March 28, 1944. H. H. BOYER 2,345,452

SUCTION CLEANER

Filed Sept. 22, 1942 3 Sheets-Sheet 1

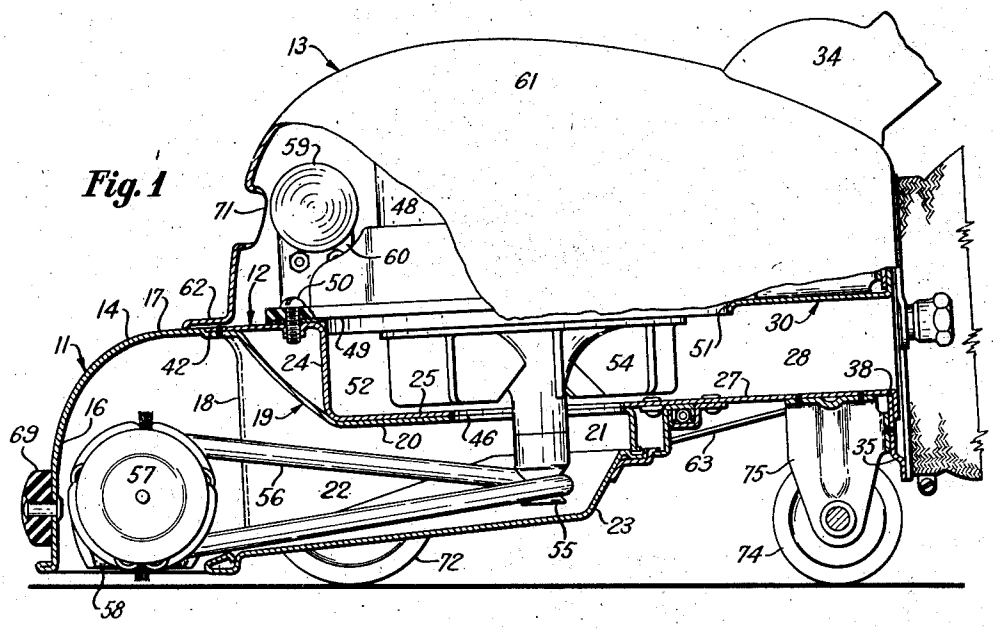


Fig. 1

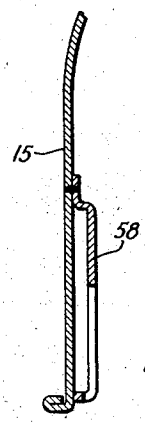


Fig. 3

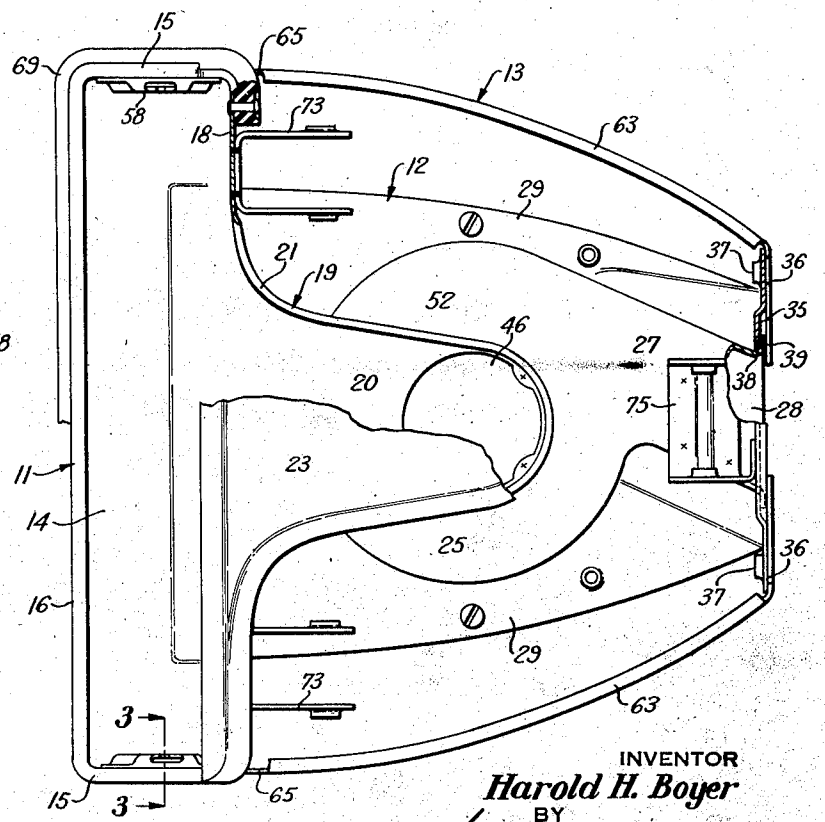


Fig. 2

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SUCTION CLEANER

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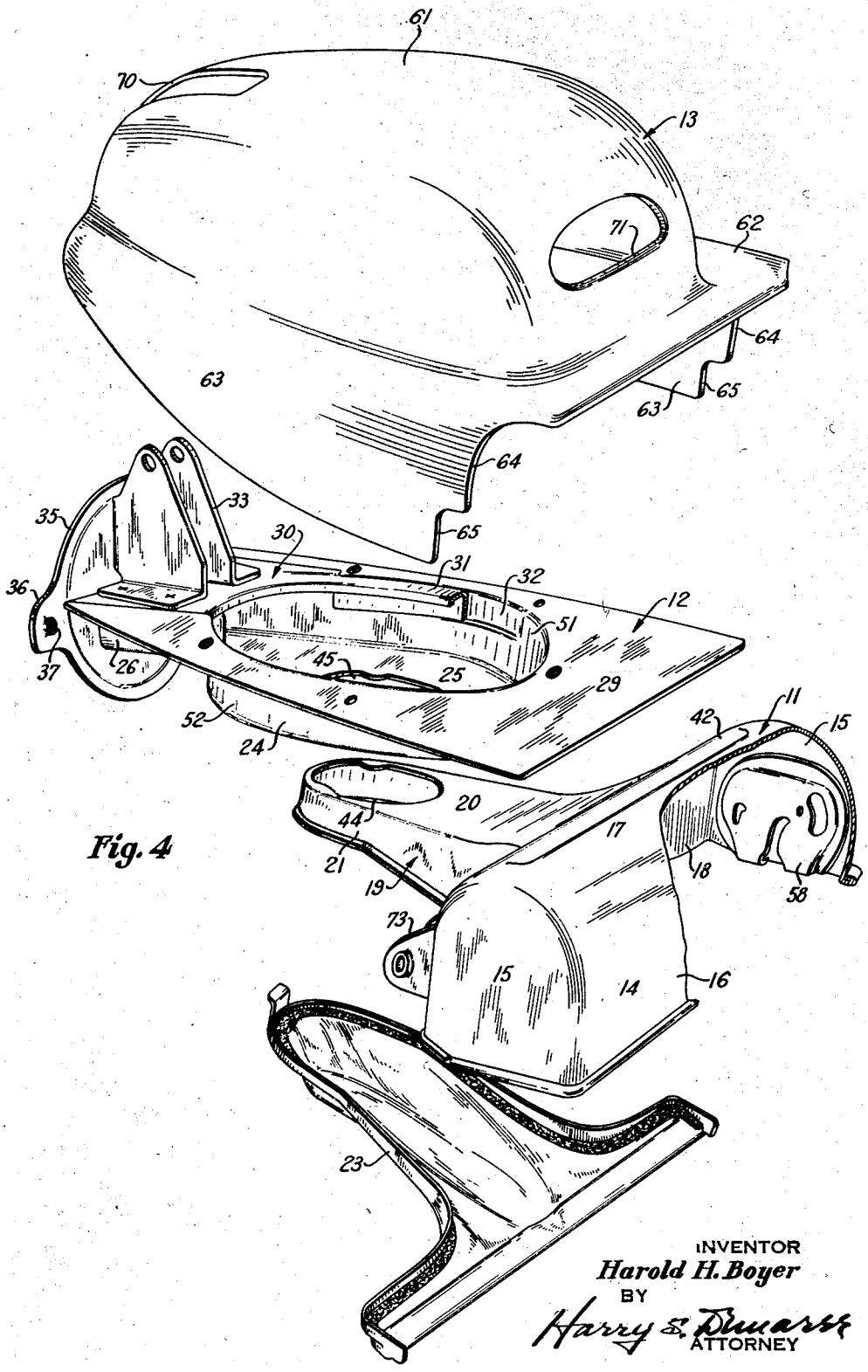


Fig. 4

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SUCTION CLEANER

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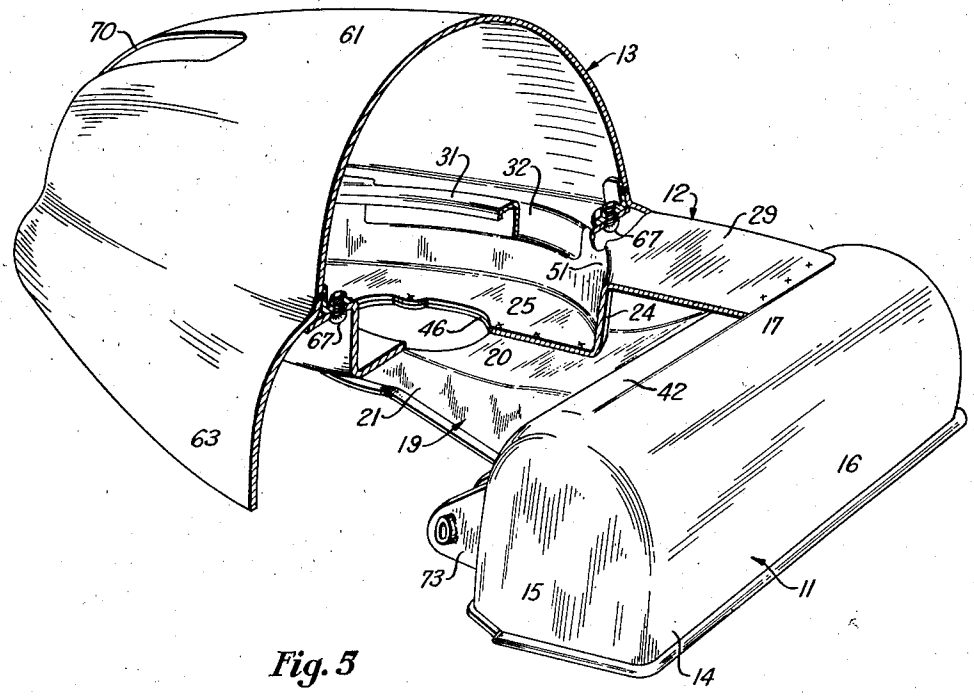


Fig. 5

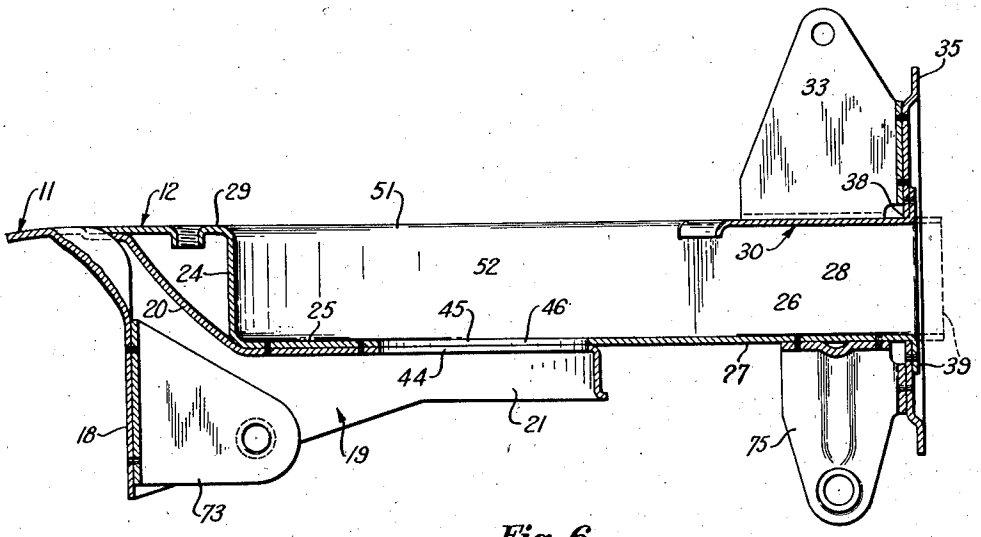


Fig. 6

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UNITED STATES PATENT OFFICE

2,345,452

SUCTION CLEANER

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Application September 22, 1942, Serial No. 459,237

2 Claims. (Cl. 15—16)

This invention relates to suction cleaners and more particularly to a suction cleaner body formed of metal stampings.

An object of the invention is to provide a new and improved suction cleaner. Another object is to provide a suction cleaner body formed from a minimum of metal stampings. Further objects and advantages of the invention will be apparent in the following specification and drawings, wherein:

Figure 1 is a longitudinal sectional view, partly in elevation, of the suction cleaner;

Figure 2 is a bottom plan view with parts removed of the suction cleaner;

Figure 3 is a section along the line 3—3 in Figure 2;

Figure 4 is an exploded perspective view of the metal stampings forming the cleaner body;

Figure 5 is a perspective view with parts removed of the assembled cleaner body; and

Figure 6 is a sectional view of the fan casing and exhaust passageway.

The embodiment of the invention herein disclosed comprises a suction cleaner body formed from three stamped metal body sections identified generally as inner, intermediate and the outer body sections 11, 12 and 13, respectively.

The inner body section 11 includes a complete nozzle 14 having opposed end walls 15, front wall 16, an arcuate top wall 17 and a rear wall 18. Extending rearwardly integrally from the nozzle top and rear walls 17 and 18, respectively, is a portion 19 having a top wall 20 and a side wall 21 which forms part of a suction air passageway 22 communicating with the interior of the nozzle 14. A removable bottom plate 23 cooperates with the side wall 21 and the nozzle rear wall 18 to complete the suction air passageway 22.

Intermediate body section 12 includes the side wall 24 and bottom wall 25 of the fan casing, the walls 24 and 25 extending rearwardly to form respectively the side wall 26 and bottom wall 27 of an exhaust passageway 28. Extending laterally outwardly from the top marginal edges of the side walls 24 and 26 is a top flat wall or panel 29.

The exhaust passageway 28 is completed by a stamped metal cover plate 30 welded to the top marginal edge of the side wall 26 and is provided with a forwardly projecting portion 31 which is supported in a marginal recess 32 in the fan casing side wall 24 to form in part the scroll of the fan casing.

Welded to the cover plate 30 is a handle bracket 33 for pivotally supporting a handle 34. An exhaust outlet flange 35 is provided with a pair of laterally extending portions 36, each having a threaded opening 37 for removably attaching the dirt bag thereto, and is also formed with a centrally located opening 38 which telescopes the projecting collar 39 of the exhaust passageway 28. The exhaust flange 35 is secured to the intermediate body section 12 by turning over the collar 39 from its dotted line position to its full line position shown in Figure 6 to lie flat against the exhaust flange 35 and is welded thereto.

Intermediate body section 12 is supported on the inner body section 11 by welding the fan casing bottom wall 25 to the top wall 20 of the suction air passageway 22 and the forward end portion of the panel 29 is seated in a recess 42 formed in the nozzle top wall 17 and is welded thereto. The top wall 20 of the suction air passageway 22 is depressed below the nozzle top wall 17 whereby the top wall 29 of the intermediate body section 12 is substantially in the same plane as the top wall of the nozzle 14. Openings 44 and 45 are provided in the body sections 11 and 12, respectively, and form the fan eye 46 when these body sections are assembled.

A motor 48 has a bottom wall 49 removably supported on the panel 29 by means of screws 50 and the wall 49 closes the top opening 51 in the fan casing to complete the latter and form the fan chamber 52. The opening 51 is of sufficient size to permit the top insertion of a suction creating fan 54 into the fan chamber 52 when the motor is mounted onto the body section 12. Supported on the motor armature is a pulley 55 connected by means of a belt 56 to an agitator 57 rotatably mounted in brackets 58 welded to the nozzle end walls 15. A lamp 59 is supported on a bracket 60 carried by the motor bottom plate 49.

The outer body section 13 includes an arcuate dome 61 merging at its lower edge into an apron 62 from which depends on two opposite sides skirts 63 provided at their front ends with an arcuate edge 64 and a shoulder 65. The body section 13 is removably attached to the panel 29 by means of screws 67, and the dome 61 completely encloses the motor 48 and the intermediate body section 12, the apron 62 extending over the panel 29 where the latter is attached to the body section 11, while the skirt 63 extends along the sides of the cleaner from the rear nozzle wall 18 to the exhaust flange 35, the arcuate edge 64 and the shoulder 65 conforming respectively to the arcuate top wall 17 of the nozzle 14 and to the furniture guard 69. The dome is provided with a slot 70 for the handle 34 and with an

opening 71 for the light rays from the lamp 59.

The cleaner is supported on front wheels 72 carried by a pair of brackets 73 welded to the rear nozzle wall 18 and by rear wheels 74 carried by a bracket 75 welded to the bottom wall 27 of the exhaust passageway. The front wheels 72 are substantially hidden from view by the skirts 63 which cooperate with the rear nozzle wall 18 and the side wall 21 of the suction air passageway 22 to form wheel pockets.

From the foregoing it will be perceived that the main cleaner is fabricated from three metal stampings which can be easily formed, that the body section 12 is nested within body section 11 so as not to increase the cleaner height, while the outer body section 13 completely encloses the motor, intermediate body section 12 and provides skirts 63 to substantially cover the front wheels and suction air passageway.

I claim:

1. A fabricated sheet metal body for suction cleaners comprising, a stamped first body section having a single walled nozzle and an integral rearward extension reduced in cross-section relative to said nozzle and forming part of a suction air passageway, a stamped second body section having a substantially horizontal fan casing mounted on said suction air passageway and connected thereto, a flange extending integrally laterally from the top of said fan casing and having its forward edge resting on said single wall nozzle to lie in a plane substantially in the top wall of said single wall nozzle and extending to the rear of said cleaner body, and a removably mounted stamped third body section to enclose a suction cleaner motor and said second body section from said nozzle to the rear end of said cleaner body, said second body section being mounted on said first body section and said third body section on said first and second body sections.

2. A fabricated sheet metal body for suction cleaners comprising a stamped first body section having a single walled nozzle and an integral rearward extension forming part of a suction air passageway, a stamped second body section having a fan casing mounted on said suction air passageway and connected thereto, a motor-fan unit mounted on said second body section, and a stamped third body section having a dome to enclose said motor and a skirt depending from said dome, said skirt having its forward edge contoured to conform to the rear wall of said single walled nozzle and extending rearwardly therefrom forming side walls of said cleaner from the rear wall of said nozzle to the rear end of said cleaner, said second body section being mounted on said first body section and said third body section on said first and second body sections.

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