Feb. 7, 1967 W. P. PETTETT 3,302,231

MOPHEAD

Filed April 19, 1965

Fig. 1.

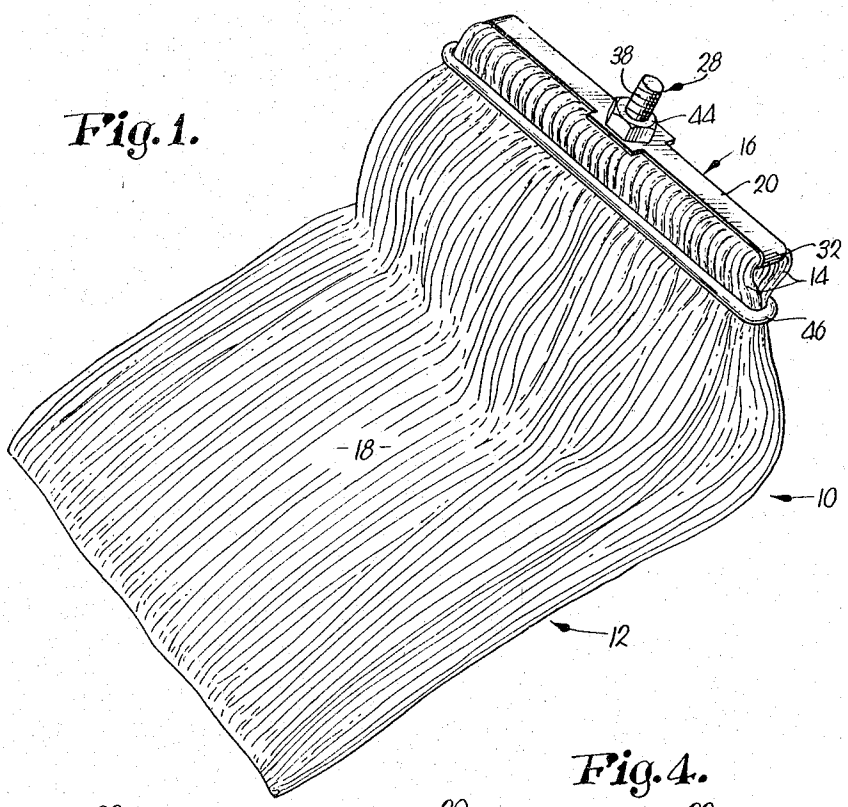



Fig. 4.

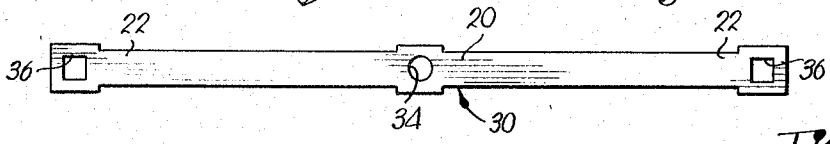
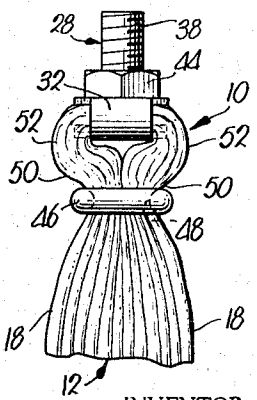



Fig. 2.



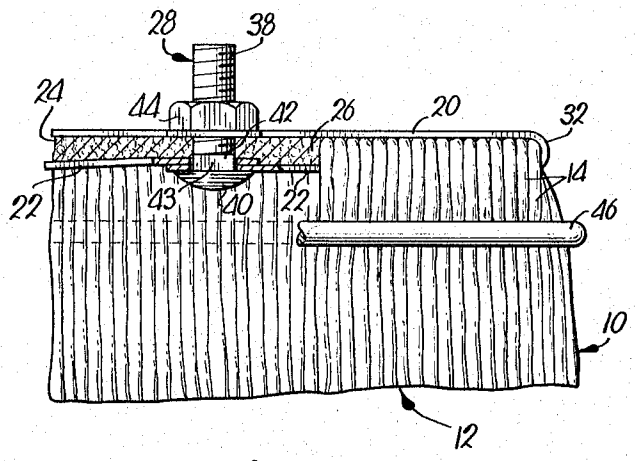




Fig. 3.

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# MOPHEAD

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2 Claims. (Cl. 15—229)

This invention relates to improvements in mop construction and, more particularly, to improved structure for mounting a mophead on a handle.

It is the primary object of this invention to provide a mop having an improved holding assembly for connecting a handle to the mophead thereof wherein the assembly makes possible an increase in the effective, available area of each of the opposed working faces of the mophead over that of conventional mops to thereby provide for more efficient use of the mop in accomplishing the tasks for which it is to be used.

Another object of this invention is the provision of a holding assembly of the type described which is relatively simple and rugged in construction and which effectively grips the mophead without causing wear thereof during use of the mop, whereby production costs of the latter are kept at a minimum, and the same can be used over extended periods of time without replacement of the mophead or the components comprising the assembly.

A further object of the present invention is the provision of an assembly of the aforesaid character which is provided with a flat clamping member and a pair of coextensive, flat fingers spaced from and extending longitudinally of the clamping member whereby to define a space for receiving the looped portions of the strands defining the mophead to thereby assure that the mophead will be held against the gripping member when certain portions of the fingers are secured thereto by a fastener.

Still another object of this invention is the provision of an assembly of the type described which has an endless bail adjacent to the fingers and provided with a central opening having a transverse width equal to or less than the widths of the fingers, whereby the strands of the mophead projecting outwardly from the space defined by the clamping member and the fingers will bulge outwardly with respect to the assembly prior to passing through the opening of the bail to thereby assure that the bail will be recessed in the working faces of the mophead and thus will be prevented from engaging the surface over which the mophead is moved during mopping operations.

Another object of this invention is the provision of a holding assembly of the aforesaid character wherein a carriage bolt fastener interconnects the outer extremities of the fingers to the central portion of the clamping member and projects outwardly from the latter so that a handle may be threadably coupled on the fastener and thereby releasably interconnected with the mophead.

A further object of this invention is the provision of fingers with polygonal openings for receiving the fastener, the latter being provided with a shoulder having flat surfaces complemental to the apertures, whereby the fastener is prevented from rotating with respect to the clamping member to thereby facilitate the mounting of the handle directly onto the fastener itself.

In the drawing:

FIGURE 1 is a perspective view of a mophead with the holding assembly of the instant invention attached thereto;

FIG. 2 is a fragmentary, end elevational view of the mophead and assembly;



FIG. 3 is a fragmentary, side elevational view of the structure of FIGS. 1 and 2, parts being broken away and in section to illustrate details of construction; and

FIG. 4 is a plan view of an initially flat strip of bendable material forming a part of the assembly.

Mop **10** includes a mophead **12** comprised of a plurality of strands **14** of absorbent material, each of which are doubled upon themselves and coupled to a holding or clamping assembly **16** with which a handle may be readily coupled. Mophead **12** is provided with a pair of opposed working faces **18** for mopping a surface, such as a floor or the like, as mophead **12** is moved over the surface under the influence of the handle attached to assembly **16**.

Assembly **16** includes a flat clamping or backing member **20**, a pair of flat fingers **22** defining with member **20** a space **24** for receiving a portion **26** of mophead **12**, and a fastener **28** for interconnecting the outer extremities of fingers **22** with member **20** intermediate the ends of the latter. As shown in FIG. 4, member **20** is integral with fingers **22**, member **20** and fingers **22** being initially in the form of a flat sheet or strip **30** of bendable, relatively self-sustaining material. Preferably, strip **30** is formed from a metallic material such as aluminum, steel or the like. Strip **30** is bent at the junctions **32** of member **20** and fingers **22** so that the major portions of fingers **22** are substantially parallel with corresponding major portions of member **20** as shown in FIG. 3. Portion **26** of mophead **12** is defined by the short, looped or doubled sections of strands **14** so that the latter extend through space **24** transversely of member **20** and fingers **22**. Portion **26** effectively fills space **24** and normally is clamped against the proximal face of member **20** by fingers **22** when the latter are connected at their proximal extremities to member **20**.

Member **20** has a central opening **34** which is normally aligned with polygonal apertures **36** in fingers **22** when the latter are overlapped and in the dispositions shown in FIG. 3. Fastener **28** includes a carriage bolt **38** having a head **40** which engages the outer face of one of the fingers **22** as shown in FIG. 3. Bolt **38** has a polygonal shoulder **42** provided with flat surfaces **43** complemental to apertures **36** so that bolt **38** is prevented from rotating relative to fingers **22** and thereby member **20**. Bolt **38** extends outwardly from the normally uppermost face of member **20**, and a nut **44** releasably retains bolt **38** in place. Upon tightening nut **44**, the outer or proximal extremities of fingers **22** are urged toward the central portion of member **20** so that portion **26** is tightly clamped between these components and thereby effectively gripped thereby so as to prevent relative movement of strands **14** with respect to assembly **16**.

A handle may be readily coupled to the outwardly projecting portion of bolt **38**. To this end, a handle having an internally threaded bore may be coupled to bolt **38** so as to permit manipulation of mop **10** by movement of the handle. The threaded bore of the handle could be countersunk to accommodate nut **44** if desired, thus permiting the end of the handle to engage the proximal face of member **20** and thereby enhance the appearance of mop **10** as well as to prevent damage to the handle as might occur upon engagement of the latter with nut **44**.

An endless bail **46** forms a part of assembly **16** and is disposed about mophead **12** at a location in close proximity to and spaced from member **20** and fingers **22** as shown in FIGS. 1–3. Preferably, bail **46** has a central opening **48** which is provided with a transverse width approximately equal to the transverse widths of fingers **22** as illustrated in FIG. 2. This causes strands **14** to bulge

or project outwardly in the region between member **20** and bail **46** as is clear in FIG. 2, before strands **14** extend through opening **48** and away from finger **22**. The strands are tightly compacted within opening **48** so that certain of the strands **14** flare outwardly of bail **46** as the outer ends of strands **14** are approached. Thus, bail **46** is effectively disposed within transversely extending recesses **50** formed in the working faces **18** of mophead **12** and disposed between the major portions of faces **18** and the surfaces **52** formed by the bulging of strands **14** as the same extend outwardly in opposed directions from space **24**.

In use, assembly **16** is attached to mophead **12** by initially inserting strands **14** through space **24** and then tightening nut **44** so that portion **26** will be effectively maintained in space **24** against movement relative to member **20** and fingers **22**. Since mophead **12** is of stranded material, bolt **38** may be readily inserted through portion **26** so as to effectively intercouple the outer extremities of fingers **22** and the central portion of member **20**.

Bail **46** is then secured in place so that strands **14** bulge outwardly to define surfaces **52**. As shown in FIG. 4, the central portion of member **20** and the outer extremities of fingers **22** are somewhat enlarged to provide structural rigidity therefor in the vicinities of openings **34** and apertures **36** respectively.

When a handle is coupled to the outwardly projecting portion of bolt **38**, mop **10** may be moved over a surface so as to clean the same. Substantially the entire areas of faces **18** are available for mopping operations because the components of assembly **16** present minimum areas extending along faces **18** in any direction. For instance, only the longitudinal edges of member **20** extend transversely of faces **18** and the width of member **20** can be selected to present substantially no projecting portions which could engage the surface over which mop **10** moves.

Fingers **22** are effectively covered by the bulging portions of strands **14**. Hence, fingers **22** will not at any time during normal operations of mop **10**, engage the surface over which mop **10** passes.

Bail **46** is effectively disposed within recesses **50** and will not engage the last-mentioned surface even if bolt **38** is disposed parallel to the surface. Bail **46** is in relatively close proximity to fingers **22** so that substantially the entire lengths of strands **14** are available for mopping operations. This increase in effective area of the mop presents an advance over conventional mop structures inasmuch as the latter employ bulky and cumbersome holding devices which not only move into engagement with surfaces to be mopped, but which utilize a substantial portion of the strands of the mops in order to interconnect the latter with respective handles.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

**1.** Structure for securing a mophead to a handle comprising:

an elongated clamping member having a pair of opposed, generally flat faces and an opening therethrough intermediate the ends thereof;

a generally flat finger for each end of said member respectively, each finger being integral with said member, the latter and the fingers being formed from an initially flat sheet of bendable material, each finger extending longitudinally of said member toward the other finger whereby to define a space between said member and the fingers for receiving a portion of a mophead, the extremities of said fingers spaced from said member being overlapped with each other and provided with respective aligned, polygonal apertures, the latter being aligned with said opening of said member;



a bolt having a shoulder complemental to said apertures, said bolt extending through said opening and said shoulder extending through said apertures with said bolt projecting outwardly from the face of said member opposite to the face adjacent to said fingers and having a head engaging one of said extremities for limiting the movement of the bolt outwardly of said opposite face of the member;

a nut threadably mounted on said bolt and normally in engagement with said opposite face, whereby said extremities are interconnected with said member to clamp said portion of the mophead therebetween; and

an endless bail adjacent to and spaced from said fingers and having an opening therethrough for receiving the mophead, said opening of the bail having a maximum transverse width substantially equal to the maximum transverse width of said fingers, whereby the part of the mophead between the bail and said space will project outwardly from the sides of the fingers and thence inwardly toward said opening of the bail.

**2.** A device for securing a mophead to a handle comprising:

an elongated clamping member having a pair of opposed faces and an opening therethrough intermediate the ends thereof;

a pair of fingers jointed to respective ends of the member and each extending longitudinally of said member toward the other finger, whereby to define a space between the member and the fingers for receiving a portion of the mophead, the extremities of said fingers spaced from said member being overlapped with each other and provided with respective aligned apertures in alignment with said opening, one of said apertures being of polygonal configuration;

a threaded fastener having shoulder-presenting structure complemental to said one aperture, said fastener extending through said opening and said structure being disposed in said one aperture with the fastener projecting outwardly from the face of said member opposite to the face adjacent said fingers and having a head engaging one of said extremities for limiting the movement of the fastener outwardly of said opposite face of the member;

means threaded on said fastener and normally in engagement with said opposite face, whereby said extremities are interconnected with said member to clamp said portion of the mophead therebetween; and

an endless bail adjacent to and spaced from said fingers and having an opening therethrough for receiving the mophead, said opening of the bail having a maximum transverse width substantially equal to the maximum transverse width of said fingers, whereby the part of the mophead between the bail and said space will project outwardly from the sides of the fingers and then inwardly through said opening of the bail.


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