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2,125,726

VACUUM CLEANER

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Fig. 1.

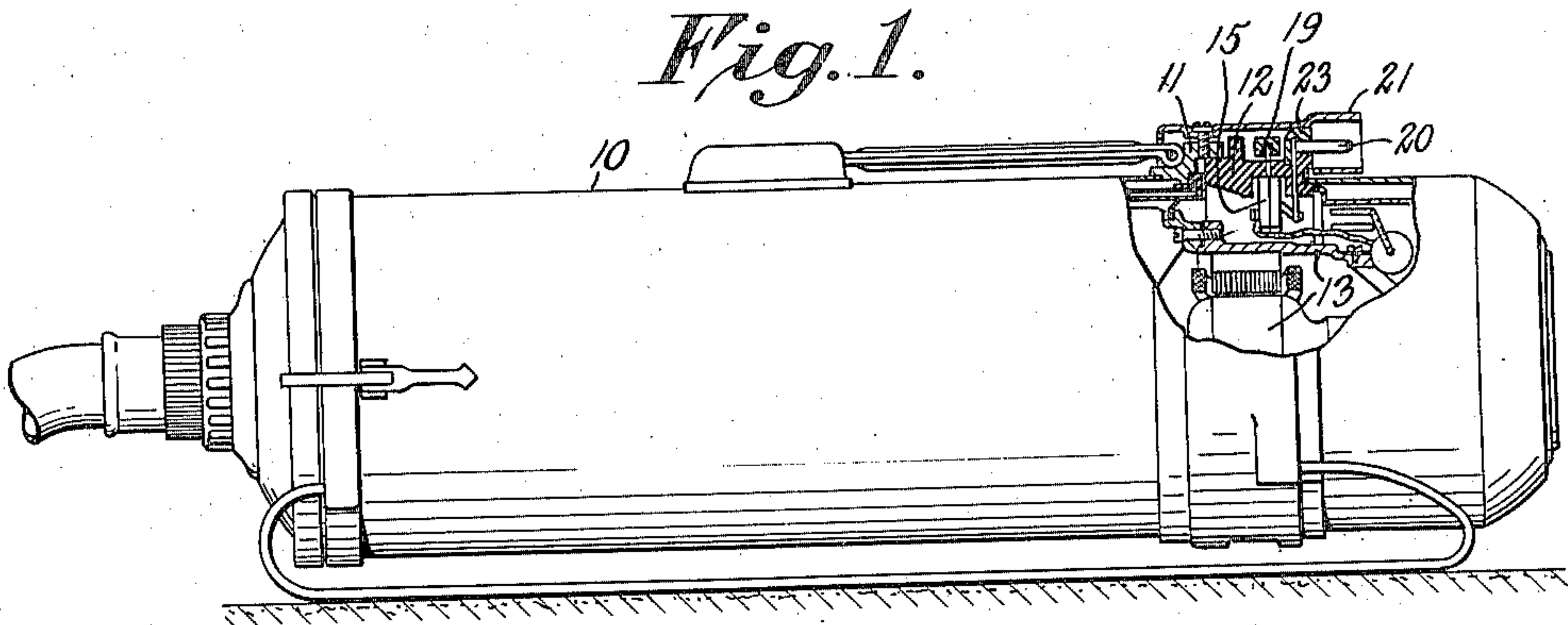


Fig. 3.

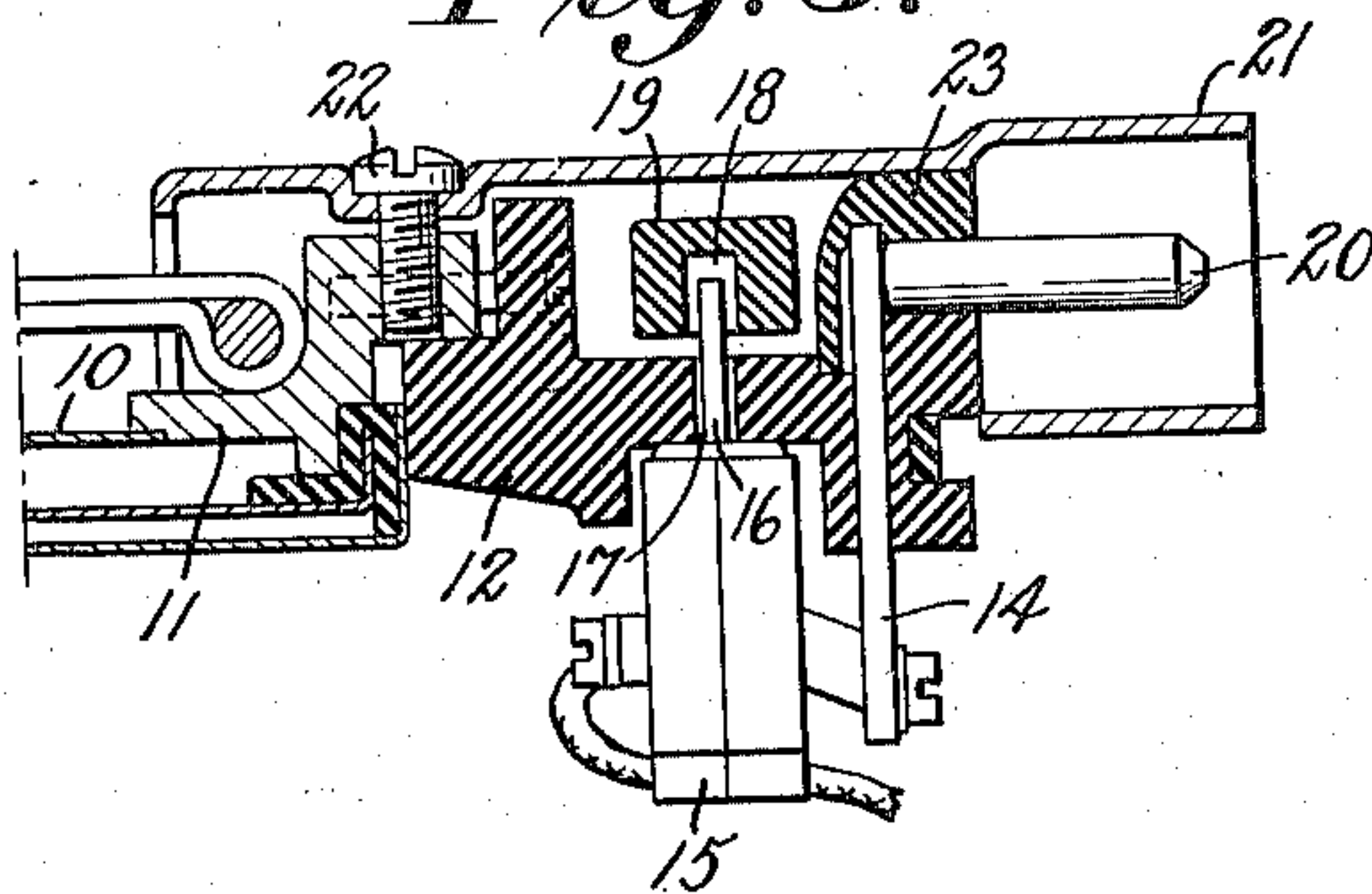


Fig. 2.

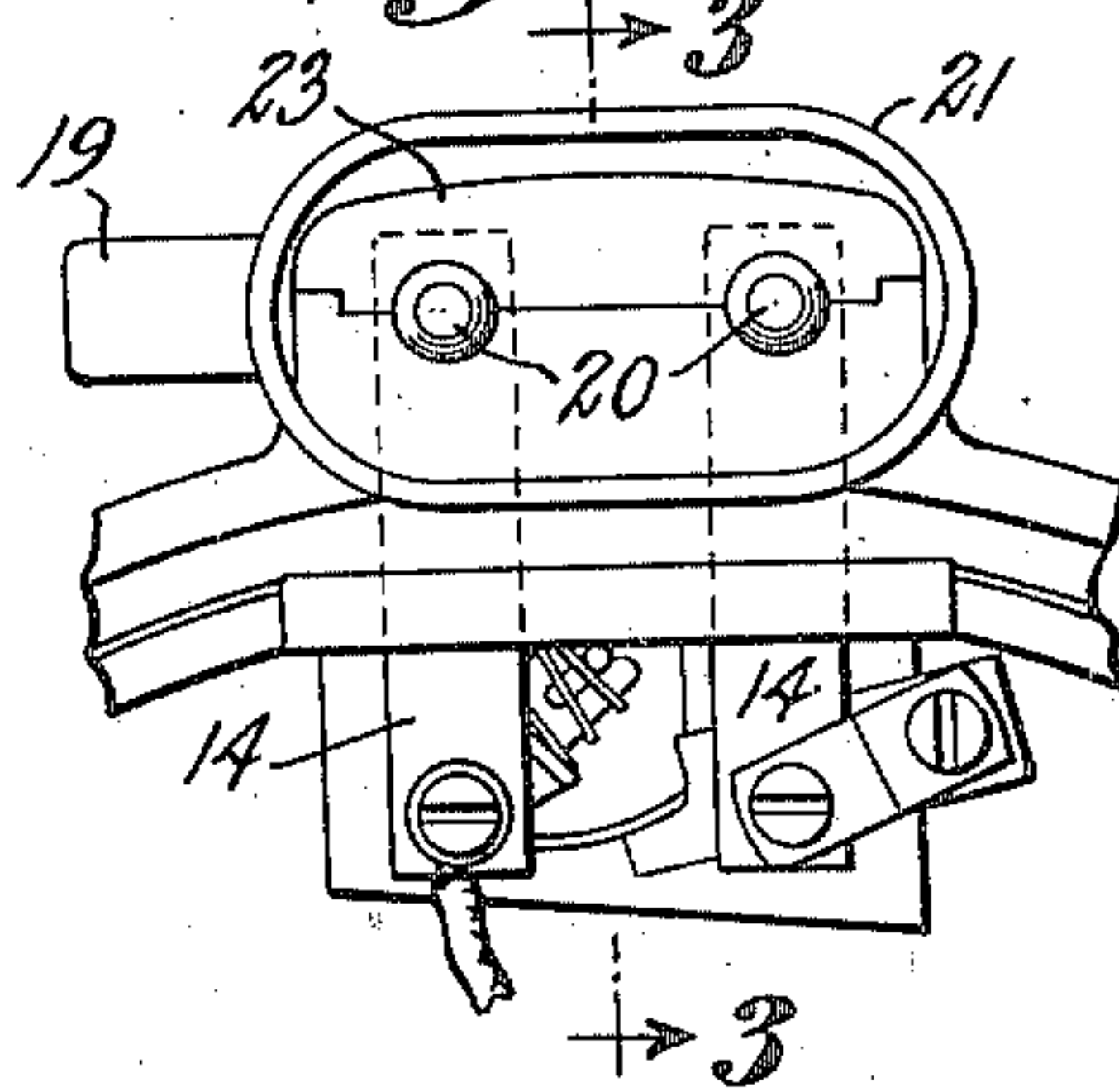


Fig. 5.

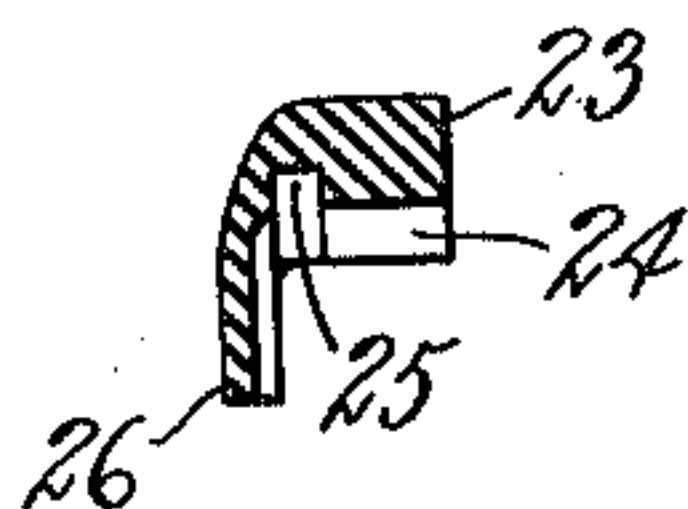
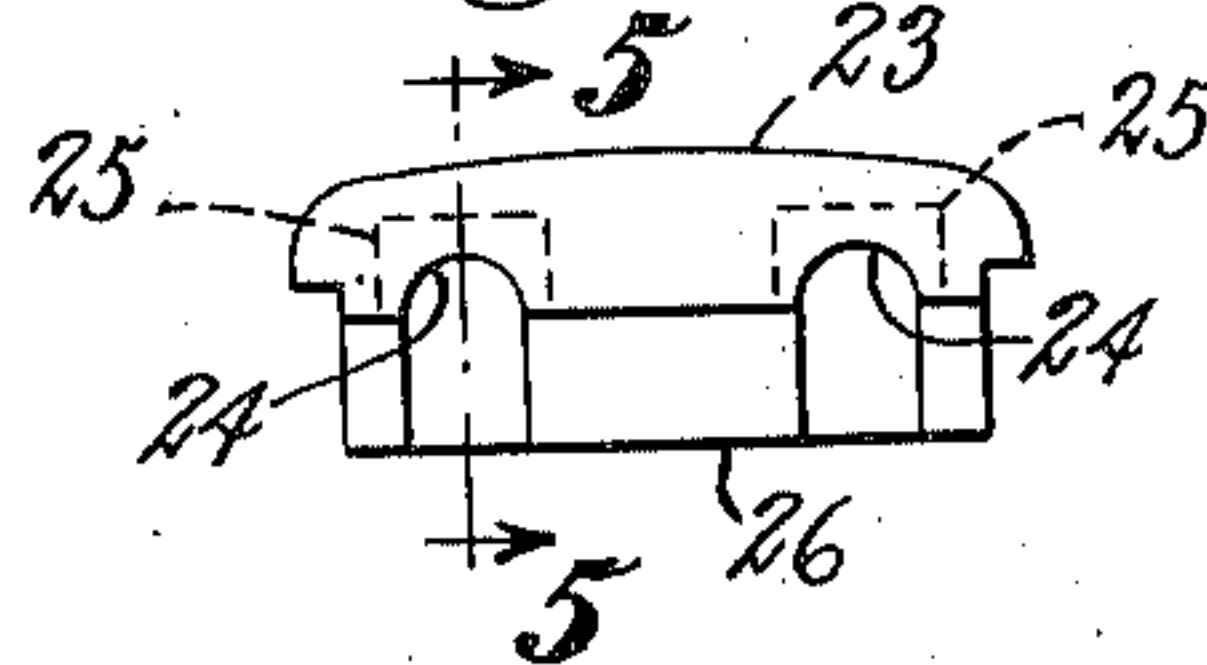


Fig. 4.



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2,125,726

VACUUM CLEANER

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1 Claim. (Cl. 173—324)

My invention relates to electrically operated apparatus and more particularly to electric vacuum cleaners.

In electrically operated apparatus it is common practice to provide contact pins adapted to be engaged by the plug of an electric cable in order that the cable may be readily disconnected from the device when not in use. Obviously, it is necessary to electrically insulate these pins from metallic parts of the device in order to assure that neither side of the electric circuit becomes grounded on the metallic parts. One of the objects of my invention is to provide improved insulating means for contacting pins of the above type.

It is also often desirable to have an electric switch associated with the contact pins and a further object of my invention is to provide means for preventing the entrance of dust into the switch. This is particularly important in connection with devices, such as vacuum cleaners, which may be operated in an atmosphere containing abnormal quantities of dust.

Further objects and advantages of my invention will be apparent from the following description considered in connection with the accompanying drawing, which forms a part of the specification and of which:

Fig. 1 is a side view, partially in cross-section, of a preferred embodiment of my invention applied to a vacuum cleaner;

Fig. 2 is an end view on an enlarged scale of a portion of the device shown in Fig. 1;

Fig. 3 is a cross-sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is an end view of a member shown particularly in Figs. 2 and 3; and

Fig. 5 is a cross-sectional view taken on the line 5—5 of Fig. 4.

Referring more particularly to Fig. 1, reference character 10 designates the casing of a vacuum cleaner of the enclosed bag type. Suitably secured to one end of casing 10 is a ring 11 which in turn supports a ring 12 made of insulating material, such as Bakelite. This ring serves to support an electric motor 13 in known manner. Ring 12 is formed with two openings extending from the inside to the outside of the ring in which are located conductor members or bars 14. Secured to the lower end of one of the bars 14 is an electric switch 15. Switch 15 is provided with an operating lever 16 which extends through an opening 17 formed in ring 12. The upper end of lever 16 engages within a recess 18 formed in a reciprocally mounted switch operating member 19.

Extending substantially at right angles to the upper ends of members 14 are contact pins 20. A shield 21 is secured to ring 11 by means of a bolt 22 and serves to surround pins 20. Shield 21 is

preferably made of metal in order to resist breakage. An insulating member 23 is clamped between the upper ends of members 14, ring 12 and pins 20 on the one hand and shield 21 on the other hand. As is shown more particularly in Figs. 4 and 5, member 23 is generally L-shaped and is formed with recesses 24 through which extend pins 20. Member 23 is also formed with recesses 25 for receiving the upper ends of members 14. Branch 26 of member 23 extends downwardly behind members 14 and into a recess formed in ring 12. Thus when shield 21 is brought against member 23 by tightening bolt 22, member 23 will be held securely in place and no additional fastening means is required.

Heretofore it has been the practice to omit insulating material between the pins and the metal shield, reliance being had on maintaining these parts out of contact with each other. However, if the shield becomes bent or the members carrying the pins become loose in their support, contact between the parts carrying current and the shield may take place. I overcome this possibility by clamping the member 23 in the position shown. Moreover, the provision of member 23 prevents access of dust to the switch 15. This is highly desirable as the presence of dust at the contact points of the switch is apt to cause burning when the circuit is opened.

While I have shown a preferred embodiment of my invention it is to be understood that this has been done for purposes of illustration only and that modifications thereof fall within its scope, which is to be determined by the appended claim viewed in the light of the prior art.

What I claim is:

In a device of the class described, a supporting member made of insulating material and having substantially parallel off-set surfaces joined by an intermediate surface at right angles thereto, conductor members extending through said supporting member at right angles to said off-set surfaces and disposed against said intermediate surface, one of said off-set surfaces being formed with grooves in alignment with said conductor members, contact pins carried by said contact members at right angles thereto and disposed in said grooves, a shield around said pins, an L-shaped insulating member separate from said supporting member and having one branch parallel to said one of said off-set surfaces and formed with grooves embracing said contact pins, the other branch of said L-shaped member being parallel to said intermediate surface and enclosing the portions of said conductor members disposed thereagainst, and means for clamping said L-shaped insulating member between said shield and said pins, whereby said L-shaped insulating member is held in place.

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