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MOP HEAD AND SWAB

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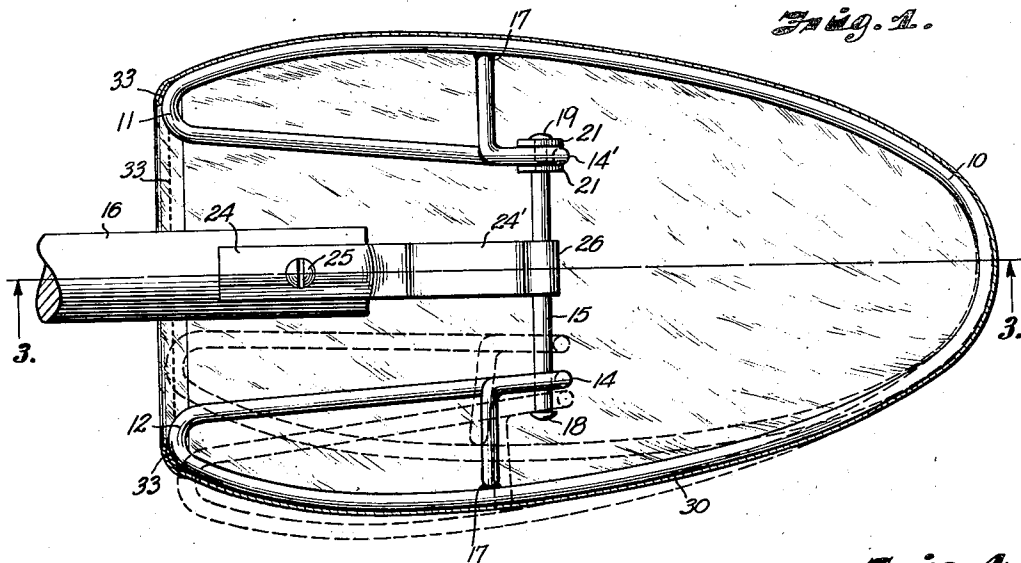


*Fig. 2.*

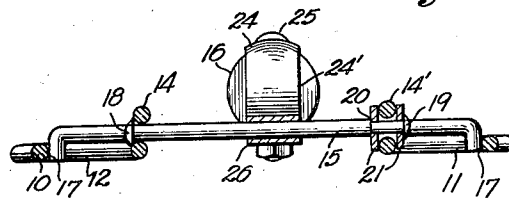
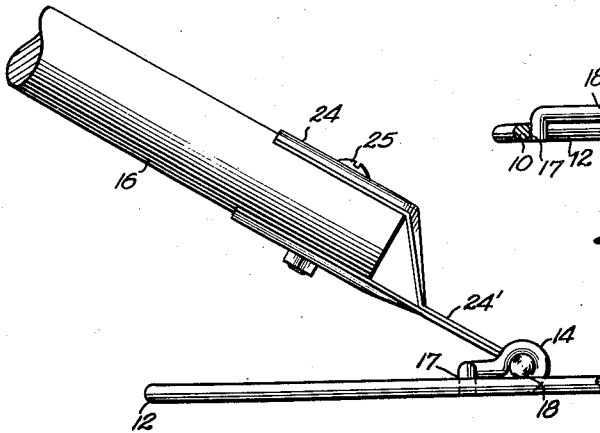


Fig. 4.

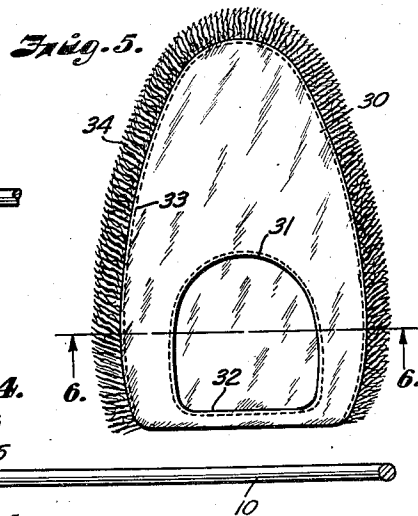


Fig. 5.

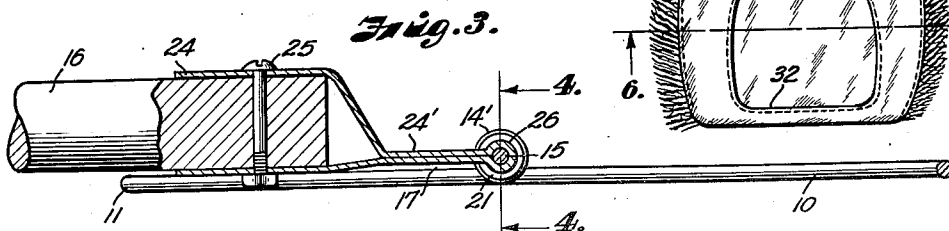


*Fig. 3.*



Fig. 6.

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## UNITED STATES PATENT OFFICE

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MOP HEAD AND SWAB

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3 Claims. (Cl. 15—149)

The present invention relates to mop construction and the primary object in view is to devise a novel type of mop head which may easily be assembled with relation to the mop swab and as conveniently detached therefrom.

For this purpose I provide an expansible type of mop head structure, made for the most part of wire material in the form of a frame which may be readily inserted and removed from a pocket provided in the swab.

It is also sought to provide a mop swab of a novel and efficient form for use with the improved head construction. In this connection an important object is to devise a mop frame and swab assembly which may be freely manipulated when in use into practically all positions into which a hand mop could be operated, and with a minimum of danger of marring the furniture or wood-work.

With the foregoing general objects in view, the invention will now be described by reference to the accompanying drawing illustrating one form of construction which I have devised for embodying the proposed improvements, after which those features and combinations deemed to be novel and patentable will be particularly set forth and claimed.

In the drawing—

Figure 1 is a plan view illustrating a mop head constructed in accordance with the present invention, a portion of the swab being represented in section, and dotted lines showing the different contracted positions of the frame member of the head;

Figure 2 is a fragmentary side view of the device, with the swab removed;

Figure 3 is a section taken on the line 3—3 of Figure 1 (with the swab removed);

Figure 4 is a transverse section indicated by the line 4—4 of Figure 3, but showing the mop head fully expanded;

Figure 5 is a plan view of the swab member (on a smaller scale); and

Figure 6 is a transverse section represented by the section line 6—6 of Figure 5.

Referring now to the drawing in detail, the main portion of the improved mop head is constructed of spring wire material of suitable gage and strength and bent into the form best illustrated in Figure 1, to provide a frame having a forward portion 10 of half-oval design and a pair of rear end portions 11 and 12 formed of the terminal portions of the wire and comprising the wider portion of the frame. These terminal portions of the wire are intumed and extended for-

wardly in spaced and slightly converging relation to approximately the middle portion of the interior of the frame where the wire is looped to form eyes 14, 14', for the ends of a pin 15 to which the handle 16 of the mop is connected; said wire terminals are suitably bent laterally outward and their ends turned for securely spot-welding the same to the outer portions of the frame as indicated at 17.

One end of the pin slidingly as well as pivotally engages the loop 14, but is suitably headed, at its end 18, to prevent complete disengagement; while the other end of the pin is headed at 19 as well as shouldered at 20 for retaining a pair of friction washers 21 in binding frictional engagement with the opposite sides of the loop 14' and thus restricting the pivotal movement of the handle about the axis of said pin 15 and at the same time preventing any endwise sliding movement of said pin within the loop 14'. Thus the rear end portion 11 of the frame is maintained fixed against any inward movement of said end portion 11 toward the handle 16, for the latter is likewise fixed relative to the pin by means of a clip member 24 removably attached by a bolt 25 to opposite sides of the end of the handle, and the shank 24' of the clip extending in alignment with the lower side of the handle and formed with a loop 26 which is spot-welded to the middle portion of the pin 15.

This construction and contour design of the frame are such as to accurately balance the same with reference to the axis of the pin 15, and preferably the loop 26 is secured to the pin 15 at such point as to be substantially midway between the loops 14 and 14', while the mop is still in a slightly contracted condition after spreading against the outer margins of the mop swab pocket 30, as represented by the full lines in Figure 1.

The improved form of mop swab is more particularly illustrated in Figures 5 and 6, and comprises a pocket 30 of canvas or other suitable fabric material and of a form suitable for snugly enclosing the head frame above described, and of a size adapted (as said material shrinks after first use) to maintain said frame in a slightly contracted state, as just referred to above. The pocket 30 is provided with a top opening 31 just large enough to permit (with some slight distortion or puckering of the sides of the opening) the endwise insertion of the frame, the pocket being formed by folding a piece of canvas containing said opening in such a way as to leave a retaining lip 32 across the rear margin of the opening and the raw outer edges of the pocket being turned

in and fastened by the same stitching 33 which secures the mop yarn material 34 to the underside of the pocket.

It is to be explained that the size of this opening 31 is designed to be just large enough to permit (with the slight distortion referred to) the insertion and removal of the mop head, so that in the use of the mop the top of the pocket completely covers the head frame and its connections, including the pivot pin, loops 14—14' and lower portion of the shank 24',—in fact all but a portion of the wire running from said loops to the rear ends 11—12; thus the metal portions of the frame are effectively shielded so as to guard against any scratching or otherwise marring of the walls, woodwork or furniture when the mop is in use.

The mop head and swab are assembled by grasping the lower end of the handle and adjacent end portion 12 of the frame to contract its rear portion sufficiently (as illustrated by the dotted lines in Figure 1) to enter the opening 31 as the frame is slid endwise therethrough, until the rounded forward end is seated in the forward end of the pocket 30; the operator then swings the handle and frame to hook the end portion 11 into the corresponding rear corner of the pocket (with such assistance of the operator's other hand as may be necessary) and then releases the other end portion 12 to allow it to become hooked into the other corner of the pocket. This results in the frame becoming seated under a slight tension, as represented by the full lines in Figure 1, and in this inserted position the lip 32 forms a retaining means for holding the rear corners of the pockets in proper retaining engagement with the rear end portions of the mop head frame in the use of the appliance. For removing the swab, as for cleaning or replacing the same, the parts are grasped in the same manner for first contracting the frame and withdrawing the end 12 from that corner of the pocket toward the opening 31, and then moving the frame and swab relatively for withdrawing the end 11 from its corner and simultaneously moving the end 12 out through the opening 31, which brings the end 11 also in position for moving it over and past the lip 32 and thus permitting complete withdrawal of the mop head from the pocket.

The above operations of assembling or applying and removing the swab may of course be varied in certain respects to suit the operator's convenience, and in any case the operation is facilitated by the fact that the handle maintains any given position relative to the mop head by virtue of the balanced construction relative to the axis of the pin 13 and the frictional connection of said pin with the loop 14' which construction furthermore helps to support the handle (where this is relatively light) in any given position while the mop head and swab are resting on the floor. The offset relation of the shank 24' of the clip 24 facilitates the use of the mop with the handle in maximum lowered position as indicated in Figure 3, whereby the swab may be manipulated around and under furniture, into corners and so forth, with the same facility as though a hand mop were being used. The at-

taching bolt 25 also provides a simple means permitting detachment of the parts for exchange or renewal of one or the other of the same, as required.

It will therefore be apparent that I have devised a practical and efficient construction for carrying out the desired objects of my invention, and that the same is extremely simple and easy and economical to manufacture, as well as most convenient for the user, both in the operation of the appliance and removal or exchange of the parts, when necessary; and while I have illustrated and described what I now regard as the preferred mode of practicing the invention and of the embodiment of the various parts of the improvement in practical form, I desire to be understood as reserving the right to make whatever changes or modifications may fairly fall within the scope of the appended claims.

Having thus described my invention, what I claim to be new and desire to secure by Letters Patent is:

1. A mop head construction comprising a resiliently expansible and normally expanded wire frame, an elongated handle member provided with a transversely extending pin rigidly secured thereto and having pivotal connections with the opposite sides of said frame, and means frictionally opposing pivotal movement at one of said connections, the other of said connections providing sliding engagement between said pin and the corresponding side of the frame for permitting movement thereof toward and from the opposite side of the frame.

2. A mop head construction comprising a resiliently expansible and normally expanded wire frame, a pin having pivotal connections with the opposite sides of said frame, friction means opposing pivotal movement at one of said connections and also preventing any sliding movement of the pin relatively thereto, the other of said connections providing sliding engagement between said pin and the corresponding side of the frame for permitting movement thereof toward and from the opposite side of the frame, and an elongated handle rigidly secured to said pin and attached at substantially right angles thereto nearer to said connection having said friction means than to said other pivotal connection.

3. A mop head construction comprising a resiliently expansible and normally expanded wire frame terminating in a pair of spaced loops at approximately the interior middle portion of the frame, a transversely extending pin having its opposite ends pivotally connected with said loops, friction means opposing pivotal movement at one of said connections and also preventing any sliding movement of the pin relatively thereto, the other of said connections providing sliding engagement between said pin and the corresponding side of the frame for permitting movement thereof toward and from the opposite side of the frame, and an elongated handle secured to said pin and rigidly attached at substantially right angles thereto nearer to said connection having said friction means than to said other pivotal connection.

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