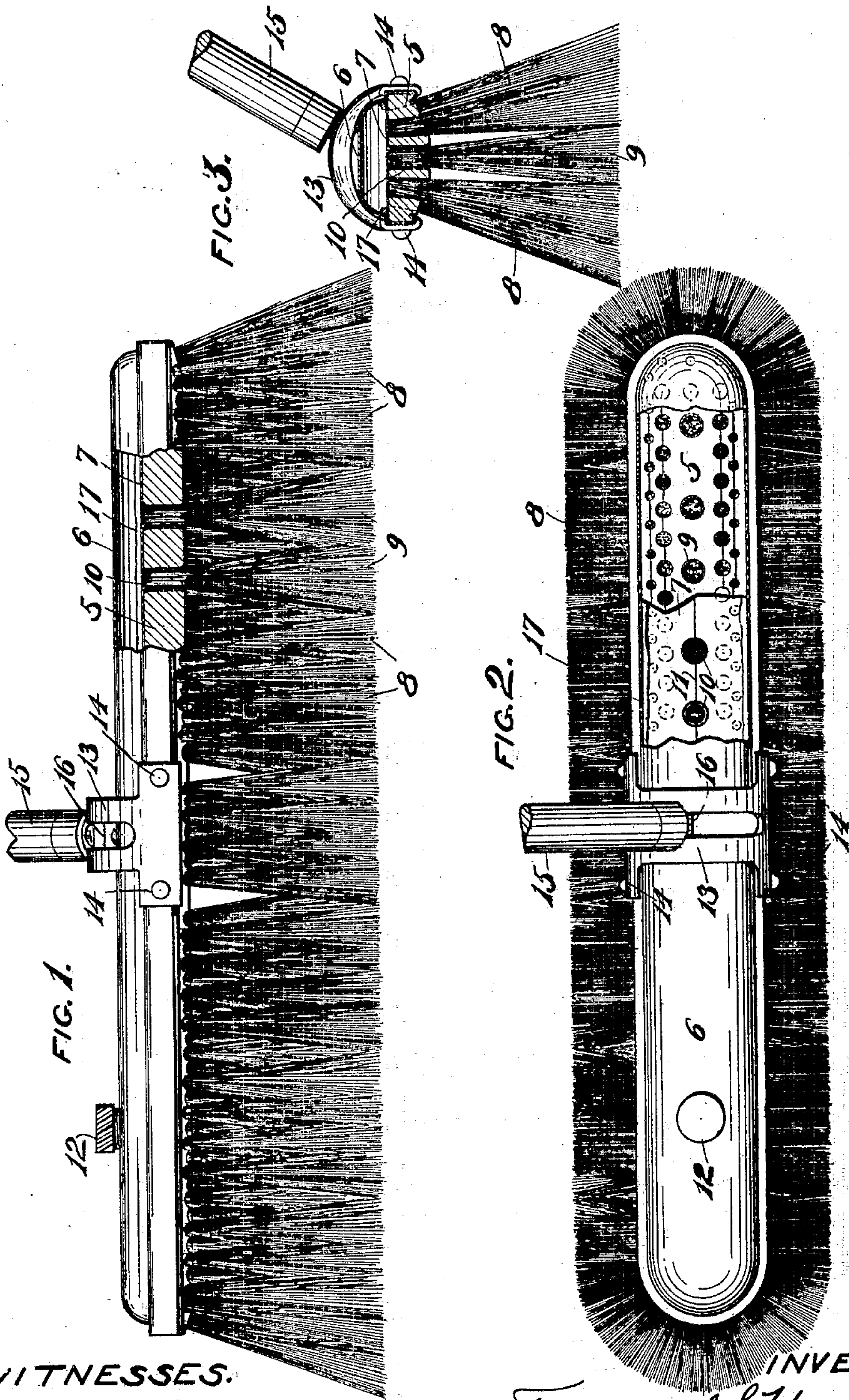


F. S. HUNT.
DUSTLESS BRUSH.

APPLICATION FILED APR. 20, 1908.

929,670.

Patented Aug. 3, 1909.



WITNESSES.

L. O. Thuermer
Anna F. Schmidtbauer

INVENTOR
Frederick S. Hunt.
By *Benedict, Morsell & Caldwell*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

FREDERICK S. HUNT, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO MILWAUKEE DUSTLESS BRUSH COMPANY, OF MILWAUKEE, WISCONSIN, A CORPORATION OF WISCONSIN.

DUSTLESS BRUSH.

No. 929,670.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed April 20, 1908. Serial No. 427,983.

To all whom it may concern:

Be it known that I, FREDERICK S. HUNT, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have
5 invented new and useful Improvements in Dustless Brushes, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

10 This invention has for its object to produce an oil feeding sweeping brush of a novel construction, wherein absorbent and nonabsorbent tufts are provided, the absorbent tufts being in communication with an
15 oil reservoir to feed oil therefrom and the nonabsorbent tufts being insulated from the oil reservoir. In this construction the insulation of the nonabsorbent tufts is accomplished by a metallic lining for the oil reservoir to prevent the oil passing through the
20 pores of the wooden brush back to the nonabsorbent tufts and by metallic bushings or oil insulating tubes lining the tuft openings for the absorbent tufts to prevent the oil
25 passing from such tuft openings through the pores of the brush back to the nonabsorbent tufts.

In dustless sweeping brushes in which the feeding of oil (usually kerosene) is relied
30 upon to avoid raising the dust, the main problem met with is to prevent oil leakage to the nonabsorbent tufts which will cause streaks of oil to be left on the floor. The supply of oil needs to be under close control,
35 so it may be adjusted to that degree where no more oil is fed than the dirt being swept is capable of absorbing, the object being to keep the absorbent tufts moist and not wet, that the dirt may become damp with oil and
40 form balls or lumps of cohering particles instead of being thrown into the air as a fine dust. To accomplish this regulation, the oil reservoir is usually made air tight and is provided with a screw cap to admit air
45 slowly and thereby allow the oil to gradually feed through the absorbent tufts which lead from the interior of the oil reservoir. The nonabsorbent tufts are required to be insulated from the interior of the reservoir and
50 this has been attempted in various ways, but owing to the porous nature of the wooden brush back there has been difficulty in avoiding the passage of oil from the oil reservoir through the pores of the brush back to the
55 nonabsorbent tufts by which it will be car-

ried to the floor and caused to streak the same. Even when the butts of the nonabsorbent tufts have been incased to prevent their communication with the oil reservoir, it has been found that oil will be conveyed
60 by the pores of the brush back from the absorbent tuft openings to the bottom of the brush back where it reaches the nonabsorbent tufts and passes down them to the floor to produce the undesirable streaking.

65 It is therefore the object of this invention to avoid all possibility of the oil reaching the nonabsorbent tufts by lining the oil reservoir with a material impervious to the oil and extending such lining around the walls
70 of the absorbent tuft openings, such lining being preferably of sheet metal.

With the above and other objects in view the invention consists in the dustless brush
75 herein claimed, its parts and combinations of parts and all equivalents.

Referring to the accompanying drawings in which like characters of reference indicate the same parts in the different views; Figure 1 is an elevation of a dustless brush
80 constructed in accordance with this invention, part being broken away to show the interior construction; Fig. 2 is a plan view thereof with parts broken away; and, Fig. 3 is a transverse sectional view thereof.

85 In these drawings 5 indicates a brush back, usually of wood with tuft openings there-through for absorbent and nonabsorbent tufts. A sheet metal shell 6 is mounted on the brush back to form an oil reservoir, there being a plate of sheet metal 7 upon
90 the top of the brush back to constitute a metal lining for the reservoir for preventing the oil reaching the pores of the brush back. As usually constructed the metal shell 6 is
95 clamped upon the top and bottom of the edges of the brush back, as shown in Fig. 3, with the sheet metal lining 7 for the oil reservoir clamped between the edge of the brush back and the shoulder formed by the bend-
100 ing of the metal shell 6 in such clamping action. To make sure that the metal oil reservoir is air tight a line of soft cement or paste 17 which will be unaffected by the oil to be used in the reservoir is placed around
105 the edge of the metal lining 7 before the metal shell is clamped thereto. The metal lining 7 prevents oil reaching the butts of the nonabsorbent tufts 8 which are wire drawn through the outer rows of tuft open-
110

ings before the metal plate is applied to the brush back and said plate is provided with openings registering with the central line of tuft openings of the brush back through which the absorbent tufts 9 are wire drawn after the plate 7 is applied to the brush back.

The insulation of the butts of the absorbent tufts from the wooden brush back is accomplished by means of metal tubes or bushings 10 which are fitted in the central row of tuft openings and are tightly clamped in place by having their ends turned outwardly and their upper ends soldered to the edges of the openings in the reservoir lining plate 7. The wire drawing of the absorbent tufts 9 is of course done before the metal shell 6 is clamped in place, the wires 11 thereof being located on top of the plate 7, and in order that the fit of these absorbent tufts shall be exactly right for the proper feeding of the oil it is desirable to make the tubes 10 of the same internal diameter and to measure the groups of fibers which are to constitute the absorbent tufts so that there will be as nearly as possible the same closeness of fit to all of them. Even with these precautions the importance of a uniform and restricted feed of oil is such that it is desirable that the absorbent tufts be drawn in place by skilled workmen who may judge of the extent to which the tufts are to be drawn into the tubes 10 according to the fit thereof, so that an absorbent tuft which fits looser than another will have its butt drawn in farther than the other to equalize their conductivity for the oil.

A screw cap 12 is provided on the shell 6 of the oil reservoir by means of which air may be excluded from the reservoir when it is desired to prevent the flow of oil and which may be loosened to admit air as needed to permit the desired oil feed. A handle may be attached to the brush back, and as shown, this is accomplished by means of an arched sheet metal clamp 13 which spans across the sheet metal oil reservoir and engages the edges of the brush back, and is held in place by rivets 14 passing transversely through the brush back but avoiding the tuft openings. The handle 15 has a threaded engagement with a nut 16 confined between the side flanges of the clamp 13 and may be adjusted in its angular position by riding in a slot of said clamp 13.

In operation, the oil reservoir is charged with oil through the opening for screw cap 12 and the screw cap is put in place and tightened to the desired degree according to the flow of oil desired, and then the brush is used in the ordinary manner. The oil will come in contact with the butts of the absorbent tufts in the bottom of the oil reservoir and will be carried thereby, by a capillary attraction, to the floor, though not in quantities which will cause it to be

spread on the floor, but only sufficient to keep the line of absorbent tufts, which is continuous from one end of the brush to the other, in a moist condition to cause the dust coming in contact therewith to collect and form lumps which will roll across the surface of the floor and collect other particles of dust during the sweeping operation.

With this construction no streaking of the floor is caused, as the oil is effectively kept from the nonabsorbent tuft butts by the metal lining to the oil reservoir, and is prevented from reaching the nonabsorbent tufts through the pores of the brush back from the absorbent tuft openings by reason of the metallic lining for said openings.

What I claim as my invention and desire to secure by Letters Patent is;

1. A dustless sweeping brush, comprising a brush back having tuft openings, absorbent and nonabsorbent tufts fitting in the tuft openings of the brush back, an oil reservoir on the brush back, a lining for the oil reservoir having openings registering with the absorbent tuft openings, said lining serving to prevent the passage of oil from the oil reservoir to the nonabsorbent tuft openings, and metal tubular linings for the absorbent tuft openings to prevent oil passing from the absorbent tuft openings to the nonabsorbent tufts.

2. A dustless sweeping brush, comprising a brush back having openings, absorbent and nonabsorbent tufts fitting in the openings of the brush back, an oil reservoir on the brush back, a lining for the oil reservoir having openings registering with the absorbent tuft openings, said lining serving to prevent the passage of oil from the oil reservoir to the nonabsorbent tuft openings, and tubular linings for the absorbent tuft openings impervious to oil for preventing the oil reaching the nonabsorbent tufts from the absorbent tuft openings.

3. A dustless sweeping brush, comprising a brush back, having openings, absorbent and nonabsorbent tufts fitting in the openings of the brush back, an oil reservoir formed on the brush back, a metal lining therefor having openings registering with the absorbent tuft openings, said lining serving to prevent the oil reaching the nonabsorbent tuft openings, and metal tubes fitting in the absorbent tuft openings with their ends turned outwardly and their upper ends soldered to the metal lining of the oil reservoir to prevent the oil passing from the absorbent tuft openings to the nonabsorbent tufts.

4. A dustless sweeping brush, comprising a brush back having openings, absorbent and nonabsorbent tufts fitting in the openings of the brush back, a sheet metal shell clamped to the brush back to form an oil reservoir therewith, a sheet metal plate on top of the brush back forming a lining for the oil reser-

voir and having openings registering with the absorbent tuft openings, the edges of the sheet metal plate being clamped between the edges of the brush back and the clamping shoulders of the sheet metal shell, said metal plate serving to prevent the oil reaching the nonabsorbent tuft openings, and metal tubes forming linings for the absorbent tuft openings and united with the edges of the openings of the metal plate to prevent oil passing from the absorbent tuft openings to the non-absorbent tufts.

5. A dustless sweeping brush, comprising a brush back having openings therethrough, absorbent and nonabsorbent tufts fitting in the openings of the brush back, a sheet metal shell clamped to the brush back to form an oil reservoir, a sheet metal plate on top of the brush back forming a lining for the oil reservoir and having openings registering with the absorbent tuft openings, the edges of the sheet metal plate being clamped between the edges of the brush back and the clamping shoulders of the sheet metal shell, a line of cement at the meeting edges of the metal plate and the metal shell to seal the oil reservoir, said metal plate serving to pre-

vent the oil reaching the nonabsorbent tuft openings, and metal tubes forming linings for the absorbent tuft openings and united with the edges of the openings of the metal plate to prevent oil passing from the absorbent tuft openings to the nonabsorbent tufts.

6. A dustless sweeping brush, comprising a wooden or other porous brush back having tuft openings extending entirely therethrough, absorbent and non-absorbent tufts having their butts drawn within the tuft openings of the brush back, a shell on top of the brush back forming an oil reservoir, a lining for the oil reservoir closing the tops of the non-absorbent tuft openings and having openings registering with the absorbent tuft openings, and tubular linings for the absorbent tuft openings to prevent the oil passing from the absorbent tuft openings to the non-absorbent tufts.

In testimony whereof, I affix my signature, in presence of two witnesses.

FREDERICK S. HUNT.

Witnesses:

R. S. CALDWELL,

ANNA F. SCHMIDTBAUER.