

Jan. 18, 1966

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3,229,859

EXTENSION TOOLS

Filed Oct. 23, 1964

3 Sheets-Sheet 1

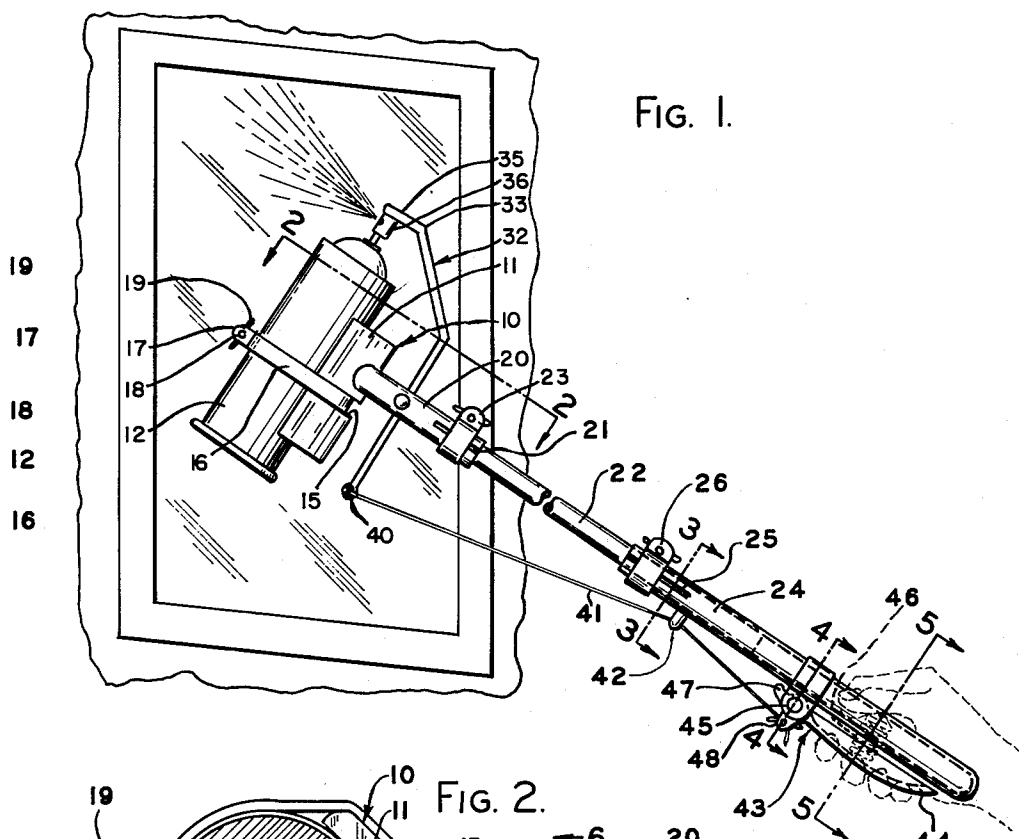


FIG. 1.

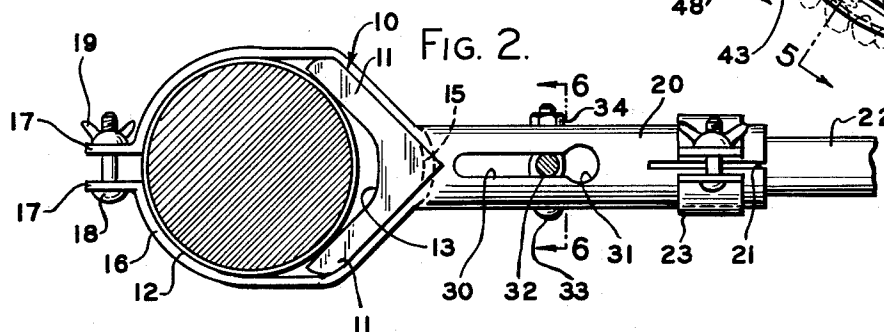


FIG. 2.

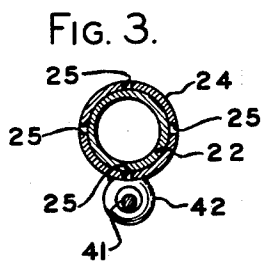


FIG. 3.

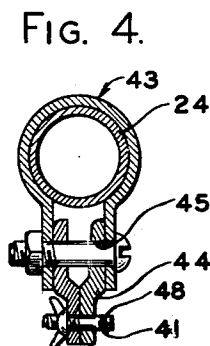


FIG. 4.

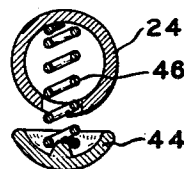


FIG. 5.

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FIG. 7.

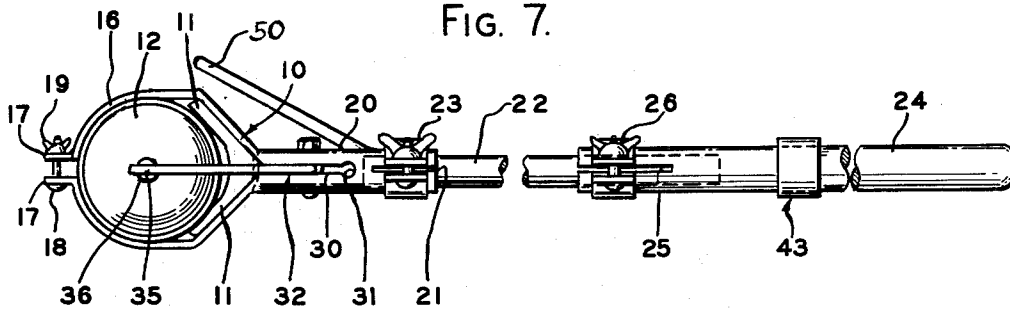
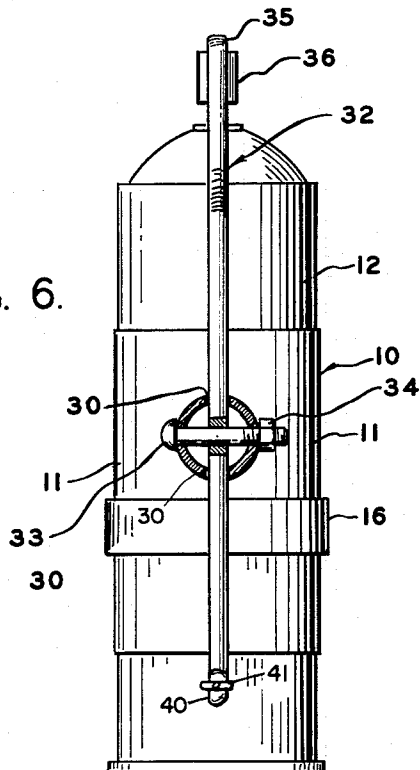


FIG. 6.



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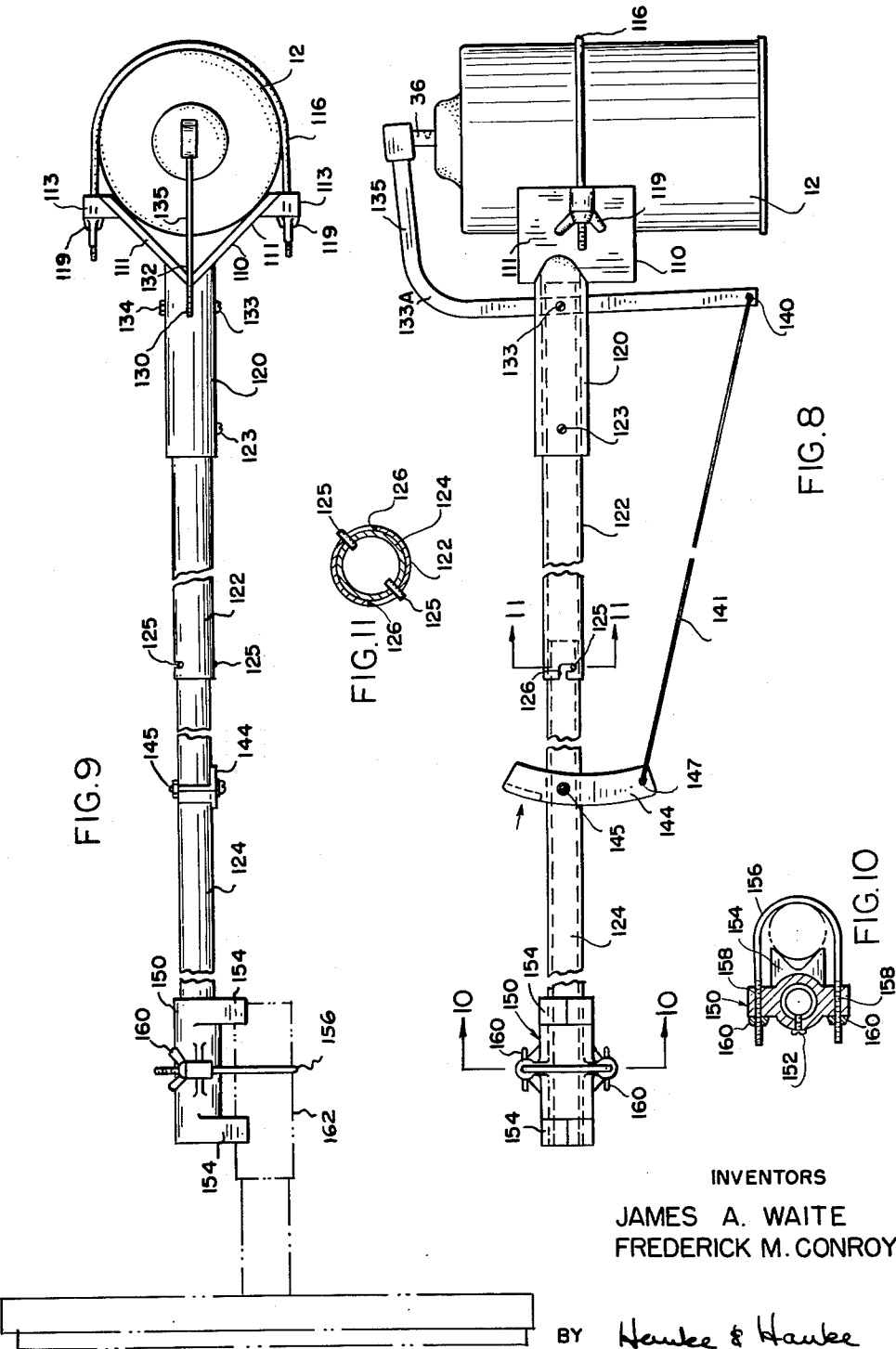
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3,229,859

EXTENSION TOOLS

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17 Claims. (Cl. 222—174)

The present application is a continuation-in-part to our co-pending application Ser. No. 249,850, filed January 7, 1963 now abandoned.

The present application relates to an extension handle for a large variety of tools and the like and more particularly to such a handle especially suitable for holding pressure actuated cannisters and having means for actuating a spray valve of such a cannister to dispense the contents thereof.

It is often desired to reach high places with various devices such as mops, squeegees, or the like. Heretofore, there has not been an extension handle for reaching such areas which is adapted to receive and hold a large variety of devices of different shapes and sizes. One form of the present invention provides such an extension handle having a uniquely formed mounting means at each end thereof which will receive the handles of many different types of tools or other similar devices such as mops, paint rollers, squeegees, pruning saws, and the like.

Further, a large number of liquid products are presently being packaged in pressure actuated spray cans which dispense the liquid in spray form through an orifice controlled by a plunger or a button actuated valve. It is often desirable to use such cannisters in places beyond the reach of the user, for instance when cleaning windows or other high areas. The mounting means provided on the extension tools of the present invention are adapted to receive such pressure actuated cannisters and means are provided for actuating the spray valve of such a cannister. Although a number of different types of handles have been heretofore disclosed for use with such cannisters, many of these had as the principal object the facilitation of the manipulation of the valve actuating plunger. Handles of this nature have been disclosed in United States Patents Nos. 2,820,578; 2,877,934 and 2,803,383.

Each of the handles disclosed in the aforementioned patents are provided with means which clamp to the neck bead usually provided on such cannisters. As these cannisters are presently being manufactured, such neck beads are provided but if this structure is eliminated in the future, other clamping means will have to be devised for such holders. Further, such holders have the disadvantage that a small clamping area at the top of the cannister is depended upon for support, and also that the holder must be tailored to a particular size cannister, and the sizes of course vary. Further, these handles cannot be used for tools or devices other than cylindrical cannisters or the like.

Other types of handles have heretofore been disclosed in United States Patents Nos. 3,017,056 and 3,069,095 issued to C. J. Bishop on January 16, 1962 and December 18, 1962, respectively. While these patents disclose extension handles for pressurized spray cans having mounting means thereon for clamping to the lateral surface of the can, the mounting means therein disclosed are in the form of a circular clamp member. Such a mounting means necessarily limits the size of cannisters which can

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be accommodated by the extension handles therein disclosed. Further, no means are disclosed in these patents for receiving other tools and devices of various sizes and shapes.

It is an object then of the present invention to facilitate the use of tools or other devices such as mops, squeegees, and the like by providing an extension handle for such devices having means for clamping the handle to such devices and being adapted to receive such devices having a large variety of sizes and shapes.

It is another object of the present invention to facilitate the use of pressure actuated cannisters by providing an extension handle having means for clamping the handle to cannisters of various sizes and means for actuating the valve of the cannister.

It is another object of the present invention to improve detachable holders for pressure actuated cannisters by providing means for clamping said holders to a variety of different size cannisters.

It is still another object of the present invention to facilitate the clamping of tools and devices of a large variety of sizes and shapes to an extension handle by providing clamping means for such a handle comprising a substantially V-shaped mounting block and means for clamping the tool or device against the diverging leg portions of the mounting block.

Still further objects and advantages of the present invention will readily occur to one skilled in the art to which the invention pertains upon reference to the following drawings and in which like reference characters refer to like parts throughout the several views and in which FIG. 1 is an elevational view illustrating a preferred embodiment of the present invention in use;

FIG. 2 is a fragmentary elevational view as seen substantially from line 2—2 of FIG. 1 and enlarged somewhat for purposes of clarity;

FIG. 3 is a cross-sectional view taken substantially on the line 3—3 of FIG. 1 and enlarged somewhat for purposes of clarity;

FIG. 4 is a cross-sectional view taken substantially on the line 4—4 of FIG. 1 and enlarged somewhat for purposes of clarity;

FIG. 5 is a cross-sectional view taken substantially on line 5—5 of FIG. 1 and enlarged somewhat for purposes of clarity.

FIG. 6 is a cross-sectional view taken substantially on line 6—6 of FIG. 2.

FIG. 7 is a top elevational view of another preferred embodiment of the present invention.

FIG. 8 is a side elevational view of still another preferred embodiment of the present invention.

FIG. 9 is a top elevational view of the embodiment illustrated in FIG. 8.

FIG. 10 is a cross-sectional view taken substantially on line 10—10 of FIG. 8 and

FIG. 11 is a cross-sectional view taken substantially on line 11—11 of FIG. 8.

Now referring to the drawings for a more detailed description of the present invention, FIGS. 1-6 illustrate a preferred handle device being used to carry a pressure actuated cylindrical spray cannister 12. It is to be understood that although it has been preferred to illustrate the handle device of the present invention as being used for such a cannister 12 it will be apparent as the description proceeds that the handle device of FIGS. 1-6 can be used

to carry many other types of tools and devices such as mops, squeegees, brushes, paint rollers, and the like. The preferred handle device of FIGS. 1-6 comprises a support member 10 which, as can best be seen in FIG. 2, is preferably substantially V-shaped in lateral cross-section and is provided with diverging leg portions 11 defining a support surface 13 and which are adapted to engage portions of the lateral surface of the pressure actuated cylindrical spray cannister 12. The particular construction of the support member 10 permits the handle device to be used to carry spray cannisters of many different diameters as well as other various tools of many different sizes and shapes.

The support member 10 is preferably provided with a medial recess 15 which receives a flexible clamp member 16. The clamp member 16 is adapted to encompass a portion of the lateral surface of the spray cannister 12. Flanged end portions 17 carry a bolt 18 and a winged nut 19 for tightening the clamp member 16 and thereby clamping the spray cannister against the support surface 13 formed by the leg portions 11 of the support member 10. If desired the clamp member 16 could be secured to or be integral with the support member 10. It is apparent then that various sizes and shapes of tools and devices can be secured to the handle of the present invention by using the clamp member 16 to clamp the tools or devices against the leg portions 11 of the support member 10. The particular V-shape of the support member 10 insures that tools of various sizes and shapes will be securely clamped against the support member 10 upon tightening the clamp member 16.

A tubular member 20 extends laterally from the support member 10 and is provided at its free end with a plurality of annularly spaced longitudinally extending slots 21. A tubular member 22 preferably of a smaller diameter than the tubular member 20 is carried by the tubular member 20. A clamp 23 is provided to radially compress the slotted end portion of the tubular member 20 and thereby secure the tubular members 20 and 22 one to the other.

A third tubular member 24 preferably telescopically receives the tubular member 22 so that the length of the handle device may be varied. The end of the tubular member 24 adjacent the tubular member 22 is preferably provided with a plurality of longitudinally extending annularly spaced slots 25. A clamp 26 is provided so that the slotted end portion of a tubular member 24 may be radially compressed about the tubular member 22 to secure the handle device at a desired length.

As can best be seen in FIG. 2, a longitudinal slot 30 is provided in the tubular member 20 in a position such that its longitudinal axis is substantially coplanar with the longitudinal axis of the support member 10 and the spray cannister 12 carried thereby. The slot 30 is preferably provided with an enlarged circular end portion 31.

A lever 32 is pivotally carried in the slot 30 by pivot pin 33 and nut 34. As can best be seen in FIG. 2 the sides of the tubular member 20 formed by the slot 30 engage the lever 32 so that lateral movement of the lever 32 is prevented. The enlarged portion 31 permits the lever 32 to be readily inserted in the slot 30 during assembly.

The lever 32 is preferably bent as at 33A and 34A to form a straight end portion 35 adapted to engage the spray valve button 36 of the spray cannister 12. It is apparent that pivoting the lever 32 will cause the straight end portion 35 of the lever 32 to depress the button 32 to emit a spray from the cannister 12.

The free end of the lever 32 is preferably provided with an eyelet 40 to which is secured a string or wire 41. A guide 42 for the string or wire may be provided as shown on the tubular member 24. The tubular member 24 may also be provided with an actuating mechanism 43 to which the free end of the string or wire 41 may be releasably attached. The actuating mechanism 43 preferably comprises a member 44 pivotally carried by the tubular mem-

ber 24 as at 45 and a spring 46 urging the member 44 to pivot away from the tubular member 24. A stop 47 limits the outward pivotal movement of the member 44 and a perforation 48 is provided to receive the string or wire 41.

It is apparent that pivoting of the member 44 against the force of the spring 46 will cause the lever 32 to pivot the end portion 35 downwardly to depress the button 36 to actuate the cannister 12. If it is desired to change the length of the handle the wire or string may be loosened from the member 44 and retied when the handle has been adjusted to the desired length.

It is also apparent that if a device other than the spray cannister 12 is to be clamped to the support member 10 either the straight portion 35 of the lever 32 will be pivoted away from the support member 10 or the handle device will be turned upside down so that the tool or device can extend upwardly from the lower portion of the support member 10.

FIG. 7 illustrates a preferred modification of the present invention substantially similar to the device described above except that an accessory mounting means 50 has been provided extending laterally from the tubular member 40. It is to be understood that the mounting means 50 could also be positioned to extend outwardly from the exterior surface of the support member 10 if so desired. The means 50 is preferably tapered as shown and is adapted to receive a squeegee, brush, or other accessories of those types having a hollow handle portion and which may be desirable for use at the same time the support member 10 is being used to carry a spray cannister 12.

FIGS. 8-11 illustrate another preferred embodiment of the present invention quite similar to those described above and comprising a substantially V-shaped support member 110 having diverging leg portions 111. The free ends of the leg portions 111 are formed outwardly as at 113 to provide the means for receiving a U-shaped clamping member 116. The clamp member 116 is adapted to encompass a portion of the lateral surface of a spray cannister 12 or other tool or device and the free ends of the U-shaped clamp member 116 are threaded to receive nut members 119 for tightening the clamp member 116 and thereby securely clamping the cannister 12 or other tool or device against the support surfaces formed by the leg portions 111 of support member 110.

A tubular member 120 is preferably integrally formed with the support member 110 and extends laterally therefrom to receive a second tubular member 122. A screw 123 preferably secures the tubular member 122 to the tubular member 120 and support member 110.

A third tubular member 124 is received by the tubular member 122 and as can best be seen in FIG. 11 the tubular member 124 carries a pair of radially outwardly extending pins 125. The tubular member 122 is provided with slots 126 which as can best be seen in FIG. 8 extend axially from the free end of the tubular member 122 and then extend annularly so that upon insertion of the tubular member 124 into the tubular member 122 with the pins 125 positioned in the slots 126, relative twisting of the tubular members 122 and 124 will lock the tubular members 122 and 124 one to the other as illustrated.

As can best be seen in FIG. 9, a longitudinal slot 130 is provided in the tubular member 120 in a position such that its longitudinal axis is substantially co-planar with the longitudinal axis of the support member 110 and the spray cannister 12 carried thereby. A lever 132 is pivotally carried in the slot 130 by a pivot pin 133 and a nut 134. The lever 132 is preferably bent as at 133A to form a straight end portion 135 adapted to engage the spray valve button 36 of the spray cannister 12. It is apparent that pivoting of the lever 132 will cause the straight end portion 135 of the lever 132 to depress the button 36 to emit a spray from the cannister 12.

The free end of the lever 132 is preferably provided with an eyelet 140, as can best be seen in FIG. 8 to which

is secured a string or wire 141. An actuating member 144 is pivotally carried as at 145 by the tubular member 124 and is provided with an eyelet 147 which receives the free end of the string or wire 141. Pivoting the member 144 will cause the lever 132 to pivot to bring the end portion 35 downwardly against the spray button 36 to actuate the cannister 12.

The free end of the tubular member 124 is preferably provided with a second support member 150. As can best be seen in FIG. 10 the support member 150 is preferably secured to the end of the tubular member 124 by a screw 152. The support member 150 preferably comprises a pair of axially spaced substantially V-shaped outwardly extending arm portions 154. A substantially U-shaped clamping member 156 is disposed intermediate the arm portions 154 and has its threaded free ends extending through suitable perforations provided in the support member 150 so that upon tightening the wing nuts 160 the clamp 156 is urged radially inwardly toward the arm portions 154 to securely clamp any suitable tool or accessory such as the squeegee 162 shown in dashed lines in FIG. 9 to the end of the tubular member 124.

It is apparent that the present invention provides a handle means which has been constructed to accommodate many different tools and accessories of various sizes and shapes and which will accommodate all the different size pressure actuated cannisters now being manufactured. The V-shaped support members illustrated will carry cannisters of many different size diameters as well as other tools, accessories, and devices of various sizes and shapes. It is apparent that the particular construction disclosed has particular usefulness for supporting pressure actuated cannisters and does not depend upon such cannisters being provided with a neck bead. In the embodiments illustrated in FIGS. 7 and 8-11 means are provided for mounting various tools and devices to the handle while such handle is being used to carry the spray cannister 12 so that a device such as a mop, brush, squeegee or the like which may be useful in conjunction with the liquid being dispensed by the spray cannister 12 can be secured to the handle device.

It is also apparent that although we have described but several embodiments of the present invention many other changes and modifications can be made without departing from the spirit of the invention as expressed by the appended claims.

We claim:

1. A handle device for releasable attachment to a cylindrical spray cannister or the like having a spray valve button, said device comprising,

- (a) a substantially V-shaped support member having diverging leg portions adapted to engage the lateral surface of the spray cannister whereby cannisters of various diameters can be accommodated by said support member,
- (b) means carried by said support member and selectively operable to urge said cannister into clamping engagement against said leg portions said means comprising a clamp member encompassing a portion of said spray cannister and bolt means operable upon being tightened to urge said clamp member toward said leg portions and thereby urge said spray cannister into clamping engagement with said leg portions,
- (c) elongated handle means carried by said support member,
- (d) a valve button actuating means carried by said handle means and having a portion adapted to operably engage the valve button of the spray cannister, and
- (e) said valve button actuating means being selectively actuatable from the free end of said handle means.

2. A handle device for releasable attachment to a

cylindrical spray cannister having a spray valve button, said device comprising,

- (a) a support member adapted to engage a portion of the lateral surface of the spray cannister,
- (b) clamping means carried by said support member and selectively clamping the cannister to said support member,
- (c) an extended handle means carried by said support member,
- (d) a valve button actuating means carried by said handle means and having a portion adapted for operably engaging the valve button of the spray cannister,
- (e) said valve button actuating means being selectively actuatable from the free end of said handle means,
- (f) said handle means comprising an elongated first tubular member extending laterally from said support member, an elongated second tubular member telescopically receiving said first tubular member, and means clamping said tubular members one to the other, and
- (g) a longitudinal slot being provided in said first tubular member, and said valve button actuating means including a lever pivotally carried in said longitudinal slot.

3. The device as defined in claim 2 and including a second support member carried at the free end of said second tubular member and clamping means carried by said second support member and adapted to selectively clamp a tool, device or the like against said second support member.

4. A handle device for releasable attachment to a cylindrical spray cannister having a spray valve button, said device comprising,

- (a) a support member having a pair of diverging leg portions defining a support surface which is substantially V-shaped in lateral cross-section,
- (b) clamping means carried by said support member and selectively urging the cannister against said V-shaped support surface said clamping means comprising a clamp member encompassing a portion of the lateral surface of said cannister and bolt means operable upon being tightened to urge said clamp member toward said support surface and thereby urge said cannister into clamping engagement with said support surface,
- (c) a valve button actuating means carried by said handle means and having a portion adapted to operably engage the valve button of the spray cannister, and
- (d) said valve button actuating means being selectively actuatable from the free end of said handle means.

5. The device as defined in claim 2 and including an elongated mounting member carried by said first tubular member and adapted to carry an accessory such as a mop, brush, squeegee or the like.

6. A handle device for releasable attachment to tools and devices of various sizes and shapes including cylindrical spray cannisters having a spray valve button, mops, brushes, squeegees, and the like, said device comprising,

- (a) a support member having a pair of outwardly diverging leg portions defining a support surface which is substantially V-shaped in cross-section,
- (b) clamping means carried by said support member and adapted to selectively urge the tool, device or the like into clamping engagement with said V-shaped support surface of said support member,
- (c) an extension handle means carried by said support member, and
- (d) a second support member carried at the free end of said extended handle means and comprising a supporting surface substantially V-shaped in cross section and clamping means adapted to selectively

urge a tool, device or the like into clamping engagement with said second mentioned supporting surface.

7. A handle device for releasable attachment to tools, devices and the like of various sizes and shapes, said handle device comprising,

- (a) a support member being substantially V-shaped in lateral cross section to provide a pair of diverging leg portions and an elongated medial portion integrally connected with said leg portions,
 - (b) said leg portions being provided with diverging elongated surfaces adapted to engage tools or devices of various sizes and shapes,
 - (c) clamping means carried by said support member and being adapted to urge said tools or devices into wedging engagement with said diverging surfaces of said support member whereby said tools or devices will be securely carried by said support member,
 - (d) elongated handle means carried by said support member, and
 - (e) a second support member carried at the free end of said handle means and being substantially V-shaped in lateral cross-section to provide a pair of spaced diverging arm portions, and clamping means carried by said support member and being adapted to urge a tool, device or the like, into engagement with said diverging arm portions whereby to securely clamp a second tool or device to the free end of said handle means.
8. A handle device for releasable attachment to a cylindrical spray cannister or the like having a spray valve button, said device comprising,
- (a) a substantially V-shaped support member having diverging leg portions adapted to engage the lateral surface of the spray cannister whereby cannisters of various diameters can be accommodated by said support member,
 - (b) means carried by said support member and selectively operable to urge said cannister into clamping engagement against said leg portions,
 - (c) elongated handle means carried by said support member,
 - (d) a valve button actuating means carried by said handle means and having a portion adapted to operably engage the valve button of the spray cannister,
 - (e) said valve button actuating means being selectively actuatable from the free end of said handle means, and
 - (f) a second substantially V-shaped support member having diverging arm portions and being carried at the free end of said handle means, and clamping means carried by said second support member and being adapted to selectively urge a second tool or device into clamping engagement with said arm portions of said second support member whereby a tool or device may be carried at the free end of said handle means.
9. A handle device for releasable attachment to a cylindrical spray cannister having a spray valve button, said device comprising,
- (a) a support member having a pair of diverging leg portions defining a support surface which is substantially V-shaped in lateral cross-section,
 - (b) clamping means carried by said support member and selectively urging the cannister against said V-shaped support surface,
 - (c) elongated handle means carried by said support member,
 - (d) a valve button actuating means carried by said handle means and having a portion adapted to operably engage the valve button of the spray cannister,
 - (e) said valve button actuating means being selectively actuatable from the free end of said handle means, and
 - (f) a second support member carried at the free end

of said handle means and comprising a pair of axially spaced substantially V-shaped portions defining a pair of spaced support surfaces each being substantially V-shaped in cross section and clamping means carried intermediate said spaced portions of said second support member and adapted to selectively urge a tool, device or the like into clamping engagement with said support surfaces of said second support member.

10. A handle device for releasable attachment to tools and devices of various sizes and shapes including cylindrical spray cannisters having a spray valve, button, mops, brushes, squeegees, and the like, said device comprising,

- (a) an elongated handle means,
- (b) a first support member carried at one end of said handle means and having a support surface,
- (c) a clamping means carried by said first support member and adapted to selectively urge a first tool, device, or the like into clamping engagement with said support surface of said first support member, and
- (d) a second support member carried by said handle means and adapted to selectively carry a second tool, device or the like.

11. The device as defined in claim 10 and including a valve button actuating means carried by said handle means and having a portion adapted to operably engage the valve button of a spray cannister carried by said first support member and said valve button actuating means being selectively actuatable from the free end of said handle means.

12. The device as defined in claim 10 and in which said second support member is carried at the free end of said handle means and is substantially V-shaped in lateral cross section to provide a pair of spaced diverging arm portions, and including clamping means carried by said second support member and being adapted to urge a tool, device or the like into engagement with said diverging arm portions whereby to securely clamp said second tool or device to the free end of said handle means.

13. The device as defined in claim 10 and in which said second support member comprises an elongated mounting member carried by said handle means and adapted to carry a tool or device such as a mop, brush, squeegee, or the like.

14. The device as defined in claim 10 and in which said first support member comprises a pair of outwardly diverging leg portions defining said support surface whereby said support surface is substantially V-shaped in cross-section.

15. A handle device for releasable attachment to tools and devices of various sizes and shapes including cylindrical spray cannisters having a spray valve button, mops, brushes, squeegees, and the like, said device comprising,

- (a) a support member having a pair of outwardly diverging leg portions defining a support surface which is substantially V-shaped in cross-section,
- (b) clamping means carried by a support member and comprising a clamp member encompassing a portion of the tool, device or the like and bolt means operable upon tightening to urge said clamp member toward said support surface and thereby urge the tool, device or the like into clamping engagement with said support,
- (c) an elongated handle means carried by said support member, and
- (d) a valve button actuating means carried by said handle means and having portions adapted to operably engage the valve button of a spray cannister carried by said support member, said valve button actuating means being selectively actuatable from the free end of said handle means.

16. The handle device as defined in claim 6 and including a valve button actuating means carried by said

handle means and having portions adapted to operably engage the valve button of a spray cannister carried by said first mentioned support member, and said valve button actuating means being selectively actuatable from the free end of said handle means.

17. The device as defined in claim 7 and including a valve button actuating means carried by said handle means and having a portion adapted to operably engage the valve button of a spray cannister carried by said first mentioned support member and said valve button actuating means being selectively actuatable from the free end of said handle means.

References Cited by the Examiner

UNITED STATES PATENTS

1,387,363	1/1921	De Fore	-----	248—313	X
1,806,516	5/1931	Bardsley	-----	248—313	X
1,930,085	10/1933	Fehse	-----	248—313	X
2,458,329	1/1949	Archer	-----	248—313	X
2,720,422	10/1955	Mercur	-----	222—174	

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