

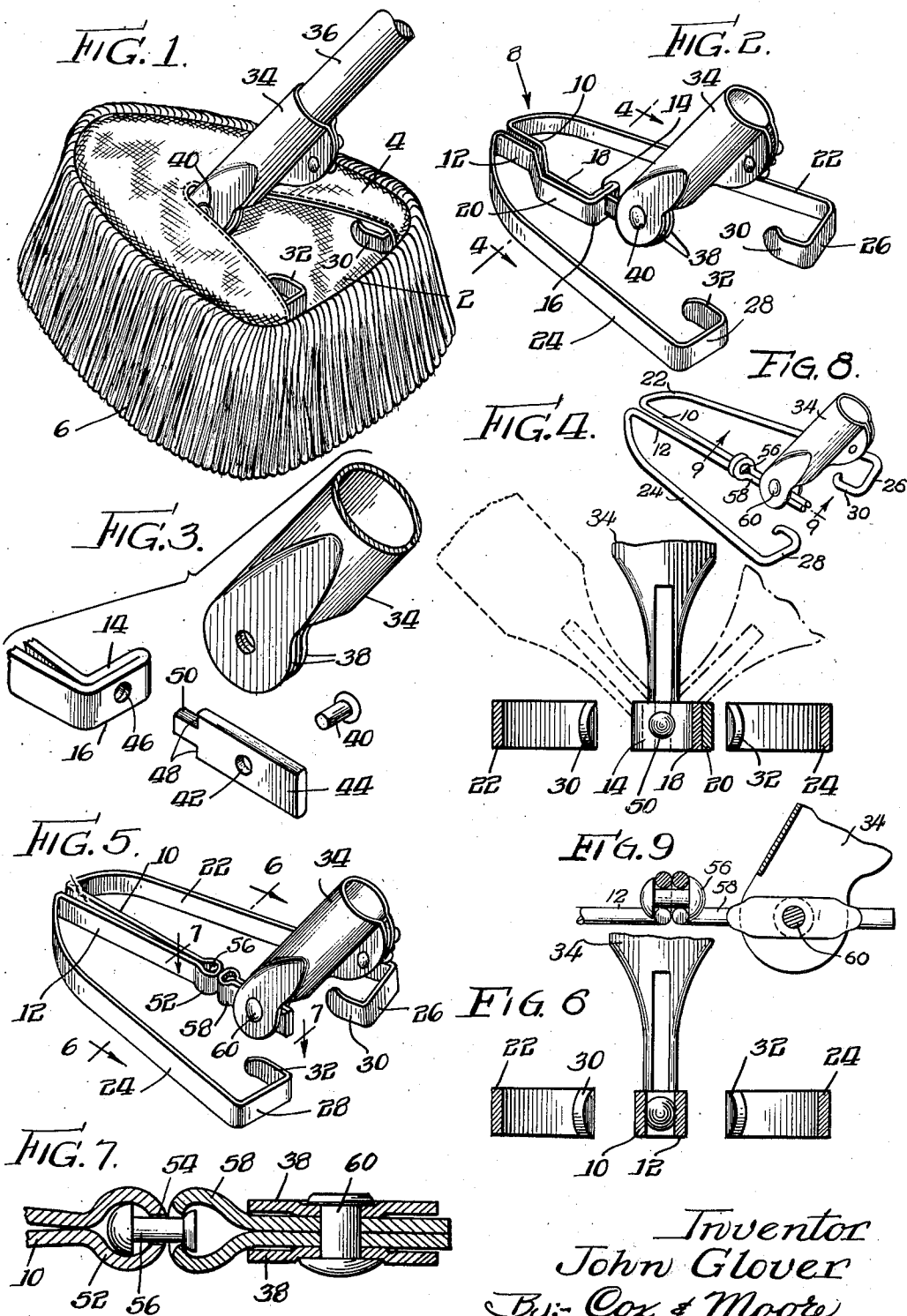
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FLEXIBLE MOP

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FLEXIBLE MOP

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My invention relates to a mop or duster wherein the duster proper is provided with a pocket into which may be detachably affixed or assembled a frame having a connection to a socket for receiving the mop or duster stick.

Among the objects of my invention I wish to provide a mop or duster of the above character wherein the stick-carrying socket is freely rotatable in any desired direction relative to its attaching frame and wherein the frame is constructed of resilient material which may be flexed out of the normal position for easy insertion into the pocket and which, when regaining its normal state, will maintain its normal position within the pocket and will automatically prevent its inadvertent dislodgement therefrom; to provide a new and economical spring frame and stick socket for attachment to a mop; to provide a novel connection between a resilient metal frame and a socket stick; to provide for mounting a stick-receiving socket upon a mop-receiving frame for universal movement relative to said frame; to provide improved means for connecting a handle to a mop to facilitate the use of the mop in confined spaces.

These and other objects of the invention will be apparent from a perusal of the following specification when taken in connection with the accompanying drawing wherein:

Fig. 1 is a perspective view of one form of mop embodying my invention.

Fig. 2 is a perspective view of the frame and stick socket.

Fig. 3 is an exploded view in perspective showing the elements used in connecting the stick socket to the frame.

Fig. 4 is a sectional view taken on the line 4-4 of Fig. 2.

Fig. 5 is a perspective view of a modified form of frame and its connection to a stick socket.

Fig. 6 is a sectional view taken along the line 6-6 of Fig. 5.

Fig. 7 is a sectional view taken along the line 7-7 of Fig. 5.

Fig. 8 is a perspective view of another modified form of frame and its connection to a stick socket.

Fig. 9 is a sectional view taken along the line 9-9 of Fig. 8.

In general my invention comprises a flexible mop proper consisting of a fabric bottom 2 and a fabric top 4 which are suitably joined together along their entire margin and to which are secured the usual depending thrums 6. In the particular type of mop shown in Fig. 1 of the drawing the top and bottom fabrics of the mop

proper are substantially triangular in shape but it is within the contemplation of my invention to provide other shapes of mops provided the essential features of my mop be adapted thereto.

The top fabric 4 of the mop is provided with a triangular shaped pocket or recess to facilitate the insertion of a resilient frame 8 into the pocket formed between the members 2 and 4. By constructing the pocket in the manner illustrated, it will be apparent that the frame 8 may be easily removed for cleaning by being slid rearwardly from the position shown in Fig. 1 and at the same time the rear portions of the pocket will act as abutment walls to prevent rearward inadvertent movement of the frame relative to the pocket.

The frame 8 is formed of one or more pieces of spring metal either of flat or round wire, band or tape.

As shown in Fig. 2 the frame 8 is bent to form substantially parallel legs 10 and 12 joined at their inner ends by reversely bent portions 14 and 16 extending at right angles to the legs 10 and 12. Intermediate their ends the legs 10 and 12 are offset as at 18 and 20. At their outer ends the legs 10 and 12 are bent reentrantly to form opposite arms 22 and 24, and the free ends of these arms are bent inwardly to form rear abutments 26 and 28. Finger pieces 30 and 32 for pressing together the arms 22 and 24 and abutments 26 and 28 are formed by bending the abutments 26 and 28 inwardly toward the legs 10 and 12. In the normal position of assembly of the frame and mop, these finger pieces extend inwardly within the recess in the top fabric member 4 a sufficient distance to be grasped between the thumb and forefinger while the abutments 26 and 28 resiliently engage the rear end portions of the fabric cover 4 and bottom 2, and the reentrant arms 22 and 24 resiliently engage the side portions of said cover and bottom. In this manner the frame 8 is resiliently wedged within the pocket formed by the cover 4 and bottom 2 along a considerable area or surface, thus prolonging the life of the fabric mop.

The metal socket 34 for the mop stick 36 is of usual sheet metal construction and includes the parallel ears 38 which are pressed together and perforated to receive a pivot pin 40. The pivot pin passes through the perforated ears 38 and through an aperture 42 in a stud, bracket, plate or pin 44 and the pin 40 is secured against dislodgement by upsetting the outer end of its shank to form a retaining flange. The stud 44 is pivotally secured in an aperture 46 passing centrally

through the bent portions or lugs 14 and 16 and is secured against endwise displacement by the shoulders 48 and by the upsetting of the outer end of the reduced portion 50. By reason of this construction, the stick is centrally and pivotally mounted upon the legs 10 and 12 of the frame for universal movement in any desired direction, facilitating the use of the mop within any confined space which therefore need be only sufficiently large to receive the mop head, and it is to be noted that this mop head being flexible and readily compressible may be inserted in spaces of considerably less area than the normal cross-sectional areas of the mop. It will be evident that this universal mounting of the stick socket permits the stick to be swung downwardly into such position that it will lie substantially in the plane of the fabric bottom 2 at any desired angle relative to the frame 8 and the main axis of the mop head.

In the modified frame structure disclosed in Figs. 5 to 7, the legs 10 and 12 of the frame 8 are substantially straight throughout their entire lengths and are joined at their inner ends by an integrally formed eyelet portion 52, perforated at 54 to receive a pivot stud 56. The stud 56 passes through an aperture in a U-shaped member or reversely bent strap 58, the free end of the stud 56 being upset to secure the same to the strap 58 and the arms of the latter being then pressed into engagement for insertion between the ears 38 of the stick socket 34. A pivot pin 60, similar to the pivot pin 40 of Figs. 2 to 4, passes through the ears 38 and the strap 58 at right angles to the stud 56 and is secured against endwise displacement in a similar manner.

In both forms of the invention the pivotal connections are preferably formed by force-fitting the pivot pin and stud to their respective engaging members to provide a frictional resistance tending to maintain the stick 36 in whatever angular position it may be placed.

It will be evident that my invention is equally adaptable for forming a frame out of round metal wire, in which case the wire may be bent at its central point as shown in Fig. 2 or Fig. 5 to provide a socket to receive the stud 44 or 56, as shown in Figs. 8 and 9.

The invention is hereby claimed as follows:

1. A frame for a collapsible mop, comprising a single piece of spring metal bent to form a pair of parallel, juxtaposed legs and a pair of spaced apart arms lying in a common plane with said legs, a supporting member pivoted to said

legs for movement about an axis parallel thereto and a stick-receiving socket pivoted to said supporting member for movement about an axis perpendicular to the axis of movement of said member whereby said stick may be moved in any desired angular direction relative to the frame.

2. A frame for a collapsible mop head, comprising a single piece of spring metal bent to provide a pair of parallel, juxtaposed legs and a pair of spaced apart arms lying in a common plane with said legs, the portion connecting said legs being bent at right angles to said legs, a supporting member pivoted to said connecting portion for movement about an axis parallel to said legs, said legs being offset inwardly of said connecting portions to align the axis of said supporting member with the free end portions of said legs, and a stick-receiving socket pivoted to said supporting member for movement about an axis perpendicular to the axis of movement of said member whereby said socket may be moved in any desired angular direction relative to said frame.

3. A frame for a collapsible mop head, comprising a single piece of spring metal bent upon itself to provide a pair of parallel, juxtaposed legs and a pair of spaced apart arms lying in a common plane with said legs, the bight portion of said legs forming a stud-receiving eyelet, a stud received in said eyelet and rotatable about an axis parallel to said legs, and a stick-receiving socket pivotally mounted upon said stud for movement about an axis perpendicular thereto whereby said socket may be moved in any desired angular direction relative to said frame.

4. A frame for a collapsible mop head, comprising a single piece of spring metal bent upon itself to provide a pair of parallel, juxtaposed legs and a pair of spaced apart arms lying in a common plane with said legs, the bight portion of said legs forming a stud receiving eyelet, a stud received in said eyelet and rotatable about an axis parallel to said legs, a second piece of spring metal bent upon itself to provide a second pair of parallel, juxtaposed legs, the bight portion of said last mentioned legs having an eyelet for receiving said stud and a stick receiving socket pivotally mounted upon said second pair of legs for movement about an axis perpendicular to the axis of rotation of said stud, whereby said socket may be moved in any desired angular direction relative to said frame.

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