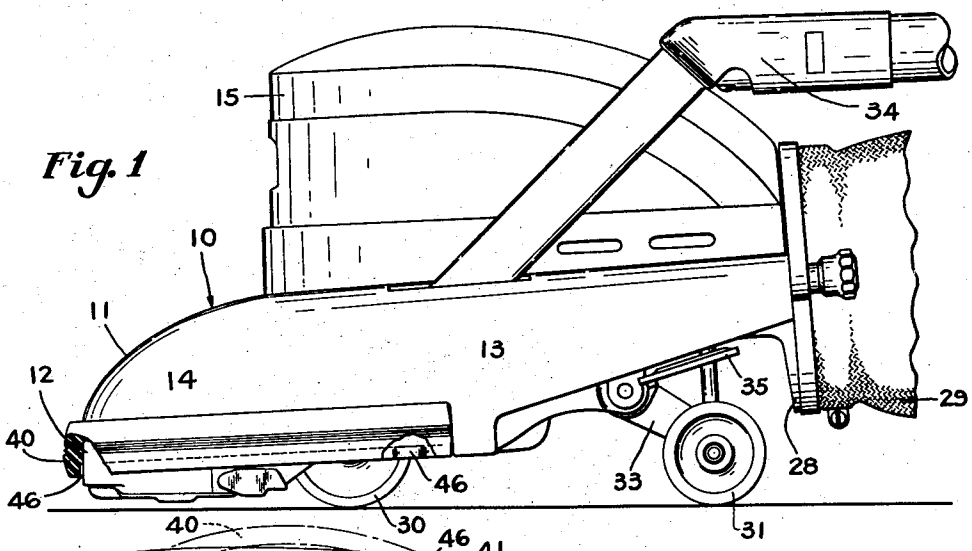
Dec. 24, 1940. V. E. CARLSON 2,226,371

SUCTION CLEANER

Filed May 7, 1938

Fig. 1



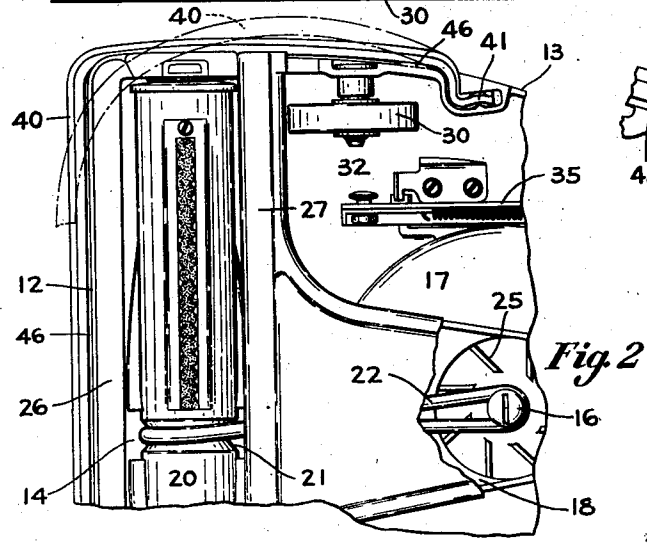


Fig. 2

Fig. 3

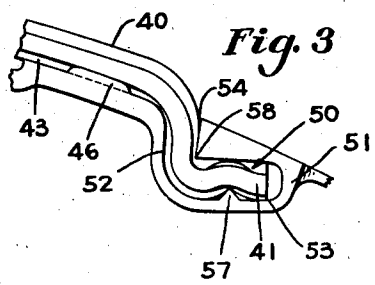
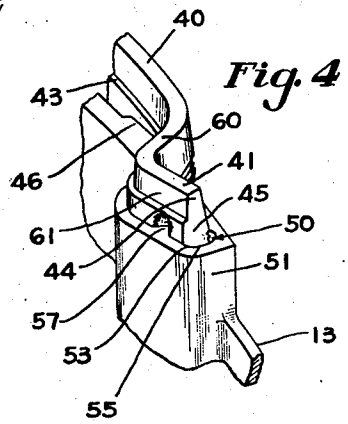


Fig. 4



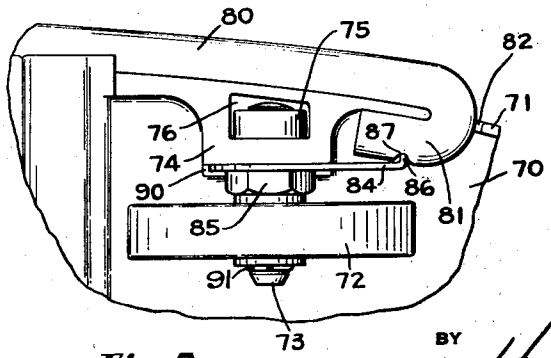


Fig. 5

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SUCTION CLEANER

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Application May 7, 1938, Serial No. 206,533

6 Claims. (Cl. 15—257)

This invention relates to suction cleaners in general and more particularly to a construction and method of securing furniture guards to the cleaner casings. More specifically the invention comprises the provision of a cleaner casing so constructed as to provide means for securing the furniture guard to the casing, and further in that the furniture guard is of extruded rubber not molded to conform to the contour of the cleaner casing.

It is an object of the present invention to provide a new and improved suction cleaner. Another object is to provide a suction cleaner casing so constructed as to receive and secure the ends of the furniture guard. A further object is to provide means for securing the furniture guard to the cleaner casing. Another object is to provide a cleaner casing so constructed as to secure thereto a furniture guard of extruded rubber, not molded to the contour of the casing. A further object is to provide a method of securing the furniture guard to the cleaner casing. Other objects and advantages of the invention will be apparent from the specification and annexed drawing, wherein:

Figure 1 is a side view of a modern suction cleaner with the present invention embodied therein;

Figure 2 is a fragmentary bottom view of the cleaner showing one end of the furniture guard secured to the casing, and a portion of the furniture guard shown in dotted lines prior to arrangement about the front end of the cleaner casing;

Figure 3 is a fragmentary enlarged bottom view showing one end of the furniture guard secured in the cleaner casing;

Figure 4 is a perspective view showing the method of inserting one end of the furniture guard in the retaining means on the cleaner casing, and;

Figure 5 is a bottom view of another embodiment of the invention showing the means for securing the ends of a furniture guard to the cleaner casing.

Referring to Figures 1 to 4 inclusive one embodiment of the present invention is disclosed, and comprises a suction cleaner having a casing 10 provided with a top wall 11, a front wall 12 and two rearwardly extending side walls 13 only one of which is shown and which cooperate to define a nozzle 14. A motor casing 15 is positioned above the casing 10 and houses an unshown motor, the shaft 16 of which passes downwardly through a fan chamber 17 in the casing 10, into an air passageway 18 extending to the nozzle 14. Rotatively supported within the nozzle 14 is an agitator 20 provided with an annular groove 21 which seats a driving belt 22 that extends rearwardly through the air passageway 18 to the motor shaft 16.

Disposed in the fan chamber 17 is a fan 25, operation of which creates a reduced pressure which is effective to draw cleaning air between the nozzle lips 26 and 27, through the nozzle 14, air passageway 18, fan chamber 17, and exhaust it through the outlet 28 into a removable dust bag 29. The cleaner is movably supported upon a pair of front and rear wheels 30 and 31 only one of each pair being shown, the front wheels 30 being disposed in the openings 32 at the rear of the nozzle lip 27 and secured to the side walls 13, while the rear wheels are carried on an adjustable castor 33. A handle 34 is pivoted to the casing and it is supported in different operative positions by means of a foot operated handle control device 35.

A resilient furniture guard 40 is arranged about the front and side walls of the cleaner and its ends 41 are secured to the casing by means formed integrally in the side walls 13 of the casing. The furniture guard 40 is of extruded molded rubber, or other suitable material, and the surface adjacent the casing 10 is provided with a longitudinally extending shoulder 43 whereby the lower portion 44 of the furniture guard is of less cross-section than the upper portion 45. The shoulder 43 of the furniture guard rests on lugs 46 projecting outwardly from the casing 10 to support the furniture guard with respect to the lower edge of the casing and to prevent the furniture guard from slipping downwardly off the casing.

The means for securing each end 41 of the furniture guard to the casing is formed integrally with the latter and comprises a substantially L-shaped recess 50 formed in an enlarged portion 51 of each side wall 13. One portion 52 of the recess 50 extends laterally of the side wall 13 while the other portion 53 extends rearwardly and parallel thereto, the recess 50 having its mouth open to the bottom of the cleaner and an end 54 exposed to the outer surface of the side wall 13. The inner defining wall of the recess 50 is provided with a V-shaped projection 57 extending inwardly of the recess, while the outer defining wall has a substantially right angle corner 58 spaced from the projection 57. The lug 57 and the corner 58 bear against opposite surfaces of the rubber furniture guard to secure the latter in the recess 50.

In order to arrange the furniture guard 40 on the casing 10, the required length of rubber is cut from strip stock, and the ends 41 are inserted into the recesses 50, and the remaining portion is loosely disposed about the casing as shown in dotted lines in Figure 2. In order to insert the ends 41 into the recesses 50, the ends 41 are passed through the open mouth of the recess at the bottom of the cleaner upwardly into the casing, as shown in Figure 4, so that a portion 60 of the furniture guard is disposed transversely of the side wall and a portion 61 is parallel with respect to the side wall of the cleaner, to thereby arrange the ends of the furniture guard in longitudinal

offset relation with respect to the adjacent portions of the furniture guard. As the ends 41 are forced into the recesses 50 the spaced inwardly projecting lugs 57 and 58 bend the portion of the furniture guard therebetween and also bear thereagainst to firmly hold the ends of the guard in place. Thereafter the remaining portion of the furniture guard, as shown in dotted lines in Figure 2, is stretched about the casing to the full line position shown in Figure 2, along the lower edges of the front and side walls, the shoulder 43 of the furniture guard resting on the supporting lugs 46.

It will be noted that one of the lugs 46 is disposed adjacent each of the recesses 50, and they function to support the furniture guard in a direction opposite to the downwardly exposed mouth of the recesses 50 to further prevent the ends of the furniture guard from dropping out of the recesses. When the furniture guard is in the desired position it is under tension and exerts a pull on the ends 41 to thereby tend to bring the ends 41 into firm engagement with the projections 57 and 58.

Figure 5 discloses another embodiment of the invention and comprises a cleaner casing 70 having a front wall and a pair of side walls, only one side of the walls 71 being shown. The cleaner is movably supported on the usual front and rear wheels, one of the front wheels 72 being shown, and the latter is secured to a shaft 73 by means of a nut 85 formed integrally on the shaft and a spring clip 91. The shaft 73 is carried by a wheel bracket 74 formed integrally with the side wall 71 and is secured thereto by a nut 75 disposed in a recess 76 formed in the wheel bracket 74.

Arranged about the front and side walls of the cleaner is a furniture guard 80 of rubber strip material, the ends 81 of which extend through U-shaped slots 82 provided in the side walls of the casing. The ends 81 of the furniture guard 80 are bent back along the inner surface of the side walls 71 and are held in this position by means of a clamp 84 secured to the wheel bracket 74 by the nut 75 threaded on the shaft 73. The end of the clamp 84 is provided with a laterally extending flange 86 which bears tightly against the furniture guard as indicated at 87 to hold the latter to the casing. The clamp 84 rests on a shoulder 90 formed integrally with the wheel bracket 74 to prevent the clamp 84 from rotating about the shaft 73.

In order to assemble the furniture guard and front wheels onto the cleaner casing, the required length of furniture guard is severed from strip stock and the ends 81 thereof are passed laterally and upwardly through the open ends at the bottom of the slots 82 into the latter. The clamp 84 is slipped onto the shaft 73 with its attached wheel 72, and the nut 75 is dropped into the recess 76 and is tightened to firmly secure the clamp 84 against the wheel bracket 74, the end 86 of the clamp bearing against the end 81 of the furniture guard forcing the latter against the inner surface of the side wall 71 to hold the furniture guard to the casing. Thereafter the loosely disposed portion of the furniture guard is stretched over the front end of the casing into proper position.

From the foregoing it will be perceived that I have provided a cleaner having a casing provided with integrally formed means for securing the ends of the furniture guard; and that it is not necessary to mold the furniture guard to conform to the contour of the cleaner casing, but that the furniture guard may be of strip stock.

I claim:

1. In a suction cleaner, a casing forming a nozzle, a wheel bracket formed integrally with said casing, means for securing a cleaner supporting wheel to said wheel bracket, a furniture guard along said nozzle, means for clamping one end of said furniture guard to said casing, and means carried by said wheel securing means for holding said clamping means to said wheel bracket.

2. In a suction cleaner, a casing forming a nozzle, a wheel bracket formed integrally with said casing, means for securing a cleaner supporting wheel to said wheel bracket, a furniture guard along said nozzle, means for clamping one end of said furniture guard to said casing, means carried by said wheel securing means for holding said clamping means to said wheel bracket, and means on said wheel bracket for preventing rotation of said clamping means.

3. In a suction cleaner, a casing forming a nozzle, a furniture guard along said nozzle, means defining an opening in said casing for the reception of one end of the furniture guard, said opening having an open mouth in a bottom edge of said casing for laterally passing one end of said furniture guard upwardly with respect to said casing into said opening, and means for bending said furniture guard end with respect to the remainder of said furniture guard for securing said one end of said furniture guard to said casing.

4. In a suction cleaner, a casing having a transverse nozzle and side walls extending rearwardly therefrom, a furniture guard along said nozzle and side walls, means in each of said side walls defining an irregular recess extending laterally of said side wall and thence in the length thereof toward the rear of said casing, said irregular recesses receiving the ends of said furniture guard to offset the latter longitudinally of its length to anchor said furniture guard to said casing.

5. In a suction cleaner, a casing having a transverse nozzle and side walls extending rearwardly therefrom, a furniture guard along said nozzle and side walls, means in each of said side walls defining an irregular recess extending laterally of said side wall and thence in the length thereof toward the rear of said casing, said irregular recesses receiving the ends of said furniture guard to offset the latter longitudinally of its length to anchor said furniture guard to said casing, and lug means in said recesses for deforming said ends of said furniture guard to additionally anchor said furniture guard ends in said recesses.

6. In a suction cleaner, a casing forming a nozzle, a furniture guard along said nozzle, means defining an opening in said casing for the reception of the furniture guard, said opening having an open mouth in the bottom edge of said casing for laterally passing one end of said furniture guard upwardly with respect to said casing into said opening, a wheel bracket on said casing for carrying a cleaner supporting wheel, said wheel bracket being adjacent said opening, and means on said wheel bracket for securing said one end of said furniture guard in said opening.

VERNON E. CARLSON.