



# UNITED STATES PATENT OFFICE

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## COMPRESSING OR SQUEEZING DEVICE FOR MOPS

Philip Siegel, New York, N. Y.

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6 Claims. (Cl. 15—119)

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This invention relates to mops, and particularly to so-called "wet" mops which are operated while saturated with water and which must, during the swabbing operation, be wrung or squeezed to remove the water from them. A mop of this general character is one in which the swab is composed of an elongated section or block of sponge material, composed either of rubber, cellulose or other equivalent material and the invention has particular reference to means by which a mop of this character may be squeezed to cause the water therein to be extruded out of the mop whenever desired.

The invention contemplates the provision of such a means as will enable the mop to be squeezed to remove the water without requiring the hands to touch the swab or be brought near the same.

More particularly, the invention contemplates a mop in which the swab or sponge material is supported in or on a suitable frame and is embraced between one or more movable members, which when forced toward one another, will compress the sponge swab between them and cause the water to be forced out of it. A feature of the invention resides in the provision of relatively simple and effective linkage, operated by a rod disposed along the mop handle, and which will, by movement of said rod, serve to bring the mop-compressing members toward one another to cause the mop to be compressed as above explained to remove the water from it.

These and other objects are attained by the invention, a more particular description of which will hereinafter appear and be set forth in the claims appended hereto.

In the accompanying drawing, wherein an illustrative embodiment of the invention is described, Fig. 1 is a perspective view of a mop construction made in accordance with the invention, the swab of the mop being omitted to more clearly disclose the construction of the swab-compressing means; Fig. 2 is a perspective view, looking at the rear of the mop head; Fig. 3 is a side elevation of the upper portion of the mop handle, showing the operating lever, and Fig. 4 is a perspective view of a modified structure.

With reference to the embodiment shown in Figs. 1 to 3 inclusive, 1 indicates the swab, which in the form shown may consist of a block or elongated section of absorbent, compressible material such as a sponge of rubber, cellulose material, or other suitable material of similar characteristics. The swab thus constructed is suitably supported upon a longitudinally-extending,

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centrally-positioned rod 2 which has its ends mounted in the spaced and fixed ends 3 and 4 of a yoke-shaped frame 5. Located in said frame 5 and respectively situated at the opposite ends of the sponge-like swab 1, are the compression plates 6 and 7, each of said plates being provided with an aperture 8 through which the supporting rod 2 extends and upon which the compression plates are slidable to enable the same to be moved toward one another to compress the swab between them and cause the water to be extruded therefrom.

Each of the plates 6 and 7 is provided at one end with an inturned ear or lug portion 9 or 9a, pivotally connected at 10 to the ends of a lazy-tong structure. Said lazy-tong structure includes the cross links 11 and 12 pivotally connected at 13 at a central point of the frame or yoke 5. One end of the link 11 is pivotally connected at 14 to one end of a short link 15 having its opposite end attached by the pivot 16 to the lug 9 of the plate 6. The opposite end of the link 11 is pivoted at 16 at a central point on a long link 17 which has one end attached at the pivot 18a to the lug 9a of plate 7. The opposite end of the long link 17 is pivotally attached at 19, to one end of an operating rod 19. For this purpose, the end of the rod 19 may be flattened and perforated to receive the pivot pin 19. Rod 19 extends upwardly along the mop handle 20 and has its upper end pivotally secured at 21 to a pivoted lever 22a which may be rocked by the operator to move the operating rod 19 up and down in a manner to be described.

The mop handle 20 may be of conventional form and preferably, but not necessarily, of wood, and has its lower end secured in the socket or ferrule 22 which has a flattened portion 23, attached by the rivets 24 or equivalent fastening means, to the back of the frame or yoke 5 at a central point thereon.

One end of the link 12 is pivoted at 25, to one end of a short link 26 which has its opposite end pivoted on the pivot 16a. The other end of the link 12 is pivoted at 27 to the central point of a long link 28, having one end attached at the pivot 19 and the other end attached at the pivot 19 to the operating rod 19. Provided in the back or rear bar of the frame 5 are slots 29 and 30, and it will be noted that the same constitute guiding means for the pivot pins 16a and 16 respectively. The result of this arrangement is that the compression plates 6 and 7 are each guided at two points, namely at the apertures 8 and by the slots 29 and 30.

From the foregoing, the operation of the described structure will be readily understood. The mop is shown in its operative position in Fig. 1, and when it is desired to remove the accumulated water in the swab, the lever 22a is swung downwardly to cause it to exert an upward pull on the operating rod 19. Since the lower end of the rod 19 is pivotally attached at the central point of the lazy-tong structure, namely, at the point 18, links 23 and 17 will be drawn upwardly and will, by such movement, draw the plates 6 and 7 toward one another to cause the same to compress the swab between them and thus squeeze the water out of the swab. This can be done while the mop is held over a pail or sink. Since the compression of the sponge takes place while the hands of the operator are located remotely from the swab, the device is sanitary and effective for the purpose described.

In the embodiment of the invention shown in Fig. 4 the compression plates 6 and 7 and the yoke-shaped frame 5' and its ends 3' and 4' are substantially similar to the parts 3, 4 and 5 shown in the embodiment of Figs. 1 and 2. The operating structure in this embodiment of the invention includes the horizontally-disposed links 30 and 31. Link 30 is pivotally attached at one end to the pivot pin 10a and has its other end pivotally connected at 32 to a pivot pin at the end of an upwardly extending link 33 which has its upper end pivotally attached at 34 to the lower end of a slidably-mounted operating rod 35. The lower end of the rod 35 may be flattened and perforated to receive the pivot pin 34. Said rod 35 is slidably mounted in one or more guides 36 secured along the mop handle 20 and the upper end of the rod 35 is provided with a knob or handle 37 permitting the convenient up and down sliding movement of the rod 35.

Link 31 is attached at one end to the pivot pin 10, and has its other end pivotally attached at 38 to the lower end of a link 39 having its upper end pivotally attached at 34 to the operating rod 35. Provided in the link 30 is a longitudinally-extending slot 40 in which the pivot pin 38 is slidable, while a similar slot 41 is provided in the link 31 for the accommodation of the pivot pin 32.

Through the arrangement above described, a downward movement of the rod 35 will cause the lower ends of the links 33 and 39 to spread apart or move in opposite directions, thus causing the pivot pins 32 and 38 to move away from one another. Link 31 will thus move the compressing plate 6 toward the right, while link 39 will move the compressing plate 7 toward the left, thus causing the two plates to be moved toward one another and the sponge or swab to be compressed between them and the water squeezed out of the same.

While I have described several embodiments of the invention, it will be obvious that various modifications may be made without departing from the spirit of the invention. For example, means can, if desired, be employed to hold the rod 35 in its elevated position; the supporting rod 2 for the swab might be found unnecessary and the linkage utilized for moving the compression plates toward one another might be arranged in other forms to secure the required compressing movement of the plates 6 and 7 toward one another. These and other modifications are contemplated and are considered as being comprehended within the scope of the claims appended hereto.

What I claim is:

1. A mop comprising, a frame member, a swab composed of an elongated section of sponge material, end members between which the swab is disposed, means extending between said end members for supporting the sponge material, means for moving said end members toward one another to cause them to compress the swab between them, said means comprising a lazy-tong structure having its ends attached to the said end members and its central portion attached to an operating rod at a point to cause the end members to move toward or away from one another on longitudinal movement of the operating rod, said operating rod arising at the rear of the swab and mounted for longitudinal movement to cause contraction of the lazy-tong structure and move the members toward one another to cause them to compress the swab between them, and guiding means on the frame for the lazy-tong structure.

2. A mop comprising, a swab composed of an elongated section of sponge material, a rod extending longitudinally and centrally through the block, a yoke supporting the ends of the rod, plates at the opposite ends of the swab inside of the yoke, means on the yoke for engaging and guiding the plates, said plates being movable on the rod to compress the swab between them, inturned ends on the plates, links attached to the inturned ends, said links being pivotally connected together at one end, a rod connected at the pivotal point of the links whereby movement of said rod in one direction will cause the plates to be drawn toward one another to compress the swab between them.

3. A mop comprising, a block of sponge material, a frame in which the sponge material is supported, compressing plates to the opposite ends of the sponge material, inwardly-extending extensions projecting from the plates and located at the back of the sponge material, pin-and-slot connections between the extensions, pivoted links connected to the ends of the extensions and the frame, one end of each of said links being pivotally connected together, and an operating member extended to said connecting pivot, the arrangement being such as to cause the two plates to be relatively moved to compress the sponge between them upon movement of the operating member in one direction.

4. A mop comprising, a handle, a yoke-shaped frame attached at one end of the handle, said frame consisting of a rear bar and forwardly-bent, spaced and fixed ends, a rod extending between and supported at its ends by said end bars, a pair of squeezing plates slidably mounted on the rod between the ends, linkage connecting said squeezing plates and by means of which the said squeezing plates are both moved toward or away from one another on the rod, the rear bar being provided with slots, elements on the linkage located in and guided by said slots during movements of the squeezing plates, a compressible sponge carried on the rod between the squeezing plates, and operating means connected to the linkage and arranged on the handle.

5. A mop comprising, a handle, a yoke-shaped frame attached at one end of the handle, said frame consisting of a rear bar having forwardly-extended ends, a rod extending between and having its ends attached to said ends of the rear bar, a sponge on the rod, a pair of squeezing plates slidable on the rod and between which the sponge is located, each plate having a later-

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ally-bent rear end carrying a pin, the rear bar being longitudinally slotted, the pins being guided in said slots, linkage connecting the laterally-bent rear ends, and an actuating rod attached at one end to the linkage and slidably mounted with respect to the handle and manually operable to cause the linkage to move both of the squeezing plates to or from one another.

6. A mop comprising a handle, a substantially U-shaped frame attached at one end of the handle, said frame having a rear bar and two forwardly-extended ends, the forwardly-extending ends being connected by a rod, a sponge carried on the rod, a pair of squeezing plates slidable on the rod, the sponge being positioned between said plates, linkage at the rear of the sponge and located between the sponge and rear bar of the frame, said linkage being connected to the squeezing plates, and an operating rod attached at one

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end to the linkage and movable to cause the linkage to move both the squeezing plates toward one another to thereby compress the sponge between them.

PHILIP SIEGEL.

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