

Dec. 8, 1931.

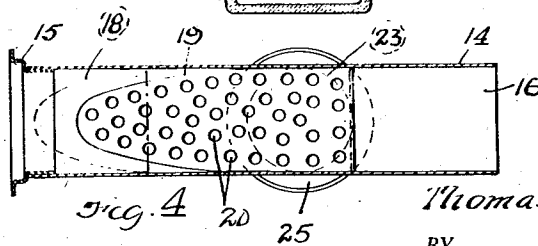
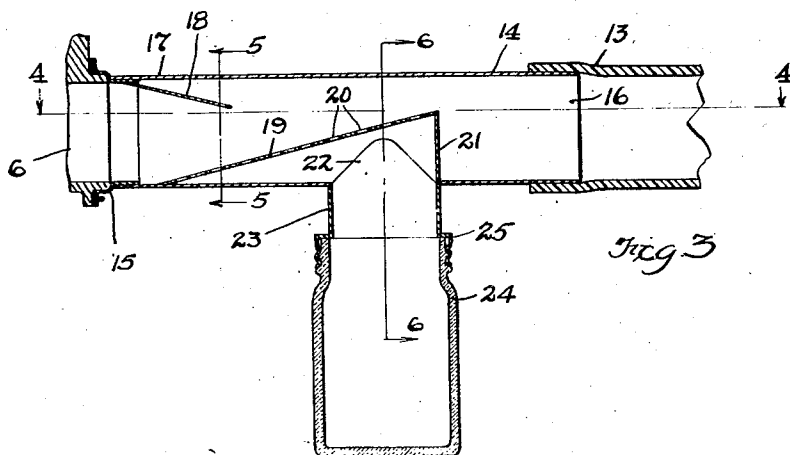
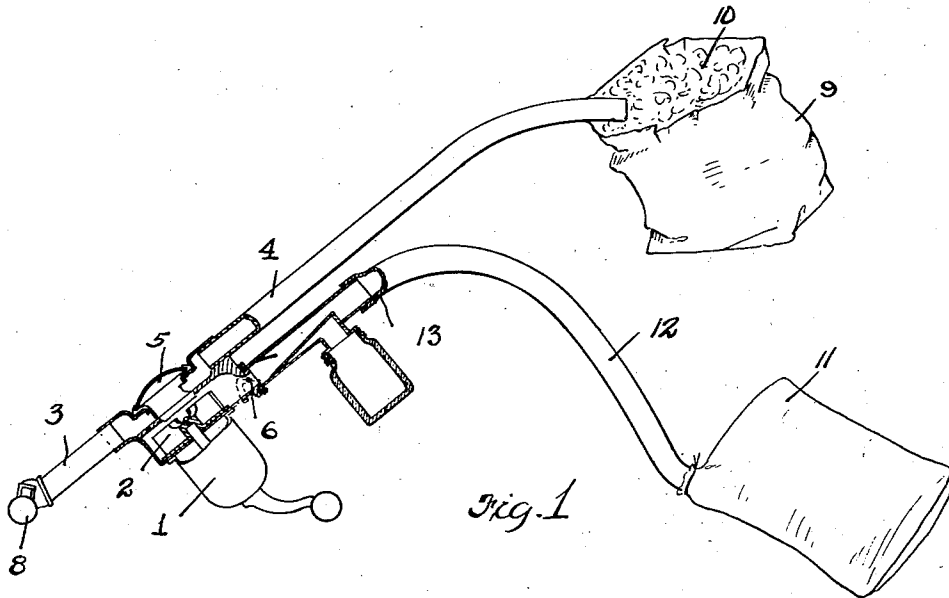
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1,835,511

DEVICE FOR RENOVATING FEATHERS AND THE LIKE

Filed Dec. 23, 1929

2 Sheets-Sheet 1



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DEVICE FOR RENOVATING FEATHERS AND THE LIKE

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2 Sheets-Sheet 2

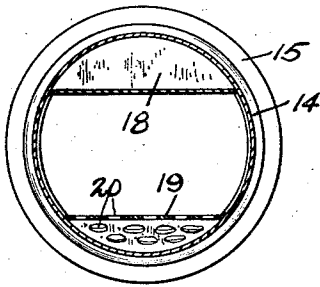


Fig. 5

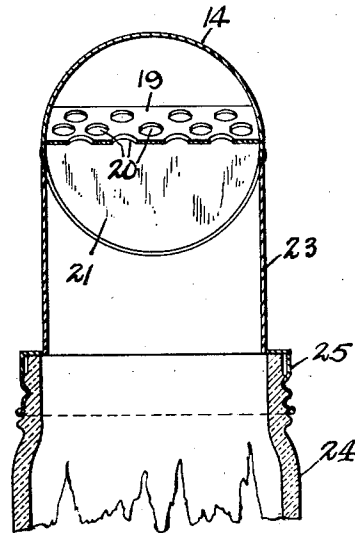


Fig. 6

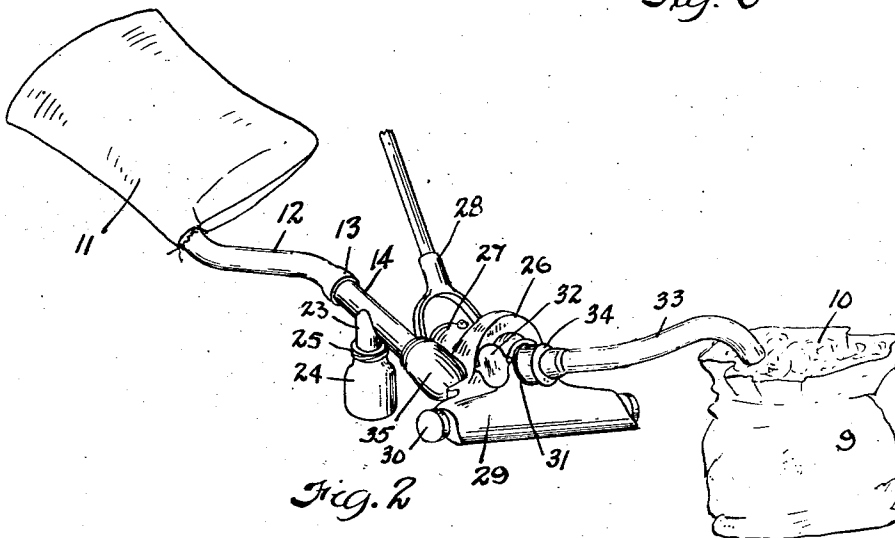


Fig. 7

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UNITED STATES PATENT OFFICE

THOMAS HUGH MEANS, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO AIR-WAY ELECTRIC APPLIANCE CORPORATION, OF TOLEDO, OHIO, A CORPORATION OF DELAWARE

DEVICE FOR RENOVATING FEATHERS AND THE LIKE

Application filed December 23, 1929. Serial No. 415,962.

This invention, relating as indicated to a device for renovating feathers and the like, has specific reference to a device adaptable to be used in connection with a vacuum cleaner having air intake and discharge connections, by means of which feathers may be transferred from one container to another.

Various attachments are now in common use for the purpose of transferring feathers, which attachments are merely hollow tubes adaptable to be connected to the air intake and discharge apertures on vacuum cleaners. The attachments as indicated, consisting only of hollow tubes, do nothing more than merely mechanically transfer the feathers without in any way renovating them. When pillows and the like containing feathers are used for any appreciable length of time a certain amount of dust and like foreign material finds its way into the body of the feathers and is trapped there, resisting the action of any means directed toward the body of feathers as a whole in removing such dust or like material.

The attachments for vacuum cleaners and the like which are at present employed to transfer the feathers from one container to another make no provision for removing such dust during the course of such transfer, simply transporting the entire body of feathers and accumulated dirt from the old container to the new. It is therefore an object of my invention to provide an attachment adaptable to be used in connection with the air intake or discharge apertures of a vacuum cleaner whereby the dust and like foreign material in the feathers is removed therefrom during the transfer of such feathers from one container to another.

It is common knowledge that the barbs of the individual feathers, after such feathers have been used in a pillow for some time, become matted and the body of feathers therefore loses a considerable portion of its desirable fluffiness. Means should therefore be provided for periodically re-fluffing such feathers so that the full extent of their original downiness may be maintained for a greater length of time. The attachments which have heretofore been used in transferring feathers

from one pillow to another simply mechanically transport the feathers through the substantially cylindrical tubes and in no way effect a re-fluffing of the individual feathers which is so desirable in maintaining the feathers in excellent condition. It is therefore a further object of my invention to provide a means whereby the re-fluffing of the feathers is accomplished during the transferring thereof from one container to another. Other objects of my invention will appear as the description proceeds.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims; the annexed drawings and the following description setting forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings:—

Fig. 1 is a part section part elevation of a vacuum cleaner of a favorite type showing the attachment comprising my invention in communication therewith; Fig. 2 is a perspective view of an alternative form of vacuum cleaner showing the attachment comprising my invention connected thereto; Fig. 3 is an enlarged fragmentary sectional view of the attachment as shown in Fig. 1; Fig. 4 is a longitudinal sectional plan view of the attachment shown in Fig. 3 taken on a plane substantially indicated by the line 4—4; Fig. 5 is a transverse sectional view of the device shown in Fig. 3 taken on a plane substantially indicated by the line 5—5; and Fig. 6 is a fragmentary transverse sectional view of the device shown in Fig. 3 taken on a plane substantially indicated by the line 6—6.

Referring more specifically to the drawings, and more especially to Fig. 1, the vacuum cleaner here shown consists of a motor 1, a fan 2, and associated air intake conduits 3 and 4, which may be selectively placed in communication with the fan chamber by means of the valve 5. The position of the valve 5 shown in this figure is such that the fan chamber is in communication with the

air intake conduit 4 and is walled off from the intake conduit 3 so that all of the air drawn into the fan chamber must pass through the intake conduit 4. The fan chamber has an air discharge connection 6 associated therewith which is adapted to either receive the neck of a dust collecting and air filtering unit or like attachment. The vacuum cleaner is removably supported by the revoluble wheel 8.

The air intake conduit 4, as shown in connection with the vacuum cleaner illustrated in Fig. 1, also forms the manipulating handle thereof, which is in this figure shown inserted in the open end of a container 9 containing the feathers 10 or like material which is to be transferred from this container to a container 11 secured to the discharge end of the conduit 12. The conduit 12 is secured at its other end 13 to the discharge end of the device comprising my invention, here shown in communication with the air discharge connection of the vacuum cleaner.

Referring more particularly to Figs. 3 to 6, inclusive, the device comprising my invention consists of a substantially tubular body member 14 which has its one end formed into a circumferential flange 15 adapted to engage the air discharge connection 6 of the vacuum cleaner. It should be noted in this connection that the circumferential flange 15 might be omitted and this end of the cylindrical body 14 adapted to secure a flexible conduit 13, such as is shown connected to the opposite end 16 of the body, should this type of construction be desirable. The cylindrical body 14 has adjacent its air inlet end 17 a baffle 18 which is inwardly disposed and axially directed toward the discharge end of the device. The baffle 18 is secured to the inner periphery of the body 14 so that the material entering the tubular body is forced downwardly against the lower portion of the inner surface of the body. Diametrically opposed to the baffle 18 is a baffle 19 which is similarly secured and likewise directed. The baffle 19 is foraminous, here shown including a plurality of apertures 20. The baffle 19 is likewise secured to the wall of the tubular element 14 so that any material passing through the tubular member 14 must pass through the restricted opening at the end of such baffle. The baffle 19 is so positioned that a portion thereof is in overlying relation with respect to the baffle 18 and has a closure member 21 positioned at its inwardly directed end, which closure member is secured to the wall of the tubular body 14. This closure member prevents any air which may pass through the foraminous plate 19 from continuing on through the discharge end of the device. Positioned adjacent the closure member 21 and intermediately of the baffle 19 and such closure member is an aperture 22 which is in communication with the

tubular member 23 secured to the outer wall of the tubular body 14. The lower terminal portion of the tubular body 23 is adapted to threadably engage and removably secure the dust receptacle 24 by means of the enlarged threaded end 25.

The vacuum cleaner of an alternative form chosen for purposes of illustration as shown in Fig. 2, consists of a fan chamber 26, a motor body 27, a manipulating handle 28 and a suction nozzle 29 supported by revoluble wheels 30. The tool illustrated in this Figure has an aperture 31 formed adjacent the fan body, which is normally closed by the flap 32. The flap 32 is shown in this illustration swung to one side to permit the connection of the flexible tube 33 through its supporting end 34 in the aperture 31. The fan casing is here shown in connection with a discharge connection 35, to which is connected the intake end of the attachment comprising my invention. The attachment here shown is likewise in communication with a receiving receptacle through suitable flexible conduits given reference numerals similar to those shown in Fig. 1 for purposes of convenience of description.

The operation of the device will be described in connection with the vacuum cleaner illustrated in Fig. 1, although the operation thereof is the same regardless of the type of vacuum cleaner with which it is employed. The vacuum cleaner as shown in Fig. 1 has its air intake conduit inserted in the open end of the receptacle 9, and upon being so inserted the motor 1 is caused to rotate and the fan 2 will therefore cause the feathers to be drawn into member 4 down through the valve 5 into the fan chamber 2 and thence expelled through the discharge connection 6 through the attachment comprising my invention and the flexible conduit 12 into the receiving container 11, here shown in the form of a pillow case. As the feathers are forced through the discharge connection 6 they strike the baffle 18 and are deflected downwardly onto the diametrically opposed baffle 19 and in being so precipitated dust and like material contained therein will pass downwardly through the foraminous plate 19 and into the receptacle 24. The removal of every particle of dust and like material from the feathers is insured by the vigorous agitation of the feathers on the baffle 19 by means of the oppositely directed baffle 18. When the feathers have passed to the restricted opening between the discharge end of the baffle 19 and the inner periphery of the tubular body 14 they will be therefore free from all dust and like foreign material. The restricted opening just referred to, through which the feathers must of necessity pass, along with the violent agitation of the feathers on the foraminous baffle 19, will cause a fluffing of

the barbs thereof, which will impart to such feathers all their original fluffiness. The feathers then pass through the discharge opening 16 through the flexible conduit 12 and on into the fresh, clean receptacle 11 adapted to receive them. It will be noted in connection with the use of the attachment comprising my invention that all of the dust and like foreign material is extracted from the feathers and such feathers are restored to their original fluffiness before being deposited in the receptacle, which may be the one in which they are to be further employed.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. The combination with a portable household vacuum cleaner having air intake and discharge connections, of means associated with such connections for transferring feathers from one container to another, and conveniently attachable means associated with one of said last-named means for removing and collecting the dust from the feathers so transferred.

2. The combination with a portable household vacuum cleaner having air intake and discharge connections, of means associated with such connections for transferring feathers from one container to another, and conveniently attachable means associated with one of such connections for presenting a restricted passage for such feathers, said last-named means including a perforated baffle plate.

3. The combination with a portable household vacuum cleaner having air intake and discharge connections, of means associated with such connections for transferring feathers from one container to another, conveniently attachable means associated with one of such connections for presenting a restricted passage for such feathers, said last-named means including a perforated baffle plate, and means for directing such feathers against said perforated baffle.

4. The combination with a portable household vacuum cleaner having air intake and discharge connections, of means associated with such connections for transferring feathers from one container to another, conveniently attachable means associated with one of such connections for presenting a restricted passage for such feathers, said last-named means including a perforated baffle plate, and means for collecting the dust from such feathers.

5. The combination with a portable house-

hold vacuum cleaner having air intake and discharge connections, of means associated with such connections for transferring feathers from one container to another, means associated with one of such connections for presenting a restricted passage for such feathers, said last-named means including a perforated baffle plate, means for directing such feathers against said perforated baffle, and a receptacle for collecting the dust from such feathers.

6. The combination with a household vacuum cleaner having air intake and discharge connections, and an air impeller positioned therebetween, of means removably associated with such connections for drawing feathers from one receptacle, passing them through said vacuum cleaner and depositing them in another receptacle, and means removably associated with one of such connections for presenting a restricted passage for such feathers, such last named means including a perforated baffle plate, means for directing such feathers against such perforated baffle, and a receptacle for collecting the dust from such feathers.

Signed by me, this 16th day of December, 1929.

THOMAS HUGH MEANS.