a disc fabricated from a resilient, moldable material. The material is capable of withstanding high rotational speeds and fatigue stresses. A metal stem or shaft 1 is secured to member 2 and extends from the rearward surface thereof. Shaft 1 is adapted to be secured in the chuck of a hand held power drill, and can be configured according to the requirements of any such chuck. Power drills of the foregoing type are well known in the art and numerous models are commercially available.

A set of conventional machine screws 3 are secured in member 2 and extend from the forward surface

thereof. Screws 3 have been found to be particularly effective (as compared to pins, nails, and concrete nails) because they are long wearing and because the screw thread exposed at the free end of each screw is self-sharpening during use. Screws 3 are arranged so as to render the device dynamically balanced. Examination of the arrangement of screws 3 in FIG. 2 shows that there are twelve screws which define four equilateral triangles disposed about the rotational axis of member 2 (i.e., the longitudinal axis of shaft 1). The screws are disposed at four radial distances from the axis so that a wide area is covered by the free ends of the screws when member 2 is rotated.

As indicated previously, the device is preferably made by a molding process for reasons of economy and practicality. The mold material of member 2 (e.g., neoprene) is accordingly put in a properly contoured molding die, and shaft 1 and screws 3 are positioned in the die so that they can become integral inserts in the molded product. The head and threads of screws 3 assure their firm attachment in the mold material. Barbs, flanges, or the like can be provided on shaft 1 to assure its secure fastening in member 2.

There are alternative ways in which the device could be constructed. For example, shaft 1 can extend from the forward side of member 2 and can include an enlarged screw head which is retained in place by a washer disposed at the forward side of the disc. Screw threads can be incorporated on the portion of the shaft extending through the rearward side of member 2, and a nut and washer can be tightened on the shaft towards this rearward side. Likewise, screws 3 can extend from the rear surface of member 2 and be held in place by locating the heads of the screws in engagement with washers on this rear surface, and by means of nuts tightened on the screws into engagement with the forward surface of member 2. In this form of the device, member 2 can comprise in essence a flat piece of neoprene or its equivalent, which is provided with holes into which shaft 1 and screws 3 can be inserted.

Operation of the device is easy and straightforward. Shaft 1 is secured in the chuck of a power drill, and the drill is energized to run at a normal speed (in practice, a rotational speed of 1,900 revolutions per minute has been found satisfactory). The free ends of screws 3 are moved into light engagement with the work surface, and the axis of rotation of the device is tilted slightly with relation to the work surface so the device will not "wander" thereon. The apparatus is moved in an orderly manner on the entire work surface until the entire coating is removed. This process is fast, simple, effective and safe.

The invention enjoys many advantages. It makes the removal of paint or other coating from a masonry surface a fast, non-tedious task, even if the surface is an uneven one such as stucco. The device is very light, and can weigh less than half a pound. Removed paint is thrown sideways (parallel to the work surface), so the operator need not wear safety goggles. Since the plane of rotation of the device is at a slight angle relative to the work surface, the scrapers are intermittently disengaged therefrom, so that they can cool and avoid high

heat effects due to friction. The screw thread at the free end of each screw is burred and self-sharpened during use, rendering the screws highly effective even with extended use. The resilient base member effectively minimizes vibrations occurring during use of the apparatus. The device can be made inexpensively using conventional methods, and enjoys a long life.

The invention has been described in detail with particular reference to a preferred embodiment thereof, but it is to be understood that variations and modifications within the spirit and scope of the invention may occur to those skilled in the art to which the invention pertains.

I claim:

1. Apparatus for removing paint or the like from a painted surface of predefined contour, said apparatus comprising:

a resilient disc;

a stem rigidly coupled with said disc and extending perpendicularly outward from the central portion of one of the planar surfaces of said disc, said stem being structured to be engaged by the chuck of a power drill, whereby a rotational movement of said disc is imparted during rotation of the chuck of such drill; and

a plurality of elongated members rigidly coupled to said disc and extending perpendicularly outward from the other planar surface of said disc, the free ends of said members defining a set of generally coplanar scraping surfaces which are positioned adjacent the painted surface during rotation of said disc to remove paint from the surface, said members having a circular cross section taken in a plane parallel to the planar surfaces of said disc and having a spiral groove formed in the curved surface thereof, thereby providing the free end of said members with a burred, self-sharpening edge regardless of wear.

2. The invention according to claim 1 wherein said members comprise screws.

3. The invention according to claim 2 wherein said screws are machine screws.

4. The invention according to claim 1 wherein said elongated members are adjustable relative to said disc whereby the spacing between said disc and said coplanar surfaces is adjustable.

5. The invention according to claim 1 wherein said disc comprises neoprene or its equivalent.

6. The invention according to claim 1 wherein said disc has a plurality of holes therein for receiving said elongated members, and said apparatus further comprises means for fixing the position of said elongated members relative to the longitudinal axes of said holes.

7. The invention according to claim 1 wherein said elongated members are arranged to form a plurality of equilateral triangles of varying sizes, the centers of said triangles coinciding with the center of said disc, whereby said disc is dynamically balanced during rotation thereof.

8. The invention according to claim 1 wherein said disc is a molded product and said elongated members are mold inserts in said disc.

* * * * *