May 24, 1938. A. AITKEN 2,118,721

VACUUM CLEANER CONSTRUCTION

Filed June 15, 1936

FIG.1.

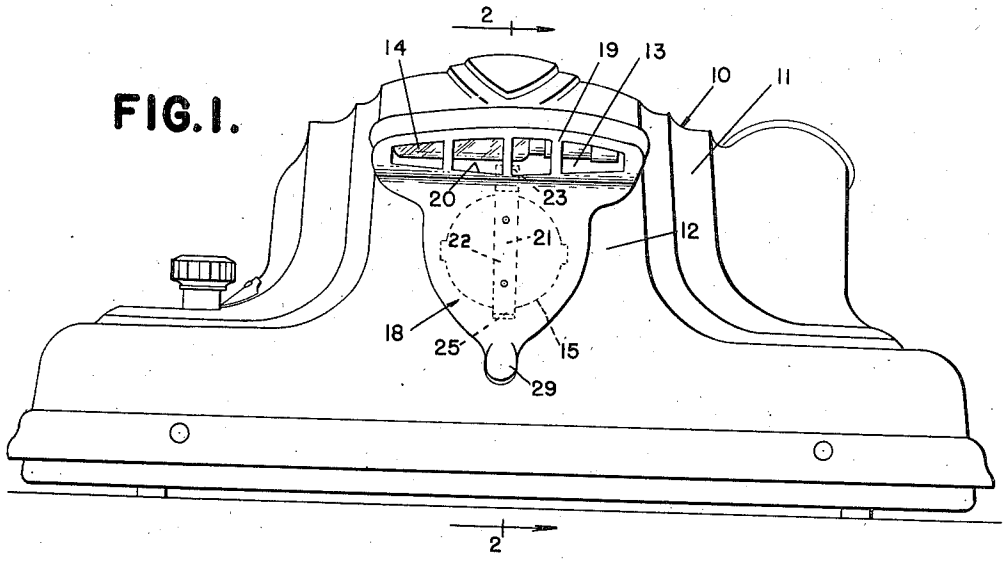
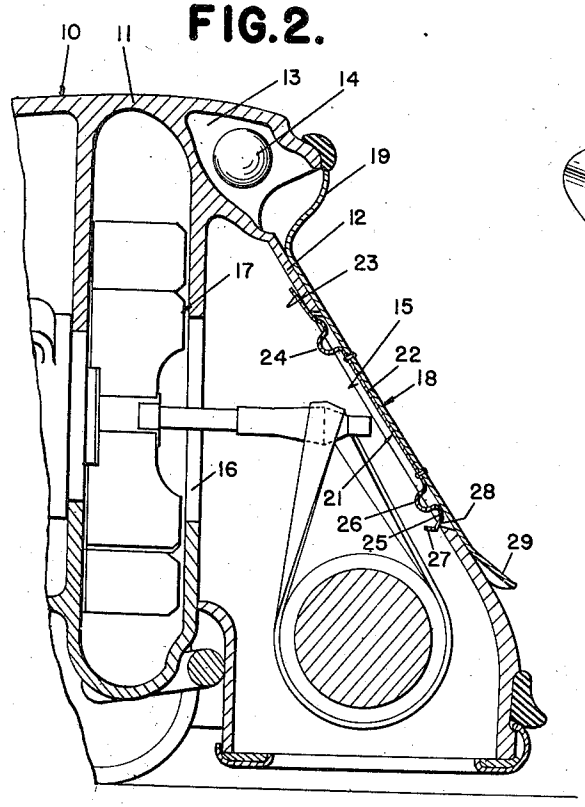


FIG.2.



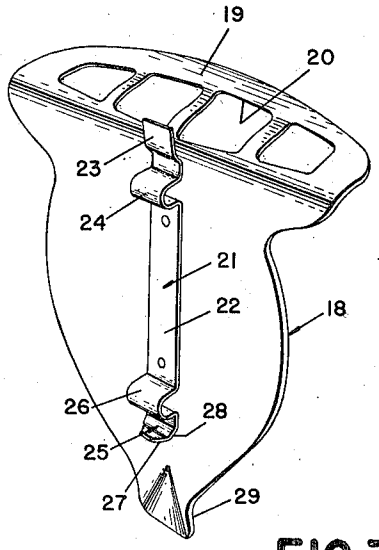


FIG.3.

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VACUUM CLEANER CONSTRUCTION

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3 Claims. (Cl. 15—9)

This invention relates generally to vacuum cleaners and refers more particularly to portable vacuum cleaners of the type equipped with a housing having illuminating means and having an opening in the front wall thereof for receiving an adapter.

One of the principal objects of the present invention is to provide a closure for the opening in the front wall of the housing of the cleaner in the form of a plate having an extension forming a guard for the lamp or illuminating means.

Another advantageous feature of this invention resides in the provision of a construction of the character set forth embodying means for readily detachably securing the combined closure and lamp guard to the housing.

The foregoing, as well as other objects, will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawing, wherein:

Figure 1 is a front elevational view of the housing of a vacuum cleaner constructed in accordance with this invention;

Figure 2 is a sectional view taken substantially on the plane indicated by the line 2—2 of Figure 1; and

Figure 3 is a perspective view of the combined lamp guard and closure.

Referring now more in detail to the drawing, it will be noted that there is illustrated in Figures 1 and 2, a portion of a vacuum cleaner 10 provided with a housing 11 having a front wall 12 and having a downwardly opening lamp receiving compartment 13 beyond the wall 12 at the upper end of the housing. As clearly shown in Figure 2, the compartment 13 is formed integral with the housing 11 and is of sufficient dimension to completely receive the lamp 14. The arrangement is such that the rays of light from the lamp are directed downwardly at the front side of the wall 12 toward the surface to be cleaned.

In accordance with conventional practice, an opening 15 is formed through the front wall 12 of the housing to provide for extending a hose attachment coupling (not shown) into the eye 16 of the fan 17. In the present instance, the opening 15 is normally closed by means of a sheet metal cover plate 18 having an extension 19 at the upper end thereof extending across the downwardly directed opening of the compartment 13 to form a guard for the lamp 14. It will be observed from Figure 1 that the portion 19 is slotted as at 20 to simulate a grill and to permit the light rays from the lamp to be reflected through the guard upon the surface to be cleaned.

In order to facilitate attaching the cover plate 18 to the front wall 12 of the housing, I provide means effective upon movement of the cover plate toward the front surface of the wall 12 to snap into engagement with an edge of the opening 15 in the wall 12. This is accomplished in the present instance by a fastener element 21 in the form of a resilient strip of metal having a body portion 22 secured to the rear face of the plate 18 and having flexible free end portions beyond the securing means. The extreme upper end 23 of the strip 21 is spaced rearwardly from the adjacent surface of the cover plate 18 a distance less than the thickness of the front wall 12 of the housing, and is connected to the body portion 22 of the strip by means of an open return bent portion 24, designed to permit the degree of flexing of the upper end 23 of the strip required to insert a portion of the front wall 12 of the housing between the extremity 23 of the strip and adjacent surface of the cover plate 18.

The lower end of the strip 21 is provided with a spring finger 25 connected to the body portion 22 of the strip by means of an open return bent portion 26 similar to the portion 24. In assembling the cover plate 18, the upper end 23 of the strip 21 is inserted into the opening 15 and the cover plate is shifted upwardly relative to the front wall 12 to cause a portion of this wall to extend between the upper end 23 of the strip 21 and the adjacent surface of the cover plate 18. Inasmuch as the spacing between the upper end portion 23 of the strip and the rear surface of the cover plate 18 is less than the thickness of the wall 12, it necessarily follows that the portion 23 of the strip is tensioned sufficiently to yieldably clamp the upper portion of the cover plate 18 to the front surface of the latter. Upon completion of this operation, the inclined portion 27 of the spring finger 25 engages the marginal edge of the opening 15, through the front wall 12 at a point diametrically opposite the end 23, and movement of the lower end of the cover plate 18 toward the wall 12 flexes the finger sufficiently to provide for snapping the oppositely inclined surface 28 into engagement with the rear side of the adjacent portion of the wall 12. Due to the open return bent portion 26 connecting the finger 25 to the body portion 22 of the strip 21, the finger is normally under tension when in engagement with the adjacent marginal edge portion of the front wall 12, with the result that the lower portions of the cover plate 18 are also

yieldably clamped against the front surface of the wall 12.

With the above construction, it will be noted that the cover plate may be readily removed from the front wall 12 of the housing by merely prying the lower end of the cover plate outwardly. This causes the inclined surface 28 to flex the finger 25 sufficiently to permit releasing the latter from engagement with the adjacent marginal edge of the front wall 12 of the housing. In order to assist removing the cover plate 18 from assembled relation with the housing, it will be noted that the lower end 29 of the former is flared outwardly from the front wall 12 of the housing to afford the clearance required for the operator to either insert an implement, or the tip of one of his fingers between the cover and front wall 12 of the housing.

Thus, from the foregoing, it will be observed that I have provided a relatively simple, inexpensive closure for the adapter opening usually provided in the front wall of a vacuum cleaner housing capable of being readily attached to and removed from the housing. In addition, it will be observed that I have provided a closure of the above type having an extension forming an effective guard for the lamp employed to illuminate the surface being cleaned in advance of the housing.

What I claim is my invention is:

1. In a vacuum cleaner, a housing having an opening through the front wall thereof and having a downwardly opening compartment at the front side of said wall, illuminating means in the compartment, a closure for the opening through the front wall of the housing comprising a cover plate having a slotted portion extending across the opening of the compartment to form a guard for the illuminating means, and means detachably securing the cover plate to the front wall of the housing.

2. In a vacuum cleaner, a housing having an opening through the front wall thereof and having an integral compartment located above the opening at the front side of said wall, said compartment having a downwardly directed opening for the passage of light rays, illuminating means in said compartment, and a cover plate removably secured to the opening through the front wall of the housing and having a portion extending across the downwardly directed opening in the compartment to form a guard for the illuminating means.

3. In a vacuum cleaner, a housing having an opening through the front wall thereof and having a downwardly opening compartment located at the front side of said wall above the opening through the latter, and a cover plate removably secured to the opening through the front wall of the housing and having a perforated extension extending across the downwardly directed opening in the compartment.

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