G. J. KINDEL.

SURFACE BRUSH FOR PNEUMATIC CLEANING APPARATUS.

APPLICATION FILED FEB. 13, 1909.

928,982. Patented July 27, 1909.

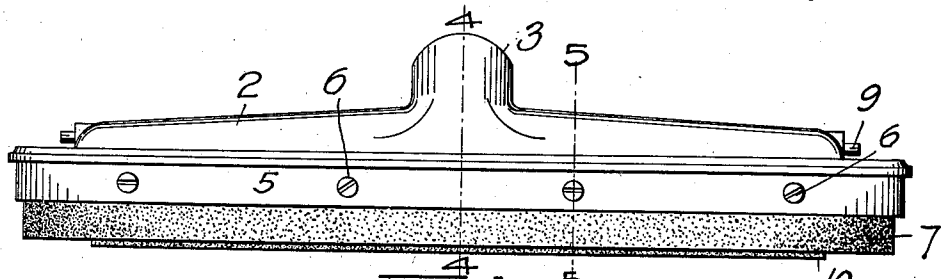


Fig. 1

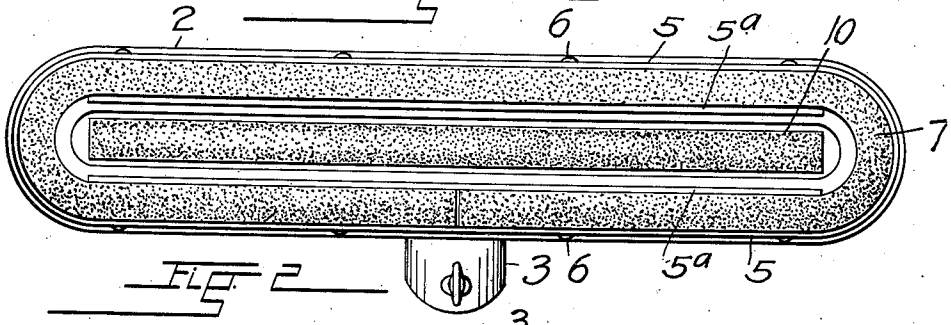


Fig. 2

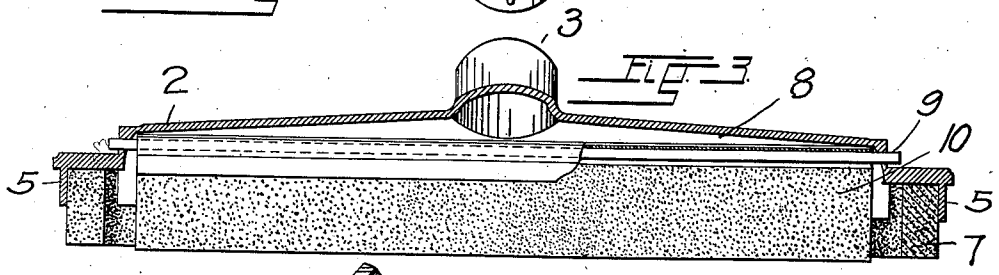


Fig. 3

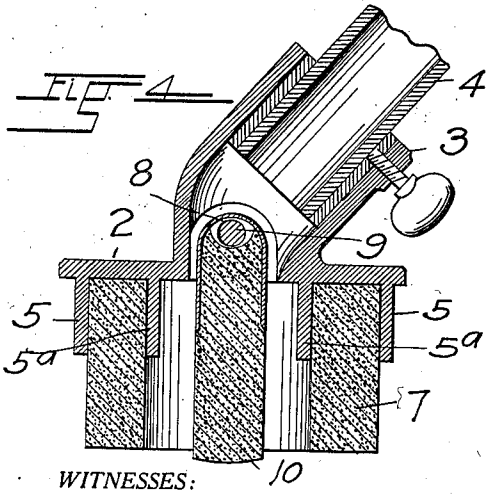


Fig. 4

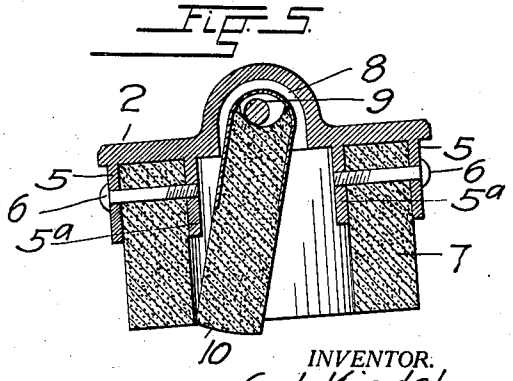


Fig. 5

WITNESSES:

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SURFACE BRUSH FOR PNEUMATIC CLEANING APPARATUS.

No. 928,982. Specification of Letters Patent. Patented July 27, 1909.

Application filed February 13, 1909. Serial No. 477,591.

To all whom it may concern:

Be it known that I, GEORGE J. KINDEL, a citizen of the United States of America, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Surface Brushes for Pneumatic Cleaning Apparatus, of which the following is a specification.

This invention relates to certain new and useful improvements in brushes employed in removing dust from floors and other surfaces by the vacuum cleaning process and its object is to provide a device of the class named which, when moved along the surface to be cleaned, will permit a free passage of the impregnated air at its side foremost in relation to the direction in which it is impelled, and which, in consequence, is instrumental in removing the dust thoroughly and with great rapidity. I attain this object by the means illustrated in the accompanying drawings in the various views of which like parts are similarly designated and in which—

Figure 1, represents a side elevation of the improved brush, Fig. 2, an underneath view thereof, Fig. 3, a central longitudinal section therethrough, Fig. 4, an enlarged transverse section taken along the line 4—4— Fig. 1, and Fig. 5, a similar section taken along the line 5—5 Fig. 1.

The device as shown in the drawings, consists of a head 2 which is formed at its upper surface, with a hollow neck 3 for the reception of the extremity of a suction pipe 4 through which the dirt-laden air is conducted to a conveniently located receptacle or separator, not shown on the drawings. The head 2 is formed, near its outer edge, with a continuous depending flange 5 whose rectilinear sides are connected by semicircular ends and with two flanges 5^a which extend parallel to the said sides. Secured between the flanges 5 and 5^a by the use of screws 6 or analogous fastening means, is a band 7, composed of felt, rubber, textile or other suitable flexible material, whose opposite ends adjoin and whose lower portion projects beyond the edges of said flanges. The head 2 is furthermore formed, in its upper portion, with a longitudinal recess 8 in which a longitudinally disposed rod 9 is fixedly secured and this rod serves as a pivot for an oscillatory deflector 10 which is suspended midway between and normally in parallel relation to the sides of the continuous band 7. The deflector 10 consists of a rectilinear strap composed of a substance similar to that of the band 7 and its lower edge projects below that of the latter, so that when the device is supported upon a floor and the deflector 10 is in its normal, upright position, the edges of said band will be elevated above the supporting surface.

Having thus described the mechanical construction of my improved brush, its operation will be readily understood. When the brush is in a vertical position as illustrated in Fig. 4 of the drawings, it is supported solely upon the lower edge of the deflector 10 with the result that, when the brush is propelled in one direction, raising or lowering the handle will cause its body, by reason of its pivotal connection with the upper end of the deflector, to tilt upwardly at its side foremost in relation to the direction in which it is propelled. The impregnated air is thus free to enter the suction channel of the head at its foremost side only, its opposite side being closed by the engagement of the rearmost portion of the brush and the lower edge of the deflector with the surface upon which it is supported. It will thus be understood that by the use of my brush, the air not only finds an unobstructed passage from the surface to be cleaned into the head, but it enters only from the part of the surface in front of the brush where the dust is thickest, and the device serves by reason of these advantageous features, to promote the speedy and thorough removal of dust and dirt from the floor, wall or other surface over which it is propelled.

The position of the head and the oscillatory deflector during the operation of the device, has been illustrated in Fig. 5 of the drawings.

Having thus described my invention what I claim is:—

1. A brush for pneumatic cleaning apparatus comprising a hollow head provided with an elongated inlet opening in its lower side, a strip of flexible material dependent from the head, surrounding said opening and including substantially parallel sides, and a means adapted to movably support said head upon a surface, whereby lowering of one side of the head will result in bring-

ing the corresponding side of the strip in contact with said surface and in raising the opposite side of the strip above the same.

2. A brush for pneumatic cleaning apparatus comprising a hollow head provided with an elongated inlet opening in its lower side, a strip of flexible material dependent from the head, surrounding said opening and including substantially parallel sides, and an interposed oscillatory deflector normally spaced from said sides in substantially parallel relation thereto, and projecting below their lower edges.

3. A brush for pneumatic cleaning apparatus comprising a head having in its upper portion, a longitudinal recess terminating in an elongated inlet opening in its lower side, a strip of flexible material dependent from said head surrounding said opening and including substantially parallel sides, an axle longitudinally disposed within the recess and a deflector movably suspended from said axle and normally spaced from said sides, in substantially parallel relation thereto.

4. A brush for pneumatic cleaning apparatus comprising a hollow head having a longitudinal recess in its upper portion, a hollow neck communicating therewith, and flanges dependent from its lower surface, a strip of flexible material suspended from said flanges and including substantially parallel sides, an axle longitudinally disposed within said recess and a deflector movably suspended from said axle between and normally parallel to said sides.

In testimony whereof I have affixed my signature in presence of two witnesses.

GEORGE J. KINDEL.

Witnesses:
G. J. ROLLANDET,
M. L. GEARY.