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F. RICKS ET AL.

2,028,847

DUST REMOVING DEVICE

Original Filed June 6, 1933

Fig. 1.

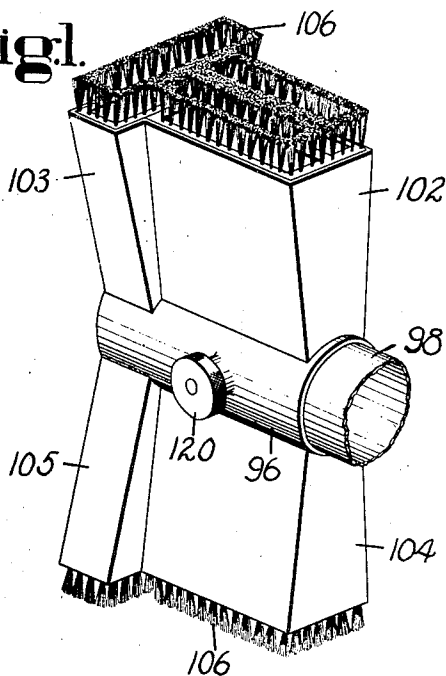


Fig. 2.

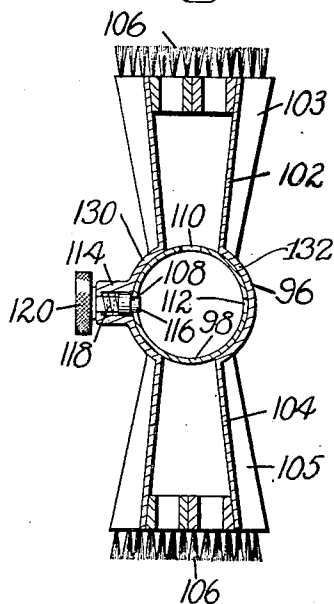


Fig. 3.

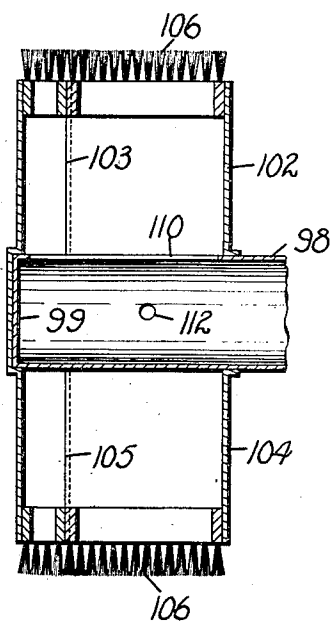
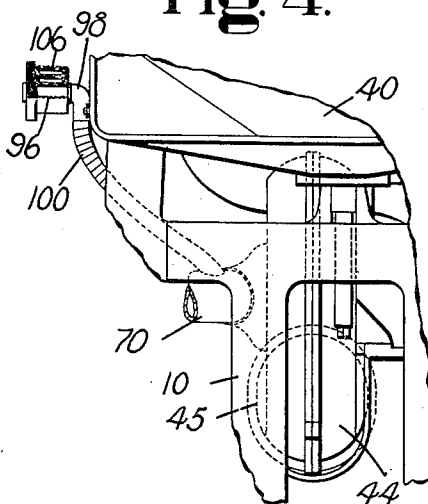


Fig. 4.



INVENTOR-

Fred Ricks
Charles T. Jones
By *Harlow M. Davis*
Attorney

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DUST REMOVING DEVICE

Fred Ricks and Charles Turner Jones, Leicester, England, assignors to United Shoe Machinery Corporation, Paterson, N. J., a corporation of New Jersey

Original application June 6, 1933, Serial No. 674,565. Divided and this application July 10, 1933, Serial No. 679,666. In Great Britain June 30, 1932

2 Claims. (Cl. 15-158)

This invention relates to dust removing devices and is herein disclosed as embodied in a vacuum cleaning brush. While the illustrated brush may be employed for a variety of purposes it has proved particularly satisfactory for removing the fine deposit of dust which collects upon shoes after the shoes have been subjected to a buffing operation. Notwithstanding the fact that buffing machines are usually equipped with suction dust hoods, it is impossible to prevent some dust settling upon the shoe, and attempts to wipe or brush this dust off by ordinary means are frequently unsatisfactory and frequently result in leaving a disfiguring mark upon the shoe.

This application is a division of our copending application Serial No. 674,565 which resulted in United States Letters Patent No. 2,008,797, granted July 23, 1935.

It is an object of the present invention to provide a device for removing dust, for example the fine dust which, as above mentioned, settles upon shoes in the course of buffing operations. The device herein illustrated consists of a vacuum cleaning brush having two sets of bristles, one for light colored shoes and one for dark colored shoes, so arranged that when either set of bristles is moved into operative position the interior of that portion of the brush is connected with a suction system to remove the dust which is loosened by the bristles. In the illustrated construction, the brush may be moved to an inoperative position wherein both portions of the brush are closed to the suction system, thereby conserving the draft when the brush is not in use.

The features of the invention will be best understood from the following description of the preferred embodiment thereof, selected for purposes of illustration and shown in the accompanying drawing, in which

Fig. 1 is a perspective view of the improved brush;

Fig. 2 is a cross sectional view of the brush shown in Fig. 1;

Fig. 3 is a view in longitudinal section of the brush; and

Fig. 4 is a view in front elevation of a portion of a shoe buffing machine to which the brush is attached.

Referring to the drawing, a brush, which is shown in its entirety in Fig. 1, is provided with a head 96 in the form of two oppositely disposed cylindrical bearing members 130 and 132 (Fig. 2) by which the head is rotatably mounted upon a suction tube 98 having a closed end 99 (Fig. 3). At each end of the head 96 the bearing members

130 and 132 are continuous with each other to form a complete cylinder. Inasmuch as an important use of this brush consists in the removal of dust which settles upon shoes in the course of buffing operations, it is desirable to mount the brush either on or in close proximity to a buffing machine. Accordingly, the illustrated brush is shown in Fig. 4 as mounted upon such a machine. The frame portion of the machine is shown fragmentally in Fig. 4, and is identified by the numeral 10. For a complete disclosure of this machine, reference may be had to our copending application above mentioned. Supported upon the frame 10 is a large pan 40 for receiving dust from one or more buffing tools (not shown). The suction tube 98 has an elbow-shaped extension which is secured to an end of the pan 40. The elbow of the tube 98 is connected by a conduit 100 to a suction conduit 70 which leads to the intake of an exhaust blower 44 which is supported upon the frame 10, and which has an outlet opening 45. The suction conduit 70 may be connected to one or more suction dust hoods (not shown). The head 96 is provided with two hollow extensions 102 and 104 which, in the illustrated construction, are integral with the bearing members 130 and 132. The bearing members 130 and 132 do not extend across the interior of the extensions 102 and 104. The extension 102 has a portion 103 of increased width adjacent to the closed end 99 of the head 96 and the extension 104 has a similar portion 105 of increased width adjacent to the closed end 99. The outer ends of each of these extensions are open and are provided with bristles 106. As shown in Fig. 1, the open end of the extension 102 is in the form of two rectangles arranged in the shape of the letter T. The end of the wider portion 103 constitutes the cross bar of the T. The open end of the extension 104 is similarly shaped. The bristles at the outer ends of the extensions extend around each of the rectangles, and the stem of each T has a bridge extending lengthwise along its center and carrying a double row of bristles.

Three openings 108, 110 and 112, respectively, are formed in the wall of the tube 98. Mounted in a lug 114 extending from the head 96 is a locking pin 116 which engages one or another of the openings 108, 110 and 112 to secure the head in one of three given positions. The pin 116 is urged into locking position by a coil spring 118 which engages the pin. Formed upon the outer end of the pin 116 is a knurled head 120 to facilitate unlocking the pin. Fig. 2 shows the pin 116 engaging the opening 108. In this position

the interior of the tube 98 communicates with the interior of the brush extension 102 through the opening 110 which is elongated to provide an air passage, the openings 108 and 112 being only of sufficient size to receive the pin 116. The opening 110, which constitutes an air inlet opening, is thus relatively large compared to the openings 108 and 112. The bristles upon the brush extension 102 are intended to be used upon shoes of relatively dark color. When it is desired to clean relatively light shoes, the bristles of the brush extension 104 are employed. It will be evident that the use of two different sets of bristles will serve to avoid the transfer of color from dark to light shoes. In utilizing the extension 104, the head 96 is rotated 180° from the position shown in Fig. 2. The opening 110 will then register with the interior of the extension 104 and the pin 116 will enter the opening 112. When neither of the brush extensions is to be used the head 96 is rotated 90° in a clockwise direction. The pin 116 will then engage the opening 110 and thus maintain the brush members in inoperative position with the inlet opening 110 closed by the cylindrical bearing member 130.

It will be observed that the opening 110 serves both to admit air into the duct 98 and to engage the locking pin 112. The holes 108 and 112 on the other hand function only as recesses to engage the locking pin. Since, as above stated, they are no larger than necessary to receive the locking pin 112, it is evident that the quantity of air which can pass through them is negligible. The T-shaped arrangement of the bristles 106 is convenient in that it enables a shoe to be presented to the brush in various positions. In practice, the operator lightly rubs the dusty portion of the shoe against the bristles of the brush which tends to loosen the dust. The dust is thereupon carried away by the current of air through the suction system.

Having described our invention, what we claim

as new and desire to secure by Letters Patent of the United States is:

1. A tool for removing dust from shoes comprising a tubular suction duct having an inlet opening in its wall, a head having a cylindrical portion whereby the head is mounted for rotary movement upon said duct and having also two hollow extensions the outer ends of which extensions are open and the inner ends of which are adapted to communicate, one at a time, with the inlet opening in said suction duct, the cylindrical portion of said head being positioned between said extensions and operating to close said air inlet opening when neither extension is in operative position, cleaning means mounted at the outer ends of said extensions and means for locking said head alternatively in positions such that the desired one of said extensions communicates with said inlet opening and also in an inoperative position in which the cylindrical portion of the head closes the inlet opening.

2. A tool for removing dust from shoes comprising a tubular suction duct, a head having a cylindrical portion whereby the head is mounted for rotary movement on said duct and having also two hollow extensions the outer ends of which are open for receiving dust laden air, and a locking pin on said head, said duct having formed in its wall a pair of relatively small holes displaced from each other about the axis of said duct and having also a relatively large air inlet opening located between said holes, said holes and said air inlet opening being adapted to receive said locking pin, said air inlet opening being adapted also to communicate with one or the other of said hollow extensions when said locking pin is engaged by one or the other of said holes respectively, and the cylindrical portion of said head being constructed and arranged to close said air inlet opening when the locking pin engages the air inlet opening.

FRED RICKS.

CHARLES TURNER JONES.