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WRINGER MOP

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Fig. 1

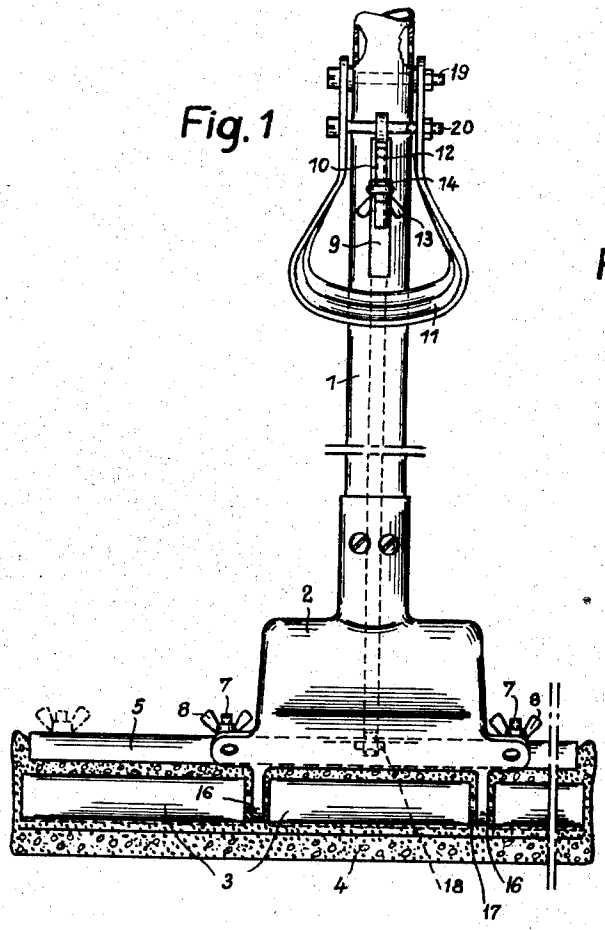
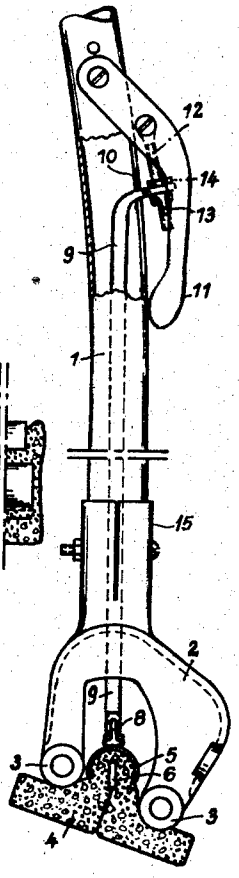


Fig. 2



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WRINGER MOP

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2 Claims. (Cl. 15—119)

The present invention refers to a cleaning device and more particularly to a cleaning device having a liquid absorbent cleaning member.

Cleaning devices on which a liquid absorbent cleaning member, for instance a sponge-like mop, is attached to an elongated handle are well-known and produced in various types. One especially preferred type is a cleaning tool which carries squeezing rolls besides the sponge-like mop and in which the sponge-like mop is so arranged that it can be moved between a working position in which the mop extends outside and laterally beyond the squeezing rolls and a squeezing position in which the mop is drawn in between the squeezing rolls to squeeze any liquid contained in the mop out of the same.

One drawback of this known type of cleaning device is that the working face of the mop wears considerably during long use and the working position of the worn mop has therefore to be adjusted to remain fully usable.

Also, the sponge-like mop may expand in which case it has to be drawn in further between the squeezing rolls to squeeze the liquid contained in the mop out of the same.

One object of the present invention is to provide an adjustment for the two end positions of such a mop in a cleaning tool.

A further object of the present invention is to provide an operative connection between the mop and the operating lever, by which the mop can be brought into its two positions, which is very compact and allows an easy handling of the tool.

An additional object of the present invention is to provide adjustable connecting means which is so simple to handle that any unskilled person can take care of the adjustment.

Another object of the present invention is to make an adjustable cleaning tool composed of a few simple parts which can be economically manufactured.

With the above objects in view, the present invention mainly consists in a cleaning device comprising a tubular handle having an open bottom end, a top end, and a longitudinal slot between the two ends, two opposite squeezing means located on the handle near the open bottom end thereof and arranged on opposite sides of the handle axis at a fixed distance from each other, a rigid rod-shaped holding member arranged within the tubular handle extending in axial direction thereof, having a bottom portion projecting downwardly beyond the open bottom end of the tubular handle and having a top portion bent angularly to the remainder of the holding member and projecting through the slot toward the outside of the tubular handle; a liquid absorbent cleaning member secured to the bottom portion of the rod-shaped holding member located substantially in the region of the opposite squeezing means, an operating lever pivotally connected to the tubular handle at a pivot point located between the top end and the longitudinal slot of the handle, and connecting means adjustably connecting the operating lever with the upper end of the rod-shaped holding member for adjusting the position of the cleaning member relative to the position of the squeezing means and for to and fro movement thereof in axial direction of the tubular handle, whereby movement of the rod-shaped holding member by the operating lever in one direction will result in pulling of the liquid-absorbent cleaning member between the squeezing means and in squeezing thereof, while movement of the rod-shaped holding member by the operating lever in an opposite direction will result in release of the liquid-absorbent cleaning member from the squeezing means and in positioning of the cleaning member for cleaning purposes.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in connection with the accompanying drawings, in which:

Fig. 1 shows a fragmentary front view of the cleaning device according to the present invention; and

Fig. 2 shows a partially cut-away side view of Fig. 1.

Referring now to the drawings, the cleaning device according to the present invention mainly consists in a tubular handle **1** which carries on its lower end a holder **2** to which squeezing rolls **3** are turnably attached. A liquid absorbent cleaning member, for instance a sponge-like mop **4**, is mounted at the end of the cleaning tool which is shown in the drawings in a working position where it extends laterally beyond the two squeezing rolls **3** and where part of its upper face abuts against the squeezing rolls. From this working position the mop **4** may be drawn between the squeezing rolls so that any liquid contained in the mop is squeezed out of the same.

The handle **1** is, as can be clearly seen from Fig. 2, a hollow tube preferably made of metal. The holder **2** has an upper tubular extension **15** into which the lower end of the handle **1** is inserted and this extension is fastened to the lower end of the handle **1** by means of screws, or in any other convenient manner. Preferably, this extension is split by a longitudinal slot so that this extension can be pressed tightly against the handle by the screws to provide a sturdy connection. Two arms integral with the holder **2** extend downwardly from the same. These arms are substantially parallel to each other and one of the arms is preferably slightly longer than the other one. Each of the arms is preferably provided with a pair of projections **16** on which the squeezing rolls **3** are rotatably mounted. The holder **2** may extend over the whole length of the cleaning mop **4** or it is preferably made as shown in Fig. 1 considerably shorter, whereby the above-mentioned projections carry a shaft **17** onto which three separate squeezing rolls are located respectively outside and between the projections **16**.

The mop 4 itself is held in a second holder 5 preferably in such a way that it can be easily removed from the same. For this purpose the mop is partly split at its center and an attaching rail 6 is inserted into the split. Screws 7 are fixed to rail 16 and extend through mop 4. This rail is fastened to the holder by the screws 7 and wing nuts 8, screws 7 passing through openings of holder 5, as shown. When the two arms of the first holder are made of different lengths, as shown in Fig. 2, the lower face of the mop 4 will make with the axis of the handle an angle other than 90° when the mop is in its working position and its upper face abuts against the squeezing rolls. This inclined position of the working face of the mop to the handle facilitates the operation of the tool.

To bring the mop from its working position shown in Figs. 1 and 2 to a position where the mop is drawn between the squeezing rolls to squeeze any liquid in the mop out of the same, the second holder 5 is centrally connected to a rod-shaped holding member 9 reaching with its lower end through an opening provided in the second holder and is fastened to the holder 5 by means of a nut 18. The rod-shaped holding member 9 extends along the inside of the hollow handle 1 and its upper end is bent to extend through the slot 10 provided in the handle 1 near its top end to the exterior of the handle. This rod 9 can be shifted longitudinally by means of an operating lever 11. This operating lever 11 is preferably U-shaped and the upper ends of its two sides are pivotally connected to the handle by means of a screw or pin 19. The two arms of the lever 11 carry further a bolt 20 attached to and extending between the arms at a location spaced from the pivot point of the lever and in a position substantially normal to the arms. A link bolt 12 is pivotally attached with an eye provided in its upper end to the bolt 20 and the lower end of the link bolt is provided with a screw thread and protrudes through an opening provided in the upper end of the rod-shaped holding member 9. This upper end of the rod 9 is fastened to the link bolt 12 by means of nuts 13 and 14 threaded on the link bolt and respectively abutting against opposite faces of this upper end of the rod. The lower nut 13 is preferably a wing nut so that it can be easily adjusted.

The cleaning device as described operates as follows:

The mop 4 is wetted with water or any other desired cleaning fluid and is then pushed with its bottom surface over the surface to be cleaned. When it is desired to squeeze the liquid out of the mop 4, the operating lever 11 is turned upwardly whereby the mop is drawn by the rod-shaped holding member 9 located within the tubular handle between the squeezing rolls 3 and the liquid is squeezed out of the mop. Pushing the handle down again will restore the mop to its working position.

If the position of the mop relative to the squeezing rolls has to be adjusted the nuts 14 and 13 are loosened, the upper end of the rod-shaped holding member is moved upwardly or downwardly on the link bolt 12 and the nuts are thereafter tightened again to fix the upper end of the rod-shaped holding member at its new position on the link bolt. Thereby, the position of the mop can be adjusted as desired in a very simple manner. As can be clearly seen from Fig. 2, the rod-shaped holding member located within the tubular handle is not in the way of the operator handling the cleaning device and the link bolt 12 is arranged between the two arms of the operating lever 11 and protected by the same so that the operator of the device cannot get hurt inadvertently by the end of the link bolt extending beyond the rod-shaped holding member.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of cleaning devices differing from the types described above.

While the invention has been illustrated and described as embodied in a cleaning device having a liquid absorbent member, it is not intended to be limited to the details shown, since various modifications and structural changes

may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. A cleaning device comprising, in combination, a tubular handle having an open bottom end, a top end, and a longitudinal slot between said ends; two opposite squeezing means located on said handle near said open bottom end thereof and arranged on opposite sides of the handle axis at a fixed distance from each other; a rigid rod-shaped holding member arranged within said tubular handle extending in axial direction thereof, said holding member having a bottom portion projecting downwardly beyond said open bottom end of said tubular handle and having a top portion bent angularly to the remainder of said holding member and projecting through said slot toward the outside of said tubular handle; a liquid absorbent cleaning member secured to said bottom portion of said rod-shaped holding member located substantially in the region of said opposite squeezing means; an operating lever pivotally connected to said tubular handle at a pivot point located between said top end and said longitudinal slot of said handle; and connecting means adjustably connecting said operating lever with the upper end of said rod-shaped holding member for adjusting the position of said cleaning member relative to the position of said squeezing means and for to and fro movement thereof in axial direction of said tubular handle, whereby movement of said rod-shaped holding member by said operating lever in one direction will result in pulling of said liquid-absorbent cleaning member between said squeezing means and in squeezing thereof, while movement of said rod-shaped holding member by said operating lever in an opposite direction will result in release of said liquid-absorbent cleaning member from said squeezing means and in positioning of said cleaning member for cleaning purposes.

2. A cleaning device comprising, in combination, a tubular handle having an open bottom end, a top end, and a longitudinal slot between said ends; two opposite squeezing means located on said handle near said open bottom end thereof and arranged on opposite sides of the handle axis at a fixed distance from each other; a rigid rod-shaped holding member arranged within said tubular handle extending in axial direction thereof, said holding member having a bottom portion projecting downwardly beyond said open bottom end of said tubular handle and having a top portion bent angularly to the remainder of said holding member, said top portion having an opening therethrough and projecting through said slot to the outside of said tubular handle; a liquid absorbent cleaning member secured to said bottom portion of said rod-shaped holding member located substantially in the region of said opposite squeezing means; a U-shaped operating lever having two arms pivotally connected adjacent their free ends to said tubular handle at pivot points located between said top end and said longitudinal slot of said handle; a pin connected to and extending between said two arms of said operating lever substantially normal thereto at a location spaced from said pivot points; a link bolt having opposite free ends and being pivotally connected with one of said ends to said pin and the other of said ends protruding through said opening of said rod-shaped holding member and being provided with a screw thread; and a pair of nuts threaded on the other end of said link bolt and respec-

tively abutting against opposite sides of said top portion of said rod-shaped holding member so that by adjusting the position of said nuts on said link bolt the position of said cleaning member relative to said squeezing means may be adjusted, whereby movement of said rod-shaped holding member by said operating lever in one direction will result in pulling of said liquid-absorbent cleaning member between said squeezing means and in squeezing thereof, while movement of said rod-shaped holding member by said operating lever in an opposite direction will result in release of said liquid-absorbent cleaning member from said squeezing means and in positioning of said cleaning member for cleaning purposes.

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