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POLISHING ATTACHMENT FOR VACUUM CLEANERS

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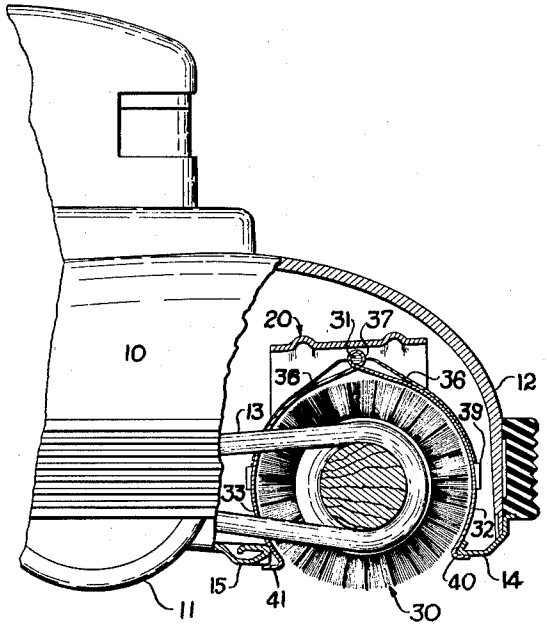


Fig. 1

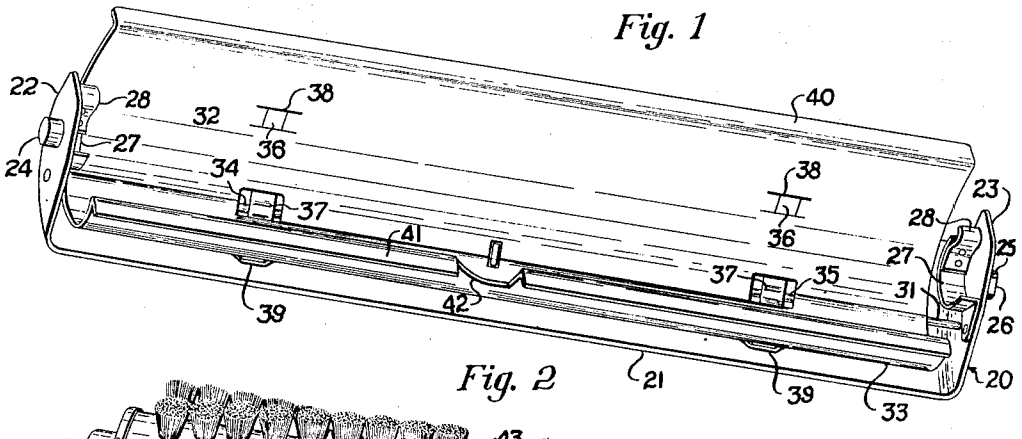


Fig. 2

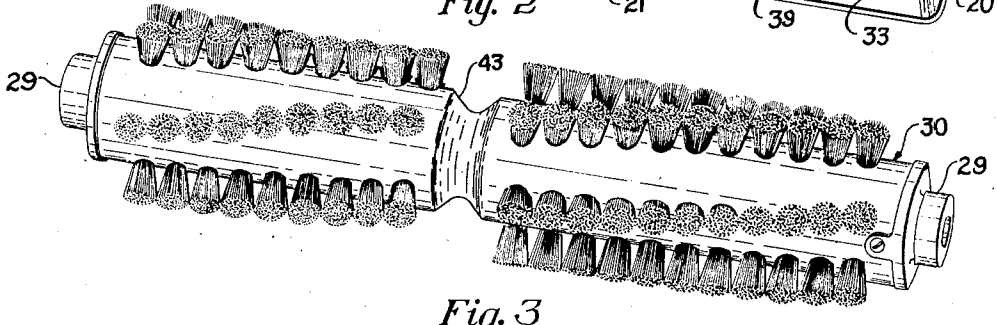


Fig. 3

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POLISHING ATTACHMENT FOR VACUUM CLEANERS

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6 Claims. (Cl. 15—328)

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This invention relates to suction cleaners and more particularly to a polishing attachment therefor.

According to the present invention a supporting frame is provided having projections which fit in end slots in the nozzle mouth of a standard suction cleaner in the position normally occupied by the rotary agitator. Inwardly of the projecting pins the frame is provided with spring clamps for receiving the polishing brush of larger diameter than the agitator whereby the polishing brush will contact the floor and carry the weight of the front of the cleaner independently of the usual front supporting wheels.

A shroud is provided for enclosing the polishing brush except for that portion which projects from the nozzle mouth. According to this invention the shroud comprises two arcuate portions pivoted to the under side of a longitudinally extending portion of the supporting frame and spring-pressed outwardly and so formed that the two shroud sections may be pressed inwardly against the bristles of the brush and inserted upwardly into the nozzle mouth whereby after insertion the two shroud sections will be restored to their normal positions by the springs to thereby hold the polishing attachment in the nozzle mouth without the use of extraneous fasteners, etc.

Other objects and advantages of the invention will become apparent as the description proceeds when taken in connection with the accompanying drawings in which:

Figure 1 is a plan view of a suction cleaner with the polishing attachment of this invention applied thereto with the walls of the suction mouth broken away to show the polishing attachment in assembled relationship;

Figure 2 is a perspective view of the polishing attachment of this invention viewed from the bottom with the polishing brush removed; and

Figure 3 is a perspective view of the polishing brush to be assembled into the supporting frame and shroud of Fig. 2.

Referring to the drawings the reference numeral 10 represents the body of a suction cleaner of known construction. The body 10 is normally supported for ambulatory movement on front wheels 11 and rear wheels (not shown). A rotary agitator is normally rotatably mounted in the nozzle 12 in any suitable manner known in the art. The agitator is normally driven by belt 13 extending over a pulley on a shaft extending downwardly from the fan (not shown) in a manner well known in the art.

Referring to Fig. 2 the polishing roll support of

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this invention is generally indicated by the reference numeral 20. The support 20 comprises a U-shaped frame having a longitudinally extending portion 21 and a pair of downwardly extending legs 22 and 23. Rigidly secured to the outside of legs 22 and 23 are a pair of supporting studs 24 and 25. The studs 24 and 25 fit into open ended upwardly extending slots in the ends of the nozzle 12 which normally receive similar studs on the ends of the usual agitator. One of the studs, preferably stud 25, has flattened sides 26 and the slot in one end of the nozzle 12 is narrower than the other whereby the flattened sides 26 will insure that the frame 20 is inserted in the proper manner as will appear hereinafter.

On the interior of the legs 22 and 23 are arcuate supports 27 having retaining springs 28 to receive the ends 29 of a polishing brush roll 30 shown in Fig. 3. The brush roll 30 has suitable interior bearings for the ends 29 which may take the form shown in Fig. 7 of the patent to White 1,815,225.

Above the supports 27 the legs 22 and 23 support a hinge pin 31. A pair of arcuate shrouds 32 and 33 are pivoted to the pin 31 at 34 and 35 in a manner similar to an ordinary hinge. A pair of leaf springs 36 of a generally arcuate shape each have a downwardly extending bulge 37 to rest against the hinge pin 31 as shown in Figs. 1 and 2. The downwardly extending arcuate legs of the springs 36 are received in slits 38 and 39 in the shrouds 32 and 33. The springs 36 are normally stressed to bias the shrouds 32 and 33 away from each other.

The lower edges of the shrouds 32 and 33 are bent outwardly at 40 and 41 to coact with the front and rear nozzle lips 14 and 15 of the nozzle 12 in a manner which will be explained presently. The shroud 33 is cut away at 42 to form a slot for receiving the driving belt 13.

Assembly

The agitator of the cleaner 10 is removed in the ordinary manner. The belt 13 is placed over the pulley 43 of the brush roll 30 and the ends 29 of the brush roll 30 snapped into the supports 27 behind the retaining springs 28.

The shrouds 32 and 33 are then pressed toward each other against the bristles of the brush roll 30, it being noted that that is necessary because the arcuate portions of the shroud are normally a greater distance apart than the distance between the nozzle lips 14 and 15.

The assembly is then pressed upwardly into the nozzle 12 with the studs 24 and 25 positioned in

the slots in the ends of the nozzle and the slotted shroud **33** facing rearwardly. As the bulged portions of the shrouds pass the nozzle lips **14** and **15** the pressure may be released and the springs will firmly press the outward extensions **40** and **41** against the nozzle lips **14** and **15** and rigidly hold the polishing attachment in position in the nozzle **12**. The belt **13** may then be threaded over the fan pulley in the usual manner.

During assembly the flattened side **26** of stud **25** coacting with the narrow slot in one end of the nozzle will assure that the attachment is assembled with the slotted shroud facing rearwardly.

It is to be noted that when the attachment is positioned in the nozzle **12** the shrouds **32** and **33** are positioned closely about the brush roll **30** with enough clearance for the brush to rotate freely. The purpose of the shroud closely embracing the brush roll is to substantially close off the suction produced by the fan when the polishing attachment is in place to thus reduce the load on the motor and prevent it from overheating.

The brush roll **30** is of sufficient diameter and the bristles of sufficient stiffness that the brush roll will support the weight of the cleaner **10** with the wheels **11** being substantially free of the surface over which the cleaner is being propelled.

From the foregoing it can be seen that this invention provides a polishing attachment for a known type of suction cleaner in which the attachment can be assembled into the nozzle with a minimum of effort and held in that position without the use of any extraneous clamps, etc.

While I have shown but a single embodiment of my invention it is to be understood that this embodiment is to be taken as illustrative only and not in a limiting sense. I do not wish to be limited to the particular structure shown and described but to include all equivalent variations thereof except as limited by the scope of the claims.

I claim:

1. A polishing attachment for insertion into the nozzle of a suction cleaner comprising, a supporting frame, a polishing roll rotatably carried by said frame, a pair of arcuate shrouds pivotally carried by said frame and embracing opposite sides of said polishing roll and spring means normally biasing said shrouds away from each other so as to be free of said polishing roll, the arrangement being such that it is necessary to press said shrouds toward each other against said polishing roll to insert the attachment into the nozzle of a suction cleaner.

2. A polishing attachment according to claim 1 in which said shrouds are provided with outwardly extending portions to coact with the lips of the nozzle to hold the attachment in place in the nozzle.

3. In combination; a suction cleaner having a suction nozzle and a polishing attachment within said nozzle; said attachment including a supporting frame, a polishing brush rotatably carried by said frame, a pair of arcuate shrouds pivoted to said frame so as to embrace said brush and spring means biasing said shrouds away from each other; said shrouds having recessed portions engaging the front and rear lips of said nozzle whereby said springs will hold said attachment in position within said nozzle.

4. The combination set forth in claim 3 including a driving belt for driving said brush, one of said shrouds being slotted to receive the runs of said belt.

5. The combination set forth in claim 3 in which said shrouds have bulged arcuate portions normally a greater distance apart than the distance between the front and rear lips of said nozzle whereby it is necessary to press said shrouds toward each other against said brush to assemble or disassemble said attachment with said nozzle.

6. In a suction cleaner of the type having a downwardly facing nozzle with front and rear nozzle lips defining a nozzle mouth and means for rotatably supporting an agitator therein, a polishing attachment for insertion into said nozzle in place of the usual agitator comprising, an elongated supporting frame, means on each end of said frame for engagement with said supporting means to position said frame in said nozzle, a polishing roll rotatably carried by said frame, said roll having a diameter greater than the width of said nozzle mouth and a resilient shroud carried by said frame and closely surrounding said roll, the arrangement being such that said shroud can be pressed inwardly against said roll sufficiently to permit said attachment to be inserted into said mouth.

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REFERENCES CITED

The following references are of record in the file of this patent:

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Number	Name	Date
1,795,533	Wright	Mar. 10, 1931
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