Dec. 15, 1931. F. WARDELL 1,836,348

DETACHABLE HANDLE CONSTRUCTION FOR VACUUM CLEANERS AND THE LIKE

Filed Nov. 28, 1927

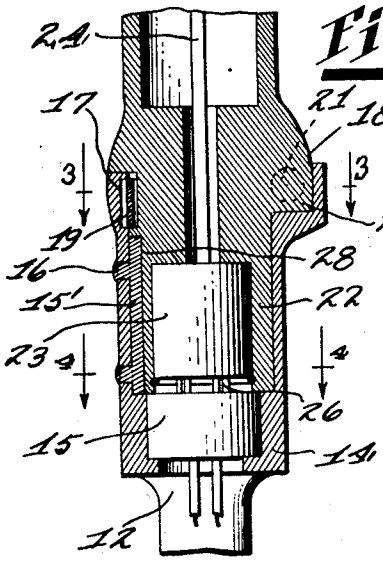


Fig. 2.

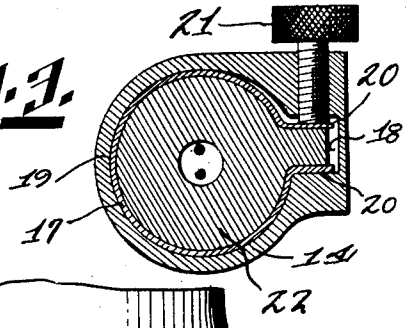


Fig. 3.

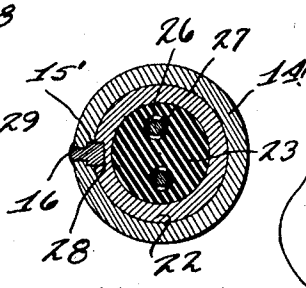
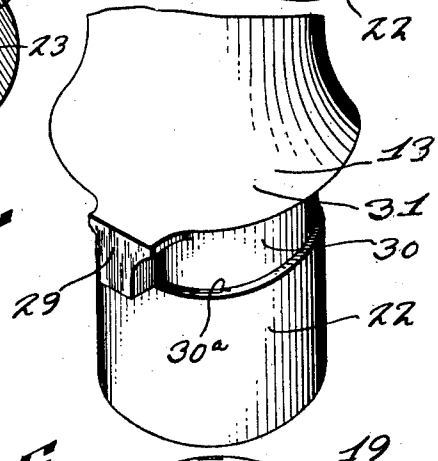


Fig. 4.



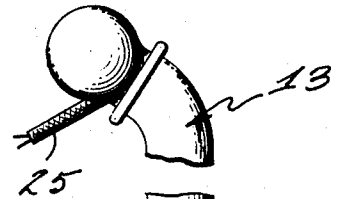
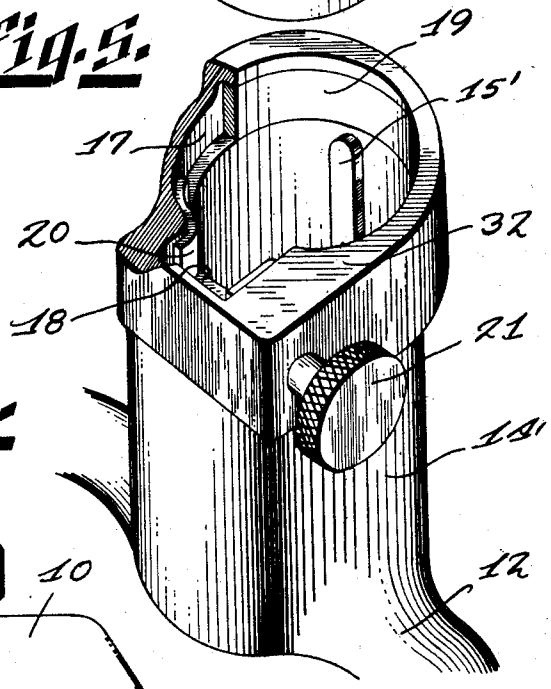


Fig. 5.



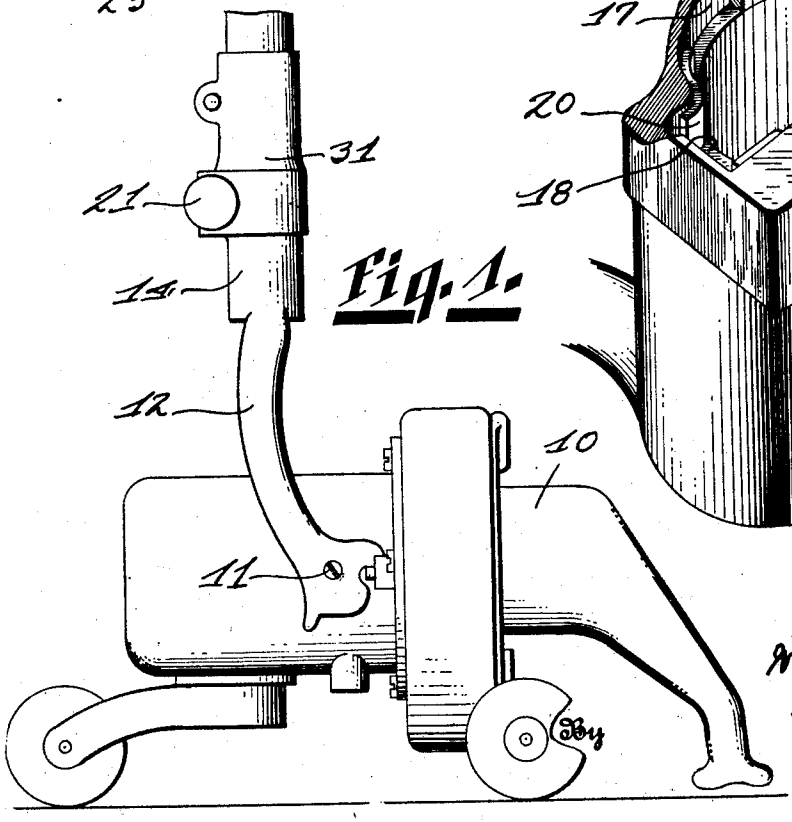


Fig. 1.

Inventor
Fred Wardell
Whittemore Hulbert
Whittemore & Belknap

Attorneys

Patented Dec. 15, 1931 1,836,348

UNITED STATES PATENT OFFICE

FRED WARDELL, OF DETROIT, MICHIGAN, ASSIGNOR TO EUREKA VACUUM CLEANER COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN

DETACHABLE HANDLE CONSTRUCTION FOR VACUUM CLEANERS AND THE LIKE

Application filed November 28, 1927. Serial No. 236,317.

This invention relates to handles for vacuum cleaners and the like and more particularly to a detachable handle construction.

One of the primary objects of this invention is to provide a handle which is readily detachable from the cleaner or other implement whereby the packing of the implements for shipping and the like is facilitated, it being possible to pack the bodies in one package and the handles in another.

Other advantages are also realized with a construction of this character. For instance if the device is to be used for cleaning automobiles only the body or main portion need be transported. Furthermore with the handle detached a socket, connected in the usual manner to the electric lighting circuit, may be connected to the plug carried by the handle part attached to the body of the machine for furnishing current thereto.

The several objects, advantages and novel details of construction of this invention will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawings wherein:

Figure 1 is a side elevational view of a vacuum cleaner with my improved detachable handle associated therewith.

Figure 2 is an enlarged fragmentary sectional view through the joint between the two handle parts.

Figure 3 is a sectional view taken substantially on the plane indicated by line 3—3 in Figure 2.

Figure 4 is a detail sectional view taken substantially on the plane indicated by line 4—4 in Figure 2, and

Figure 5 is a separated perspective view of the two coupling parts.

Referring now particularly to the drawings wherein like reference characters indicate like parts it will be noted that there is illustrated a suction or vacuum cleaner 10 which obviously may be of any desired or improved construction. Pivotally mounted thereto as at 11 is a yoke 12 forming one handle part the other handle part being indicated generally by the reference character 13.

The yoke 12 is formed with a tubular portion 14 within which a plug 15 is arranged. Electrical conductors or wires (not shown) extend from the terminals of plug 15 to the electric motor arranged in the body 10 of the vacuum cleaner.

The tubular portion 14 of handle part 12 is provided with a longitudinally extending rib or key 15 on the inner wall thereof. This key may be formed integrally therewith or separately and secured in place as for instance by means of rivets or the like 16. The open end of the tubular portion 14 is provided with a circumferential groove or recess 17 and with a laterally extending offset recess 18. Located in groove 17 is a clamping member or band 19 formed preferably of spring metal, the ends of this band terminating in angularly extending parallel portions 20 located in the offset recess 18. A set screw 21 extends through a threaded aperture in the wall of the tubular portion 14, the inner end of this set screw engaging one of the ends 20 of the clamping member 19. By properly rotating the set screw the ends 20 of the clamping member may be moved toward one another to reduce the diameter of the clamping member thus moving the same radially inwardly and partially out of the groove or recess 17 for a purpose to be more fully hereinafter referred to. As set screw 21 is backed out the clamping member 19 springs back into a position within the recess 17 by reason of its inherent resiliency.

The other handle part 13 is provided with a portion 22 in which a socket member 23 is located. Electrical conductors or wires 24 connected to this socket may be conveniently extended up through the handle 13 and out therefrom in the form of a cord 25 to the other end of which cord the usual plug (not shown) may be attached for connecting the device to a source of power. The socket 23 is companion to plug 15 so that when detachable handle 13 is connected to the handle part 12 the plug terminals 26 of plug 15 engage the socket terminals 27 of socket 23 to complete the electrical connection between the source of power and the motor of the sweeper.

This portion 22 is adapted to telescope

within tubular portion 14 and in order to insure registration of the plug terminals with the socket terminals the tubular member 22 is formed with a longitudinally extending slot or recess 28 with which key 15 engages and further with a lug 29 adapted to enter recess 18.

The telescoping portion 22 is further formed with a circumferential reduced portion 30 providing a recess or groove and a shoulder 30*a* with which clamping member 19 engages. A collar 31 formed thereon engages the end face 32 of tubular member 14 to limit the telescopic engagement of the two coupling parts.

When the handle part 13 is to be connected to the handle part 12 coupling portion 22 is caused to telescopically engage tubular member 14, the key 15 engaging recess 28 formed in the outer surface of tubular member 22 to insure proper registration of the plug and socket terminals. At the same time lug 29 enters recess 18 and as collar 31 engages the end face 32 of tubular member 14 the further telescopic movement is prevented. If then the set screw 21 is rotated in the proper direction the clamping member 22 may be tightened into engagement with the groove 30 of tubular member 22 and with the side walls of lug 29. During this movement the clamping member moves radially partly out of the recess 17 but not wholly out of this recess and into engagement with shoulder 30*a* so that as a result the two coupling parts are rigidly united and accidental relative, rotative or longitudinal movement thereof prevented.

Obviously with this construction the two handle parts may be readily connected or disconnected in a simple but efficient manner. Obviously the position of the two coupling parts may be reversed so that the coupling part carried by the handle part 12 will telescope within the coupling part carried by the handle part 13. Furthermore various other rearrangements and modifications of the specific form of the invention herein illustrated may be made without departing from the spirit and scope of this invention and to this end reservation is made to make such changes as may come within the purview of the accompanying claims.

What I claim as my invention is:—

1. In a detachable handle construction, two handle parts provided respectively with telescopically engageable members, the inner surface of the outer member being formed with a circumferential groove and a recess, a clamping member located in said groove, the outer surface of the inner member being provided with a groove and a projection adapted to extend into said recess, and a set screw for causing said clamping member to engage said groove.

2. In a detachable handle construction, two handle parts provided respectively with coupling members adapted for telescopic engagement, the inner surface of the outer member being formed with a circumferential groove terminating in an offset recess, a resilient clamping member located in said groove with the ends thereof extending into said recess, the other coupling member being formed with a recess providing a circumferential shoulder and with a projection adapted to extend into said offset recess between the ends of said clamping member and a set screw engaging one end of said clamping member to cause the same to engage said recess behind said shoulder and said projection.

3. In a detachable handle construction, two handle parts provided respectively with telescopically engageable members, one of said members being provided with a groove and a recess, a connecting member located in said groove, the other telescopic member being provided with a groove and a projection adapted to extend into said recess, and means for causing said connecting member to engage said second-named groove.

4. In a detachable handle construction, two handle parts having cylindrical telescopically engageable coupling portions, a groove formed in the wall of one of said portions, a clamping member located in said groove, means for actuating said clamping member to cause the same to engage the other coupling portion, and integral cooperating means upon said portions for preventing relative turning movement thereof.

5. In a detachable handle construction, two handle parts having cylindrical telescopically engageable coupling portions, an annular connecting member carried within a slot in one of said coupling portions, means for causing said connecting member to engage the other coupling portion, and cooperating means formed upon said coupling portions for preventing relative turning movement thereof.

In testimony whereof I affix my signature.

FRED WARDELL.