

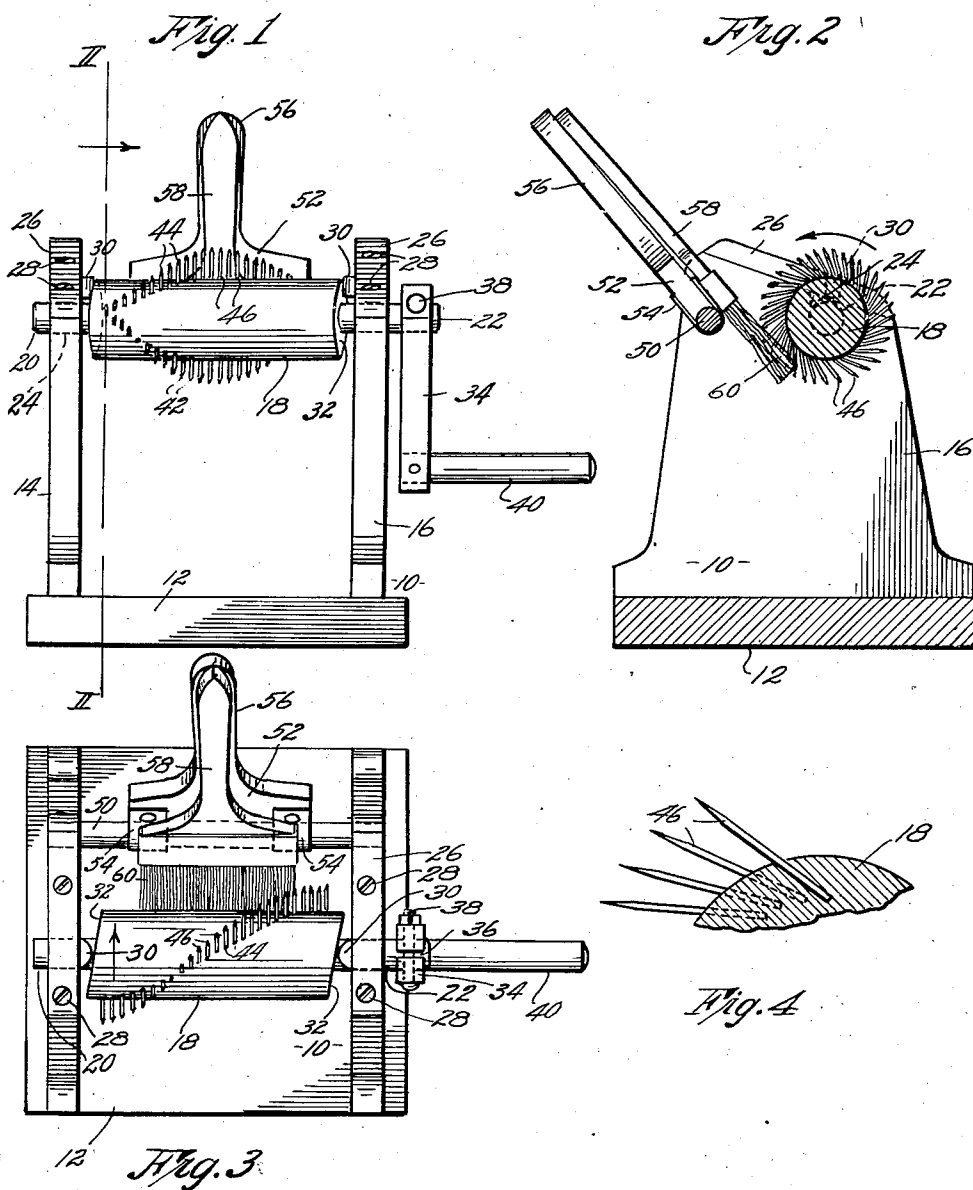
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MECHANICAL PAINT BRUSH CLEANER

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MECHANICAL PAINTBRUSH CLEANER

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7 Claims. (Cl. 15—3)

This invention relates to improvements in mechanical paint brush cleaners and has particular reference to a paint brush cleaner of the rotary comb type.

The principal object of the present invention is the provision of a mechanical paint brush cleaner having a rotary comb member and a paint brush supporting member oscillatably relative thereto.

Another object of this invention is the provision of a mechanical paint brush cleaner provided with a rotary comb member having means whereby it is longitudinally reciprocated as it is manually rotated.

A further object is to provide a device of the character described having a manually operable means whereby the paint brush bristles are combed by a rotary means having simultaneous rotary and reciprocating movements.

Another object of the invention is the provision of a series of combing teeth inclined from the radial line in the direction of travel.

Other objects of this invention are simplicity and economy of construction, ease and efficiency of operation, and adaptability for use in cleaning brushes in various degrees of hardness.

With these objects in view reference will now be had to the drawing wherein

Figure 1 is a front elevation of a mechanical paint brush cleaner embodying this invention with a paint brush positioned thereon.

Fig. 2 is a vertical sectional view taken on line II—II of Fig. 1 with the paint brush shown in the operative position.

Fig. 3 is a plan view of the device.

Fig. 4 is an enlarged fragmentary view showing a section of the roller with the teeth shown positioned therein.

Throughout the several views like reference characters refer to like parts and the numeral 10 designates a frame comprising a base 12 and side standards 14 and 16 which are rigidly secured to the base. It will be noted that this machine is so designed and constructed that it can be made economically and of non-metallic materials such as wood, plastics, etc.

The side standards 14 and 16 are disposed perpendicular to base 12 and spaced apart to receive the operating parts therebetween. The oblique cylinder 18 having axle members 20 and 22 is rotatably mounted in recesses 24 formed in the upper edge portion of standards 14 and 16 and are secured against transverse movement in said recesses by means of cap plates 26 which are secured in position by screws 28.

The oblique cylinder 18 is slightly shorter than the distance between standards 14 and 16 and is adapted to be reciprocated longitudinally as the cylinder is rotated, by means of lugs 30 which extend inwardly from cap plates 26 to engage the oblique end walls 32 of the cylinder to force it first in one direction and then in the other. The distance of oscillation may be varied by simply increasing or decreasing the angle of inclination of the end walls to the axis of the cylinder. The outer end of axle member 32 is provided with a crank arm 34 which is split at 36 and clamped to the axle member by means of a bolt 38 which can be removed to permit the removal of the handle for shipment. A crank handle 40 is secured to the free end of the crank arm whereby the cylinder 18 is rotated. Two helical rows 42 and 44 of inclined teeth 46 are disposed in opposite directions about the length of the periphery of cylinder 18 so as to present a complete circle of teeth about the cylinder when viewed from the end (see Fig. 2).

It will be noted that the teeth 46 are inclined forwardly from the radial line in the direction of travel as indicated by the arrow in Fig. 2. Teeth 46 are preferably sharpened wire sections embedded in the body of cylinder 18 with the pointed end extending outwardly therefrom to properly engage and separate the bristles of the paint brush as hereinafter described. Referring to Figs. 1 and 2 it will be noted that the uppermost portion of standards 14 and 16 is above the upper extremities of teeth 40 thus facilitating proper packing of the device for shipping.

A stationary shaft 50 disposed parallel with the axis of drum 18 is mounted at its opposite ends in standards 14 and 16 and is secured therein by any suitable means.

Slidably and oscillatably mounted on shaft 50 is a brush support 52 bifurcated at its one end and provided with straps 54 by means of which it is mounted on said shaft. The free end of brush support 52 is reduced in width to form a hand grip 56. Referring to Fig. 2 it will be noted that said brush support is so positioned that when the brush 58 is positioned thereon as shown the bristles 60 will be in the path of travel of teeth 46 and may be adjusted relative thereto by the operator who grips the brush and the hand grip 56 to hold the parts in fixed relative relation during the cleaning operation.

In the operation of this machine it will be considered that the paint left in the brush has set and become hard. The brush is first soaked in a paint brush cleaning solution which par-

tially softens the hardened paint. The operator then places the paint brush on holder 56 and grasps the holder and the paint brush handle to secure them in fixed relative relation. He then rotates the oblique cylinder 18 which carries teeth 16 whereby the cylinder is oscillated lengthwise. The operator moves the bristles 60 of the brush into the path of travel of teeth 46. The amount of penetration of the teeth in the bristles 60 can be controlled by the operator so as not to destroy the bristles. The action of the teeth is to separate the bristles and permit a better penetration of the paint brush cleaning solution if it is found necessary for another application. It will be noted that as the teeth penetrate between the bristles they will also move sideways thus tending to pull adjacent bristles apart. Usually the operator will first clean the outer extremity of the bristles and gradually clean them inwardly toward the base of the brush. It will be understood that in cleaning a paint brush the function of the device is to separate the bristles so as to permit a better action of the brush cleaning material, however it will comb many of the paint particles from between the bristles. The steps of soaking and combing the brush can be repeated, if found necessary, to properly clean the brush.

I claim:

1. A brush cleaning machine of the character described comprising a frame, an oblique cylinder having peripheral teeth and mounted for axial rotation in said frame, means carried by said frame to engage the opposite oblique end surfaces of said cylinder whereby the cylinder is reciprocated as it is rotated, and a brush support mounted for oscillatory movement in said frame whereby the bristles of the brush mounted on said support may be manually moved to and from the path of travel of said cylinder teeth.

2. A brush cleaning machine of the character described comprising a frame, a toothed cylinder mounted for rotary movement and longitudinal reciprocal movement in said frame, a series of rectilinear teeth projecting non-radially from the periphery of said cylinder, and a brush support mounted for limited rotary movement in said frame whereby the bristles of a brush mounted on said support may be manually moved to and from the path of travel of said teeth.

3. A brush cleaning machine of the character described comprising a frame, an oblique cylinder mounted for rotary movement and longitudinal reciprocal movement in said frame, a series of rectilinear teeth projecting from the periphery of said cylinder at an angle to the cylinder radius,

and a brush support mounted for limited rotary movement in said frame whereby the bristles of a brush mounted on said support may be manually moved to and from the path of travel of said teeth.

4. A brush cleaning machine comprising a frame, a toothed oblique cylinder mounted for rotation in said frame and means whereby said cylinder is simultaneously rotated and longitudinally reciprocated, a shaft carried by said frame in spaced apart parallel relation with the axis of said cylinder, and a paint brush support rotatably and longitudinally slidably mounted on said shaft for supporting a brush with the bristles thereof disposed in the path of travel of said cylinder teeth.

5. A brush cleaning machine comprising a frame, a toothed oblique cylinder mounted for rotation in said frame and lugs carried by said frame to engage the oblique end walls of said cylinder whereby said cylinder is simultaneously rotated and longitudinally reciprocated, a shaft carried by said frame in spaced apart parallel relation with the axis of said cylinder, and a paint brush support rotatably and longitudinally slidably mounted on said shaft for supporting a brush with the bristles thereof disposed in the path of travel of said cylinder teeth.

6. A brush cleaning machine comprising a frame, an oblique cylinder mounted for rotation in said frame, studs carried by said frame adjacent the opposite ends of said oblique cylinder to engage the oblique end walls of said cylinder and cause the cylinder to longitudinally reciprocate as the cylinder is rotated, series of helically disposed teeth projecting outwardly from the periphery of said cylinder and inclined forwardly to the radius of said cylinder and a manually movable brush support adapted to support a brush with the bristles thereof in the path of travel of said cylinder teeth.

7. A brush cleaning machine comprising a frame, an oblique cylinder mounted for rotation in said frame, studs carried by said frame adjacent the opposite ends of said oblique cylinder to engage the oblique end walls of said cylinder and cause the cylinder to longitudinally reciprocate as the cylinder is rotated, two series of helically disposed teeth extending in opposite directions about the periphery of said cylinder and projecting outwardly therefrom, and a manually movable brush support adapted to support a brush with the bristles thereof in the path of travel of said cylinder teeth.

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