Feb. 16, 1926. 1,573,467

E. W. WIEHLE

HANDLE FOR VACUUM CLEANERS AND THE LIKE

Filed Sept. 19, 1923

Fig. 4.

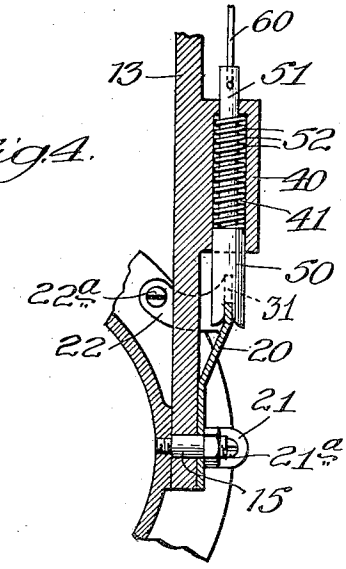


Fig. 1.

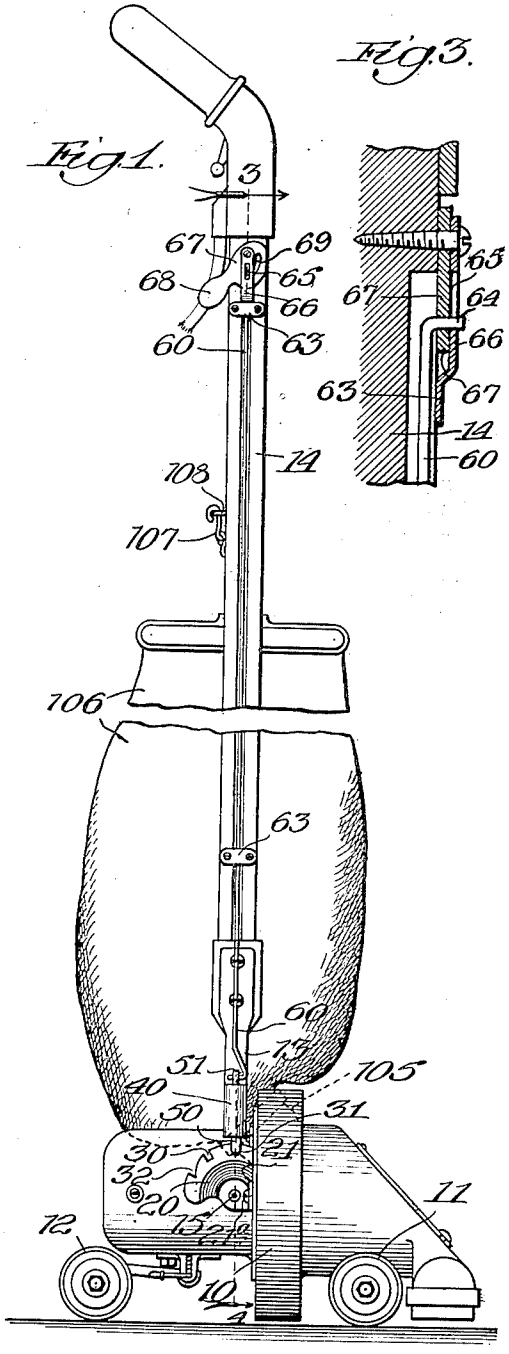
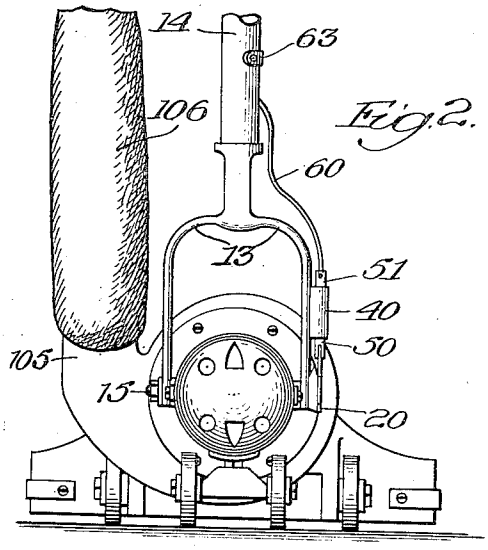


Fig. 3.

Fig. 2.



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Patented Feb. 16, 1926. 1,573,467

UNITED STATES PATENT OFFICE.

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HANDLE FOR VACUUM CLEANERS AND THE LIKE.

Application filed September 19, 1923. Serial No. 663,583.

To all whom it may concern:

Be it known that I, EDWARD W. WIEHLE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Handles for Vacuum Cleaners and the like, of which the following is a specification.

This invention relates to improvements in an improved handle adjusting mechanism for vacuum cleaners and the like. By means of the improved handle adjusting mechanism the handle may readily be placed in any one of several different positions and automatically retained in such position, thereby removing the weight of such handle from the operator while the machine is in use. By the use of the improved adjustable handle it is also possible to place the handle in an upright position and have the same automatically held in such position so that when the machine is put away, out of use, the handle will remain upright, out of the way and easily accessible.

By the use of my invention it is also possible to place the handle of the cleaner at an angle of substantially 45° and have the same remain there without attention from the operator. This is especially desirable in using cleaning attachments, such as brushes and the like, which are attached to the cleaner by a long flexible hose and operated manually for cleaning upholstered furniture, walls, curtains and the like. When using such attachments, the operator works with the same, sometimes at some distance from the cleaner. When thus using these attachments, the cleaner remains on the floor with the motor running to furnish the proper suction. When thus operating, it it a distinct advantage to have the handle of the cleaner supported at an angle of substantially 45°, because in this position, the dust separating bag of the cleaner, the upper end of which is supported by the handle, is held in such a position that its inlet is entirely unrestricted. In a cleaner without any mechanical means for so supporting the handle at an angle of substantially 45°, when using the attachments at a little distance from the cleaner, where the operator can not manually support the handle, it is necessary to allow the handle to rest on the floor or else support it in an upright position. In each of such positions, however, the inlet of the dust separating bag is restricted to a certain extent thus impairing the efficiency of the cleaner. Another advantage of thus supporting the handle at an angle of substantially 45° when using the cleaner attachments is the fact that this position of the handle places the electric operating switch in a most accessible position to the operator. In using the cleaning attachments the operator may assume various positions ranging from a crouching position on the floor to an extended one to reach an object at some height. With the handle of the cleaner at an angle of 45° the electric switch is supported in such a position that it may readily be reached by the operator when crouching on the floor or standing upright. If the handle were allowed to rest on the floor it would be necessary for the operator to reach down to the floor each time that he wanted to operate the electric switch.

Other features and advantages of my invention will appear more fully as I proceed with my specification.

In that form of device embodying the features of my invention shown in the accompanying drawing,

Figure 1 is a view in side elevation showing a vacuum cleaner with a pivoted handle having my improved handle adjusting mechanism.

Fig. 2 is a similar view of the lower part thereof in rear elevation,

Fig. 3 is a view taken as indicated by the line 3 of Fig. 1, and

Fig. 4 is a view taken as indicated by the line 4 of Fig. 1.

As shown in the drawings, 10 indicates, in general, a machine or device adapted for floor use, and as here shown is a vacuum cleaner of an ordinary type, supported on the two forward rollers 11 and the two rear

rollers 12, 12. Pivotally mounted on the vacuum cleaner, in the usual manner, by means of the bail 13, is a handle 14, the lower ends of the bail 13 being pivoted at 15.

My improved handle adjusting mechanism comprises a segment 20 mounted on the vacuum cleaner. As here shown, such segment is provided with a hole, through which one of the pivot pins 15 extends (see Fig. 4). This segment 20 is further provided with two tongues 21 and 22 respectively, fastened to a part of the casing of the cleaner by means of machine screws 21ª and 22ª, respectively, in order to hold the segment 20 firmly in place. The segment 20 is provided with any desired number of notches, in accordance with the number of desired positions for the handle. I have here shown three such notches, two being rectangular, as indicated by 30 and 31, and the other, indicated by 32, having one of its sides beveled. Mounted on one arm of the bail 13 above the segment 20, in any suitable manner (here shown integrally formed therewith) is a cylindrically shaped casing 40, provided with a cylindrical, vertical bore 41. Adapted to ride on the surface of the segment 20 and engage the notches therein, is a detent 50 provided on its upper end with a rod 51, extending upwardly through the bore 41 (see Fig. 4). Surrounding the rod 51 and lying within the bore 41, is a spiral spring 52 adapted to yieldingly hold the detent 50 in engagement with the segment 20 and tend to force the same into engagement with the notches therein. It will be seen, that by this construction, the handle will be automatically held in certain positions, depending upon the notch in the segment 20 with which the detent 50 is engaged. For example (as shown in Fig. 1), when the detent 50 is engaged with the notch 31, the handle 13 will be held in an upright position.

The following means are provided for disengaging the detent 50 from the notches in the segment 20. Attached to the upper end of the rod 51, is a smaller rod 60, extending substantially the entire length of the handle 13 and lying in a groove therein. This rod is adapted for sliding movement in said groove and is held in position by a series of straps, such as 63. The upper end of the rod 60 is bent outwardly at right angles, as indicated by 64, and has its end adapted for vertical sliding movement in a slot 65 in a plate 66. Lying behind the plate 66 is a pivoted member 67, adapted to be operated by the handle 68. This pivoted member 67 is provided with a slot 69, through which the end 64 of the rod 60 passes. The slot 69 is so formed that upward movement of the lever 68 serves to pull up the rod 60, and disengage the detent 50 from the notches in the segment 20. The slot 69 is so arranged that when the lever 68 is pulled all the way up, the detent 50 will be automatically held out of engagement against the pressure of the spring 52. A slight downward movement of the lever 68, however, permits the spring 52 to act; and this spring forces the detent downwardly into engagement with the segment 20 and in one of the notches with which it might register. It will be noted that the notch 32, having one side beveled, permits the handle to be raised, so that the detent 50 will ride out of this notch, without requiring use of the handle 68, to disengaged the same therefrom.

The discharge opening of the cleaner is indicated by 105 and has attached to it the bag 106, which serves to collect the dust. The upper end of the dust bag 106 is supported by attachment to the handle as indicated by the chain 107, having its lower end fastened to the end of the bag and its upper end fastened to a screw eye 108 in the handle 14. It will be noted that the discharge outlet 105 is directed backwardly and upwardly at an angle of about 45°. By means of this construction, there will be no constriction of the neck of the bag when the handle is in the substantially 45° position.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is my intention to claim all novelty inherent in my invention as broadly as possible in view of the prior art.

What I claim as new and desire to secure by Letters Patent, is:

1. In combination with a vacuum cleaner having an operating handle and an element pivoting the handle to the suction housing, a relatively stationary locking segment through which said element passes, the upper portion of said segment being outwardly offset from the handle, tongues extending from said segment and fastened to said housing, a locking detent bifurcated at its lower end straddling and coacting with said segment, a casing offset on said handle in which said detent slides, and means on the upper end of the handle to actuate said detent.

2. In combination with a vacuum cleaner having an operating handle and an element pivoting the handle to the suction housing, a relatively stationary locking segment through which said element passes, the upper portion of said segment being outwardly offset from the handle and provided in its edge with a series of notches, tongues extending

from said segment and fastened to said housing, a locking detent bifurcated at its lower end straddling and cooperating with said segment, a casing offset on said handle in which said detent slides, detent tensioning means mounted in said casing, and means on the upper end of the handle to actuate said detent to cause the same to selectively connect with the edge notches of the segment in the desired angular adjustment of the handle.

In witness whereof, I have hereunto set my hand and seal this 14 day of August 1923.

EDWARD W. WIEHLE. [L. S.]