Oct. 21, 1941. P. T. HAHN 2,260,222

SUCTION CLEANER

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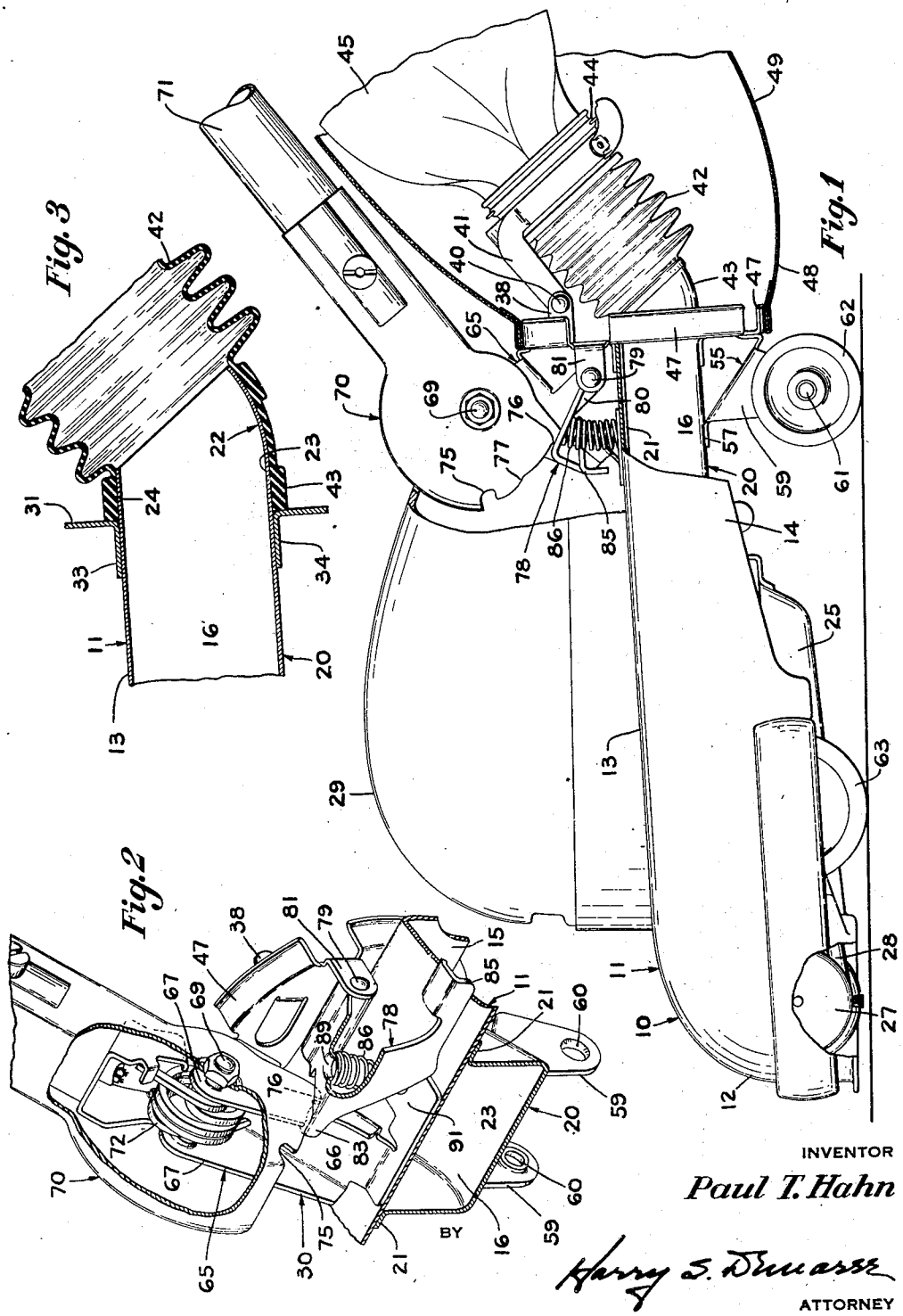


Fig. 1

Fig. 3

Fig. 2

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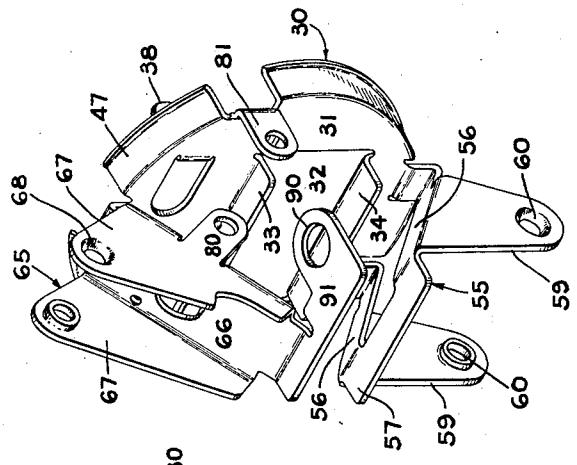


Fig. 6

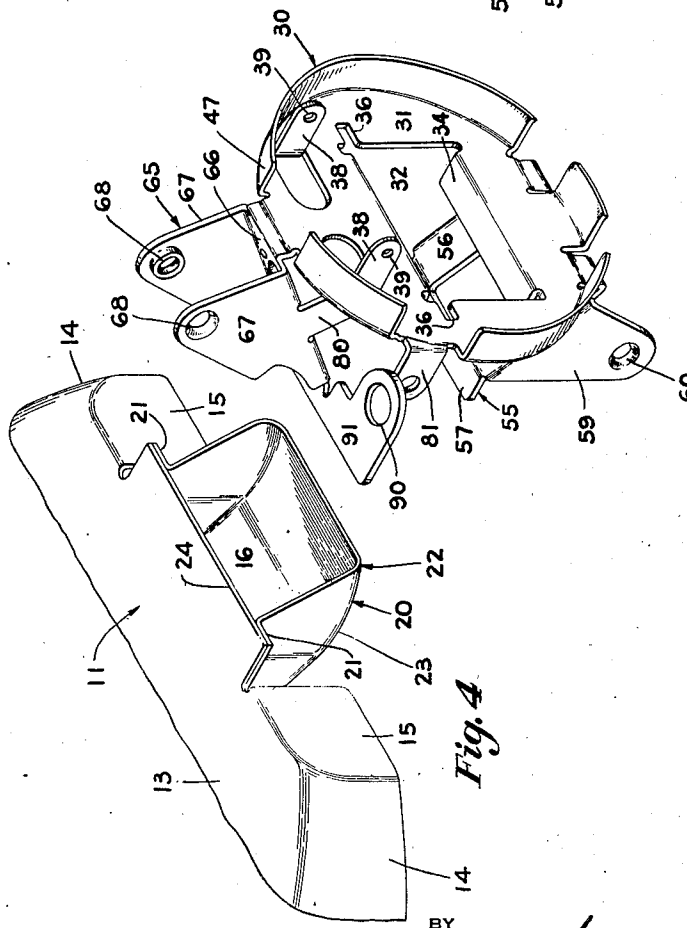


Fig. 5

Fig. 4

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SUCTION CLEANER

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7 Claims. (Cl. 15—257)

The present invention relates to suction cleaners in general and particularly to a new and novel element-supporting unit for supporting the suction cleaner handle, dust bag and rear wheels. More specifically the invention comprises a single metal stamping so formed as to include a support for mounting the handle, dust bag and rear wheels on the cleaner casing.

It is an object of the present invention to provide a new and improved suction cleaner. It is another object to provide a new and improved metal stamping for supporting the suction cleaner handle, dust bag and rear wheels on the cleaner casing. Another object is to provide a new and improved unit for supporting cleaner elements and which permits economy in manufacture. Still another object is to provide a new and novel method of suction cleaner assembly. Other objects and advantages of the invention will be apparent upon reading the following specification and claims and the attached drawings, wherein:

Figure 1 is a side elevation with parts broken away showing the element-supporting unit attached to the cleaner casing;

Figure 2 is an enlarged perspective view of the element-supporting unit mounted about the cleaner exhaust passageway;

Figure 3 is a longitudinal section illustrating the upwardly curved exhaust passageway and the manner of attaching a flexible bellows thereto;

Figure 4 is a perspective view of the rear end of the cleaner casing;

Figure 5 is a rear perspective view of the cleaner element-supporting unit, and

Figure 6 is a front perspective view of the construction shown in Figure 5.

An embodiment of the invention is disclosed in a suction cleaner comprising a main casing 10 having an outer casing 11 provided with a nozzle 12, a flat top wall 13, depending contoured side skirts 14, and an end wall 15 on opposite sides of an exhaust passageway 16. An inner casing 20 cooperates with the outer casing 11 to form an unshown fan chamber and the exhaust passageway 16, the inner casing being provided with flanges 21 for connection to the outer casing 11. The exhaust passageway 16 projects beyond the rear wall 15 of the outer casing to form a collar 22 the lower wall 23 thereof being curved upwardly and projecting rearwardly of the upper wall 24. A removable cover plate 25 extends from the nozzle 12 to an unshown fan chamber and cooperates with the main casing to define a suction passageway therebetween. An agitator 27 is supported in the nozzle 12 and is connected by a belt 28 to an unshown motor mounted on the main casing 11 and enclosed in a housing 29.

In the present embodiment the means for mounting the usual cleaner elements such as the rear wheel bracket, bag flange, and handle support are formed from a single piece of stamped metal to provide unitary element-supporting means. The element-supporting unit is indicated generally at 30 and comprises a substantially circular body or exhaust flange 31 provided with an opening 32 and upper and lower flanges 33 and 34 respectively. The opening 32 receives the exhaust collar 22 and the flanges 33 and 34 are welded to the outer and inner casings 11 and 20 respectively and the exhaust flange 31 is welded to the rear casing wall 15. In order to properly position the element-supporting unit 30 on the main casing, the flanges 21 on the latter project through spaced offset slots 36 in the exhaust flange 31.

Projecting rearwardly from the exhaust flange 31 and struck out from the latter is a pair of spaced arms 38 provided with openings 39 to support a pin 40 on which is pivotally mounted a bracket 41 that supports the upper end of a flexible bellows 42 having its lower end 43 telescoped about the projecting exhaust collar 22 as shown in Figure 3. A suitable bag clamp 44 is mounted on the bracket 41 for removably securing a filter bag 45 thereto.

Formed integrally on the element-supporting unit 30 is a circular bag flange 47 which extends rearwardly of the exhaust flange 31 and about which the lower end 48 of a bag 49 is removably attached by suitable bag clamping means. The two bags 45 and 49 are suitably supported at their upper ends so as to move with the cleaner handle, the bellows 42 flexing during movement of the bag 45.

Also formed integrally with the element-supporting unit 30 is a wheel supporting bracket 55 comprising a pair of spaced side arms 56 which project forwardly and upwardly from the periphery of the exhaust flange 31, and a member 57 arranged at an angle to the side arms 56 welded to the inner casing 20. Depending from the side arms 56 are a pair of spaced legs 59 provided with openings 60 to receive a shaft 61 which supports the rear wheels 62. The front end of the cleaner is supported on wheels 63 which are carried by the outer casing 11.

Stamped integrally with the element-supporting unit 30 is a handle bracket 65 which extends downwardly and forwardly of the exhaust flange

31 and has a bottom wall 66 and upwardly extending side walls 67, the bottom wall 66 being welded to the outer casing 11. The handle bracket side walls 67 are provided with openings 68 to support a pin 69 which pivotally carries a split handle socket 70 for removably securing a handle 71. A torsion spring 72 is arranged about the pivot pin 69 to counter-balance the weight of the cleaner handle 71.

In order to control the position of the handle with respect to the cleaner casing, segment means are formed on the lower defining edge of one of the handle socket side walls and includes a recess 75, a stop 76 and interposed therebetween an irregular segment surface 77. A handle control lever 78 is pivotally supported on a pin 79 carried by an arm 80 struck out from the back wall 66 of the handle bracket and by an arm 81 extending from the exhaust flange 31. Projecting from the control lever 78 is a pawl 83 which engages the segment means to hold the handle in selected operating positions. A foot pedal 85 is formed integrally with the lever 78 to actuate the latter. A spring 86 is anchored at one end about a depressed collar 89 in the control lever 78 and its opposite end is seated in an opening 90 formed in a portion 91 of the handle bracket 65. When the foot pedal 78 is depressed the pawl 83 is removed from the segment means and permits free movement of the handle to the desired position, and when the pedal is released the spring 86 urges the pawl 83 into engagement with the segment to hold the handle in adjusted position.

From the foregoing it will be perceived that the element-supporting unit 30 is formed from one piece of metal and can be stamped in suitable dies, shaped to press the metal to the desired contour, to form the handle bracket 65, wheel bracket 55, exhaust flange 31, bag flange 47, tabs 38 to support the articulated bag 45 so that the latter will move with the handle, and tabs 80 and 81 to support the handle control means. Although the casings and element-supporting unit are welded together equivalent securing means may be used.

I claim:

1. An article of manufacture for supporting elements of a suction cleaner comprising, a body having a flanged opening for attachment to the exhaust passageway of the suction cleaner, means projecting integrally from said body for supporting means carrying a bag connectible to the exhaust passageway, a bag flange integral with said body for attachment to another bag, wheel bracket means integral with said body for carrying suction cleaner wheels, handle bracket means integral with said body to support the cleaner handle, and means integral with said body for supporting handle control means.

2. An article of manufacture for supporting elements of a suction cleaner comprising, a body having a flanged opening for attachment to the exhaust passageway of the suction cleaner, means projecting integrally from said body for supporting means carrying a bag connectible to the exhaust pasageway, a bag flange integral with said body for attachment to another bag, and wheel bracket means integral with said body for carrying suction cleaner wheels.

3. An article of manufacture for supporting elements of a suction cleaner comprising, a body having an opening for embracing and attachment to the exhaust passageway of the suction cleaner, means integral with said body for attachment to a cleaner bag, wheel bracket means integral with said body for carrying suction cleaner wheels, and handle bracket means integral with said body to support the cleaner handle above the exhaust passageway.

4. An article of manufacture for supporting elements of a suction cleaner on the cleaner casing comprising, a body having means for attachment to the cleaner casing, means integral with said body for supporting a bag connectible to the exhaust passageway of the cleaner, means integral with said body for supporting another bag, and handle bracket means integral with said body for supporting the cleaner handle above the cleaner casing and the bags.

5. An article of manufacture for supporting elements of a suction cleaner on the cleaner casing comprising, a body having an opening for embracing the exhaust passageway in the cleaner casing for rigid attachment thereto, wheel bracket means integral with said body for carrying suction cleaner wheels beneath the casing, and handle bracket means integral with said body to support the cleaner handle above the cleaner casing.

6. An article of manufacture for supporting elements of a suction cleaner on the cleaner casing comprising, a body having means for rigid attachment to the exhaust passageway in the cleaner casing, means integral with said body for supporting a bag connectible to the exhaust passageway of the cleaner, and handle bracket means integral with said body for supporting the cleaner handle above said exhaust passageway.

7. An article of manufacture for supporting elements of a suction cleaner on the cleaner casing comprising, a body having an opening for embracing the exhaust passageway in the cleaner casing for rigid attachment thereto, wheel bracket means integral with said body for carrying suction cleaner wheels, handle bracket means integral with said body to support the cleaner handle above the exhaust passageway, and means integral with said body for supporting handle positioning control means.

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