Nov. 28, 1933. J. H. IGO 1,936,839

TILTING DEVICE FOR VACUUM CLEANERS

Filed March 10, 1933

Fig. 1

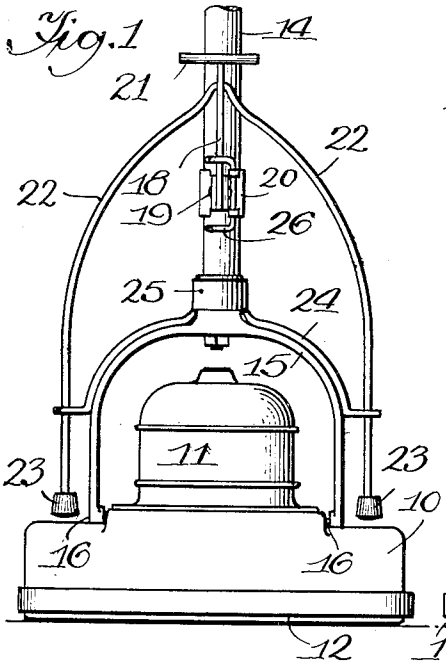


Fig. 2

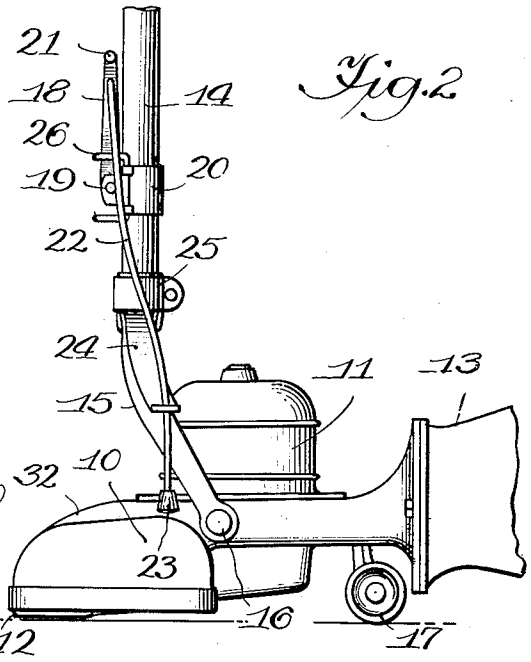


Fig. 4

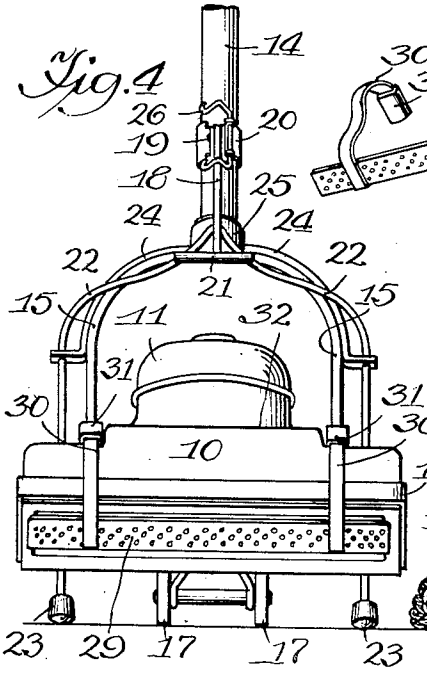


Fig. 5

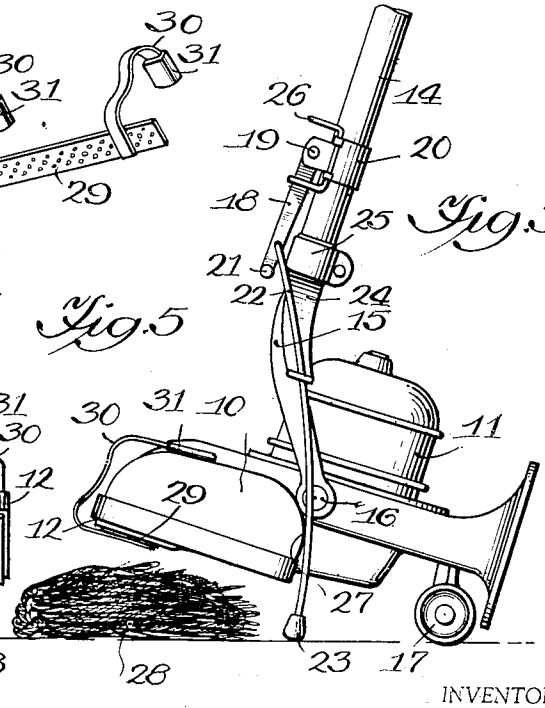


Fig. 3

INVENTOR.

Joseph H. Igo,

BY

Georga Bayard Jones,

ATTORNEY.

Witness:

Chas. L. Kourek.

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TILTING DEVICE FOR VACUUM CLEANERS

Joseph H. Igo, Harvey, Ill.

Application March 10, 1933. Serial No. 660,243

8 Claims. (Cl. 15—257)

This invention relates to improvements in vacuum cleaners and more particularly to means for lifting or tilting the same and holding the suction inlet thereof in elevated position so that a mop may be thrust under said suction inlet and cleaned by drawing off the dirt into the vacuum cleaner bag.

At present the common practice is to shake a mop out of the window or strike it against the railing of a porch, which procedure is very unsanitary and objectionable, particularly in apartment houses.

The present invention makes it posssible to clean mops in a sanitary manner and more thoroughly than by shaking them in the open and this constitutes the main object of said invention.

Further objects of the invention are; to provide means in the form of an attachment for tilting a vacuum cleaner, which may be applied to any standard type of cleaner; to provide elevating means which are normally held in uppermost position so as not to interfere with the normal use of the cleaner but which may be swung downwardly to form supporting legs for the vacuum cleaner in conjunction with the wheels which constitute part of the usual equipment; to provide a device of this character which is comparatively small and compact and which does not project beyond the limits of width of the cleaner itself.

Other objects and advantages will be apparent from a consideration of the following description and of the accompanying drawing in which one embodiment of the invention is illustrated in the drawing.

Fig. 1 is a front view of a commercial form of vacuum cleaner with the structure of my invention incorporated therewith;

Fig. 2 is a side elevation thereof;

Fig. 3 is a similar side elevation showing the vacuum cleaner tilted and the head of a mop beneath it;

Fig. 4 is a front view thereof; and

Fig. 5 is a perspective view of a guard.

The vacuum cleaner illustrated may be any commercial device or otherwise. The one shown has a housing 10 constituting the widest part of the device with the usual motor housing 11 somewhat to the rear of it and having a transverse opening 12 across the bottom constituting the well known suction inlet, within which a rotatable cylindrical brush (not shown) is located. The dust bag 13 is attached to the rear of the structure. The handle 14 has the usual yoke or bail 15 at its lower end which is pivoted to the structure at 16. A pair of wheels 17 are located toward the rear of the device so that it may be readily pushed back and forth over the floor by means of the handle, held in inclined position, in the usual manner.

The improvement constituting the present invention is illustrated in the form of an attachment which may be applied to any commercial form of vacuum cleaner, although it may constitute a permanent part of the equipment when initially assembled, by incorporating its essential features with the vacuum cleaner during the manufacture thereof. Its purpose is to tilt the cleaner on its wheels 17, raising the suction end sufficiently so that the head of a mop may conveniently be placed beneath the same. This may be accomplished by means of a lever 18 pivoted at 19 to a strap 20 clamped around the handle 14, as shown in Fig. 2, in which said handle or shaft 14 is in vertical position. The lever 18 has a hand grip or handle 21 at its upper end which may be swung downwardly to the position shown in Fig. 3 at the same time that the cleaner as a whole is elevated by an upward pull on the shaft or handle 14.

A substantially U shaped frame or bail 22, which, in the form illustrated, may be bent from a metal wire or resilient rod of suitable gauge, passes through an opening in the lever 18 and has suitable enlargements or feet 23 at its lower end which may be made of rubber. As shown in Fig. 1, the wire at the upper part of said bail is bent inwardly somewhat to prevent lateral movement of the bail with reference to the lever 18. The two lower arms of the bail pass through openings in a bracket 24, also clamped to the handle or shaft 14 by means of a strap 25. A suitable locking or latching device for holding the lever 18 in lowermost position is preferably mounted on the upper of the two bands and may have the form of a wire 26, secured to said band and arranged to swing about an axis parallel to the handle and having its ends bent over to form hooks and engage the lever 18 when the latter is either in upper or lower position to positively lock the same in place.

It will be noted, by comparing Figs. 2 and 3 that the rubber feet 23 at the lower end of the legs 22 are normally slightly above the housing 10 and said legs are curved and supported in such a way that when the lever 18 is swung downwardly, the rubber feet 23 as viewed in Fig. 2, move to the right and then downwardly, thus clearing the right hand side of the housing 10

until said lever is almost in lowermost position, at which time the legs press against the housing 10 at the point 27, and as said lever is pressed to final position, said legs are held against said housing with a spring pressure, thus steadying the device. In this position, which is shown in Fig. 3, the center of gravity is between the line connecting the wheels 17 and the line connecting the rubber feet 23, and the front or left hand end of the vacuum cleaner is raised considerably above the floor, whereby the head 28 of a mop may be thrust beneath the suction inlet and moved slightly or shaken, to facilitate the withdrawal of dust therefrom by the vacuum cleaner, the motor of which may be assumed to be operating.

After the mop is cleaned, the lever 18 is swung back to the normal position, as shown in Fig. 1, with the rubber feet clearing the housing 10, in which position the shaft or handle 14 may be swung back and forth to use it in any desired position. Thus the attachment does not interfere with the normal manipulation of the vacuum cleaner.

In order to prevent foreign objects, such as pins and the like from being drawn into the vacuum cleaner from the mop, it is desirable to provide, as a further attachment, a perforated plate 29 which may be fitted over the suction nozzle by means of arms 30, which may be of spring metal with rubber coverings 31 at the end thereof. As shown in Figs. 3 and 4, this perforated guard plate may readily be slipped over the vacuum cleaner prior to using it to clean a mop, the spring arms being spaced apart sufficiently, as shown in Fig. 4, to clear the central enlargement 32 formed on the housing of this particular type of vacuum cleaner, and thus prevent lateral displacement of said perforated plate.

As previously pointed out, the device need not be made in the form of an attachment, as it may constitute a structural part of a vacuum cleaner as initially manufactured. Also, the invention obviously is not limited in its use to the cleaning of mops as distinguished from such uses as cleaning dust cloths, removing the contents of dust pans, etc., or cleaning any other object placed beneath the suction nozzle.

I claim:

1. In a vacuum cleaner, the combination of a housing having a yoke pivoted thereto, a handle mounted on said yoke, a lever, one end of which is pivotally attached to said handle, legs pivotally connected at the upper end thereof with said lever, guides projecting from said yoke through which said legs pass and a latch on said handle, below said lever, to engage and hold the latter.

2. In a vacuum cleaner having a housing with a wheel to support part of its weight when in normal operating position, the combination of a handle on said housing, two interconnected supports movable in relation to said handle, guides projecting from said handle adjacent said supports and cooperating therewith, means for moving said supports in relation to said handle and means for locking said supports in operative position.

3. The combination with a vacuum cleaner of an attachment therefor comprising a clamp surrounding the vacuum cleaner handle, a link pivoted thereto to swing from upper to lower position, a yoke also attached to said handle and having openings therein, legs pivotally secured to said lever, passing through said yoke and normally clearing the floor when said link is in upper position, whereby the lower ends of said legs may be pressed downwardly against the floor when said lever is swung about its pivot, said legs being long enough to lift said vacuum cleaner and means for holding said parts in the latter position.

4. The combination with a vacuum cleaner having a handle with a pair of clamps surrounding the same one above the other, a lever pivoted to the upper of said clamps, a locking device on said upper clamp to be engaged by said lever when swung about its pivot, diverging members carried by said lower clamp having openings therein, a wire bail passing through an opening in said lever and through said last mentioned openings and anti-friction pads at the lower ends of said bail, said bail serving as a lifting device when moved downwardly by said lever.

5. A vacuum cleaner comprising a housing with a motor mounted near the central portion thereof, a dust bag at the rear thereof and a transverse chamber at the front thereof comprising the portion of maximum width and having a suction inlet in the bottom thereof, a yoke pivoted to said housing, a handle extending therefrom, a lifting attachment fastened to said handle, said attachment comprising lifting legs spaced apart a distance less than the width of said front chamber and normally positioned above the same and means for swinging said legs rearwardly and downwardly to clear said chamber and engage the floor to the rear thereof to tilt the front portion of said vacuum cleaner upwardly.

6. A vacuum cleaner comprising a housing with a motor mounted near the central portion thereof, a dust bag at the rear thereof and a transverse chamber at the front thereof comprising the portion of maximum width and having a suction inlet in the bottom thereof, a yoke pivoted to said housing, a handle extending therefrom, a lifting attachment secured to said handle, said attachment comprising resilient lifting legs spaced apart a distance less than the width of said front chamber and normally positioned above the same and means for swinging said legs rearwardly and downwardly to clear said chamber and engage the floor to the rear thereof to tilt the front portion of said vacuum cleaner upwardly, said resilient legs, when in supporting position, being pressed against the wall of said chamber, to steady said housing.

7. The combination with a vacuum cleaner, having rear wheels and a suction inlet near the front, of an attachment for tilting said cleaner about said wheels and an attachment comprising a perforated plate fitted over said inlet.

8. The combination with a vacuum cleaner, having a handle with a pair of clamps surrounding the same, of a lever pivoted to one of said clamps, a locking device supported on said clamp and movable to lock said lever in either of two extreme positions, a bracket carried by the other clamp and having openings therein, and a wire bail passing through said openings and secured to said lever whereby the lower ends of said bail may be moved up and down when said lever is swung about its pivot, to raise said vacuum cleaner by engaging the floor and also to permit it to lower.

JOSEPH H. IGO.