July 7, 1936. W. H. KITTO 2,046,636

SUCTION CLEANER

Filed Aug. 31, 1934

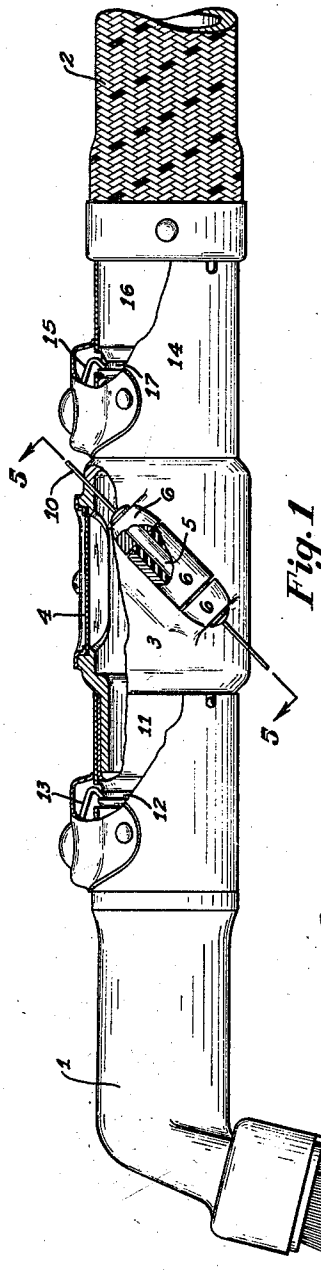


Fig. 1

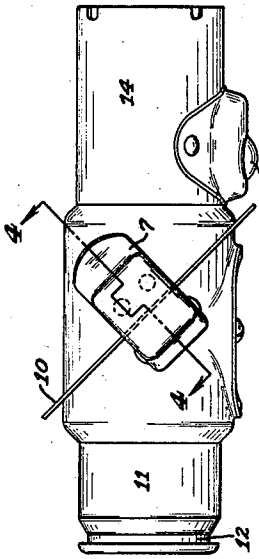


Fig. 3

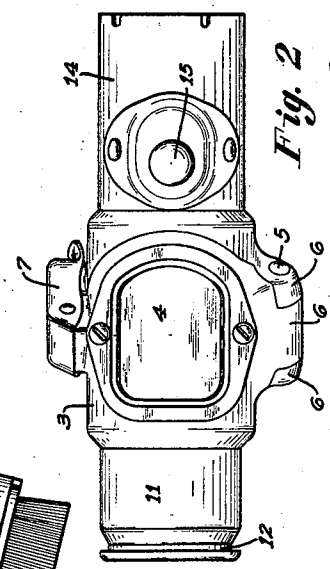


Fig. 2

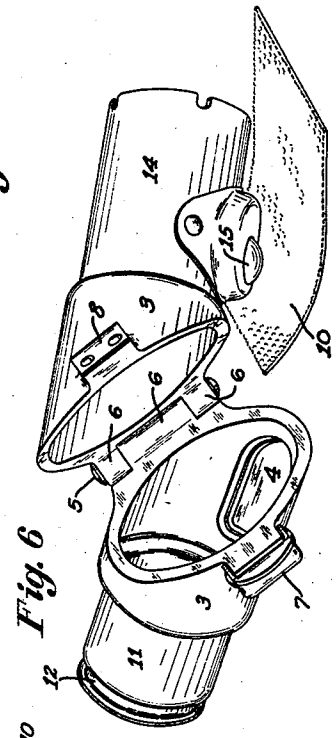


Fig. 6

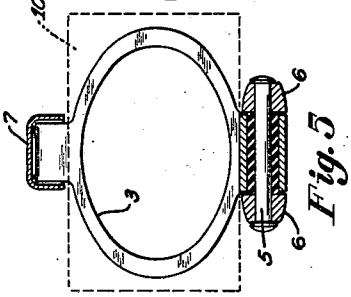


Fig. 5

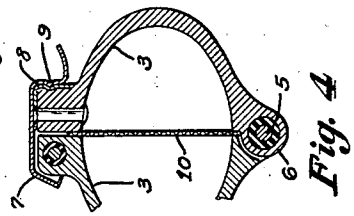


Fig. 4

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SUCTION CLEANER

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Application August 31, 1934, Serial No. 742,221

7 Claims. (Cl. 35—13)

The present invention relates to suction cleaner in general and particularly to new and novel improvements in dusting tool units for suction cleaners, and this application is a continuation in part of co-pending application, Serial No. 703,161, filed December 20, 1933.

It is an object of the present invention to provide a new and improved dusting tool accessory to be used with suction cleaners. It is a further object to provide a new and improved dirt trap which is adapted to form a part of a dusting tool unit. Still another object is the provision of a new and improved air filter unit in a dusting tool unit. A further object is the provision of a dirt trap which embodies a window through which the observer can watch the accumulation of foreign matter in the use of the suction cleaner dusting tool unit in which the trap is connected. These and other more specific objects will appear upon reading the following specifications and claims, and upon considering in connection therewith the attached drawing to which they relate.

In the drawing in which a preferred embodiment of the invention is disclosed:

Fig. 1 is a side view of the element comprising the present invention embodied in a dusting tool unit;

Fig. 2 is a top view of the element removed from the dusting tool;

Fig. 3 is a view of the element similar to Fig. 1 but with the element rotated through 180 degrees;

Fig. 4 is a cross-section upon the line 4—4 of Fig. 3;

Fig. 5 is a section upon the line 5—5 of Fig. 1;

Fig. 6 is a view of the unit in the open position with the filter element removed.

The unit or accessory comprising the present invention is adapted to be removably connected to the usual dusting tool unit to form a part of the air conduit between the dusting tool nozzle and the suction cleaner proper. Its function is to filter the dirt-carrying air which passes through the dusting tool unit in response to the suction created by the cleaner, and to remove from that air, for a relatively short period of time, the foreign matter for purposes of illustration to a prospective purchaser the cleaning properties of the dusting tools.

Referring again to the drawing, the element comprised in the invention is seen to be inserted between a dusting tool nozzle 1 and the end of the usual flexible conduit or hose 2. The element comprises a tubular member 3 which is enlarged at its center, its end portions being of substantially the same size as the adjacent dusting tool parts. Member 3 is bisected along a transverse inclined plane through its enlarged portion, the upper portion being formed with a glass window 4. The two parts are pivotally connected at one side upon a pin 5 which lies in the dividing plane and seats within aligned openings in the lugs 6, 6. The divided hollow conduit member is normally held in the closed relationship, shown in Figures 1 to 5 inclusive, by means of a latch 7 which is pivoted upon one of the sections and is adapted to overlie a protecting lug upon the opposite section. The latch is provided with an indented portion 9 which overlies a shoulder member 8 on the lug to prevent inadvertent displacement from the locked position. A piece of cloth or similar filtering material, most clearly shown in Figure 6, and indicated by the reference character 10, is positioned between the wall faces of the two opposing sections of member 3 and is clamped in place when the sections are locked together, all air passing through the conduit member necessarily passing through the filter.

The dirt trap element is provided at one of its ends with a collar 11 which is reduced at its outer end to form a circular channel 12 adapted to cooperate with a spring-pressed detent 13 carried by the nozzle 1 which overlies and encloses the collar. In the opposite end the dirt trap element is provided with an elongated collar portion which is itself provided with a spring-pressed detent 15. Collar 14 of the element encloses and surrounds an end collar 16 on the dusting tool hose 2 which is similar to collar 11 being formed with a circular groove 17 at its outer end.

The detent 15 seats within the channel 17 and retains the part in operative relationship. A slight depressing force upon the detent removes it from the channel and permits of the separation of the two parts.

The relationship is such that the nozzle 1 can be detached readily from the hose 2, to which it is normally secured in the operation of the dusting tools with a cleaner, and the dirt trap comprising the present invention inserted therebetween and secured by the complementary securing means. Removal of the element is a simple maneuver requiring only the manually depressing of the spring-pressed detents at the opposite ends and the lengthwise displacement of the parts.

The present invention is primarily a demonstration device adapted to be attached and detached in the presence of a prospective cleaner purchaser. When the element is used in combi-

nation with the regular dusting tool unit, foreign matter will collect upon the filter member 10 as it passes from the dusting tool nozzle 1 on its way to the suction-creating means. The presence of the window 4 in the top of member 3 immediately above the plane of the filter makes it possible for the observer to watch the collection of the foreign matter. Upon reaching the end of the cleaning operation the demonstrator disconnects the nozzle 1 and the hose 2 from the dirt trap. He then pivots the lock 7 in a counterclockwise direction, as viewed in Figure 4, permitting of the pivotal movement between the two halves of the element and the manual displacement of the filter member 10. The filter member will be clean where it was clamped between the adjacent walls of the member 3 while the center part will be covered upon one side with the deposited foreign material, clear evidence of the dirt which has been removed by the dusting tools and which would have passed through the cleaner to the usual dust bag but for the interposition of the element comprising the present invention.

It is to be understood that the device does not take the place of the usual dust bag for it is not capable of such a function. The filtering area permitted is relatively small even with the filter extended obliquely as shown. The device is adapted to be used for only a very short cleaning interval after which the part is opened and the dirty filter displayed, it previously having been inserted in a clean condition at the start of the demonstration. A new filter is used for each demonstration.

I claim:

1. In a suction cleaner dusting tool demonstrating accessory, a dirt trap comprising a hollow body open at its ends to form a conduit and provided with means at its ends to secure it to a suction cleaner dusting tool hose, said body being divided into two parts along a transversely extending oblique plane, the side walls of said two parts making line contact, means pivotally relating the two parts of said trap, and manually operable means to lock said parts in closed position with said walls making line contact and adapted to clamp a filter member extended across said trap.

2. The construction recited in the preceding claim characterized in that a window is formed in one of said parts to expose the filter in said plane to observation from the exterior of said trap.

3. The construction recited in claim 1 characterized in that an observation window is formed in one of said parts and overlies said filter.

4. In a suction cleaner dusting tool demonstrating accessory, a dirt trap comprising a hollow body open at its ends to form a conduit, said body being divided into two separable parts along a transversely extending oblique plane, the walls of said parts making line contact in said plane, means pivotally relating said two parts for relative pivotal movement about an axis lying in said plane, a sheet of filter material lying in said plane and clamped between said parts, and manually operable locking means on said parts spaced from said pivotal supporting means to secure said parts together and comprising the sole means for clamping said filter material in place.

5. The construction recited in the preceding claim characterized in that one of the open ends of said trap is provided with attaching means adapted to secure said trap to the end of a dusting tool hose.

6. The construction recited in claim 4 characterized in that a glass window is formed in one of said parts adjacent said plane.

7. A demonstrating accessory for a suction cleaner including a hollow body forming a conduit having an enlarged central portion, said body being separable along a transversely extending oblique plane through said enlarged central portion, the walls of said body making line contact in said plane, a filter member secured by friction between the walls of said body in said plane, means pivotally connecting the separable parts of said body, and manually operable means spaced circumferentially from said connecting means to secure said parts together.

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