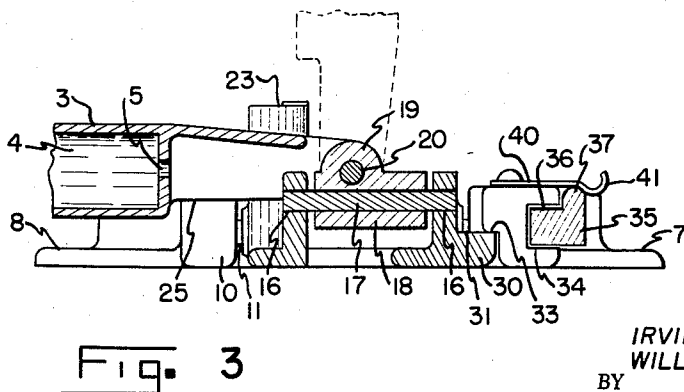
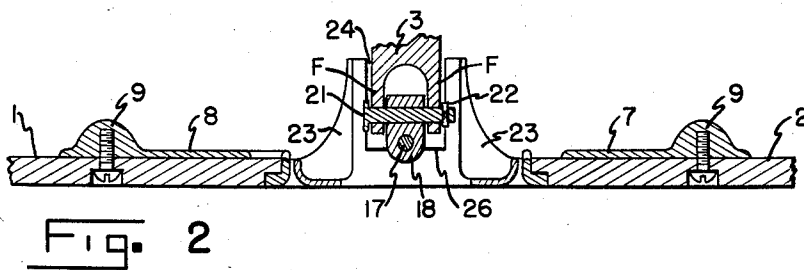
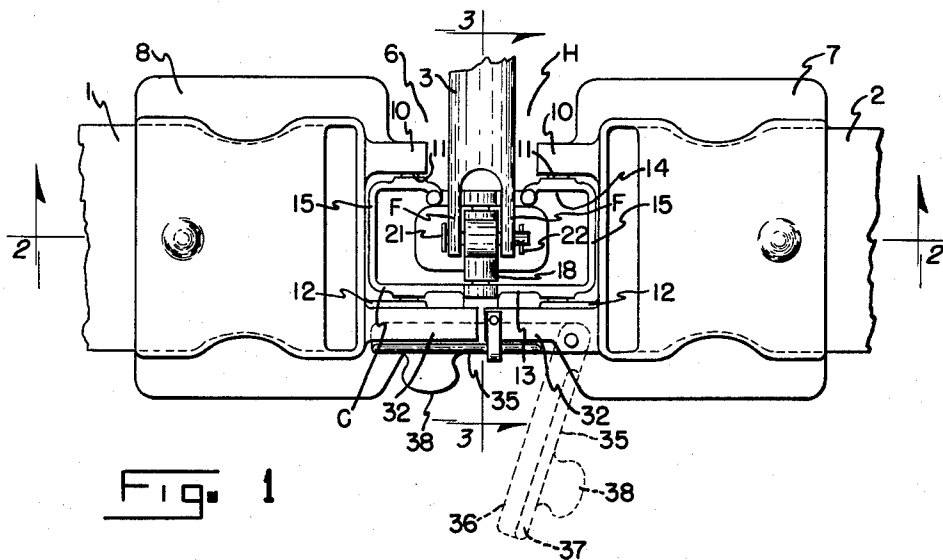


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COLLAPSIBLE MOP SUPPORT

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COLLAPSIBLE MOP SUPPORT

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This invention relates generally to floor mops and more particularly to mop heads or supports of the folding and collapsible type and is an improvement upon the Collapsible Mop Support shown and claimed in the Irving A. Yamen United States Patent No. 2,840,840 issued July 1, 1958, said patent and the present application having been assigned to a common assignee.

Reference is made to said Yamen patent for a complete understanding of the various uses and functions of the instant mop, and in view of this disclosure only the improved features are being illustrated in the drawing, it being understood that the present mop is used in a manner substantially identical to that described in said pending application. Among the improved features are (1) the type of universal connection between the mop handle receiving member and the connector of the mop support; (2) the construction of the mop handle receiving means whereby the receiving member together with the mop handle secured thereto may be pivoted into a plane substantially parallel with the surface over which the mop operates; (3) the improved releasable latch means for maintaining the leaves and wings of the mop in an extended coplanar position; and finally (4) incorporation of means for locating the hinge leaves in a common plane prior to locking them in extended position with said latch means.

Thus it is the primary object of this invention to provide a mop head or support having the various advantages outlined in said patent and which include the improvements enumerated above.

The construction designed to carry out the invention will be hereinafter described, together with other features thereof, and will be more readily understood by a reading of the following specification and by reference to the accompanying drawing forming a part thereof wherein an example of the invention is shown and wherein:

Figure 1 is a top plan view of the mop head of this invention with the wings thereof broken away;

Figure 2 is a sectional view taken along the lines 2—2 of Figure 1; and

Figure 3 is a sectional view taken along the lines 3—3 of Figure 1.

Referring now in particular to the three figures of the drawing, there is shown portions of foldable wings 1 and 2 which are arranged to be received in a conventional swab having opposed pockets, all as indicated in said pending application. Numeral 3 represents a partly broken away receiving member having a socket 4 within which may be threadedly attached or secured by means of a screw passing through aperture 5 a conventional mop handle, not shown.

As in said patent, the mop head, as viewed in Figure 1 and represented by H, comprises the right wing 2, the left wing 1 and a hinge illustrated generally by numeral 6, the leaves of which are attached to the wings to provide a hinge connection therebetween. In particular,

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hinge 6 is formed to provide a right leaf 7 and a left leaf 8 attached, respectively, to wings 2 and 1 by any suitable means such as that represented at 9 and it will be noted that the wings and leaves are arranged in opposed spaced relation.

A connector element is shown generally at C and the leaves 7 and 8 are each attached for pivotal or hinged movement to the connector element. This attachment is accomplished by boss projections 10 and 12 extending from the leaves and journaled by means of pins 11 or equivalents thereof to the connector C. This pivotal movement should be entirely clear by referring to Figure 1 and said patent and is for the purpose of permitting collapsing of the wings from their extended position in order to easily remove the swab.

The connector element C has an open rectangular shape and includes front wall 13, rear wall 14 and side walls 15. Between the front and rear walls 13 and 14 there is provided hinge pin openings 16 for receiving the pin 17 and rotatably mounted thereon is a sleeve 18 having at its top a raised portion 19 provided with a pin hole 20. The bottom part of the socket member 3 is bifurcated to form the forks F which are journaled for movement on a pin 21 received in opening 20 and this pin is maintained in place by any suitable means, such as the cotter pin 22, it being apparent that pins 17 and 21 permit the socket or handle receiving member 3 to move substantially universally and that a durable and sturdy universal joint is provided. The rear wall 14 of connector C is provided with spaced upstanding portions 23 which form a substantial U-shaped opening 24 of a width greater than that of member 3 in an otherwise substantially closed rear wall.

Particularly referring to Figure 3, the socket element 3 is shown as positioned between the upstanding portions 23 and in this position the member 3 as well as the mop handle attached thereto cannot move about the axis upon which sleeve 18 is journaled or, in other words, socket member 3 is limited to movement about one of the mutually perpendicular axes. It will be further noted that the forked portions F not only provide a sturdy connection with the connector C, but also that they are formed from flat or straight surfaces 25 at the back thereof, as viewed in Figures 1 and 3, and due to this the socket member 3 may be positioned as shown in solid lines in Figure 3 with the flat part 25 of each fork F resting flush on the flat surface of base 26 of opening 24, with the result that the socket member and the mop handle secured thereto may be knowingly positioned in a plane closely spaced to and parallel with the plane of the floor upon which the mop is being used, this being advantageous during use of a mop including head H.

The construction described relative to the universal mounting as well as the construction of member 3 constitutes improvements of this invention, but one of the most important features resides in the means for positioning and maintaining the hinge leaves 7 and 8 in their extended position, as shown in Figure 1, wherein the leaves are substantially coplanar. Considering said patent for the moment, the locking means for accomplishing this same objective was found to have certain defects, among which are (1) no means is provided for insuring that the hinge leaves are coplanar prior to inserting the locking pin in the aligned openings of the portions carried by the leaves, and (2) the locking pin was found to jam occasionally. Referring to present Figures 1 and 3 in particular, there extends from the connector C and more specifically from the front wall 13 thereof, a lateral member 30 having a flat top surface 31. The projections 12 of the hinge leaves that are connected for journaled movement with the connector adja-

cent the front wall thereof are enlarged as shown in Figures 1 and 2 to include a flange portion 32 having flat bottom surfaces 33 adapted to abut and rest against the surface 31 and when this takes place, one is insured that the hinge leaves 1 and 2 are properly mounted in a common plane and that the latching of the leaves in this position may now take place to lock the leaves in extended position. These same projections 12 are provided with slots 34 which also are arranged to be axially aligned when the leaves are coplanar. Pivotaly mounted on projection 12 of leaf 7 is an arm 35 having a substantially square shaped part 36 comparable but slightly smaller than the size of slots 34 and a rounded raised part 37, there also being secured to the arm on the opposite side of part 36 suitable handle means 38. Extending laterally from portion 32 of leaf 7 is a spring 40 having a terminal end 41 contoured as shown in Figure 3. Assuming the leaves are in proper coplanar position with the flange portions 32 resting on surface 31, then the operator manually moves the arm 35 from the dotted line position of Figure 1 to the solid line position with part 37 overcoming the bias of contour 41 until it is positioned as shown in Figure 3 with part 36 within the aligned slots 34. Terminal part 41 forms a latch which should be obvious for holding the arm 35 in this position and the mop is now in condition to be used. To change a swab, it is merely necessary to manually move arm 35 to the dotted line position of Figure 1 by applying sufficient force to overcome the spring bias 41 and then pivot the hinge leaves, all as shown in said copending application. However, it has been found that the latch means just described clearly overcomes the defects enumerated relative to said patent and further the leaves are knowingly in a coplanar position prior to locking the latch means.

From the foregoing disclosure and description of the invention, which is illustrative and explanatory thereof, it is clear that the apparatus achieves the objects enumerated therein. Various changes in the size, shape and materials, as well as in the details of the illustrated construction may be made within the scope of the appended claims without departing from the spirit of this invention.

What is claimed is:

1. A mop head comprising a connector, mop handle receiving means mounted on the connector for substantially universal movement relative thereto, hinge leaf means mounted in opposed relation on opposite sides of the connector for hinged movement relative thereto, said hinge leaf means including means for effecting connection with a swab with the leaves being adapted for movement from a folded position to an extended position in

which the leaves are substantially coplanar, and releasable latch means for maintaining the leaves in extended position, said latch means comprising an arm pivotaly mounted on one of said leaves, each of said leaves being provided with a slot with the slots being axially aligned when the leaves are in an extended position and arranged to receive said arm, and means carried by one of the leaves for maintaining said arm within said slots, the slots being provided in opposed flange portions forming a part of said leaves, stop means for maintaining the leaves coplanar prior to movement of said arm into said slots, said portions being positionable on said stop means.

2. A mop head as defined in claim 1 wherein the stop means is carried by the connector and the means for maintaining said arm within said slots includes a spring member carried by one of the portions and engageable with said arm.

3. A mop head comprising a connector, mop handle receiving means mounted on the connector for substantially universal movement relative thereto, hinge leaf means mounted in opposed relation on opposite sides of the connector for hinged movement relative thereto, said hinge leaf means including means for effecting connection with a swab with the leaves being adapted for movement from a folded position to an extended position in which the leaves are substantially coplanar, and releasable means for maintaining the leaves in extended position, the connector element being provided with spaced front and rear walls interconnected by spaced side walls which form an opening, a member mounted in said opening on said connector for rotative movement about a fixed axis and said receiving means comprising a socket member mounted on said rotatable member for pivotal movement about a second axis which is substantially perpendicular to the first axis, said socket member comprising forked legs with one side of said legs being flat, said rear wall being provided with a substantially U-shaped opening, the rear wall being flat at the base of said opening and said flat side of said legs being engageable therewith.

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