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W. O. LANGILLE

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VACUUM CLEANER WITH ILLUMINATING DEVICE

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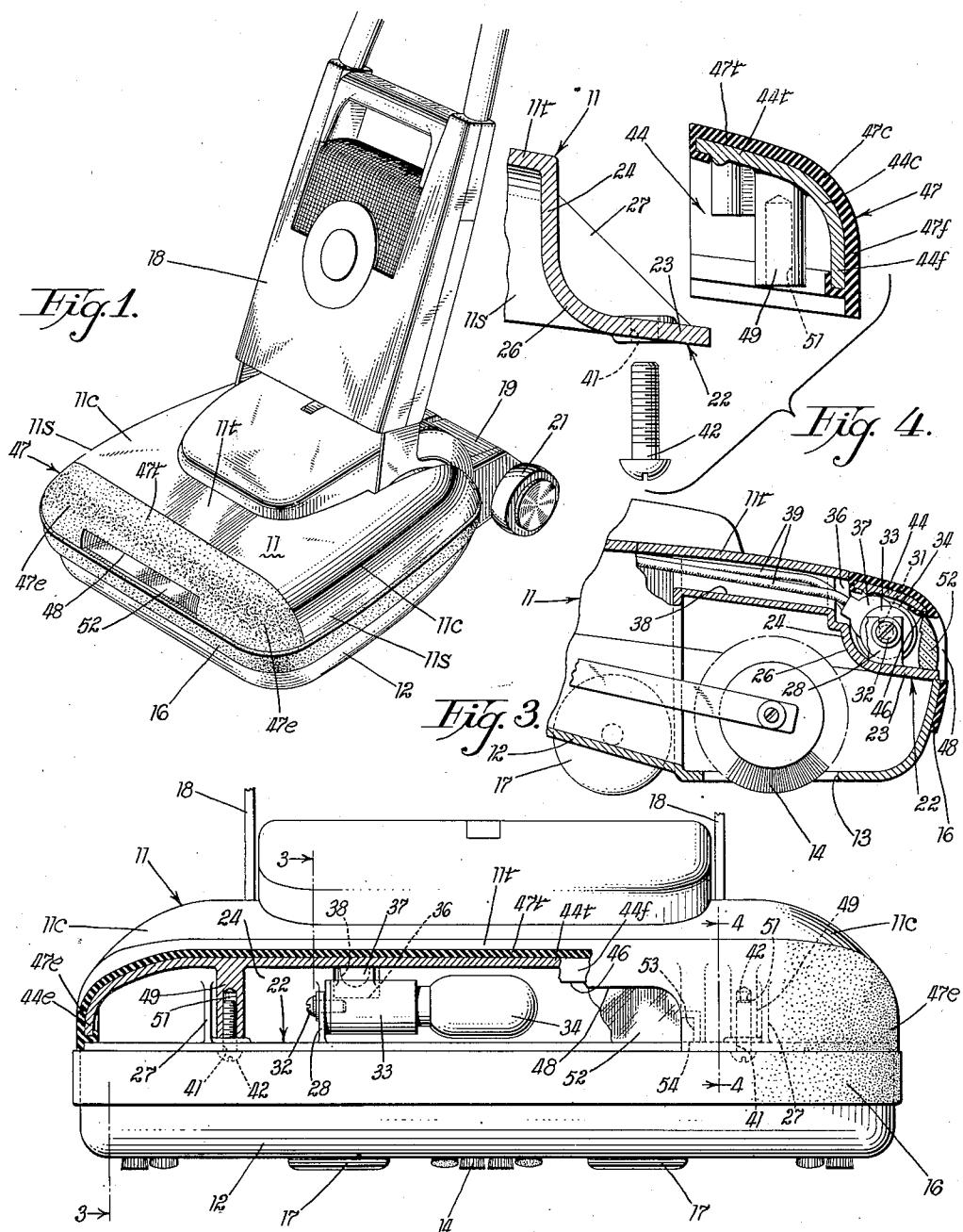


Fig. 2.

Inventor
WILFRED O. LANGILLE

By
William P. Stewart
Attorney

Witness

N. Heszczał

UNITED STATES PATENT OFFICE

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VACUUM CLEANER WITH ILLUMINATING DEVICE

Wilfred Otto Langille, Chester, N. J., assignor to
The Singer Manufacturing Company, Elizabeth, N. J., a corporation of New Jersey

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1 Claim. (Cl. 240—2)

1

My invention relates to vacuum cleaners and more particularly to the ambulatory type of vacuum cleaners having an illuminating device located in a forward portion thereof.

Several prior art patents, including my Patent No. 2,217,174, issued October 8, 1940, and my Patent No. 2,241,862, issued May 13, 1941, indicate the use of electric lighting units to illuminate the floor in front of ambulatory type vacuum cleaners. The present invention has as one of its primary objects to provide an improved means for mounting an electric lighting unit on a vacuum cleaner.

Another object of my invention is to provide a relatively inexpensive and at the same time highly efficient means for housing an illuminating device in a forward portion of a vacuum cleaner.

With the above and other objects in view, as will hereinafter appear, my invention comprises the devices, combinations and arrangements of parts hereinafter set forth and illustrated in the accompanying drawings of a preferred embodiment of the invention, from which the several features of the invention and the advantages attained thereby will be readily understood by those skilled in the art.

In the drawings:

Fig. 1 is a perspective view of a vacuum cleaner embodying my invention.

Fig. 2 is a front elevational view of the vacuum cleaner shown in Fig. 1, parts being broken away to show internal details of the lighting unit.

Fig. 3 is a sectional view of the vacuum cleaner casing and lighting unit taken substantially on the broken line 3—3 of Fig. 2.

Fig. 4 is an exploded, enlarged scale, sectional view of the lighting unit taken on the line 4—4 of Fig. 2.

Referring more specifically to the drawings, the invention is disclosed as embodied in a vacuum cleaner comprising an upper casing shell 11 and a lower casing shell 12, the lower shell 12 being held to the upper casing shell 11 by a readily releasable mechanism, not shown. The upper shell 11 has a top wall 11t and side walls 11s—11s, each side wall 11s being joined to the top wall 11t by means of a curved wall portion 11c. The readily releasable mechanism, referred to above, may take the form of a latch similar to that shown in a patent application of Edgar P. Turner, Serial No. 16,716, filed March 24, 1948, now Patent No. 2,532,432 issued December 5, 1950.

The lower casing shell 12 has a down-facing open mouth 13 through which a rotary brush 14

2

protrudes. The lower casing shell 12 carries a resilient bumper 16, and the casing shell has a pair of front wheels 17—17 rotatably supported therefrom. A combination motor and fan unit 5 (not shown in detail) is carried by the two casing shells 11 and 12, and a propelling and pick-up handle 18 is pivotally attached to the motor-fan unit in a manner fully disclosed in a patent application of Edgar P. Turner, Serial No. 784,167, filed November 5, 1947. The motor-fan unit has a rearwardly extending exhaust duct 19 formed integral therewith. A pair of rear supporting wheels 21 (only one of which is shown) are supported from the rear end of the exhaust duct 19.

The forward end of the upper casing shell 11 is provided with an open transversely extending step 22 comprising a substantially horizontal shelf wall 23 and an upstanding rear wall 24. As 10 best seen in Figs. 3 and 4, the rear wall 24 and the shelf wall 23 merge into one another by means of a curved wall portion 26, all three of these elements being formed integral with the upper casing shell 11 and, as best seen in Fig. 2, 15 the step 22 extends the complete width of the upper shell 11. In order to insure proper support of the shelf 23 from the rest of the shell 11, a pair of substantially triangularly shaped reinforcing members or ribs 27—27 are formed integral with and extend from wall 23 to wall 24 20 in a direction perpendicular to walls 23 and 24. Additionally, a support member 28, formed integral with the upper casing shell, extends parallel to the members 27—27. The support 28 is 25 apertured by a U-shaped notch 31 that accommodates a screw 32 threaded axially into the end of a nonmetallic cylindrical housing 33 for an electric socket (not shown) which in turn accommodates an electric lamp bulb 34. Reference 30 to the drawings shows that the common axis of the housing 33 and the bulb 34 extends horizontally and at the same time transversely of the direction in which the vacuum cleaner is normally propelled by the handle 18. Thus the 35 lamp 34 is supported on the step 22 in such a manner as to be parallel to the step 22 and also transverse to the vacuum cleaner as a whole.

The rear wall 24 of the step 22 is provided with an opening 36 (Fig. 3) which accommodates a rearwardly extending terminal box portion 37 formed integral with the socket housing 33. A conduit 38, the walls of which are formed integral with the upper casing shell 11, extends rearwardly from the opening 36 and thus provides 40 a channel through which electrical con-

ducting wires 39 extend to a source of electric energy not shown herein. The shelf 23 is provided with a pair of holes 41-41 arranged to accommodate screws 42-42, the purpose for which will presently appear.

The hereinbefore described open step 22 and the illuminating unit 33-34 are enclosed by a separable metallic cover member indicated generally by the numeral 44. This cover 44, which extends the complete width of the vacuum cleaner, has a front wall 44f and a top wall 44t, these two walls being joined by an integrally formed curved wall portion 44c. At each end of the cover 44, the walls 44t and 44f merge with the curved wall portion 44c to form a rounded end portion 44e that is substantially in the form of a spherical triangle. The front wall 44f is lengthwise notched to provide a long window opening 46, Fig. 3, which extends centrally across the front of the cover 44.

The complete external surface and all of the ends of the walls 44t, 44f, 44c, 44e, etc. are encased in a resilient, rubber-like member 47 which serves as a bumper for the front or nose of the vacuum cleaner and which extends the complete width of the cleaner, the bumper being held to the cover 44 by means of inturned lips. Since the bumper 47 conforms to the cover 44, the bumper has a top wall 47t, a front wall 47f, a curved wall portion 47c and rounded spherical triangular end portions 47e-47e, as well as a window-notch 48. The dimensions of the cover 44 and the thickness of the bumper 47 are such that, when the cover and all of its edges are completely encased in the resilient material of the bumper 47 and placed on the shelf 23, the outer surface of the top wall 47t of the bumper is an extension of the outer surface of the wall 11t of the shell 11. In like manner, the outer surface of the portions 47e-47e are extensions of the outer surfaces of the walls 11c and 11s of the upper casing shell 11. This results in a nose bumper 47 that is flush with the outer surfaces of the walls 11t, 11c and 11s.

Internally of the cover 44, the said cover is provided with a pair of integrally formed depending cylindrical posts 49-49, the ends of which are provided with axially extending holes 51-51. The cover 44 is held in place on the step 22 of the upper casing shell by the screws 42-42 which pass upwardly through the holes 41-41 in the shelf 23 and are screwed into the holes 51-51.

When the cover 44 and the bumper 47 are held in place by the screws 42, a lens 52 is held in the notch or window opening 48 by reason of a pair of recesses 53-53, only one of which is shown, formed in the bumper 47 at opposite ends of the bumper notch 48, the lens 52 being provided with lugs 54-54 that fit into the said recesses 53-53.

In the event that the electric lamp bulb 34 needs replacement, it is only necessary for the owner of the vacuum cleaner to invert the cleaner and to remove the lower casing shell 12 in a manner which will be understood from a

reading of Patent No. 2,532,432, *supra*. After the lower casing shell 12 has been removed, the screws 42-42 are unscrewed to unfasten the cover 44 and its bumper member 47. When this has been accomplished, the electric bulb 34 can be readily removed and thereafter replaced with a new bulb.

Having thus set forth the nature of my invention, what I claim herein is:

- 10 In a vacuum cleaner having an upper casing shell and a lower casing shell, the improvement which comprises: a step, including a shelf wall, a rear wall and a curved wall formed integral with said upper casing shell, said rear wall being provided with an opening and said upper casing shell being provided with a conduit connected with said opening in said rear wall; a pair of reinforcing members formed integral with said upper casing shell and arranged to support said shelf wall from said rear wall; an apertured support member formed integral with said upper casing shell and extending from said shelf wall to said rear wall; an electric socket-housing secured to said support member and arranged to 20 support a lamp bulb; a terminal box formed integral with said socket-housing and extending into said opening in said rear wall; electric conductors extending from said terminal box through said opening in said rear wall and into 30 said conduit; a cover having an apertured front wall, a top wall, a curved wall joining said front wall to said top wall and having spherical triangular end walls formed by the merging of the top wall, front wall and curved wall of said cover; 35 a resilient bumper extending the complete width of the cleaner and having an apertured front wall, a top wall, a curved wall joining said front wall of said bumper to the top wall thereof, and having spherical triangular end walls that are 40 formed by the merging of the top wall, front wall and curved wall of said bumper; means for securing said bumper to said cover; screws extending from below said shelf wall and engaging said cover, thereby holding said cover to said shelf; 45 and a lens positioned in the aperture of the front wall of said bumper and held in place by said bumper, said cover and said screws.

WILFRED OTTO LANGILLE.

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