Feb. 24, 1942. G. W. NORRICK 2,273,883

VACUUM CLEANER

Filed March 17, 1939

Fig. 1.

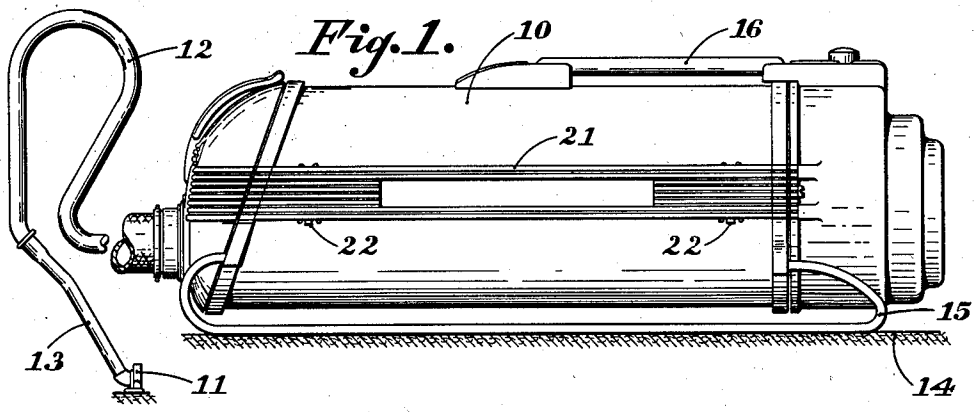



Fig. 2.

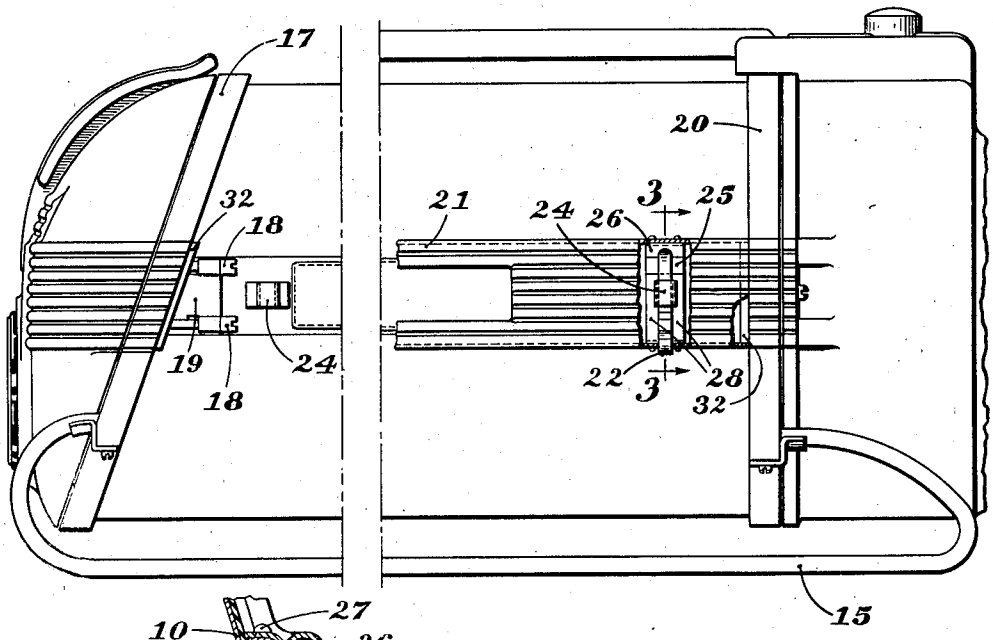
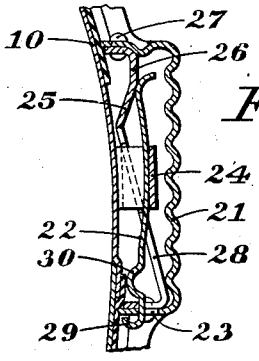



Fig. 3.




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## VACUUM CLEANER

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Application March 17, 1939, Serial No. 262,403

3 Claims. (Cl. 15—16)

This invention relates to vacuum cleaners and more particularly to vacuum cleaners of the type having a casing pulled around the floor by a hose.

An object of this invention is to provide an improved vacuum cleaner casing.

Another object of this invention is to provide guard plates or bumpers for a vacuum cleaner casing.

What is considered to be novel and invention may be better understood by reference to the following specification and appended claims when considered in connection with the accompanying drawing, in which:

Fig. 1 is a side view of a complete vacuum cleaner;

Fig. 2 is an enlarged view of the vacuum cleaner casing broken away in part; and

Fig. 3 is an enlarged detailed view of the securing means for the side guard plates of the casing.

Referring to the drawing, Fig. 1, the numeral 10 designates the vacuum cleaner casing generally. A cleaning tool 11 is connected to casing 10 by means of a flexible hose 12. For convenience in manipulating the cleaning tool 11, a tubular member or handle 13 may be interposed between the cleaning tool 11 and flexible hose 12.

Casing 10 is supported on a horizontal surface 14 by two sleighs 15, only one of which is shown in the drawing. In the usual operation of the vacuum cleaner, the casing 10 is moved around on the surface being cleaned by means of the flexible hose 12. A handle 16 is provided for the casing 10 for convenience in moving the casing 10 some distance, as from one room to another, or when removing it from or returning it to a place of storage.

As best indicated in Fig. 2, a ring 17 is secured to casing 10 by bolts 18 and a bracket 19 located exterior to the casing 10 at each side. Similar securing means, not shown, are provided for a ring 20 located at the opposite end of casing 10 from the ring 17.

A guard plate 21 is provided for each side of the casing 10, only one of which is shown in the drawing, for covering the exterior securing means for the two end rings 17 and 20, and to serve as bumpers for the casing 10, as will be explained below.

Guard plate 21 is secured to casing 10 by means of two spring keys 22. Keys 22 enter guard plate 21 through openings 23 at the bottom and engage brackets 24. Key 22 is securely engaged in a locking position by a force produced by the free end of the key riding up an inclined surface 25, formed in a locking plate 26, which is secured to guard plate 21 by means of rivets 27. When the guard plate 21 is locked in position two arms 28 of plate 26 straddle the bracket 24. The key 22 passes between the two arms 28 and through bracket 24 and engages the inclined surface 25. As the spring key 22 is moved into locking position, the free end rides up the inclined surface 25 to substantially the top of the surface, as indicated in Fig. 3. When in this position, the key 22 produces a force tending to hold the plate 21 tightly in engagement with the casing 10. Transverse movement of plate 21 is prevented by extensions 32 from the rings 17 and 20 which are tightly engaged by plate 21. To remove the key 22, the hooked end 29 may be engaged by a tool and the key lifted to the top of the opening 23 to permit the passage of a projection 30, positioned within the guard plate 21. The key 22 may then be easily removed from its locking position.

In the operation of the vacuum cleaner, the cleaning tool 11 is moved backward and forward over a surface being cleaned. After a particular area has been cleaned, the casing 10 is moved to a new location simply by pulling on the flexible hose 12. As the vacuum cleaner casing 10 is moved from one location to another, it may contact with the legs or lower portions of furniture. To protect this furniture from scratching or marring by sharp edges on the sides of the cleaner, the plate 21 is provided to cover the securing means for the two end rings 17 and 20 and also to provide a bumper or surface, which will withstand the force of the contact with the furniture and will protect the body or casing 10 from injury. The plate 21 is provided with a number of longitudinal ribs 31 formed with smooth curves so that no sharp edges will be presented. The ribs 31 also reduce the area of contact between the furniture and the guard. A large smooth area would show scratches on the guard plate itself as a result of contact with furniture. The arrangement of the spring keys 22 entering from the bottom through side openings in the guard plate 21 as securing means for the plate conceals them from view, and also does not present any exposed or projecting parts which might damage furniture on contact. In addition, the key 22 provides securing means for the plate 21 which makes it possible to efficiently and readily secure the plate 21 to the casing 10 or remove it therefrom as desired.

The guard plate 21 is preferably formed of a thin guage metal that is relatively flexible and

so will absorb shocks without permanent deformation and without transmitting them to the casing 10. It may be found desirable to form the guard 21 of rubber or other flexible plastic material.

What I claim is:

1. A vacuum cleaner including a casing, a guard plate for said casing presenting a relatively smooth exterior bumper surface, a bracket secured to said casing beneath said guard plate, a locking plate secured to said guard plate and having arms straddling said bracket, and a key for securing said guard plate to said casing entering a side opening in said guard plate passing between the arms of said locking plate and through said bracket, a free end of said key riding up an inclined surface provided in said locking plate for producing a force holding said guard plate in engagement with said casing.

2. In a vacuum cleaner having a casing, a guard plate for said casing having an exterior surface free of sharp edges to serve as a bumper for said casing, a U-shaped bracket secured to said casing beneath said guard plate, a locking plate secured to said guard plate having arms straddling said bracket and an inclined surface, and a key entering a side opening of said guard plate extending through said bracket between the arms of said locking plate and engaging an inclined surface of said locking plate, said key having a projection adjacent one end to prevent accidental removal of said key from its locking position.

3. In a vacuum cleaner having a casing, a guard plate for said casing having a ribbed exterior surface serving as a bumper for said casing, a bracket secured to said casing beneath said guard plate, a locking plate carried by said guard plate having arms straddling said bracket and an inclined surface located at the ends of said arms, and a spring key extending through an opening in said guard plate and engaging said bracket and the inclined surface of said locking plate to hold said guard plate in position on said casing.

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