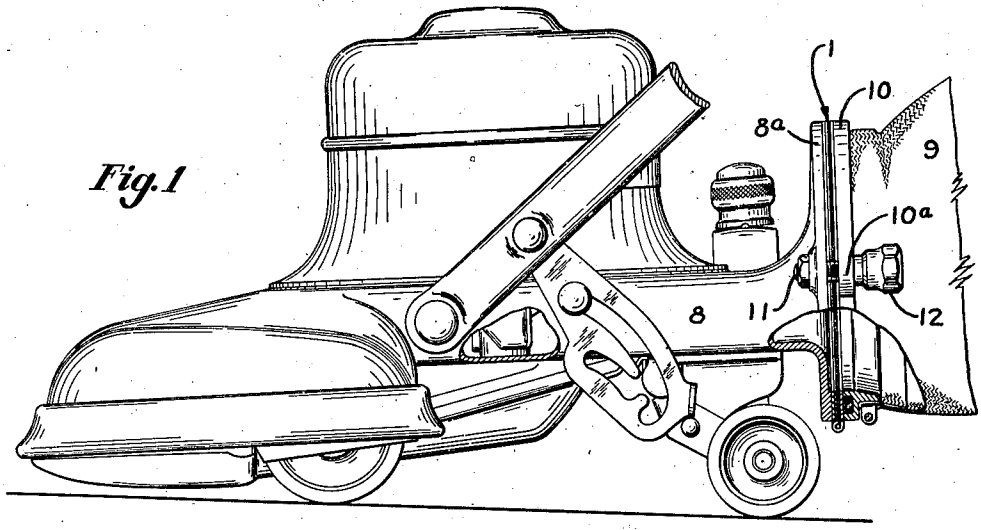
March 29, 1938. F. M. RHED 2,112,304

DEMONSTRATION ACCESSORY FOR SUCTION CLEANERS

Filed Feb. 3, 1936

Fig. 1



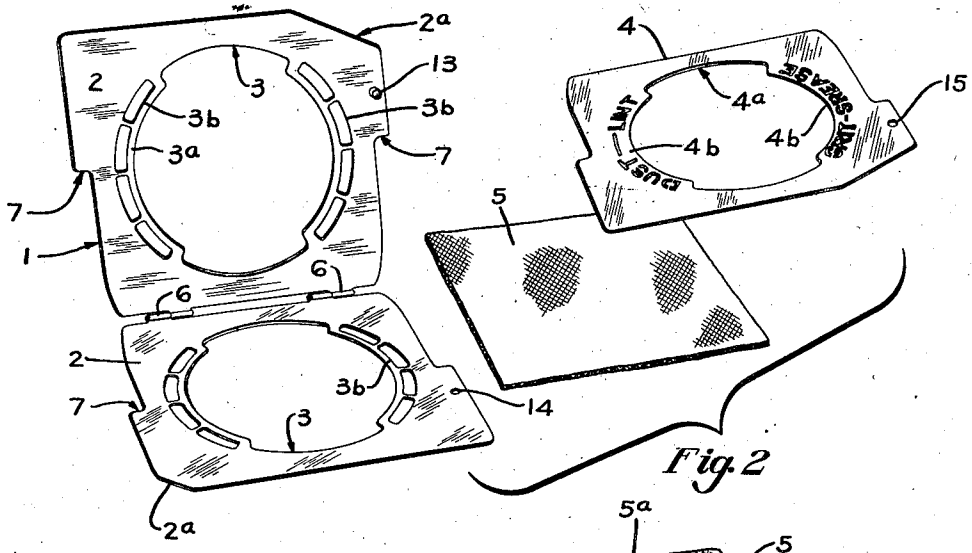


Fig. 2

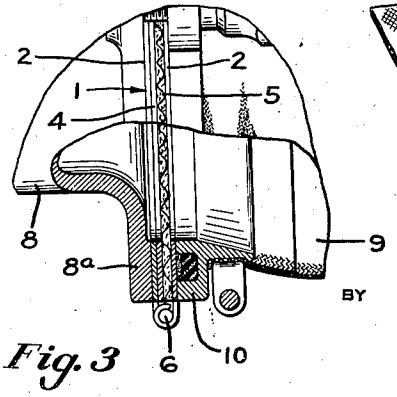


Fig. 3

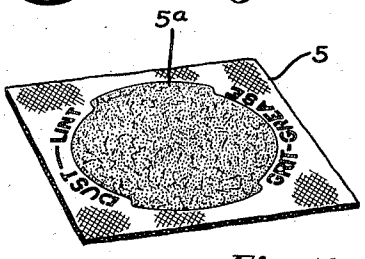


Fig. 4

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DEMONSTRATION ACCESSORY FOR SUCTION CLEANERS

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5 Claims. (Cl. 35—13)

This invention relates to a demonstration accessory for suction cleaners and more particularly to a device to be applied to a suction cleaner for the purpose of demonstrating to prospective purchasers the cleaning effectiveness thereof.

It has been customary to provide suction cleaner salesmen with a simple device commonly termed a "dust trap", and which when introduced into the path of the dirt laden air a quantity of the dirt is intercepted by and deposited on a sheet of filter paper, which is then removed from the dust trap and shown to the prospective purchaser as visible evidence of the amount of dirt which has been removed from the floor covering. This demonstration is particularly convincing, if the same area of the floor covering has previously been gone over with an old cleaner or one that does not perform as efficiently.

Heretofore, the standard type of the so-called "dust trap" type of demonstrating accessory consisted of a tubular insert designed to be introduced between the end of the dusting tool hose or conduit and the dusting tool and arranged to support sheets of filter paper transversely of the passage therethrough. The chief objection to this particular type of demonstrating accessory is the fact that it necessitates the application of the dusting tool and hose in order to make the demonstration and hence the cleaner can only be demonstrated when operated for off-the-floor cleaning.

The principal object therefore of the present invention is to provide an improved type of demonstrating device which will be attachable to the cleaner body and register the effectiveness of the cleaner while operating normally and not cleaning through the auxiliary hose and dusting tools.

A further object of the invention is to provide a demonstrating device which can be inserted between the cleaner proper and the dust bag, thereby temporarily intercepting the dirt at the point where it enters the collecting receptacle.

And finally, an object of the invention is to arrange the dirt intercepted into the form of a definite design by means of a stencil, thus creating the distinctive pattern calculated to make a greater impression upon the prospective purchaser than merely a plain circular or oval-shaped panel.

A preferred embodiment of the improved demonstrating device is disclosed in the accompanying drawing in which:

Figure 1 is a general view in side elevation of a suction cleaner with a demonstrating device inserted between the exhaust outlet and the dust bag.

Figure 2 is a perspective view of the hinged frame forming the body of the demonstrating device showing the relative positions of the stencil sheet and filter sheet as they are placed in the frame.

Figure 3 is an enlarged detail view partially in section of the lower half of the cleaner outlet and dust bag connection with the demonstrating device inserted therebetween, and

Figure 4 is a perspective view of the filter sheet as it appears when removed from the frame after the demonstration has been completed.

Briefly, the demonstrating device consists of a thin, flat rectangular metal frame 1 made up of two hinged together plates 2, 2 with centrally disposed registering apertures 3, 3 of circular shape, a stencil sheet 4, conforming generally to the shape of the frame both as to its marginal contour and central aperture 4a and finally, a rectangular sheet 5 of thin and relatively porous filter paper capable of permitting the almost free passage of air therethrough but of intercepting the dust particles in the air.

As already suggested, the two halves or plates 2, 2 making up the frame 1 are practically identical in shape being hinged along their lower edges as at 6, 6 to permit the frame to be opened and closed for the insertion and removal of the stencil and filter sheets. Now, considering the hinged edge as the bottom of the frame, it will be observed that the lower half thereof is somewhat narrower than the upper half, the side edges of the plates being cut away throughout their lower half thus forming abrupt downwardly facing shoulders 7, 7, which serve to support the frame in place on the cleaner as will presently be explained.

The frame 1 is about five inches square and the circular opening in the plate approximately four inches in diameter, these dimensions conforming generally to those at the connection between the cleaner casing and the dust bag of the particular type and model of suction cleaner for which the device is assumed to have been designed. Thus the cleaner shown in Figure 1 may be considered to represent a type of cleaner having a rearwardly extending exhaust passage 8 terminating in a relatively large flanged outlet connection 8a to which is normally attached a fabric dust bag 9 through the medium of a metal ring 10 to which the inner end of the dust bag is attached, said ring being of the same diameter as the flanged outlet connection 8a and provided with a pair of

diametrically opposed notches 10*a* adapted to fit over two clamping bolts 11 carried on either side of the flanged outlet connection 8*a*. These bolts 11 include removable nuts 12 which are loosened to permit the removal of the dust bag. In the same manner the clamping nuts 12 are loosened to permit the frame 1 to be inserted between the bag and the outlet connection as shown in Figures 1 and 3, said frame being held in place and properly registered by the shoulders 7, 7 resting upon the bolts 11, whereupon the clamping nuts are tightened, thus holding the frame securely in place during the demonstration.

Now, referring further to the apertures 3, 3 in the hinged plates forming the frame 1, the same are generally circular in shape except for two oppositely disposed slotted segments 3*a* extending through arcs of substantially 90 degrees on opposite sides thereof. These slotted segments project inwardly about a quarter of an inch beyond the normal radius of the apertures, so that the same actually have an irregular contour, as is clearly shown in Figure 2. And finally, spaced immediately beyond the edge of the two segments are groups of slots 3*b* separated by a thin web of metal, there being preferably four slots in each group.

The stencil sheet 4 is preferably cut from any standard stencil paper and is substantially the same shape and size as the frame 1, that is to say, it is practically a duplication of one of the plates of the frame except for the stenciling around the central aperture thereof, as will presently be explained. In order to insure the proper positioning of the stencil sheet 4 in the frame, the latter is provided with a pin 13 located along one edge of one of the hinged plates 2 and, projecting from the inner face thereof, registers with a corresponding hole 14 in the other plate. Similarly, the stencil sheet 4 has a hole 15 punched along one edge thereof adapted to register with the pin 13 on the frame to insure the proper registration of the stencil sheet in assembling the device for each demonstration.

Now, the central aperture 4*a* of the stencil sheet 4 is generally circular in shape to conform with the corresponding apertures 3, 3 in the frame 1, and furthermore have the same arrangement of marginal segments 4*b*, 4*b*, which register exactly with the corresponding marginal segments 3*a*, 3*a* of the frame. But in place of slots along the edges of the segments there are cut in the segments 4*b* of the stencil sheet appropriate words or wording such as, "Dust"—"Lint"—"Grit"—"Grease".

It is therefore apparent that when the stencil sheet 4 has been placed in the frame and the latter closed, that the words surrounding the central aperture in the stencil sheet 4 will register with the groups of slots 3*b* surrounding the aperture in the frame 1. And lastly, on inserting a sheet 5 of relatively porous filter paper between the stencil sheet 4 and one of the plates 2 of the frame 1, the device is in readiness to be inserted between the cleaner outlet and the dust bag for the demonstration.

In putting the frame in place it is obvious that the filter sheet should be on the side of the stencil sheet nearest the bag, that is, the dirt laden air exhausted from the cleaner should pass through the stencil sheet before it passes through the filter sheet. For this reason, the directions indicate the proper procedure to be followed in assembling the stencil and filter sheets in the frame, and suitable markings on the outside of the frame state which side is to face toward the bag.

Thus, to make a demonstration for the benefit of a prospective purchaser, the frame 1, assembled with a clean filter sheet 5, is mounted at the cleaner outlet in the manner already indicated, whereupon the cleaner is operated for a few moments over the prescribed area of the carpet or rug and then shut down so that the frame may be removed and the filter sheet recovered. The operation of opening the frame amounts to nothing more than parting the hinged plates to separate the stencil sheet from the filter sheet, but inasmuch as the pattern or stencil impression upon the filter sheet is made up of dust particles adhering somewhat insecurely to the surface thereof, the frame is preferably cut away at the free corners as at 2*a*, 2*a* in order to facilitate the removal of the filter sheet without smudging or smearing the impression. Thus on removing the frame from the cleaner the operator is instructed to hold it in a horizontal position— stencil sheet uppermost—with the thumb and first finger of the right hand grasping one corner of the filter sheet, it being observed that the corresponding corners of the uppermost plate 2 of the frame and the stencil sheet 4 are cut away so that the two can be swung upwardly and away from the undermost plate, leaving the filter sheet 5 lying face upwardly thereon.

Now, the design stenciled on the filter sheet 5 will obviously be a reproduction of that cut in the stencil sheet 4, namely, a circular-shaped solid panel 5*a*, with the words "Dust"—"Lint"—etc., printed in dust about the margin thereof, as clearly shown in Figure 4. Manifestly, the pattern thus stenciled on the filter sheets may be of any desired configuration inasmuch as the sole purpose of the demonstration is to intercept the dirt as it leaves the cleaner and to collect it on the filter sheet in such a way as to impress upon the prospective purchaser the cleaning effectiveness of the cleaner being demonstrated.

Likewise, the construction of the holder as well as the assembly of the entire demonstrating device may be modified in its details without departing from the spirit of the invention.

I claim as my invention:

1. A demonstrating device for the purpose described, comprising a frame adapted to be removably supported between the normally contacting portions of the discharge outlet and dirt receptacle of a suction cleaner, said frame having an opening conforming substantially to the shape and area of the outlet opening and adapted to support separate sheets of filtering material transversely of the path of the dirt-laden air discharged from said outlet.

2. A demonstrating device for the purpose described, comprising a frame adapted to be removably supported between the air discharge outlet and the adjacent portion of the dirt receptacle of a suction cleaner, and having a centrally disposed opening conforming substantially to the shape and area of the air discharge passage at said outlet, said frame consisting of a pair of thin separable plates adapted to hold separate sheets of air filtering material crosswise the path of the air discharged from said outlet.

3. A demonstrating device for the purpose described comprising a frame adapted to be clamped between the outlet and the attaching portion of the dirt receptacle of a suction cleaner and having a centrally disposed opening conforming substantially to the shape and cross-sectional area of the air discharge passage at said outlet,

said frame comprising a pair of plates hingedly connected along one edge and adapted to removably support a sheet of filtering material therebetween and transversely of the path of the dirt-laden air discharged from said outlet.

4. A demonstrating device for the purpose described comprising a frame adapted to be temporarily supported between the discharge outlet and the attaching fitting of the dirt receptacle of a suction cleaner and having a centrally disposed opening conforming to the shape and size of the discharge opening at said outlet, said frame comprising a pair of hinged metal plates adapted to have a super-imposed stencil sheet and a renewable filter sheet held therebetween, said stencil sheet having a stencilled area included within the opening of said frame and adapted to be exposed to the dirt-laden air as it is discharged from said outlet and before it passes through said filter sheet.

5. A demonstrating device for the purpose described comprising a frame adapted to be clamped between the discharge outlet and the attaching fitting of the dirt receptacle of a suction cleaner and having a centrally disposed circular opening conforming to the shape and size of the discharge passage at said outlet, said frame comprising a pair of metal plates adapted to have clamped therebetween a stencil sheet and renewable filter sheet, said stencil sheet having an opening of somewhat less area than that of said frame, thus exposing a stencilled marginal area to the dirt-laden air as it is discharged from said outlet and through said filter sheet.

FLOYD M. RHED.