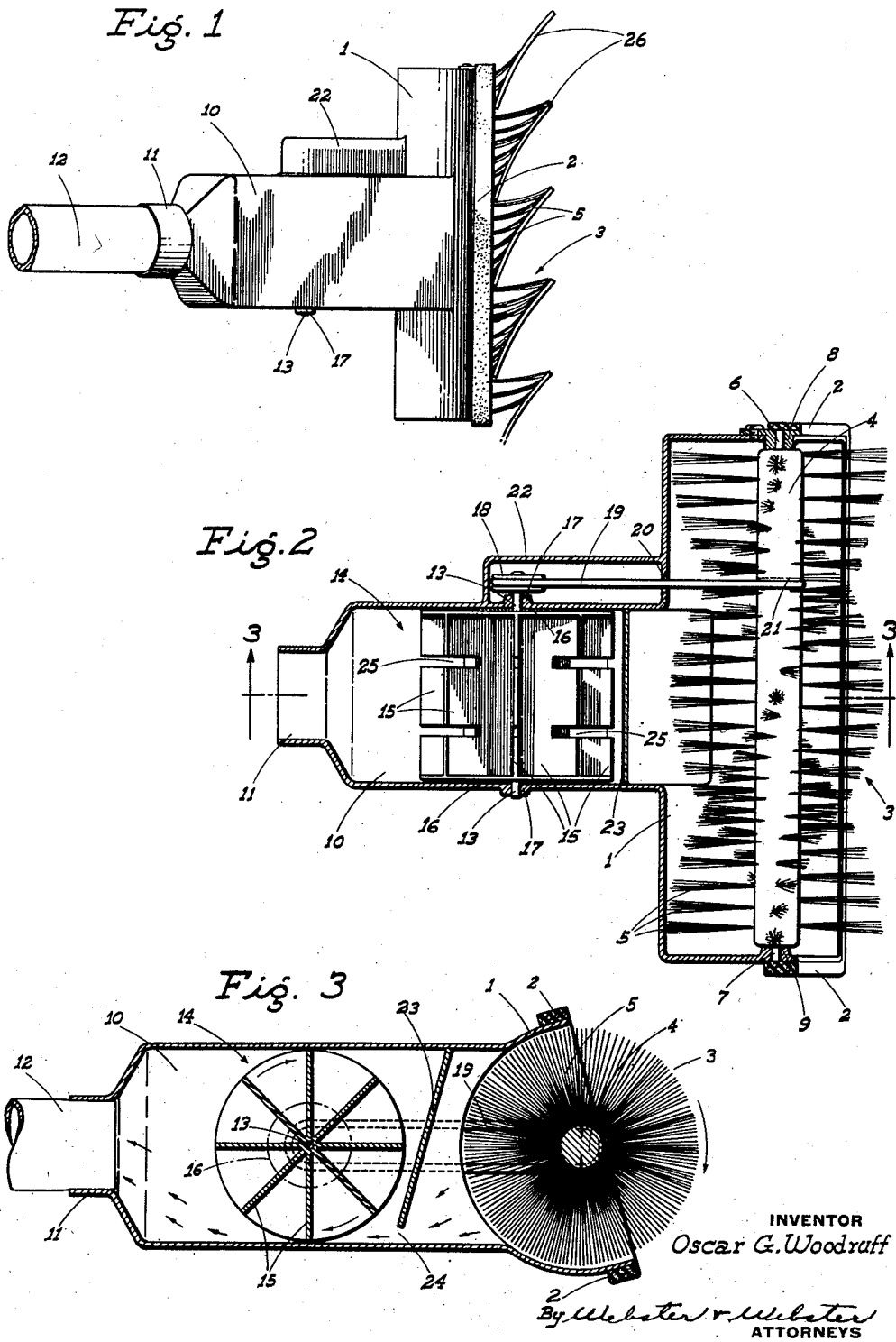


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VENETIAN BLIND CLEANER

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VENETIAN BLIND CLEANER

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1 Claim. (Cl. 253—37)

This invention is directed to, and it is a major object to provide, a novel vacuum cleaner attachment; such attachment being especially designed—but not limited—for use to clean Venetian blinds by the removal of dust therefrom.

Another important object of the present invention is to provide a vacuum cleaner attachment, as above, which is adapted to couple to the outer end of the suction hose, and to then be manually supported for use with a back and forth or sweeping motion on a Venetian blind, whereby to clean the slats thereof.

An additional object of the invention is to provide a vacuum cleaner attachment, as in the preceding paragraph, which includes a driven rotary brush and an air stream actuated rotor having driving connection with such brush; the forceful rotation of the brush, with the bristles in contact with Venetian blind slats, assuring of effective cleaning of the latter. The dust as swept from the Venetian blind slats by the brush is drawn into a suction head which the attachment embodies.

A further object of the invention is to provide a vacuum cleaner attachment of the type described which includes a novel baffle structure arranged to cause the air stream passing through the device to impinge most advantageously on the rotor, whereby the latter produces maximum rotative force for transmission to the driven brush.

It is also an object of the invention to provide a vacuum cleaner attachment which is designed for ease and economy of manufacture, long and satisfactory service, and convenience of manipulation when in use.

Still another object of the invention is to provide a practical and reliable Venetian blind cleaner, and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawings:

Fig. 1 is a side elevation of the attachment as in use to clean a Venetian blind.

Fig. 2 is a sectional elevation of the attachment.

Fig. 3 is a section on line 3—3 of Fig. 2.

Referring now more particularly to the characters of reference on the drawings, the attachment comprises an elongated, vertically disposed, trough-like suction head 1 which is semi-circular in cross section. The open side of the suction head 1 forms in effect a mouth, and such mouth is surrounded by a cushion or bumper strip 2 on the adjacent exterior portion of said head.

An elongated rotary brush, indicated generally at 3, is disposed in the suction head 1; such brush including an elongated central hub 4 and longitudinal rows of bristles 5 which extend helically about said hub. The effective diameter of the rotary brush 3 is such that on the inner side the bristles run in close proximity to the head 1,

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while on the outer side they project from the mouth of said head.

The rotary brush 3 is fitted at the ends with spindles 6 and 7 carried in bearings 8 and 9 on the ends of the head 1; at least one of said bearings being arranged for detachment of the related spindle so that the rotary brush 3 may be removed from the head 1 for cleaning or repair of the attachment, including replacement of the drive belt, hereinafter mentioned.

A horizontal duct 10 is fixed on the suction head 1 intermediate its ends, communicating with said head and projecting rearwardly therefrom. Rather than projecting straight rearwardly from the head 1 the duct 10 is diagonaled slightly in a horizontal plane; this for the purpose of aiding in the convenience of manipulation of the device. Intermediate its ends the horizontal duct 10 is rectangular in cross section, while at its outer end it is formed with a reduced-diameter neck 11 for connection to the suction hose 12 of a conventional vacuum cleaner.

A cross shaft 13 is journaled in the duct 10 intermediate its ends, with such cross shaft parallel to the axis of the elongated central hub 4 of the rotary brush 3. The cross shaft 13 has a closed-end rotor 14 formed thereon, which rotor includes a plurality of circumferentially spaced, radially extending vanes 15. The rotor 14 is of such length and diameter that it runs, at the ends and at the circumference, in relatively close relation to the corresponding walls of the duct 10.

At opposite ends very thin washers 16 surround the cross shaft 13 between the ends of the rotor and the adjacent wall of the duct. The bearings for the cross shaft 13 are indicated at 17.

At one end the cross shaft 13 projects out of the duct 10 and is there fitted with a pulley 18 which drives a round, endless belt 19. Such belt extends forwardly through a slot 20 in the back side of the head 1, and thence extends forwardly, engaging in driving relation about the hub 4; the latter having a circumferential groove 21 in which the belt engages.

The projecting portion of the cross shaft 13, pulley 18, and the rearward portion of belt 19 are enclosed within a protective housing 22.

A baffle 23 is fixed in the duct 10 between the head 1 and the rotor 14, such baffle completely closing off such duct, saving and excepting a full-width but restricted passage 24 adjacent one wall of said duct; the baffle inclining rearwardly in the direction of said restricted passage.

When the device is in use, suction is created in the head 1 and a relatively forceful air stream flows through the passage 24 and impinges against the rotor 14 eccentrically, which results in the rotor being air actuated; the rotative force being applied by the pulley 18 and belt 19 to the rotary brush 3.

In order to assure that there is sufficient air stream flowing through the duct 10 to maintain substantial suction in the head, the radial vanes 15 of rotor 14 are formed with radial air passage slots 25. These slots are effective for the intended purpose without substantially reducing the power which the rotor products.

With the attachment in operation, as above described, the duct 10 is grasped manually and the suction head 1 is pressed firmly against the Venetian blind, being swept back and forth horizontally along the same. With each such pass, the projecting bristles of the rotary brush 3 sweep against the Venetian blind slats 26, effectively dusting the same (see Fig. 1); the dust being immediately drawn into the suction head 1 and thence being carried in the air stream through the duct 10 and hose 12 to the vacuum cleaner.

The vacuum cleaner attachment as described above

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is very convenient to use and functions to clean Venetian blinds most effectively.

From the foregoing description it will be readily seen that there has been produced such a device as will substantially fulfill the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described the invention, the following is claimed as new and useful and upon which Letters Patent are desired:

In combination with a suction duct of substantially rectangular form in cross section, a suction actuated rotor mounted in the duct intermediate its ends, said rotor comprising a plurality of substantially radial circumferentially spaced vanes connected together at their radially inner ends and running at their side and peripheral edges adjacent the side and bottom walls of the ducts; there being a relatively narrow air intake passage

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formed in the duct at the bottom thereof adjacent and ahead of the rotor and extending for the full width thereof, the vanes having permanently open radial air passage slots therethrough extending to said peripheral edges of the vanes, the slots of the different vanes being in alinement axially of the rotor.

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