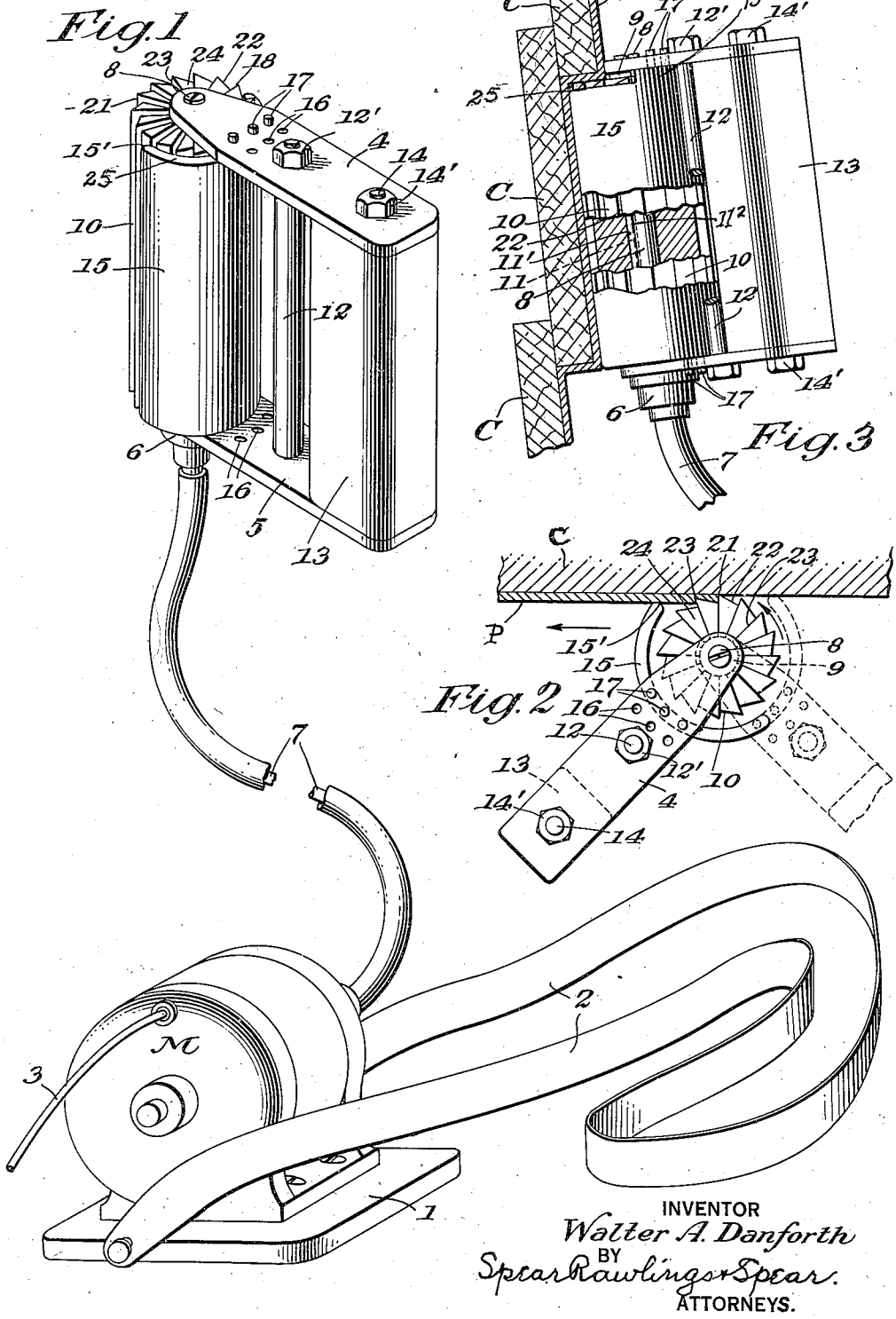
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ROTARY DEVICE FOR DECORTICATING PAINTED SURFACES

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ROTARY DEVICE FOR DECORTICATING PAINTED SURFACES

Walter A. Danforth, Bangor, Maine

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5 Claims. (Cl. 15—93)

My present invention relates to methods of and apparatus for removing paint from clapboarded buildings and like surfaces.

Since the quality of the repainting of a building is dependent in part on its preparation for a new coat or coats of paint, the problem of removing the old paint is one of fundamental importance and one on which cost and effectiveness of the repainting depend.

The problem of removing the old paint has been widely appreciated. While loose paint is commonly removed by casual scraping, this is, of course, a slow method and ineffective when the paint is in any other condition.

Because this method was so obviously unsatisfactory, attempts were made to provide for the more rapid and more complete removal of the paint. The burning of the paint from buildings has been attempted but its use is really a failure since unless the utmost precaution is used, the wood is so affected that after the building had been repainted defects would appear requiring extensive work to make the job satisfactory. This method was further objectionable because of the risk of fire to the building or contents.

Removal of the paint by sandblasting has also been attempted, but this method has likewise proved unsatisfactory on account of the free dust in the air and in that not only was it extremely expensive but the results were uneven and therefore objectionable apart from the expense.

According to my concept I provide a rotary device preferably driven by a relatively high speed portable motor which may be readily carried by the workman. In accordance with my invention I may remove simultaneously the paint from the surface of one clapboard and the butt end of the overlapping clapboard.

Because the paint is frequently uneven, both in terms of thickness and in quality, I have provided that the depth of operation may be accurately controlled by the operator. This may be effected by providing a support for the device which at all times remains in contact with the surface and permits the depths of cutting to be controlled by the pressure exerted by the operator upon the support by "feel" or touch control, as will be later pointed out.

By my invention I am able thoroughly and rapidly to remove the paint or like surface coatings from a clapboarded or otherwise surfaced building, permitting greater economy in painting buildings through a reduction in cost of the work, and a longer period of attractive appearance, as well as useful protection of the building surface.

In the drawing I have indicated a tool or scraping device according to my invention by which my novel method of operation and use will be readily apparent to those skilled in the art. In the drawing:

Fig. 1 is a perspective view of a rotary scraping device with a portable motor and sling for carrying, in accordance with my invention.

Fig. 2 is a side view of such a device indicated as used in the practice of operation according to my method, and

Fig. 3 shows a side view of the device in position to cut simultaneously the paint from a clapboard surface and the butt of the clapboard or board next above and partly broken away to expose its interior.

As part of Fig. 1 I have shown a motor M mounted on a support 1 and adapted to be carried by the operator by means of the shoulder sling 2. Current is supplied to the motor M from any suitable source (not shown) by a wire or cord 3 of convenient length.

The device shown includes side members 4 and 5, tapered at one end. The side member 5 adjacent its tapered end has a hub 6 to receive the end of the flexible shafting 7 from the motor M which rotates the shaft 8, one end of which is supported in the bearing 9 carried by the opposite side member 4.

The cylindrical rotor 10 is preferably detachably held to the shaft 8 slotted as indicated at 11 in Fig. 3, which is shown as broken away to expose the key 11^2 and the slot 11^1 in the rotor with which it is engaged.

The sides 4 and 5 are apertured to receive the bolts 12 and 14 fitted with nuts 12^1 and 14^1, respectively, and which when tightened up draw the sides toward each other. The bolt 14 passes through an aperture in the handle 13 which is thus detachably clamped at one end of the frame of the tools. I thus provide for ready detachability when it is desired to disassemble the device for cleaning or rotor replacement.

A cylindric guard 15 of slightly less than a semi-circular arc in cross section is disposed partially about the rotor 10. This guard 15 is provided with pins 17 at both ends to adjustably engage either of two or more sets of holes 16 in the side members 4 and 5.

The sets of holes 16 are spaced at different distances from the axis of the shaft 8 so as to provide for clearance where different sizes of rotors are used, or where more clearance is desired for any other purpose. I have only shown two sets of pin holes 16 but obviously any number of sets

of holes may be used and disposed in any manner desired. By making an odd number of pins and concentric holes the guard may be circumferentially adjusted. Obviously other holding or adjusting means equivalent in function to the pins and holes indicated as preferred in the particular scraper I have shown for the purposes of illustrating my invention, may be substituted.

The side members 4 and 5 are braced and spaced by the guard 15 which is clamped rigidly in place by the bolts 12 and 14. The bolt 12 is disposed as close to the rotor 10 as is consistent with the adjustments of the guard 15 and thus occupies a position of advantage in bracing and trussing the tool against the vibrations of its rapidly spinning rotor 10 when at work. The edges 15^1 of the guard are rounded to make it in effect a guide for steadying the device and the hand of the operator.

The rotor 10 is preferably of a length equal to or greater than the width of a clapboard or a layer of shingles or other similar surfaces of any work as C. It is usually for scraping purposes a cylinder, preferably of steel, having an axial bore for the shaft 8. The rotor 10 is provided with a plurality of longitudinally disposed edges 21. The edges 21 are disposed forwardly or in the intended direction of rotation while the rotor surface adjacent is sloped backward to channel-like flutings 22 which give clearance for the paint as it is scraped or scavenged from the surface of a clapboard or the like, as at C (Fig. 3).

These scrapings are sometimes stringy or ribbon-like where the paint was too oily, or the paint surface P applied in wet weather, or was otherwise rubbery or sticky, as by not having dried out properly, or the paint may be removed as flakes or dust, as by decorticative action at high speed. The edges 21 spaced along the periphery, line up with radial edges 23 with channels 24 between them, as best seen in Fig. 2.

In use the operator moves the device along the clapboard C, ordinarily traversing it from right to left, as viewed in Fig. 2, with one edge of the support 15 in contact with the work surface. When properly positioned one end of the rotor 10 may bear against the butt end of the clapboard or like overhanging surface part or any projection C next above a vertically disposed work surface, so that as the device is drawn along, the paint P is removed from the overhanging butt edge of one clapboard by the end edges 23 while at the same time the longitudinal edges 21 are decorticating the exposed surface next below it. The motor is preferably of high speed, for example 3000 R. P. M. so that the longitudinally disposed edges 21 are spun rapidly against the paint surface P and so take off the old paint smoothly and quickly.

In use the tool is held by its handle 13 with the operator's fingers bearing against the upper portion of the guard 15. Its rounded edge 15^1 may be held in steadying contact with the surface C as a sliding support. The depth of removal may be nicely controlled by the pressure of the operator's fingers which are yieldingly pressed against the outer surface of the guard 15 forwardly of the line of contact of the guard edge 15^1 with the work, and therefore effect by "touch" the depth of cutting of the rotor 10. Usually the tool is traversed over the work by the operator from right to left, as suggested in Fig. 2 as the depth of cutting cannot be as accurately controlled if the tool be traversed in the opposite direction.

The guard 15 is cut away on both sides at its end opposite the connection of the flexible drive shafting 7. This leaves a short arcuate extension 15^2 the end surface of which, carrying the pins 17, contacts the inner face of the side member 4. More importantly it provides, laterally of the extension 15^2, ports 25 to give clearance immediately adjacent the end edges 23 and allow paint scrapings to escape and not be pocketed at the end of the combined guard and guide 15.

While my invention is particularly adapted to the removal of paint from a building, it will be appreciated that the rotary member 10 may be easily replaced by any cylindrical rotor tool desired for any class of work so that my device may be utilized as a tool for many purposes.

What I therefore claim and desire to secure by Letters Patent is:

1. A device for use in preparing a coated surface for refinishing, said device comprising a pair of side frames, a decorticating member rotatably supported by said side frames, means to rotate said member, and means engageable by the operator to permit said device to be held in operative positions on said surfaces, said last named means comprising a handle carried by said side frames, a guard carried by said frame, means to support said guard in any one of a plurality of positions relative to the axis of rotation of said member intermediate said handle and said contacting decorticating member, and means to clamp said side frames together to hold said member, said guard and said handle in position, said guard including a surface contacting portion establishing a slidable support for said device rearwardly of said decorticating member and a portion extending forwardly of said surface contacting portion, to permit engaging pressures to be distributed relative to said surface contacting portion to control the depth of attack of said member.

2. A device for use in preparing a coated surface for refinishing, said device comprising a pair of side frames, a decorticating member rotatably supported by said side frames, means to rotate said member, and means engageable by the one hand of the operator to permit said device to be held in operative positions on said surface, said last named means comprising a handle carried by said side frames, a guard carried by said frames intermediate said handle and said decorticating member, said guard including a surface contacting portion establishing a slidable support for said device rearwardly of said decorticating member and a portion extending forwardly of said surface contacting portion and being engageable by the fingers of the hand of the user in engagement with said handle to permit engaging pressures to be distributed relative to said surface contacting portion to control the depth of attack of said decorticating member.

3. The device of claim 2, the guard being a substantially semi-cylindrical shell mounted at either end in said side frames and of slightly larger diameter than the radius of the decorticating member.

4. The device of claim 2, the guard being a substantially semi-cylindrical shell mounted at either end of said side frames and of slightly larger diameter than the radius of the decorticating member, portions of the ends of said shell being removed to permit the escape of matter from the space between said shell and the decorticating member.

5. A device for use in preparing a coated sur-

face for refinishing, said device comprising a frame, a decorticating member rotatably supported by said frame, means to rotate said member, and means engageable by one hand of the operator to permit said device to be held in operative positions on said surface, said means including a slidable surface contacting portion, a handle portion, and a portion over said decorticating member spaced from said handle portion for engagement by the fingers of the hand in engagement with said handle, said surface contacting portion being intermediate said two last named portions and constituting a fulcrum for said device, the depth of attack of said decorticating member being controlled by pressure applied to said portion over said decorticating member.

WALTER A. DANFORTH.