

March 20, 1928.

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BRUSH FOR VACUUM CLEANERS

Filed July 5, 1923

2 Sheets-Sheet 1

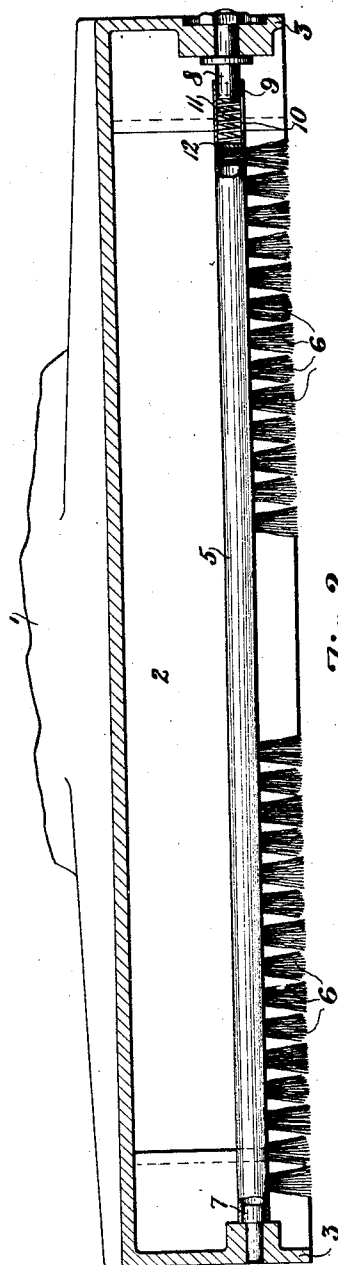


Fig. 2

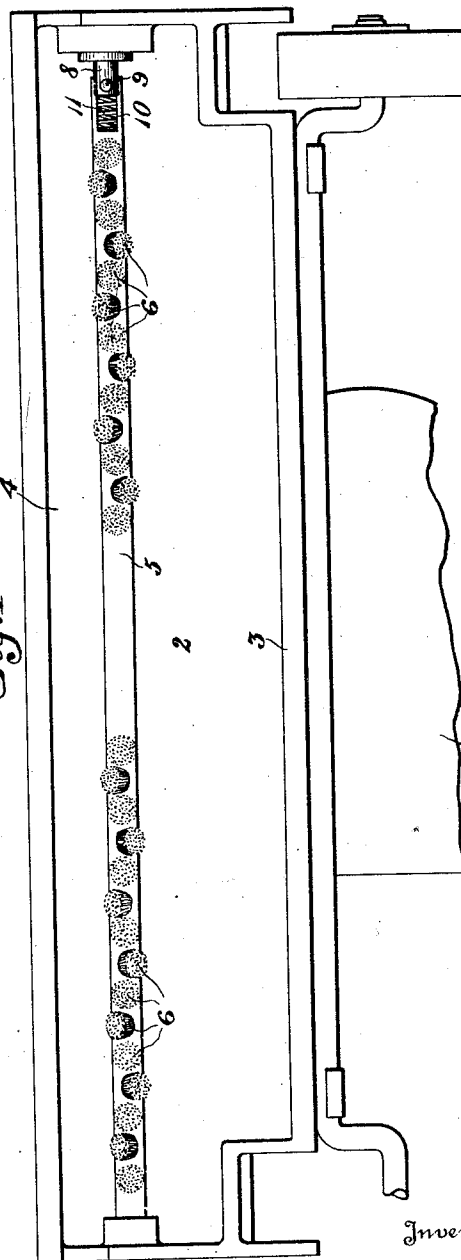


Fig. 1

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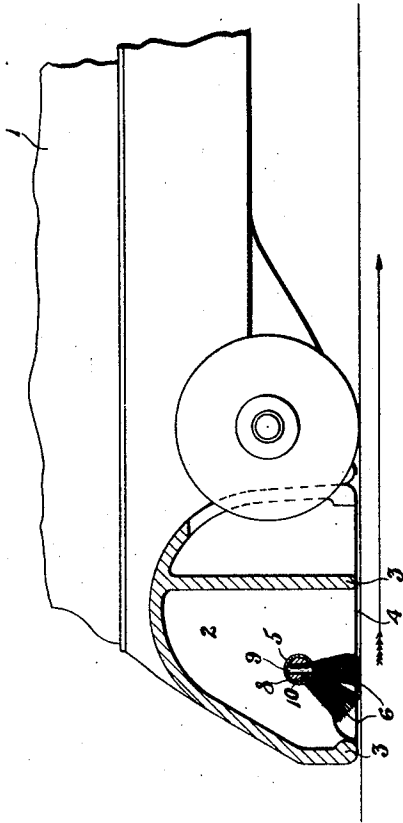


Fig. 3

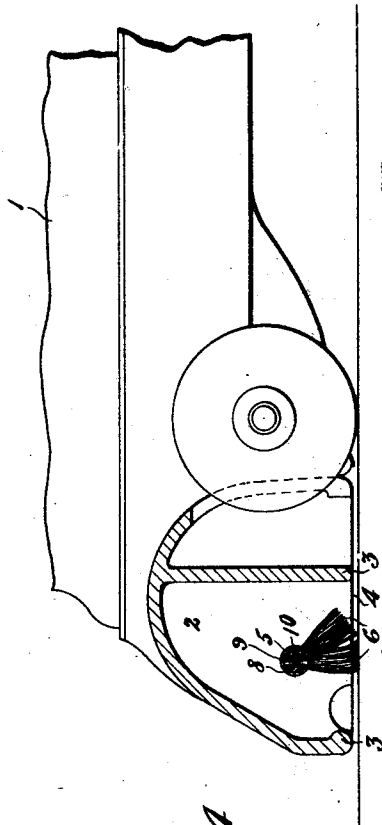


Fig. 4

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UNITED STATES PATENT OFFICE.

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BRUSH FOR VACUUM CLEANERS.

Application filed July 5, 1923. Serial No. 649,392.

This invention relates to portable vacuum cleaners and more particularly to a brush mounted in the nozzle or suction mouth of the cleaner, and the objects of the improve-
ment are to provide a brush arranged to be oscillated to brush the objective surface by the to and fro movement of the cleaner over the surface to be cleaned.

The above and other objects are attained by journaling a brush spindle through the nozzle or suction mouth of the cleaner at a proper height to hold the bristles of the brush in frictional contact with the objective surface, means being provided for limiting the oscillating movement in each direction of the brush; friction means being preferably provided upon the brush spindle for preventing too rapid movement of the same when the cleaner is operated to and fro upon the surface to be cleaned.

The invention thus set forth in general terms is illustrated in the accompanying drawings, in which—

Figure 1 is a bottom plan view of the nozzle portion of a vacuum cleaner provided with a brush embodying the invention;

Fig. 2, a longitudinal, sectional view through the same;

Fig. 3, a transverse, sectional view through the nozzle, showing the position of the brush upon the rearward movement of the cleaner; and

Fig. 4, a similar view showing the position of the brush upon the forward movement of the cleaner.

Similar numerals refer to similar parts throughout the drawings.

The casing 1 of the vacuum cleaner may be of any well known construction, and as shown, forms a transverse suction chamber 2 across its forward end, with a rim 3 forming the suction mouth 4 of the machine.

The brush spindle 5 may be tubular and is provided with the depending bristles formed in tufts, as shown at 6, which are zig-zag or slightly staggered with relation to each other. The opposite ends of the brush are journaled upon the aligned studs 7 and 8 which are connected to the opposite end walls of the suction chamber.

The stud 8 is provided with a radial pin 9 extending through the longitudinal slot 10 in the adjacent end portion of the brush spindle. As best shown in Fig. 1, this slot

is of greater width than the diameter of the pin 9. A coil spring 11 is located within the slotted end of the spindle and arranged to be interposed between the extremity of the stud 8 and the shoulder 12 within the spindle.

This spring not only permits of the easy removal of the spindle from the suction chamber or the replacing of the same therein by compressing the spring to permit the opposite end of the spindle to be disengaged from the stud 7, but also provides sufficient friction upon the spindle to prevent the same from oscillating too freely when the cleaner is moved to and fro upon the floor.

The slot 10 being circumferentially wider than the pin 9, permits a slight oscillation of the spindle and as shown in Fig. 3, as the sweeper is moved backward or in the direction of the arrow, the brush will be oscillated forward, brushing the surface to be cleaned, while as the sweeper is moved forward in the direction of the arrow shown in Fig. 4, the brush contacting with the floor will be frictionally moved inward.

Thus as the sweeper is moved backward and forward in the usual manner, over the surface to be cleaned, the brush will be oscillated forward and backward upon the objective surface, having the same action as the ordinary broom, loosening surface litter which may be drawn through the suction chamber and to the collector bag in the usual manner.

This action of the brush thus loosens all surface litter from the surface being cleaned, permitting the same to be drawn into the cleaner by suction and overcomes the objection of having a rotating brush upon which threads and lint continuously wind as they are drawn by suction into the suction chamber of the cleaner.

We claim:—

1. A vacuum cleaner provided with a suction mouth and a brush journaled therein and having a zig-zag row of bristles frictionally engaging the objective surface at all times and means for limiting the movement of the brush in each direction whereby to and fro movement of the cleaner upon the objective surface will cause oscillation of the brush.

2. A vacuum cleaner provided with a suction mouth and a brush journaled therein and having a zig-zag row of bristles fric-

tionally engaging the objective surface at all times whereby to and fro movement of the cleaner upon the objective surface will cause oscillation of the brush, the brush spindle
5 having a circumferential slot and a fixed pin carried by the cleaner and engaging the slot for permitting a limited rotary movement of the brush.

10 3. A vacuum cleaner provided with a suction mouth, aligned studs in opposite ends of the mouth, a brush journalled upon said

studs and having a zig-zag row of bristles frictionally engaging the objective surface at all times, and a fixed pin upon one of the studs, the brush having a circumferential slot engaged by said pin for permitting a limited rotary movement of the brush in each direction whereby to and fro movement of the cleaner upon the objective surface will cause oscillation of the brush.

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