April 21, 1936. L. ELL 2,038,424

NOZZLE FOR VACUUM CLEANERS

Filed May 16, 1934

Fig. 1.

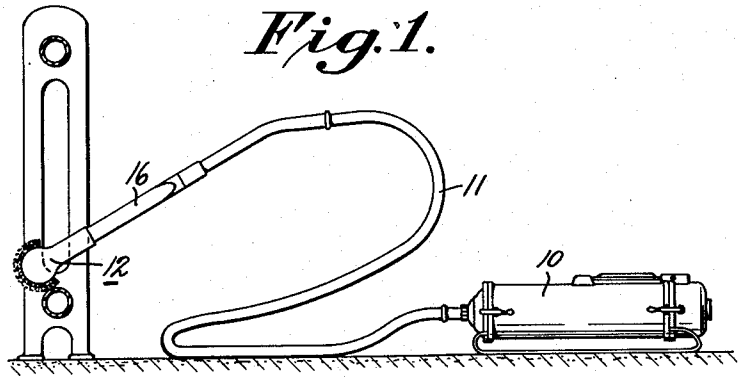


Fig. 4.

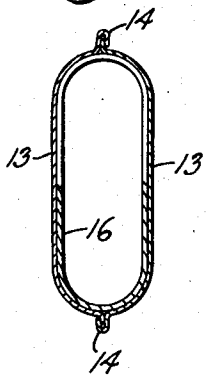


Fig. 2.

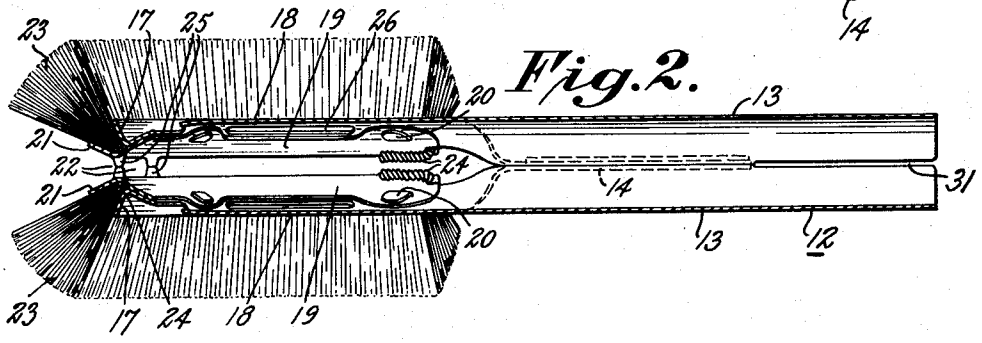
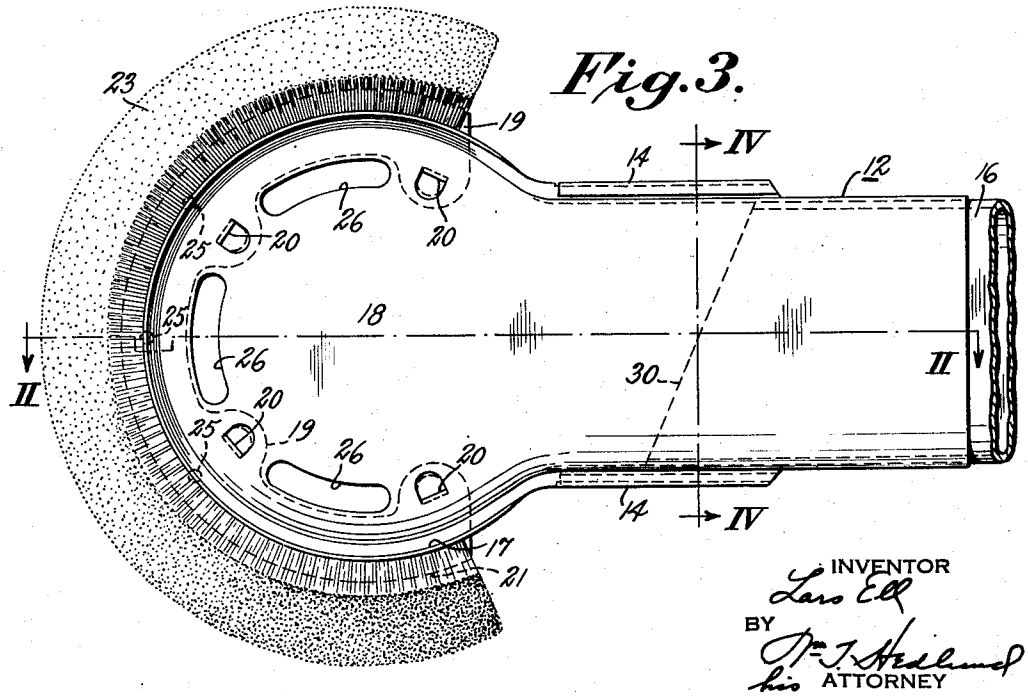


Fig. 3.



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2,038,424

NOZZLE FOR VACUUM CLEANERS

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Application May 16, 1934, Serial No. 725,866
In Germany July 18, 1933

5 Claims. (Cl. 15—158)

My invention relates to brush tools for vacuum cleaners and more particularly to that type of tool known as a radiator tool, though such tool has other uses than for cleaning radiators.

The invention will be understood from the following description of a preferred form of the invention taken in conjunction with the accompanying drawing forming a part of this specification and of which:

Fig. 1 shows a known type of vacuum cleaner to which is attached a tool embodying the invention;

Fig. 2 is a longitudinal sectional view taken on the line II—II of Fig. 3 showing a preferred form of the invention;

Fig. 3 is a side view of a preferred form of radiator tool; and

Fig. 4 is a section taken on the line IV—IV of Fig. 3.

My new radiator tool is applicable to any kind of vacuum cleaner but I have shown it attached to the hose 11 of a vacuum cleaner of the kind having a cleaner unit 10 adapted to be pulled on the floor by means of the hose. On the suction end of the hose is a flattened tubular member 16 of known construction which may have an oblique opening as shown in Fig. 3 at 30. Member 16 is preferably made of metal so that it will not distort. Mounted on the member 16 is a brush tool or radiator tool or nozzle designated generally by numeral 12. Tool 12 includes flattened side members 13 which have projections 14 on the sides which are crimped together to form the shank portion fitted over the tool 16. The sides may be separated at 31 to provide resiliency for clamping the tool 12 onto the tool 16 in order to readily assemble the parts. The side members 13 are formed with rounded parts 18 which are generally circular and the circumferential periphery of which extend for the greater part of a complete circle. The diameter of the circle is considerably wider than the width of the shank portion. The outer edges of the parts 18 are bent or flanged obliquely outwardly at 17. The outside edges of the flanges 17 are preferably in the same plane as the flat portions of the side members 13. Inside the parts 18 are pieces 19 which are arcuate in shape and which are tightly secured to the parts 18 in any desired manner as by tongues 20 pressed out of the pieces 19 and extending through slots in the side members 13. The pieces 19 are flanged at 21. The flanges 21 likewise extend obliquely outwardly from the general path of flow formed within the tool, which is longitudinally thereof in the embodiment disclosed.

Between the flanges 17 and 21 are rows of bristles 23, one on each side. The pieces 19 as well as the parts 18 are separated to form an end nozzle opening 22 which extends more than half the circumference. The bristles 23 on either side of the opening 22 extend obliquely outwardly in opposite sense from the plane of the opening. In order to prevent closing of the opening, inasmuch as the tool is preferably made of light and somewhat bendable metal, knobs or projections 25 may be provided in the pieces 19 adapted to press against the complementary piece and prevent reduction of the nozzle opening beyond a given amount. The bristles may be mounted on twisted wire 24 which is clamped between the flanges 17 and 21 by pressing these flanges together. The wire may be passed through slots in the members 13 and 19 and bent over to hold the same in place or other fastening means may be employed. The parts 17 and 21 form oblique grooves for the bristle rows. Preferably, auxiliary openings 26 are provided in the side parts 18 by aperturing the side members and also the pieces 19 should they overlap at the places where it is desired to have the auxiliary openings.

With the arrangement shown it is impossible for the bristles to be bent into the suction openings and hinder the inflow of air and dirt. It is advantageous to make the circular part 18 wider than the shank of the tool in order to clean in back of radiators. This permits the bristles to extend laterally and also provides a large suction opening.

What I claim is:

1. A brush tool for vacuum cleaners including complementary side members defining a passageway for flow of air and providing a slot communicating with said passageway, said side members having flanges diverging obliquely from adjacent said slot, and a row of bristles on each side of said slot secured outside of said flanges.

2. A brush tool for vacuum cleaners including complementary flattened side members forming a path of flow in a general given direction, said side members having flanges oblique to said path of flow, pieces attached to said side members and forming grooves with said flanges, bristles held in said grooves obliquely to said path of flow, and said members and pieces forming a suction opening between said obliquely held bristles.

3. A brush tool for vacuum cleaners including complementary flattened side members forming a path of flow in a general given direction, said

side members having flanges oblique to said path of flow, pieces attached to said side members and cooperating with said flanges to form grooves, bristles held in said grooves obliquely to said path of flow, said members and pieces forming a suction opening between said obliquely held bristles, and said members being apertured to provide auxiliary openings.

4. A brush tool for vacuum cleaners including complementary flattened side members secured together to form a hollow shank for flow of air and having separated end portions substantially circular in shape and provided with a circumferential suction opening communicating with said hollow shank, said side members having flanges diverging obliquely from adjacent said slot, pieces cooperating with said flanges to provide grooves for bristles, and bristles clamped in said grooves, said bristles being supported obliquely of the circumferential opening by said flanges.

5. A brush tool for vacuum cleaners having an end suction opening, flanges diverging obliquely from adjacent said opening, and rows of bristles adjacent said opening secured outside of said flanges.

LARS ELL.