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METHOD OF MAKING MOP FRAMES FOR SWAB STRUCTURES FOR USE  
ON SMOOTH SURFACED FLOORINGS AND THE LIKE  
Filed July 10, 1941

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Fig. 1.

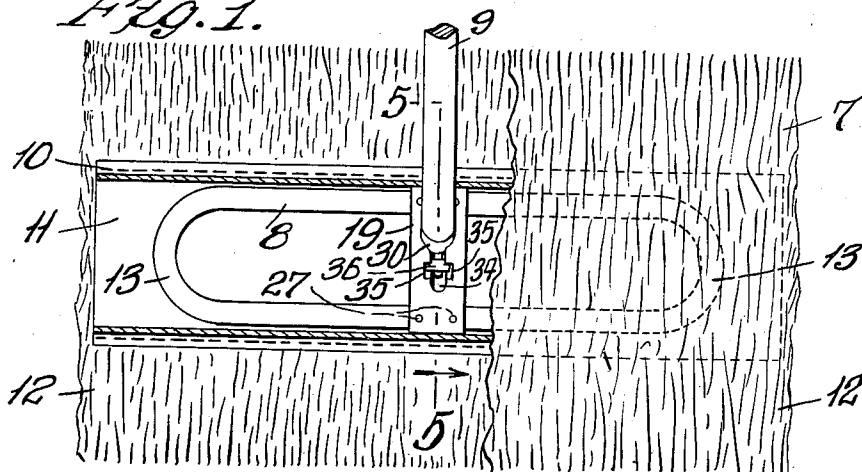


Fig. 2.

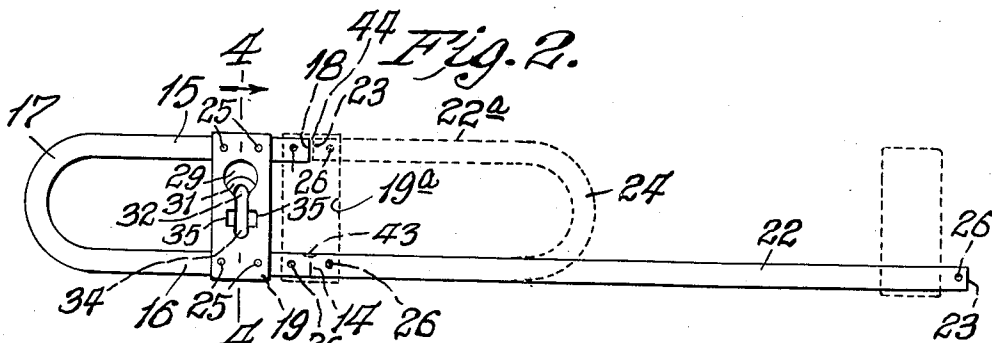


Fig. 3.

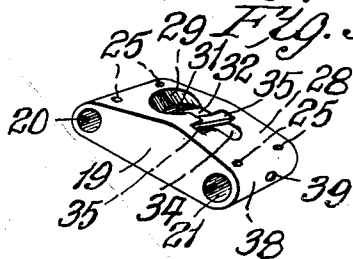


Fig. 4.

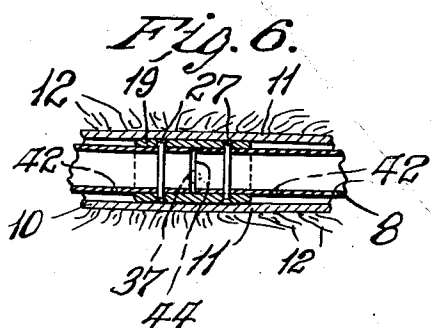


Fig. 5.

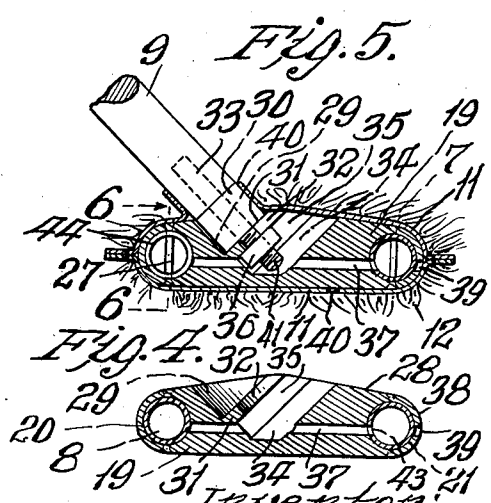
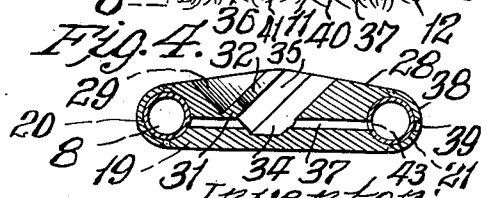


Fig. 6.



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## UNITED STATES PATENT OFFICE

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METHOD OF MAKING MOP FRAMES FOR  
SWAB STRUCTURES FOR USE ON SMOOTH  
SURFACED FLOORINGS AND THE LIKEJohn S. Brennan, St. Louis, Mo., assignor to J. S.  
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Application July 10, 1941, Serial No. 401,763

2 Claims. (Cl. 300—21)

This invention relates to certain new and useful improvements in a mop frame and pertains more particularly to the frames of that character of mops known to the trade as dustless sweeper mops for use of smooth-surfaced floorings and whereby the swab structure of the mop is readily removable or replaceable and/or reversible if the swab structure is a double-faced one.

An object of the invention is to provide a mop frame of an improved construction.

Another object of the invention is to provide an improved supporting frame for the swab structure and the handle of the mop, and the frame if desired, may be provided with oiling ducts.

A further object is to provide a mop frame with an improved handle supporting head.

A still further object is to provide a mop frame of an improved tubular construction.

It is also an object of the invention to construct a mop frame by an improved method.

With the foregoing and other objects in view which will appear as the description proceeds, my invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes may be made within the scope of what is claimed without departing from the spirit of the invention.

An embodiment of the invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a plan elevation partly in section of a mop showing this improved mop frame supporting the swab structure of the mop and the handle.

Figure 2 is a plan elevation showing how this improved mop frame is constructed.

Figure 3 is a perspective elevation of the mop frame head.

Figure 4 is an enlarged transverse sectional elevation taken approximately on the line 4—4 of Fig. 2.

Figure 5 is an enlarged transverse sectional elevation taken approximately on the line 5—5 of Fig. 1.

Figure 6 is an enlarged fragmentary longitudinal sectional elevation taken on the line 6—6 of Fig. 5.

Referring by numerals to the accompanying drawing, 7 designates the mop, 8 the frame, and 9 the handle therefor.

The mop 7 as shown, comprises a double-faced swab structure 10 of a pair of opposing secured together layers 11 having twine strands 12 secured to and extending outwardly from each

layer, and the swab structure being open-ended so that it can be slid from either end onto the supporting frame 8 before the handle 9 is fixed to the mop.

5 The frame 8 is of tubular structure and is formed from a suitable tube length of relatively large diameter and has rounded ends 13 which are formed when making or constructing the frame.

10 In making the frame, a tube of the required length for a frame of a desired size is selected, and the tubular length is marked as designated at 14 in Fig. 2 at the middle or center of its length, and an end 15 of the tube is engaged and bent into a position paralleling the intermediate portion 16 of the tube on a required form of bend 17, with the extending end 18 of the part 15 of the tube in transverse alinement with the mark 14.

20 A handle supporting head 19 having end disposed openings 20 and 21 respectively, and paralleling each other, is engaged for mounting on the partly formed tubular length with the opening 21 engaged on the straight portion 22 of the tubular length, and the head 19 is slid thereon to a position so that the opening 20 of the head can be engaged on the part 15 to the position shown in full lines in Fig. 2, and the head is left in this position while the extending part of the straight portion 22 of the tubular length is being bent into a position in longitudinal alinement with the part 15 and wherein the extending end 23 will be positioned in proximity to the extending end 18 of the part 15. In bending the straight portion 22 of the tubular length into the position shown at 22a in dotted lines in Fig. 2, the bend 24 is formed, the bends 17 and 24 thereby forming the rounded ends 13 respectively, of the frame 8.

40 The head 19 at each end is provided with a pair of vertically disposed apertures 25 for alinement with respective apertures 26 which are formed in the tubular length when the head is moved to the position shown in dotted lines at 19a, with the part 22a of the tubular length engaged in the opening 20 of the head. Pins 27 are then mounted and riveted in the alined apertures 25 and 26 for securing the head to the frame.

50 The head 19 on its top side 28 is provided with an inclined socket 29 for the ferrule end 30 of the handle 9, and at the bottom of the socket is an inclined seat 31 having a slot 32 therein which is open at one end for the reception of a threaded stud 33 which is secured to and ex-

tended from the ferrule end 30 of the handle 9. A well or pocket 34 is also provided in the top side 28 of the head 19 beyond the socket 29, and in said well on the underside of the seat 31 are a pair of opposed guide walls 35 for the introduction and engagement of opposing sides of a tightening nut 36 on the stud 33 of the handle 9.

The head 19 is also provided with a longitudinally extending and intermediately disposed duct 37 which is drilled from the front end 38 of the head, through the opening 21 and the well 34 and to the opening 20, as more clearly shown in Figs. 4 and 5, before the head is mounted on the frame 8.

In centrally disposing the head 19 on the frame 8 in the manner shown in dotted lines at 19a in Fig. 2, the end 39 of the duct 37 will provide a site opening for locating the center mark 14 with respect to centrally positioning the head on the frame for pinning the head to the frame.

Each of the layers 11 of the swab structure 10 intermediate its length, is provided with a slit or opening 40 for introducing the ferrule end 30 of the handle 9 for securing the handle to the head 19 of the frame 8 after the frame has been slid into the swab structure from either end.

The handle 9 having the stud 33 and tightening nut 36 threadingly mounted on the stud and held thereon against removal by the burred end 41 on the stud, upon being engaged in the slit 40 of the upper layer 11 of the swab structure 10, is manipulated to guidingly engage the opposing sides of the nut between the opposed guide walls 35 in the head 19 so that that portion of the stud between the nut and the ferrule end of the handle can be drawn into the slot 32 of the seat 31, and so that the ferrule end 30 of the handle can be seated in the socket 29 of the head. Tightening turning of the handle 9 will cause the nut 36 to ride upwardly on the thread of the stud 33 by reason of the nut being held against turning by the opposed guide walls 35, the turning of the handle being continued until the ferrule end 30 thereof is firmly seated in the socket 29 of the head and against the seat 31. The mop is then ready for use on smooth-surfaced floorings and the like.

Obviously, when one twine strand layer of the swab structure 10 has been sufficiently used, the swab structure can be removed from the frame

8 for reversing the working surface thereof, after removal of the handle from the head 19, which is done by turning the handle in a loosening direction.

5 The tube of the frame 8 may on its underside, be provided with spaced apertures 42 so that an oil treatment for the swab structure 10 can be provided by depositing oil in the well 34 from where it will enter the duct 37, and can be communicated to the apertures 42 by entering the tube through the opening 43 at one end of the duct 37 and through the gap 44 between the adjacent ends 18 and 23 of the tube, and which gap is covered by engagement of the head 19

15 thereover. Obviously the securing of the head 19 to the extending ends of the tube of the frame 8 prevents the tube ends from separating, and by reason of the frame being of tubular construction and the head being somewhat hollowed to provide the handle securing construction shown, a relatively light weight mop frame is provided.

What I claim is:

1. The method of making a mop frame from a length of comparatively rigid material, consisting of bending the material length to provide a pair of paralleling straight portions of unequal lengths, of slidably mounting a handle supporting head on the paralleling portions, of bending the longer one of the paralleling portions leaving a suitable straight portion thereof to form a part in axial alinement with the other straight portion, and of slidably positioning and securing the head over said axially alined portions.

35 2. The method of constructing a mop frame from a length of comparatively rigid tubular material and a handle supporting head having preformed parallel openings therethrough, consisting of bending the material length to form a pair of paralleling straight portions of unequal lengths, of engaging each paralleling portion in a respective opening of the head to slidably mount the head thereon, of bending the longer one of the paralleling portions leaving a suitable straight portion thereof to form a part in axial alinement with the other straight portion, and of positioning and securing the head over said axially alined portions.

50 JOHN S. BRENNAN.