April 9, 1963 C. B. SMITHSON 3,084,895

DISPENSER MOUNTING

Filed July 7, 1961

Fig. 1.

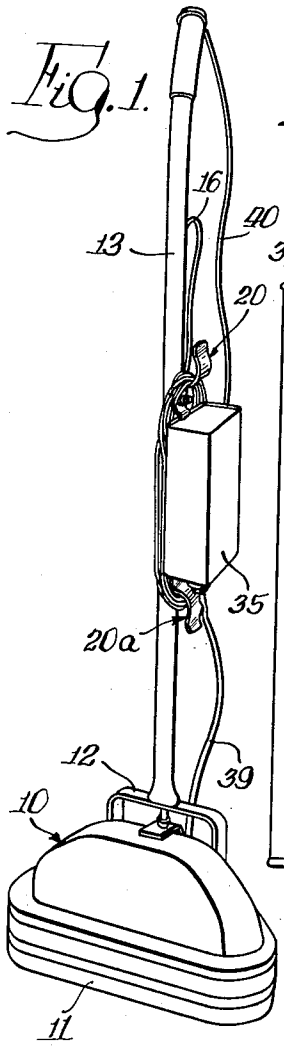


Fig. 2.

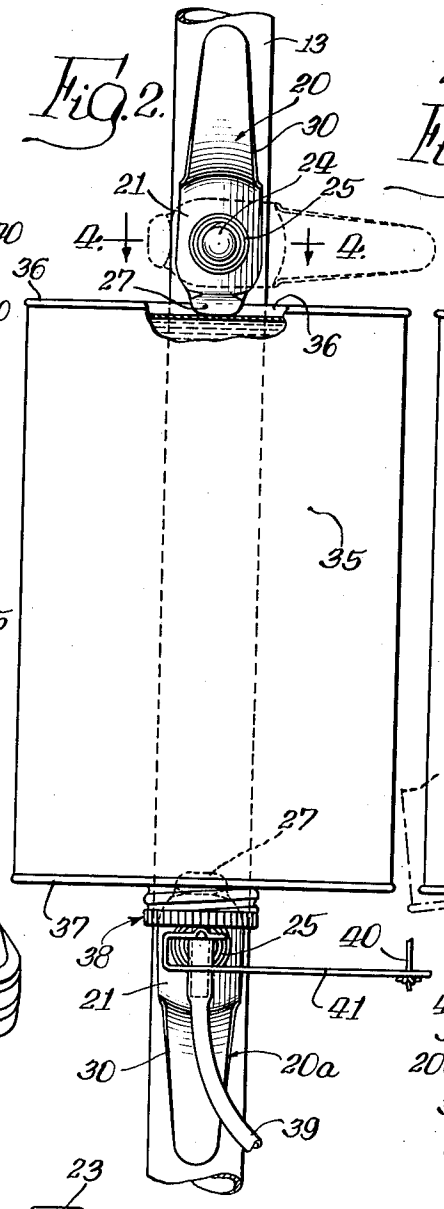


Fig. 3.

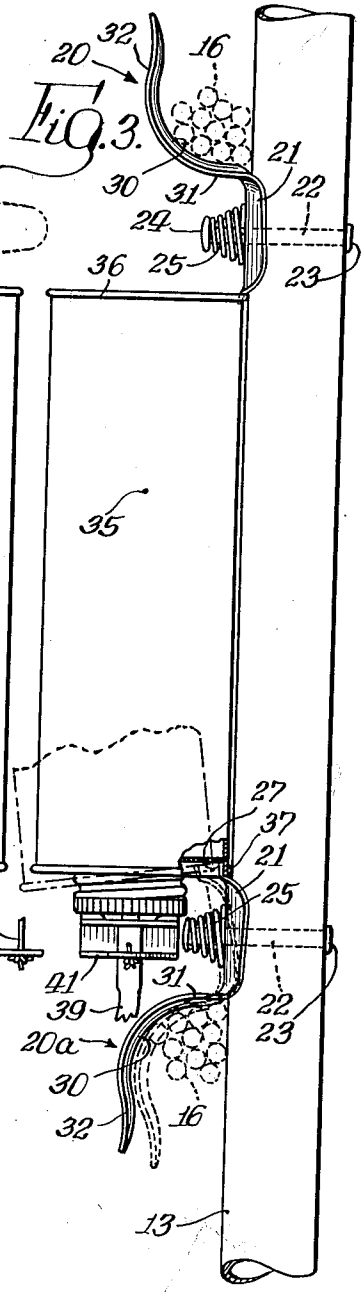
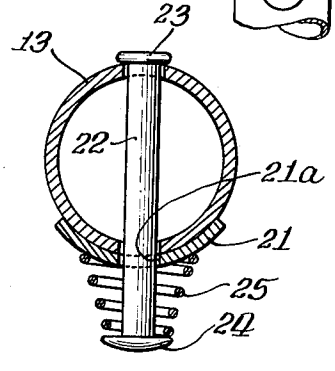


Fig. 4.



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DISPENSER MOUNTING

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The present invention relates generally to an improved structure for removably supporting a liquid dispenser on a tool or appliance, such as an electrically driven floor polisher or the like. More particularly, the invention relates to a novel combined dispenser mounting and electric supply cord holder for an appliance such as an electric floor polisher.

In an electrical appliance, such as an electrically operated floor polisher or floor scrubber, a tubular handle member is usually secured at one end thereof to the polisher or scrubber body which has rotary brushes or the like, and the other end of the handle extends outwardly therefrom so that the operator can grip the handle for guiding the appliance. An elongated electrical cord extends from the appliance and is sufficiently long to permit connecting the end of the cord to a source of electrical power and allowing relative freedom of movement of the appliance. When the appliance is not being used, however, the cord is preferably coiled on spaced support members mounted intermediate the ends of the handle.

It is also desirable with certain appliances of the foregoing type to mount a dispensing container on the appliance. For example, in an electrically driven floor polisher or scrubber, it is desirable to provide a supply of liquid wax or other liquid material so that the wax or liquid material can be conveniently applied to the work surface. Certain polishers have wax or polish reservoirs built into the apparatus head while others have a suitable container associated with the handle of the apparatus. In view of the limited space available on the handle for supporting a dispensing container, as well as the desirability of providing a support for the elongated electrical cord on the handle, it is of considerable importance to provide on the handle a simple, inexpensive, and efficient supporting means for both the dispensing container and the electrical cord.

Accordingly, it is an object of the present invention to provide an improved support for removably mounting a dispensing container on an appliance such as a floor polisher or scrubber.

It is a further object of the present invention to provide a novel and improved supporting means for removably securing a dispensing container on an elongated tubular handle member of an appliance.

A still further object of the present invention is to provide a novel combined supporting means for a dispensing container and an elongated cord member.

The means by which the foregoing objects are achieved will be readily understood from the following detailed description and claims to follow when read in conjunction with the accompanying drawing, wherein:

FIG. 1 is a perspective view of an electrically powered floor polisher showing one embodiment of the supporting means of the present invention;

FIG. 2 is an enlarged scale front elevational view of the supporting means shown in FIG. 1 with a portion of said means in different positions of adjustment, as shown in dotted and full lines;

FIG. 3 is a side elevational view of the structure shown in FIG. 2 with a portion of said means in different positions of adjustment as shown in dotted and full lines; and

FIG. 4 is an enlarged sectional view taken along the line 4—4 of FIG. 2.

The support means of the present invention is shown embodied in an electrically powered floor polisher **10** having a working head **11** on which is pivotally mounted a handle bracket **12** having rigidly secured thereto an elongated tubular handle **13**. The working head **11** contains the usual electric motor (not shown) which rotatably drives a plurality of brushes (not shown) engageable with the floor surface to effect polishing thereof after liquid wax or the like polishing material is applied to the brushes or floor. An elongated, flexible, insulated wire cord **16** of conventional type having one end connected to the electric motor extends upwardly passing either through the interior or along the side of the tubular handle **13** and has a male connector on the other end thereof for insertion in an electrical outlet socket.

The support means of the present invention comprises a pair of longitudinally spaced supporting clip members **20** and **20***a* mounted on the tubular handle **13** intermediate the ends thereof, at least one of said clip members being pivotally mounted on the handle. Each of the clip members **20**, **20***a* preferably comprises a mounting or attaching section **21** having an aperture **21***a* (FIG. 4) and a concave configuration which conforms substantially to the transverse curvature of the tubular handle **13**. A retaining pin or rivet **22** having a flattened end **23** extends diametrically through the handle **13** and loosely through the apertured clip mounting section **21** and has an enlarged head **24** on the outer end thereof. A spring means, such as a coil spring **25**, is mounted about the retaining pin **22** between the enlarged head **24** and the outer surface of the handle engaging section **21** thereby resiliently urging the clip member into engagement with the handle **13**. The clip member is rotatable about the pin **22** and can readily be moved to a position such that the longitudinal axis thereof is at right angles to the longitudinal axis of the handle **13**, as shown in dotted lines in FIG. 2. In addition, the pin **22** and spring **25** provide for longitudinal rocking of the clip in a plane at right angles to the plane of rotation thereof and parallel to the longitudinal axis of the handle **13**, as described below.

One end of each of the clip members **20**, **20***a* adjacent the handle engaging section **21** is provided with a lip portion **27** which is normally spaced a slight distance from the surface of the handle **13** and extends in a plane substantially parallel with the longitudinal axis of the handle **13**. The lip portions **27** of the clip members are adapted to engage the opposite end flanges or rims of a container held therebetween in a manner which will be described in detail hereinafter.

The clip members **20**, **20***a* also have outwardly disposed manipulating hook sections **30** integral with the handle engaging sections **21**, each section **30** comprising a transverse portion **31** which extends generally outwardly from the surface of the handle **13** and a longitudinal portion **32** which extends away from the transverse portion **31** in a plane generally parallel to the longitudinal axis of the handle **13**. The transversely extending portions **31** and the longitudinally extending portions **32** provide a convenient means for manipulating the clips **20**, **20***a* in addition to providing a pair of retaining hooks or pockets in which the electric cord **16** can be coiled when not in use, as shown in FIGS. 1 and 3. When it is desired to release the cord **16** from the clip members **20**, **20***a*, the clip member **20** is given a quarter turn, as shown in dotted lines in FIG. 2, and the cord **16** is readily removable in a neat coil.

A wax dispensing container **35** is mounted on the handle **13** by means of the clip members **20**, **20***a*, the container **35** including opposite end flanges or rims **36**, **37**

and being provided with a suitable closure valve cap 38 and a tube 39 connected therewith for conveying wax from the container 35 to the polisher head 11. In mounting the container 35 on the handle 13, the container is held in an inverted position and the upper clip member 20 is given a quarter turn, as shown in dotted lines in FIG. 2, the curved contour of the mounting section 21 thereby causing the entire clip to be cammed outwardly from the handle 13. The flange 37 is inserted between the outwardly spaced lip portion 27 of the lower clip member 20*a* and the handle 13, thereby retaining the flange 37 and the lowermost end of the container 35 in position on the handle 13. If desired, the outer end 32 of the lower clip member 20*a* can be pressed inwardly toward the handle 13, as shown in dotted lines in FIG. 3, so that the clip member is rocked against the action of the spring 25 and the lip portion 27 is pivoted radially away from the handle 13 a greater distance than when in its normal position, thereby facilitating insertion of the flange 37. During such rocking movement, the clip 20*a* fulcrums on the handle 13 at a point adjacent the juncture of the clip portions 21 and 31, and the aperture 21*a* is large enough relative to the diameter of the pin 22 to permit the desired degree of rocking. To secure the uppermost end of the container 35 in position on the handle 13, the upper clip member 20 is rotatably moved a quarter of a turn back to its original position, as shown in full lines in FIG. 2, so that the lip portion 27 of clip member 20 engages the flange 36 and holds flange 36 and the uppermost end of the container 35 in position against the handle 13.

With the wax dispensing container 35 securely held on the handle 13 in the foregoing manner, the operator can conveniently discharge wax therefrom as desired by pulling upwardly on a cord 40 which has one end secured to the upper end of the handle 13 and the lower end secured to a valve operating lever 41 operatively connected with the valve cap 38.

To remove the dispensing container 35 from the handle 13 only the upper clip 20 need to be rotated a quarter turn to release the upper end of the container 35, and the lower end of the container is then withdrawn from engagement by the lower clip member 20*a*.

While it is preferably to have both of the clip members 20, 20*a* movable relative to the handle 13, it will be obvious to one skilled in the art that one of the clip members, such as the lower clip member 20*a*, for example, can be fixedly secured to the handle 13 so that it cannot be rotated about the pin 22 or rocked longitudinally to raise the lip portion 27. In such case, a shorter rivet 22 may be employed and the spring 25 is, of course, omitted. It will be evident that with the lower clip member 20*a* fixedly positioned on the handle 13 with the longitudinal axis thereof parallel to the longitudinal axis of the handle 13, and with the lip portion 27 thereof spaced from the handle a distance only slightly greater than the thickness of the flange 37, the flange 37 of the container 35 can be inserted between the lip portion 27 of the lower clip member 20 and the handle 13. Thereafter the upper clip member 20 which has previously been rotated from its normal position is returned to normal position with the lip 27 engaging the flange 36 and holding the upper end of the container 35 in position against the handle 13.

It will also be apparent to those skilled in the art that the present cord and dispensing container retaining structure can be used on various apparatus and equipment in addition to electric floor polishers. Moreover, the present invention is not necessarily limited to use in electrically driven apparatus or with dispensing containers for liquid materials, but can also be used in connection with other appliances and with containers dispensing powdered materials or the like.

Although the invention has been described herein with particular reference to a specific structural embodiment, it is to be understood that various alternative and equivalent structures may be resorted to without departing from the scope of the invention as defined in the appended claims.

I claim:

1. Mounting means for removably securing a container on the elongated handle of a floor polisher or the like, said mounting means comprising a pair of clip members mounted in spaced relation on the handle, said clip members each having an attaching portion engaging the handle, a lip portion at one end of said attaching portion spaced slightly outwardly from the handle for receiving therebetween an end of the container, and a manipulating portion at the opposite end of said attaching portion spaced substantially outwardly from the handle, pivot means rotatably and rockably affixing the attaching portion of at least one of said clip members to the handle, and resilient means coacting between said pivot means and said attaching portion for resiliently urging the latter against the handle, said one clip member thereby being movable by the manipulating portion thereof for rotating the clip member about said pivot means and for rocking the same longitudinally of the handle to facilitate insertion of the end of the container between the lip portion of the clip member and the handle.

2. In combination with an elongated tubular handle of an electric floor polisher or the like, at least one clip member having a mounting portion transversely curved to fit closely on said handle, pin means extending outwardly from said handle and loosely through said mounting portion for rotatably and rockably affixing the clip member to the handle, spring means coacting between said mounting portion and the outwardly extending end of said pin means for resiliently urging said mounting portion against said handle, a retaining lip at one end of said mounting portion spaced slightly outwardly from said handle for receiving a container flange therebetween, and a hook portion at the opposite end of said mounting portion spaced outwardly from said handle for receiving a coiled electric supply cord therebetween, said clip member being longitudinally rockable against the action of said spring means by pressing said hook portion for enlarging the space between said lip and said handle to facilitate insertion of the container flange therebetween, and said clip member also being rotatable about said pin means by manipulation of said hook portion to a position at right angles to the axis of said handle to facilitate removal of the coiled electric supply cord from the handle and also to further facilitate engagement of said lip with the container flange, the transverse curvature of said mounting portion causing said lip to be cammed outwardly from the handle in response to rotation of the clip member.

3. In combination with the elongated handle of an electric floor polisher or the like, combined mounting means for detachably supporting a dispensing container and an electric supply cord on the handle, said mounting means comprising a pair of clip members affixed to said handle in longitudinally spaced relation, said clip members each having a mounting portion engaging the handle, a lip portion at one end of the mounting portion spaced slightly outwardly from the handle for receiving therebetween an end flange of the container, and a hook portion at the opposite end of the mounting portion spaced outwardly from the handle for receiving therebetween a plurality of coils of the electric supply cord, at least one of said clip members having pivot means extending loosely through the mounting portion thereof into said handle with resilient means disposed between the mounting portion and said pivot means for urging the mounting portion against the handle, whereby said one clip member is longitudinally rockable and rotatable about said pivot means for facilitating attachment and detachment of the container and the electric supply cord.

4. A support structure which comprises a pair of supporting clip members mounted in longitudinally spaced

relationship on the elongated tubular handle of an electrical appliance, said clip members each having a transversely curved handle engaging section fitted closely against the handle to retain said clip members in a predetermined normal position thereon, each said handle engaging section having projecting therefrom a support section which extends generally outwardly from the handle, said support sections being spaced from the handle whereby an electric cord can be coiled on said support sections, and at least one of said clip members having pivot means extending through the handle engaging section thereof into said handle with resilient means disposed between the handle engaging section and said pivot means for urging the handle engaging section against the handle, whereby said one clip member is adapted to be rotated about 90° from said predetermined normal position so that an electric cord can be coiled on said spaced clip members when in said predetermined normal position and when said one clip member is rotated about 90° from said predetermined normal position said cord is released from said clip members in a neatly coiled arrangement, the transverse curvature of said handle engaging section causing the same to be cammed outwardly from the handle in response to rotation of the clip member.

5. A support structure for mounting a container on a tubular handle of an appliance which comprises a pair of supporting clip members mounted in longitudinally spaced relationship on the handle, said clip members each having a transversely curved handle engaging section which conforms closely to a transverse portion of the handle when the clip member is in a predetermined normal position thereon, said handle engaging section having a lip portion extending longitudinally from said handle engaging section, said lip portion being spaced from said handle for retaining one end flange of a container between said lip portion and said handle, and at least one of said clip members having pivot means extending through the handle engaging section thereof into said handle with resilient means disposed between the handle engaging section and said pivot means for urging the handle engaging section against the handle, whereby to permit the lip portion of said one clip member to be moved away from the position of the lip portion when said one clip member is in said predetermined normal position so that one end flange of a container can be inserted between the other lip portion and said handle and thereafter the opposite end flange of the container can be engaged by the lip portion of said one clip member when said one clip member is returned to said predetermined normal position, the transverse curvature of said handle engaging section causing the same to be cammed outwardly from the handle in response to rotation of the clip member.

6. A support structure as defined in claim 5 wherein the other of said clip members is resiliently mounted on said handle to permit rocking movement of said other

lip portion thereof in a direction radially away from said handle, whereby insertion of said one end flange of the container between said other lip portion and said handle is facilitated.

7. In combination with the elongated tubular handle of an electric appliance, mounting means comprising a pair of supporting clip members mounted in longitudinally spaced relationship on the handle, said clip members each having a handle engaging section which conforms closely to a transverse portion of the handle to retain said clip members mounted thereon in a predetermined normal longitudinally extending position, said handle engaging section having a lip portion projecting therefrom symmetrically disposed with respect to the longitudinal axis of said handle and spaced from said handle for retaining one of the end flanges of a container between said lip portion and said handle, each said handle engaging section also having a support section which extends generally outwardly from said handle, each said support section being spaced from said handle for permitting an electrical cord to be coiled on said support sections, and at least one of said clip members being rotatably mounted on said handle to permit said one clip member to be rotatably moved to position the support section thereof closer to the support section of the other clip member when said other clip member is in said predetermined normal position, whereby said coiled cord can be removed in a neatly coiled form.

8. The combination of claim 7 wherein the lip portion of said one clip member is simultaneously spaced a greater distance from the lip portion of said other clip member when said one clip member is rotatably moved to position the support section thereof closer to the support section of said other clip member, whereby to facilitate positioning of the container flanges between said lip portions.

9. The combination as defined in claim 7 wherein said other clip member is resiliently and rockably mounted on said handle to permit movement of the lip portion of said other clip member in a radial direction away from said handle, whereby insertion of an end flange of said container between said lip portion and said handle is facilitated.

10. The structure of claim 1 further characterized in that said attaching portion is transversely curved to fit closely against a tubular handle, the transverse curvature of said attaching portion causing said lip to be cammed outwardly from the handle in response to rotation of the clip member.

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