Sept. 8, 1959 H. H. SCHWARTZ 2,902,704

HEAD CONSTRUCTION FOR MULTIPLE-STRAND MOPS

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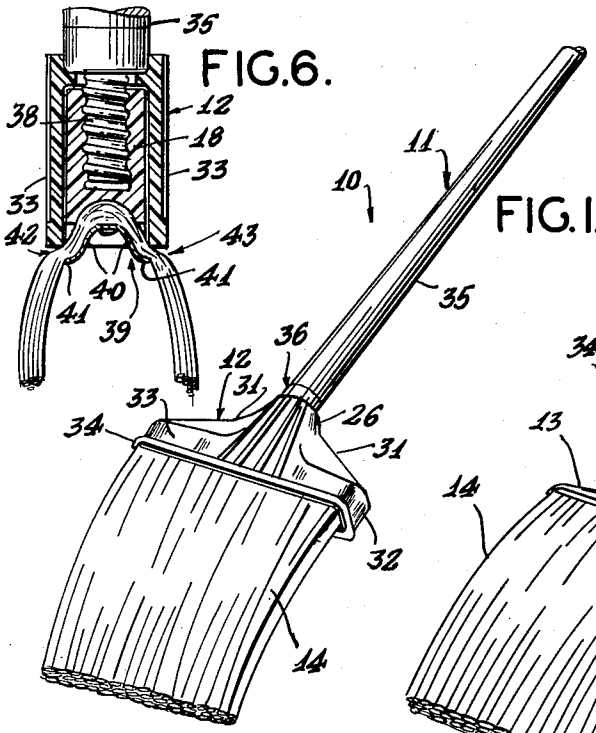
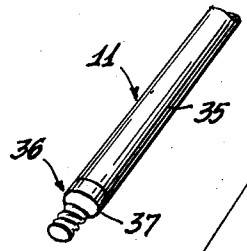


FIG. 6.

FIG. 1.



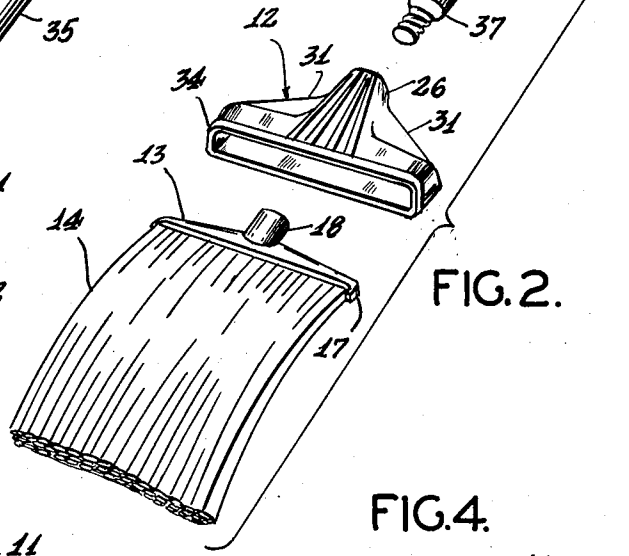


FIG. 2.

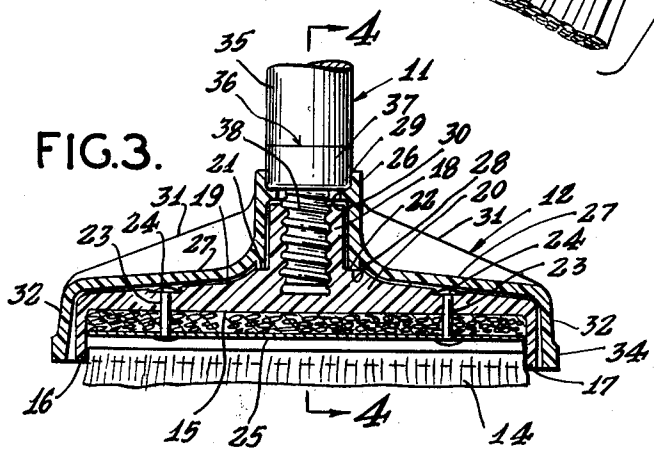


FIG. 3.

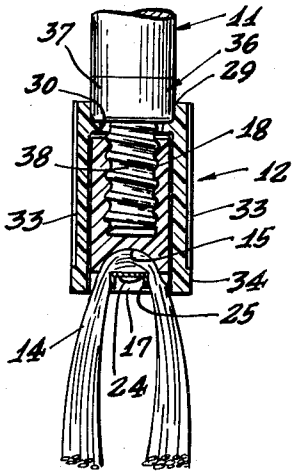


FIG. 4.

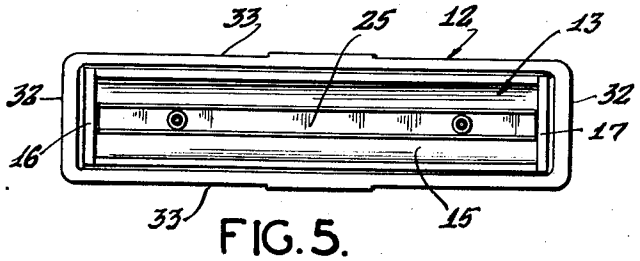


FIG. 5.

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HEAD CONSTRUCTION FOR MULTIPLE-STRAND MOPS

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10 Claims. (Cl. 15—229)

This invention relates to mops and is directed particularly to an improved construction in yarn or "spaghetti-type" mops.

The principal object of this invention is to provide a mop of the character described comprising a molded support member having an elongated clamp member for clamping the yarn thereto, the support member being provided with a screw socket for receiving the threaded end of a mop handle, and a molded hollow cover member within which the support member is received and having a lower interior annular shoulder against the underside of which an upper shoulder portion of the support member is drawn when the handle is assembled thereto, and the handle having at its base end a portion of increased diameter which abuts the upper annular shoulder formed in the neck for retaining the assembly in tight interfitting relation.

Another object of this invention is to provide a mop of the character described which comprises a minimum of metal parts and wherein the major parts can readily be manufactured of synthetic plastic materials by injection molding.

Yet another object of this invention is to provide a mop of the character described which may easily be assembled and disassembled, which shall permit replacement of parts, and which shall be inexpensive to manufacture and yet practical and efficient to a high degree in use.

Other objects features and advantages of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of invention will be indicated in the following claims.

In the accompanying drawings, which illustrate two forms in which the invention may conveniently be embodied in practice:

Fig. 1 is a partial perspective view of the mop embodying the invention,

Fig. 2 is a view similar to Fig. 1 but showing the handle, the cover and the yarn support member with the mop yarn in disassembled relation,

Fig. 3 is a partial cross-sectional view of the mop embodying the invention,

Fig. 4 is a cross-sectional view taken along the line 4—4 of Fig. 3 in the direction of the arrows,

Fig. 5 is a bottom view of the mop, shown without the mop yarn in the support member, and

Fig. 6 is a view similar to Fig. 4 but showing use of a modified form of clamping member in conjunction with the support member.

Referring now to the drawings in detail, 10 designates generally a mop embodying the invention, the same comprising a handle 11, a cover member 12 and a yarn holder member 13 to which "spaghetti-type" yarn elements 14 are clamped as is hereinbelow described.

The holder member 13, which is preferably molded of hard polystyrene or polyethylene, is elongated in shape and formed along its underside with a concave longitudinal groove 15 which terminate at end wall portions 16 and 17, which extend somewhat outwardly of the longitudinal side edges of said groove. The holder 13 is also provided with a cylindrical screw socket portion 18 molded at the top of said holder and centrally located along its length. A pair of strengthening rib portions 19, 20 are molded along the top of the holder 13, extending downwardly from each side of the screw socket portion 18. A pair of opposed flat shoulders 21, 22 are formed at each side of the socket portion 18 where the respective rib portions 19, 20 join therewith. Medially located at each side of the holder member 13 is a through opening 23 for receiving rivets 24. The rivets extend through openings in an elongated channel-shaped clamping bar or member 25, serving to clamp the mop yarn elements 14 in place with respect to the holder member 13 (see Figs. 3 and 4).

The cover member 12, preferably molded of soft polyethylene material, is hollow and open at its underside, the opening being of such shape as to receive the holder member 13. It is formed with a central neck portion 26 from which extend outwardly top shoulder portions 27 flaring slightly outwardly and downwardly. The neck portion 26 extends up above the shoulders 27 and is formed with an annular lower interior end portion 28 projecting slightly downwardly below the shoulder portions 27. The neck portion 26 is formed below its upper end 29 with an inner anular rib or shoulder 30 for the purpose hereinafter appearing. The top shoulder portions 27 are connected to the neck portion 26 by central strengthening ribs 31. Extending downwardly from the outer ends of the top shoulder portions 27 are end walls, 32, and extending downwardly from the sides of said top shoulder portions are longitudinal side walls 33. The shoulder portions 27 may be rounded in transverse cross-sectional shape if desired. The side walls 33 and the end walls 32 are preferably formed with a thickened lower edge bead 34 extending all around for strengthening.

The handle 11 comprises an elongated wooden rod 35 to the end of which is fitted a metal cap 36. The cap 36 is formed with a body portion 37 and a reduced diameter externally screw-threaded portion 38. The portion 38 may be inserted through the opening formed by the internal annular shoulder 30 and screwed into the socket portion 18 of the yarn holder member 13. Upon tightening the handle, the flat shoulders 21, 22 of the holder member 13 will be drawn against the underside of the interior end portion 28 of the cover member 12 and the annular shoulder surrounding the base of the threaded portion 38 of the handle cap 36 will abut and be tightened against the upper edge of the shoulders 30 in said cover member, whereby the parts will be held in secure interfitted relation.

Fig. 6 illustrates a modification of the invention wherein an angular clamping plate 39 is used as the clamping member for the yarn elements 14 instead of the channel-shaped clamping bar 25 shown in Figs. 3, 4, and 5. The clamping plate 39, preferably stamped of metal, is shaped with opposed downwardly inclined longitudinal side portions 40 terminating in short, outwardly extending longitudinal lip portions 41. As illustrated in Fig. 6, the size of the clamping plate 39 is such that the yarn elements 14, at each side of which they are clamped to the yarn support member 18, are flared outwardly and against the underside of the lower ends of the side walls 33 of the cover member 12, as indicated at 42 and 43.

It will thus be seen that there is provided an apparatus in which the several objects of this invention are achieved

and which is well adapted to meet the conditions of practical use.

As other possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, what is claimed as new and for which I desire to secure Letters Patent is:

1. In combination, an elongated yarn support member having opposite sides, a plurality of mop strands, an elongated clamping member, attachment means for securing said clamping member in spaced parallel relation with respect to the underside of said yarn support member, medial portions of said mop strands being interposed between said clamping member and said support member, a socket formed in the other side of said support member and extending outwardly therefrom, a hollow cover member surrounding said support member, socket and clamped portions of said strands, an elongated handle, and means for attaching one end of said handle to said socket, said attaching means comprising means for securing said cover member with respect to said support member, said clamping member being channel-shaped, said clamping member being U-shaped in cross-section and having co-planar, longitudinal portions extending outwardly of each side thereof.

2. In combination, an elongated yarn support member, having opposite sides, a plurality of mop strands, means for clamping medial portions of said mop strands along one side of said yarn support member, an internally-threaded socket portion formed in the other side of said support member and extending outwardly therefrom, a pair of opposed co-planar shoulders formed at the base of said socket portion, a hollow cover member surrounding said support member and the clamped portions of said strands, said hollow cover member being formed with interiorly-projecting abutment means at the base of said socket portion, an elongated handle, and externally threaded means at one end of said handle engaging said internally threaded socket for securing said handle to said support member and for urging said abutment means against said opposed shoulders for securing said support member, said cover member and said handle in interfitted relation.

3. The combination of claim 2, said interiorly-projecting abutment means comprising an annular projection within said cover member.

4. In combination, an elongated yarn support member having opposite sides, a plurality of mop strands, means for clamping medial portions of said mop strands along one side of said yarn support member, an internally-threaded socket portion formed in the other side of said support member and extending outwardly therefrom, a pair of opposed co-planar shoulders formed at the base of said socket portion, a hollow cover member surrounding said support member and the clamped portions of said strands, said hollow cover member being formed with interiorly-projecting abutment means at the base of said socket portion, said cover member having a neck portion surrounding said socket portion, an annular ring formed within said neck portion and providing an upper annular shoulder therein, an elongated handle, a screw stud extending from one end of said handle and adapted to extend through said neck portion and threadedly fit into said socket portion, said screw stud being coaxial with said handle and of smaller diameter with respect thereto to provide a second annular shoulder at the base of said screw stud, said second annular shoulder being operative to abut said upper annular shoulder in said neck portion when said handle is assembled thereto and to said socket portion of said support member for urging said abutment means against said opposed shoulders for securing said support member, said cover member and said handle in interfitted relation.

5. The combination of claim 4, said interiorly-projecting abutment means comprising an annular shoulder projecting within said cover member.

6. The combination of claim 4 wherein said clamping means comprises an elongated clamping member, and attachment means for securing said clamping member in spaced parallel relation with respect to the underside of said yarn support member, medial portions of said mop strands being interposed between said clamping member and said support member.

7. The combination of claim 4, said clamping member being channel-shaped in cross-section.

8. The combination of claim 4, said clamping member being U-shaped and having co-planar, longitudinal portions extending outwardly of each side thereof.

9. In combination, a holder member having opposite sides and comprising an elongated portion, a sleeve extending from one side of the center of said elongated portion, a clamping bar fixed in spaced parallel relation to the other side of said elongated portion, mop strands having mid-portions passing between said clamp bar and elongated portion and clamped thereto by said clamp bar, a hollow cover member fitted on said holder member and clamp bar, and having a neck surrounding said sleeve, and a handle having a portion received within said sleeve and means to clamp said neck to said sleeve and handle, said clamp bar being fixed to said holder by rivets perpendicular to said bar and elongated portion, said clamp bar being U-shaped in cross-section and having co-planer, longitudinal portions extending from each side thereof.

10. The combination of claim 9, said holder member having end wall portions at the ends of said elongated portion, said end walls overlapping the clamped portions of said strands and the ends of said clamp bar and said cover having portions overlapping said end wall portions.

References Cited in the file of this patent

UNITED STATES PATENTS

689,941	Wilson	Dec. 31, 1901
1,408,488	Toplitz	Mar. 7, 1922
1,633,830	Sturgis	June 28, 1927
1,899,845	Benedict	Feb. 28, 1933
2,203,189	Casinello	June 4, 1940
2,729,841	Littleton	Jan. 10, 1956
2,832,089	Schwartz et al.	Apr. 29, 1958
2,870,473	Schwartz	Jan. 27, 1959

FOREIGN PATENTS

292,760	Great Britain	June 28, 1928
304,185	Great Britain	Jan. 16, 1930
368,627	Great Britain	Mar. 10, 1932
690,029	Great Britain	Apr. 8, 1953