Aug. 22, 1961 L. G. GITZENDANNER 2,996,748

ATTACHMENT ADAPTER FOR UPRIGHT VACUUM CLEANER

Filed Sept. 6, 1960 2 Sheets-Sheet 1

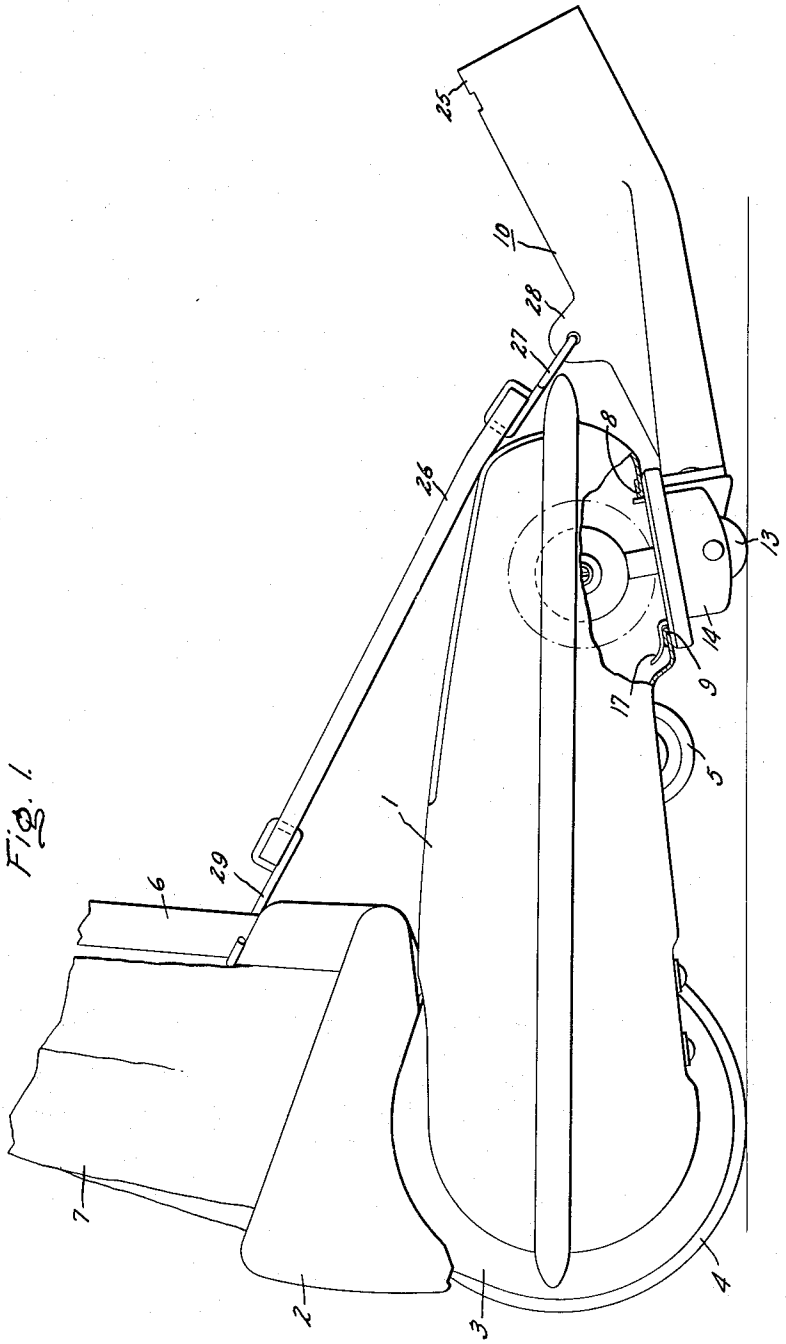


Fig. 1.

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ATTACHMENT ADAPTER FOR UPRIGHT VACUUM CLEANER

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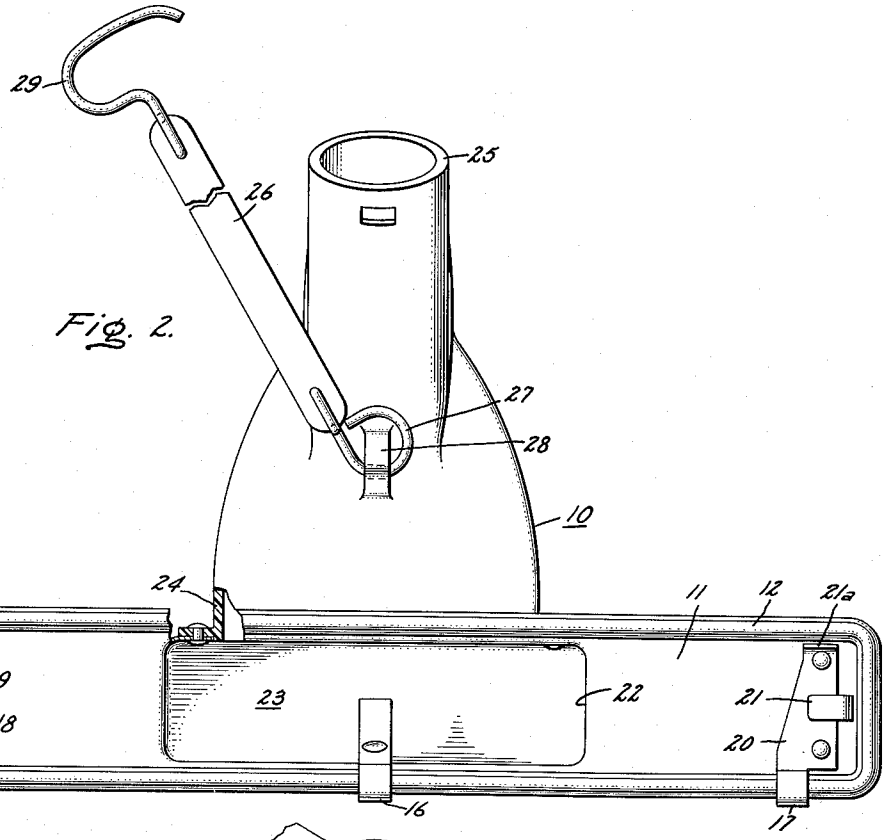


Fig. 2.

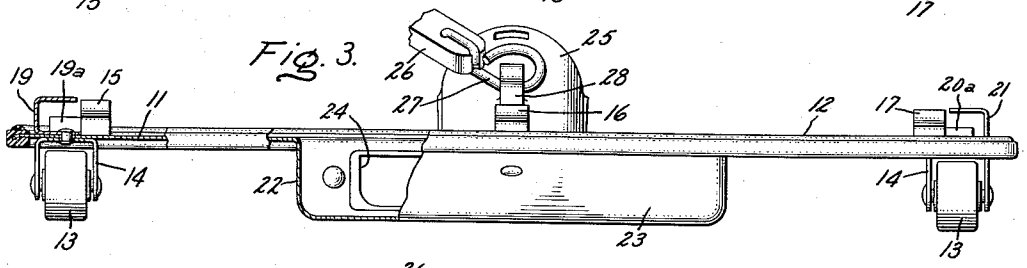


Fig. 3.

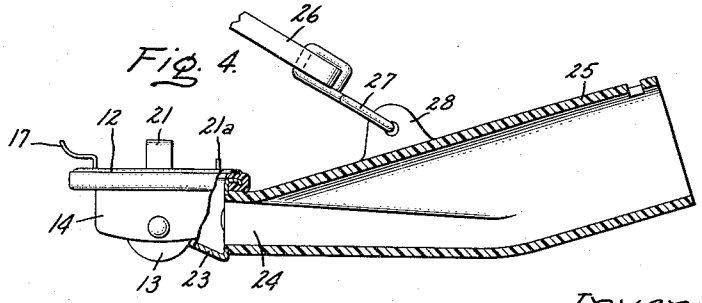


Fig. 4.

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ATTACHMENT ADAPTER FOR UPRIGHT VACUUM CLEANER

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5 Claims. (Cl. 15—338)

This invention relates to vacuum cleaners, and more particularly to an attachment adapter for cleaners of the upright type which permits a flexible hose provided with a cleaning tool to be connected to the suction mouth of the cleaner so that it may be used for cleaning upholstery and the like.

The general object of this invention is to provide an attachment adapter for upright cleaners having improved means for securing it to the cleaner and also for retaining the handle of the cleaner in an upright position during off-the-floor cleaning operations.

Further objects and advantages of the invention will become apparent as the following description proceeds, and the features of novelty which characterize the invention will be pointed out with particularity in the claims appended to and forming a part of this specification.

Briefly stated, the attachment adapter of my invention is intended for use with upright vacuum cleaners of the type having a suction nozzle normally overlying a floor surface in close proximity thereto, and a handle at the rear of and pivotally mounted with respect to the suction nozzle for movement between a rearwardly extending position and an upright position. In accordance with one aspect of the invention, the attachment comprises a cover plate arranged to cover the mouth of the suction nozzle, latching means on the cover plate for securing it to the nozzle, and a suction chamber provided with a forwardly extending conduit associated with the cover plate so as to be in communication with the nozzle. A resilient strap connected to the adapter adjacent the conduit is arranged to engage the upright handle so that the attachment adapter may be secured to the suction nozzle and the upright handle may be held in fixed relation thereto.

For a better understanding of the invention reference may be made to the following description and the accompanying drawings in which:

FIG. 1 is a fragmentary side elevation view of a vacuum cleaner equipped with the attachment adapter of the present invention, some of the parts being broken away to show details of construction;

FIG. 2 is a top plan view of the adapter shown in FIG. 1, some of the parts being broken away;

FIG. 3 is a rear elevation view of the adapter, some of the parts being broken away; and

FIG. 4 is a fragmentary side elevation view of the adapter, with some of the parts broken away.

Referring to the drawings, there is illustrated in FIG. 1 a vacuum cleaner of the upright type including a nozzle casing 1 of generally rectangular configuration as viewed from above, a frame shroud 2, a motor housing 3 pivotally secured to nozzle casing 1, a main wheel 4 encircling the motor housing, a pair of forward wheels 5 secured to nozzle casing 1, a handle 6 secured in fixed relation to frame shroud 2, and a dust bag enclosure 7. Nozzle casing 1 includes a suction nozzle mouth in the bottom wall thereof which is defined by front and rear edge portions 8 and 9, and is generally rectangular in shape. Such a vacuum cleaner is disclosed in application Serial No. 858,103, filed December 8, 1959, by Robert M. Smith and assigned to the assignee of the present application, to which reference may be made for further details of construction. However, for the purposes of describing the present invention it is sufficient to point out that it is adapted for use with vacuum cleaners of various types

including a suction nozzle ordinarily supported in close proximity to a floor surface and a handle movable between a rearwardly extending position and a generally upright position in which further forward movement thereof is limited by suitable stop means.

Referring to FIG. 2, attachment adapter 10 includes a generally rectangular cover plate 11 made of sheet metal arranged to be supported on the bottom wall of suction nozzle 1 so as to cover the suction mouth thereof defined by edges 8 and 9 and be sealed in air-tight relation therewith by means of a peripheral gasket 12. A pair of wheels 13 are mounted on the bottom of cover plate 11 by means of U-shaped brackets 14 so that when the adapter is in place the vacuum cleaner may be rolled about from place to place. Cover plate 11 is secured to the suction mouth of nozzle 1 by means of a plurality of sheet metal latching fingers 15, 16 and 17 extending from the rear edge of the cover plate and spaced therefrom so as to engage the rear edge 9 of the suction mouth, as illustrated in FIG. 1. Finger 15 is formed integrally with a sheet metal plate 18 which also includes locator tabs 19 and 19*a* positioned parallel to the side and front edges of cover plate 11 and arranged to center the cover plate in the suction mouth opening by contacting the adjacent edges of the opening. Finger 17 is similarly integrally formed with a sheet metal member 20 and locator tabs 21 and 21*a*.

Formed integrally with cover plate 11 is a downwardly extending wall member 22 having an opening in the front portion thereof which, together with bottom wall 23, forwardly extending wall portions 24 and tubular conduit 25 form a suction chamber in communication with the interior of suction nozzle 1. Wall portions 24 and conduit 25 are made of a suitable molded plastic material and form an integral part which is riveted to the front portion of wall 22. Conduit 25 is, of course, adapted to be secured in air-tight relation to a flexible hose member provided at its end with a cleaning tool useful in off-the-floor cleaning operations.

In accordance with my invention, attachment adapter 10 is secured in place on suction nozzle 1 in the position shown in FIG. 1 by means of a resilient strap 26 connected at one end to the forward portion of the attachment adapter and removably engageable at its other end with upright handle 6. Strap 26, which may be made of rubber, for example, is provided at one end with a hook 27 connected in pivotal relation to an eye portion 28 molded as an integral part of attachment adapter 10. It will be observed that eye portion 28 is located between the forward edge of cover plate 11 and the end of conduit 25 so that when strap 26 is connected to handle 6 as shown in FIG. 1, it extends in substantially a straight line and applies a sufficient upward component of force to retain attachment adapter 10 in position in the suction nozzle opening. The end of strap 26 remote from adapter 10 is provided with a suitable releasable fastener, such as wire hook 29 shaped so that it may releasably engage upright handle 6. It will be observed that the angular relationship of strap 26 with relation to the handle and nozzle casing 1 is such that a horizontal component of force is applied to the handle so as to hold it against its forward stop and thus retain it in its upright position. Thus, the need for separate latching means for holding handle 6 in its upright position during off-the-floor cleaning operations is eliminated.

In use, attachment adapter 10 is placed in the position shown in FIG. 1 by inserting finger elements 15, 16 and 17 inwardly and toward the rear of the suction nozzle mouth and after it is seated therein strap 26 is connected by means of hook 29 to upright handle 6. Hence, as soon as the attachment adapter is in place, the cleaner is ready for use and handle 6 is secured so that it will not

inadvertently pivot to its rearwardly extending position during off-the-floor cleaning operations. If it is desired to move the cleaner about from place to place during such operations, this can be done by simply pulling on the flexible hose connected to conduit **25** and the cleaner can be rolled on wheels **4** and **13** to the desired location. When it is desired to reconvert the cleaner for floor cleaning operations, it is merely necessary to remove hook **29** from handle **6** and pivot attachment adapter **10** away from the suction nozzle mouth so as to separate the parts and permit nozzle casing **1** to drop onto wheels **5** in its normal cleaning position.

While I have illustrated and described a specific embodiment of my invention, I do not desire the invention to be limited to the particular construction disclosed, and I intend by the appended claims to cover all modifications within the true spirit and scope of my invention.

What I claim is:

1. An attachment adapter for upright vacuum cleaners of the type having a suction nozzle normally overlying a floor surface in close proximity thereto and a handle to the rear of and pivotally mounted with respect to the suction nozzle for movement between a rearwardly extending position and an upright position, said attachment adapter comprising a cover plate arranged to cover the mouth of said nozzle, latch means on the rear edge of said cover plate adapted to engage the rear wall portion of the mouth of said nozzle, wall means extending from said cover plate forming a suction chamber in communication with said nozzle, said wall means including a conduit extending forwardly from said cover plate, said conduit being adapted to be secured in air-tight relation to a flexible hose member, a strap connected at one end to said wall means between the forward edge of said cover plate and the end of said conduit, and a releasable fastener on the other end of said strap arranged to engage said handle, whereby said attachment adapter may be secured to said suction nozzle and said handle may be held in fixed relation thereto.

2. An attachment adapter as defined in claim 1 in which said strap when disengaged from said handle is shorter in length than the distance between the points at which it is connected to said wall means and in engagement with said handle when said cover plate is positioned so as to cover the mouth of said nozzle, at least a portion of said strap being resilient so that it is placed in tension when in engagement with said handle.

3. An attachment adapter for upright vacuum cleaners of the type having a suction nozzle normally overlying a floor surface in close proximity thereto and a handle to the rear of and pivotally mounted with respect to the suction nozzle for movement between a rearwardly extending position and an upright position, said attachment adapter comprising a cover plate arranged to cover the mouth of said nozzle, a pair of wheels mounted on the bottom of said cover plate, latch means on the rear edge of said cover plate adapted to engage the rear wall portion of the mouth of said nozzle, wall means extending from said cover plate forming a suction chamber in communication with said nozzle, said wall means including a conduit extending forwardly from said cover plate, said conduit being adapted to be secured in air-tight relation to a flexible hose member, a strap connected at one end to said wall means between the forward edge of said cover plate and the end of said conduit, and a releasable fastener on the other end of said strap arranged to engage said upright handle, said strap when disengaged from said handle being shorter in length than the distance between the points at which it is connected to said wall means and in engagement with said handle, at least a portion of said strap being resilient so that it is placed in tension when in engagement with said handle, whereby said attachment adapter may be secured to said suction nozzle and said handle may be held in fixed relation thereto.

4. An attachment adapter for upright vacuum cleaners of the type having a suction nozzle having a generally rectangular mouth normally overlying a floor surface in close proximity thereto and a handle to the rear of and pivotally mounted with respect to the suction nozzle for movement between a rearwardly extending position and an upright position, said attachment adapter comprising a generally rectangular cover plate arranged to cover the mouth of said nozzle, latch means on said cover plate adapted to secure the cover plate to the mouth of said nozzle, said latch means including a pair of fingers extending from the rear edge of said cover plate and a pair of locator tabs positioned so as to extend within said mouth adjacent the side edges thereof, wall means extending from said cover plate forming a suction chamber in communication with said nozzle, said wall means including a conduit extending forwardly from said cover plate, said conduit being adapted to be secured in air-tight relation to a flexible hose member, a strap connected at one end to said wall means between the forward edge of said cover and the end of said conduit, and a hook on the other end of said strap arranged to engage said upright handle, whereby said attachment adapter may be secured to said suction nozzle and said upright handle may be held in fixed relation thereto.

5. An attachment as defined in claim 4 in which said strap when disengaged from said handle is shorter in length than the distance between the points at which it is connected to said wall means and in engagement with said handle when said cover plate is positioned so as to cover the mouth of said nozzle, at least a portion of said strap being resilient so that it is placed in tension when in engagement with said handle.

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