Sept. 16, 1969 A. K. MacKENZIE ET AL 3,467,400

CENTRIFUGAL CLEANING OF PAINT BRUSHES AND THE LIKE

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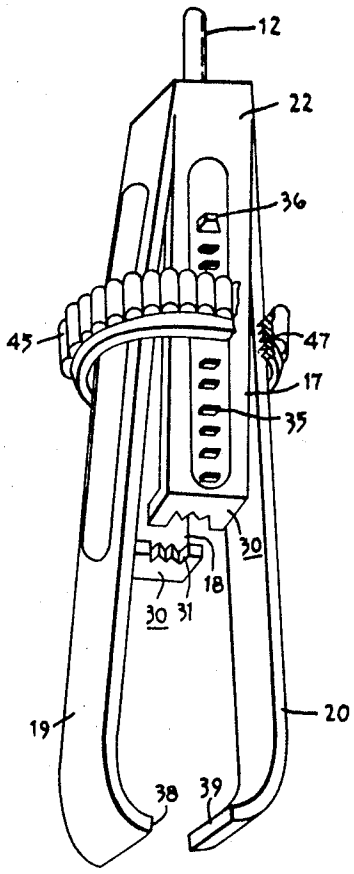


FIG. 1.

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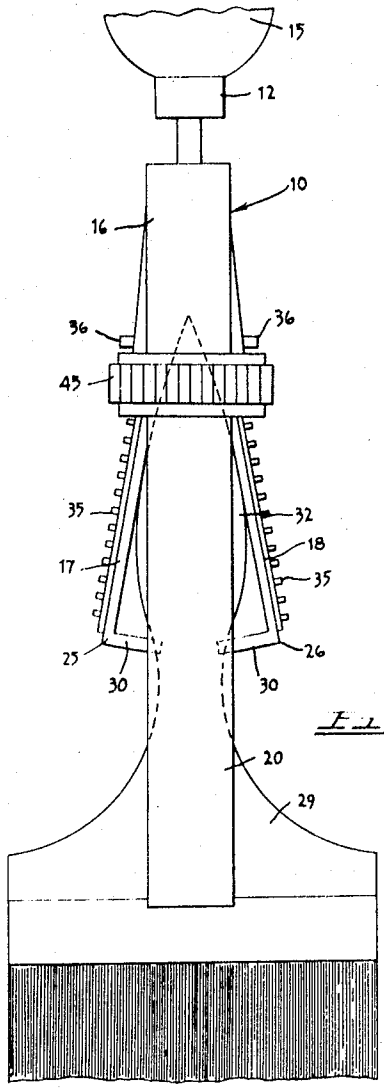


FIG. 2.

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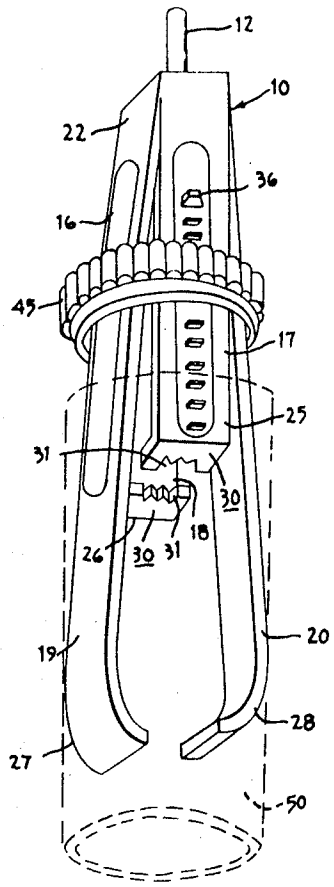


FIG. 3.

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CENTRIFUGAL CLEANING OF PAINT BRUSHES AND THE LIKE

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Int. Cl. B23b 5/22, 5/34; F26b 17/30
U.S. Cl. 279—1 4 Claims

ABSTRACT OF THE DISCLOSURE

An attachment securable to an electric motor for cleaning paint brushes and the like includes a first pair of fingers for holding the bristle carrying portion of a brush, and a second pair of fingers shorter than the first for holding the handle of the brush. A clamp encircles the fingers and is movable therealong to clamp the fingers against the brush.

This invention relates to a device for gripping an object to be rotated by an electric motor or the like to which the attachment is secured and more particularly to an appliance for centrifugal cleaning of paint brushes or the like.

It has long been known that centrifugal force acting on a paint brush which has been dipped in solvent causes the solvent and paint dissolved by the solvent to be thrown radially outwardly.

Known devices suffer from several disadvantages including ineffective gripping of the brush or roller, high cost of manufacture and poor adaptability for use with varying sizes and shapes of brushes or rollers.

Accordingly the present invention provides an attachment for a portable electric motor having an armature shaft and coupling means on the shaft, the attachment comprising at least two pairs of resilient depending fingers rotatable with the shaft and means coupled to the fingers and movable therealong to selected positions so as to cause the fingers to engage an object to be rotated by the motor.

In the accompanying drawings which illustrates an embodiment of the present invention:

FIG. 1 is a perspective view of a preferred embodiment of the appliance of this invention.

FIG. 2 is a side elevation view of the attachment in accordance with this invention in use.

FIG. 3 is a perspective view of the appliance in use with a paint roller cover.

Referring now in detail to the drawings an appliance for centrifugal cleaning of paint brushes is shown generally at **10** in FIG. 1. The appliance **10** includes a metal stub shaft **12** receivable in a conventional coupling **14** on the armature shaft of an electric motor **15** shown in FIG. 2.

The appliance **10** other than the shaft **12** is preferably moulded of suitable plastic material examples of which will be given hereinafter.

The shaft **12** is secured to a body portion **16** which has two pairs of depending fingers **17**, **18**, **19** and **20** secured thereto. The fingers **17**, **18**, **19** and **20** are also secured to each other adjacent their connection to the shaft **12** thus forming a substantially rectangular box-like portion **22** from which the shaft **12** extends. The body **16** is moulded in one piece and the shaft **12** is conveniently secured thereto during the moulding process in the well known manner. The body **16** is secured to the shaft **12** for rotation therewith.

The two pairs of fingers **17**, **18**, **19** and **20** are arranged about the longitudinal axis of the shaft **12** and flare outwardly at their free lower ends **25**, **26**, **27** and **28** respectively.

The fingers **17** and **18** are approximately half the length of the fingers **19** and **20** and each has an inwardly bent portion **30** provided with cooperating toothed recesses **31** to receive a handle **32** of a paint brush **29**. The outer surface of the fingers **17** and **18** are provided with longitudinal ribs **33** having a series of projections **35** therealong, a larger projection **36** is provided adjacent the upper end of each rib at the end of the row of projections **35**.

The longer fingers **19** and **20** curve inwardly at their free ends **27** and **28** so that their end edges **38** and **39** respectively are substantially parallel to each other and the major surfaces of the fingers.

The body portion is preferably moulded of a thermoplastic acetal resin containing the recurring group $—(OCH_2—)_n$ sold under the trademark Delrin. This material has been found to provide the desired degree of resiliency for the fingers **17**, **18**, **19** and **20**. A ring **45** encircles the fingers **17**, **18**, **19** and **20** and is provided with internal thread **47** to cooperate with the projections **35** on the fingers **17** and **18**. The larger projection **36** limits movement of the ring **45** in one direction.

The ring **45** is preferably moulded of nylon, polypropylene, high density polyethylene or other suitable synthetic plastic material.

In operation the ring **45** having been moved to allow sufficient spreading movement of the fingers **17**, **18**, **19** and **20**, the handle **32** of the paint brush **29** is inserted therein as illustrated in FIG. 2. The ring **45** is then moved toward the free ends of the fingers until the paint brush is tightly secured in the attachment **10**. The upper portion of the handle **32** is thus gripped in the recesses **31** and the flat portion of the paint brush is engaged by the end edges **38** and **39** of the fingers **19** and **20**.

The attachment **10** and the paint brush **29** secured therein is then rotated through the use of the electric motor **15** and solvent and dissolved paint on the bristles of the brush are removed by centrifugal force. The attachment is of course placed in a suitable open-ended container during operation of the motor so as to confine the solvent and paint which is being removed from the brush.

The attachment **10** is also useful for cleaning paint roller covers **50** such as is illustrated in broken lines in FIG. 3. The resiliency of the fingers **17**, **18**, **19** and **20** is sufficient to frictionally hold the roller cover thereon during the spinning operation.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An attachment securable to an electric motor for use in cleaning brushes having a bristle-carrying portion and a handle extending rearwardly therefrom, said attachment including a first pair of spaced fingers having free ends adapted to receive the bristle carrying portion of a brush therebetween, a second pair of spaced fingers shorter than the fingers of said first pair, each finger of said second pair being located between said first pair of fingers, said second pair of fingers having free ends adapted to receive the handle of said brush therebetween, means encircling said fingers and movable therealong to clamp said fingers against the brush, and means for securing the attachment to an electric motor to enable the attachment to be rotated about an axis substantially parallel to the length of the fingers.

2. An attachment according to claim 1 wherein said means encircling said fingers is an internally threaded ring, and at least one pair of fingers have outer surfaces with screw-thread portions therein, said ring being threadingly engageable with said screw-thread portions whereby rotation of the ring relative to the fingers clamps said fingers against the brush.

3. An attachment according to claim 2 wherein said screw-thread portions are formed on the outer surfaces of said second pair of fingers.

4. An attachment according to claim 1 wherein both pairs of fingers and said securing means are an integral structure of thermoplastic acetal resin containing the recurring group $—(OCH_2—)_n$.

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