Aug. 22, 1939. J. P. GIBBONS 2,170,528

VACUUM MOP CLEANER

Filed Oct. 15, 1938

Fig. 1

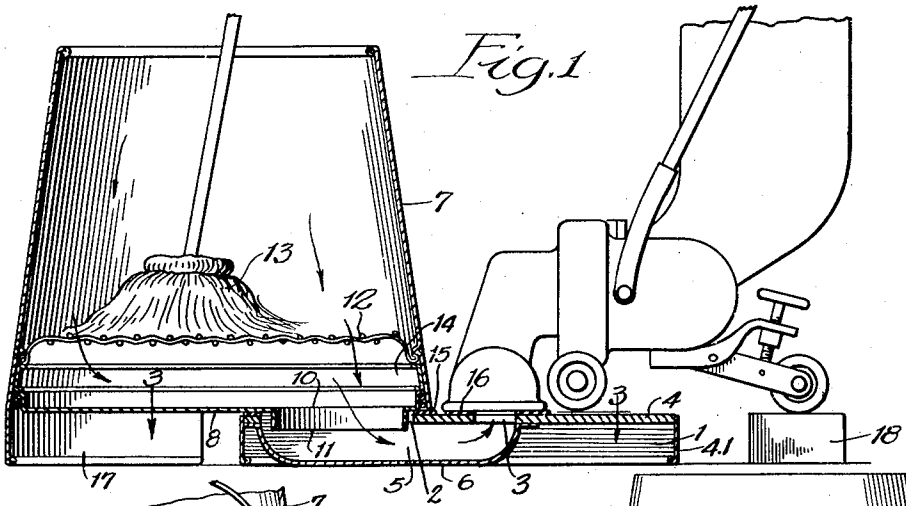



Fig. 4

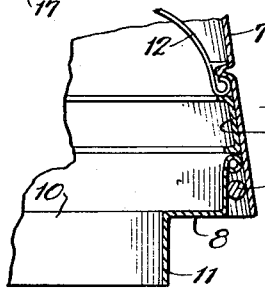



Fig. 2

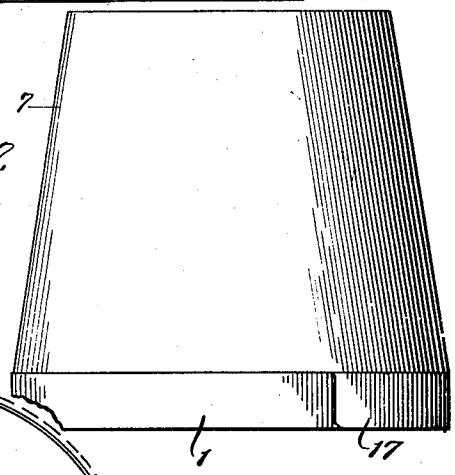
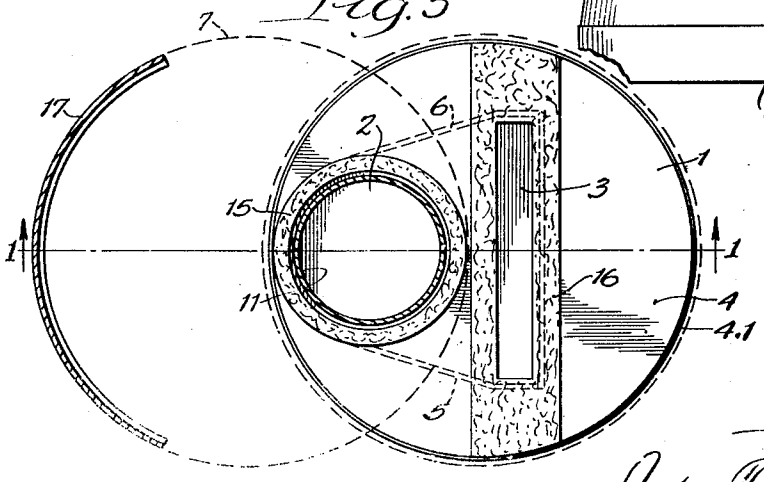



Fig. 3




Inventor:
John P. Gibbons,
By Kummler, Kummler & Woodworth
Attorneys.

Witness:
D. I. Dekel

Patented Aug. 22, 1939 2,170,528

# UNITED STATES PATENT OFFICE

2,170,528

## VACUUM MOP CLEANER

John P. Gibbons, Chicago, Ill.

Application October 15, 1938, Serial No. 235,236

8 Claims. (Cl. 15—142)

This invention relates to vacuum operated dust extracting devices, and particularly to such devices for cleaning dry mops, dust cloths, or the like.

The main objects of this invention are to provide an improved vacuum operated dry mop cleaner; to provide such a device of simplified construction and increased utility; to provide such a device that will readily cleanse or extract accumulated dust and loose dirt from dry dust mops and dust cloths without danger of dust particles contaminating the atmosphere; to provide such a device to which the usual domestic vacuum cleaner may be more readily applied to provide the vacuum power; and to provide such a device that will have other utility when not in use as a dry mop cleaner.

A specific embodiment of this invention is shown in the accompanying drawing, in which

Figure 1 is a sectional view in elevation showing the improved cleaner and its manner of operation.

Fig. 2 is a side view of the cleaner showing the compact assembly of the same when not in use as the dry mop cleaner.

Fig. 3 is a sectional view as taken on line 3—3 of Fig. 1, showing the construction of the top surface of the base member, and

Fig. 4 is an enlarged detailed view in vertical section showing the construction of the lower end of the dust extractor body.

In the form shown in the drawing, my improved dry mop cleaner comprises a hollow, substantially cylindrical upstanding body resting upon a separable annular base 1 having a substantially flat upper surface in which a pair of apertures 2 and 3 are provided. The base 1 may be of any suitable construction, and as shown comprises a solid top plate 4 having secured thereto a marginal depending side wall or collar 4.1 which spaces the top plate 4 from the floor or surface upon which the base stands. In the form shown the apertures 2 and 3 are spaced somewhat from each other, the aperture 2 being annular and the aperture 3 being elongated and rectangular, and a closed conduit 5 connecting the apertures 2 and 3 on the underside of the top plate 4 is provided by means of a dished cover member 6, which fits against the bottom surface of the top plate 4 and within the space provided by the depending marginal collar 4.1 aforesaid.

As shown, the body portion of the improved cleaner comprises a hollow, substantially cylindrical shell 7 open at its top end, and having its bottom end arranged to fit and cover the top surface of the base 1, as shown in Fig. 2. The bottom or lower end of the shell 7 is provided with a closure plate 8 arranged to be fitted into the shell and held by means of a spring locking ring 9, this closure member being provided with an outlet 10 which is defined by a depending annular collar or flange 11 arranged to fit into the opening 2 in the base member, as will be hereafter described.

A heavy woven wire screen 12 or other suitable device is mounted within the shell 7 to provide a means against which a dry dust mop 13 may be thrashed for cleaning purposes, and as shown, this screen or thrashing means 12 is spaced somewhat above the closure plate 8 and adjacent the bottom of the shell 7. As shown, the screen or thrashing means 12 is arranged so that its margin will fit closely against the side wall of the shell 7 when in proper position within the same, and is held in spaced relation with the closure 8 by means of a removable spacing ring 14. Thus, ample space between the thrashing means 12 and the bottom closure 8 will be provided for the passage of dust-carrying air currents, the approximate path of which is indicated by the arrows in Fig. 1.

As shown, the lower end of the body or shell 7 has substantially the same transverse area as the base 1, so that the two portions of the device may be set squarely one on top of the other when the device is not in use for cleaning purposes, and the outlet 10 of the body bottom closure and the aperture 2 in the base are located with respect to the axes of the respective body and base members so as to be in alignment and registry when the body member is set squarely on top of the base member. Thus, to arrange the base and body portions of the device for use as a cleaner it is only necessary to swing the body 7 about the natural axis of the registering apertures 10 and 2 to the position shown in Figs. 1 and 3, whereby the elongated aperture 3 in the base member is uncovered.

The aperture 3 of the base member is arranged to fit the nozzle of a vacuum device, such as the usual household or domestic vacuum cleaner, as shown in Fig. 1, and when a vacuum device nozzle is registered with the aperture 3 of the base, suction created by the vacuum device will cause air to pass through the hollow body 7 and the outlet 10 thereof into the conduit 5 in the base member and thence into the vacuum cleaner through the nozzle thereof by way of the aperture 3.

As shown in Figs. 1 and 3, it is preferable to

provide gaskets 15 and 16, or other suitable sealing means, around the margins of the apertures 2 and 3 in the top of the base member in order to assure a tight fit between the body 7 and the base member 1 when in operative relation and between the nozzle of the vacuum device and the top surface of the base 1. These gaskets may be of any suitable material, such as cork, rubber, felt or the like.

Also, as shown in Fig. 1, it is preferable that the body portion of the cleaner be provided with means on the side opposite the side nearest which the outlet 10 is located to support the outboard side of the body from the floor when the same is in operative position on the base 1, and such support may be either a depending leg or a depending marginal flange portion 17, as shown in Figs. 1 and 3, which support will be of the same depth as the thickness of the base 1.

In operation of the improved cleaner, the body portion is first swingably shifted relative to the base, so as to uncover the aperture 3 and permit the setting and adjustment of the nozzle of a vacuum device thereover and then, after the vacuum device has been started to create a suction or air movement through the body 7, the dust mop 13 or dust cloth or other article desired to be cleaned is inserted into the body through the top end thereof, and thrashed against the screen or thrashing means 12. The downward movement of air from the open top of the body toward the outlet 10 will carry any dust or dirt freed from the dust mop, dust cloth, or the like during thrashing of the same, downwardly into the conduit 5, and thence to the vacuum device nozzle and will effectively prevent any dust from floating upwardly out of the body 7 where it would contaminate the atmosphere in the room or space in which the cleaner is being used.

When used in conjunction with the usual domestic vacuum cleaner, as shown in Fig. 1, a separate support block 18 is provided to support the rear end of the vacuum cleaner on a level with the surface of the base 1. This block may be set into the registering openings 10 and 2 for storage when the cleaner is not in use as such.

When not in operation as a dust extractor for dust mops and the like, the body portion of the cleaner is shifted on the base 1 about the axis of the aperture 2 thereof, until the bottom portion of the body is in registry with the top surface of the base 1. In such position the supporting flange or leg 17 of the body portion will lie flatly against the side wall of the base 1 and the cleaner as thus assembled will have the appearance of an ordinary wastebasket for which use the cleaner may then function, thereby providing an article having utility at all times.

The principal advantages of my invention reside in the simplicity of the construction of the device and its low manufacturing cost, as well as in its dual-purpose utility. When it is to be used as a dry mop cleaner, my improved device can be more readily and quickly put into operation than other devices heretofore known for a similar purpose, and the cleaning operation can be more readily carried out, since the article to be cleaned is merely inserted through the open top of the device and thrashed against the thrashing surface located adjacent the bottom thereof.

When not in use as a cleaner, the device, when assembled as shown in Fig. 2, may be utilized as a wastebasket or receptacle and thus find utility at all times, obviating the necessity of finding storage space for an article that is only occasionally used. Other advantages in my improved construction reside in the arrangement of a removable bottom closure and thrashing element, whereby the bodies may be telescopingly stacked to conserve space during quantity storage of shipment.

Although but one specific embodiment of this invention is herein shown and described, it is to be understood that details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:

1. A device of the class described comprising a hollow upstanding body having a top opening, a bottom closure having an outlet opening therein, and a base disposed beneath said body and having a top surface substantially covered thereby, said base having a pair of spaced openings in its top surface which communicate with each other below said surface, and said body being shiftable relative to said base to provide exposure of one of the openings in the top surface thereof while the other of said openings is in alignment with the outlet opening of said bottom closure.

2. A device of the class described comprising a hollow upstanding body having a top opening, a bottom closure having an outlet opening therein, thrashing means within and adjacent the bottom of said body, and a base disposed beneath said body and having a top surface substantially covered thereby, said base having a pair of spaced openings in its top surface which communicate with each other below said surface, and said body being shiftable laterally relative to said base to provide exposure of one of the openings in the top surface thereof while the other of said openings is in alignment with the outlet opening of said bottom closure.

3. A device of the class described comprising a hollow upstanding body having a top opening, a bottom closure having an outlet opening therein, and a separate base disposed beneath said body and having a top surface substantially covered thereby, said base having a pair of spaced openings in its top surface normally covered by said body which communicate with each other below said surface, and said body being shiftable laterally with respect to said base to a position wherein one of said openings in said base is uncovered while the other of said openings is in communication with the outlet opening of said bottom closure.

4. A device of the class described comprising a hollow upstanding body member having a top opening, a bottom closure having an eccentrically located opening therein, and a base member disposed beneath said body and having a top surface substantially covered by the bottom of said body, said base member having a pair of openings in its top surface communicating with each other below said surface and one of which is aligned with the opening in said bottom closure, and said body being shiftable angularly relative to said base and substantially on the axis of said aligned openings to uncover the other of said base openings.

5. A device of the class described comprising a hollow upstanding body having a top opening, a bottom closure having an eccentrically located opening therethrough, a base disposed beneath said body and having a top surface substantially covered by the bottom of said body, said base having a pair of openings in its top surface one of which is aligned with the opening in said bot-

tom closure, means providing a closed conduit connecting said base openings below the top surface thereof, and said body being shiftable relative to said base to uncover the other opening in the top surface thereof and maintain said aligned openings in mutual registry.

6. A device of the class described comprising a vertical hollow body having an open top and a bottom closure provided with an eccentrically located outlet opening, and a separate base having a top surface formed to fit and be normally covered by the bottom of said body, said base having a pair of spaced openings in its top surface and means connecting said openings below said top surface, and one of said base openings being aligned with the outlet opening of said bottom closure whereby said body may be shifted angularly on the common axis of the aligned openings to expose the other of said base openings.

7. A device of the class described comprising a hollow substantially cylindrical vertical body having an open top and a bottom closure provided with an eccentrically located circular outlet, and a flat cylindrical base disposed directly beneath said body and having a top surface of substantially the same area as the bottom of said body, said base having a pair of spaced openings in its top surface and means connecting said openings below said surface, and one of said base openings being concentric with the outlet opening of said bottom closure whereby said body may be shifted angularly on the common axis of said concentric openings to expose the other of said base openings.

8. A device of the class described comprising a vertical substantially cylindrical body shell having an open top and a bottom closure provided with an eccentrically located circular outlet, an annular depending collar surrounding said outlet opening, thrashing means disposed within said body adjacent the bottom thereof, and a flat cylindrical base disposed coaxially beneath said body shell and having a top surface of substantially the same area as the bottom of said body shell, said base having an annular opening in its top surface disposed in alignment with said bottom outlet and formed to receive said collar and an elongated opening in said surface spaced from said annular opening, and said base having conduit means connecting said annular and elongated openings beneath the surface thereof, all arranged whereby said body may be shifted angularly relative to said base on the axis of said aligned openings to expose said elongated opening.

JOHN P. GIBBONS.