Jan. 8, 1924. 1,479,906

W. H. FISHER

MOP

Filed Sept. 11, 1922

Fig.5.

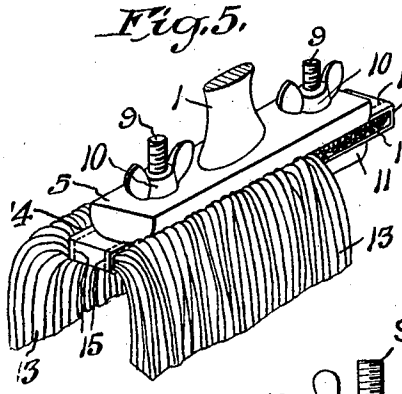


Fig.1.

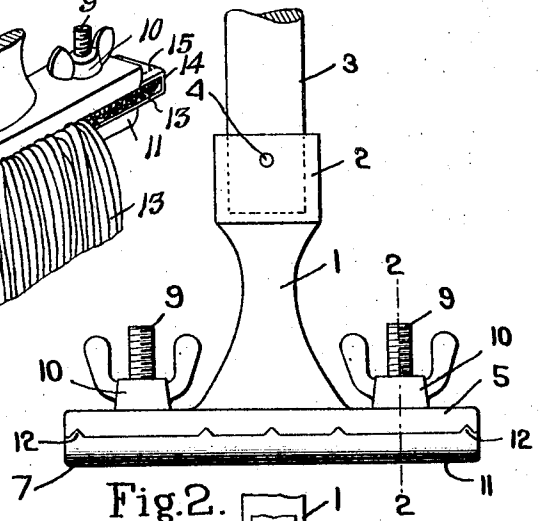


Fig.2.

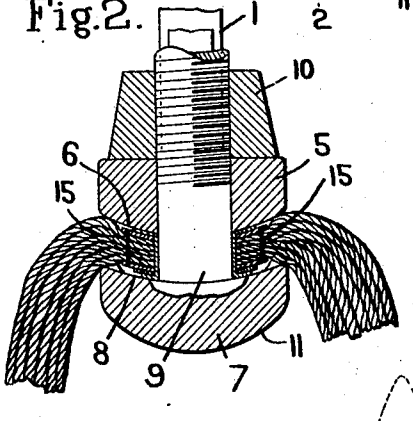


Fig.3.

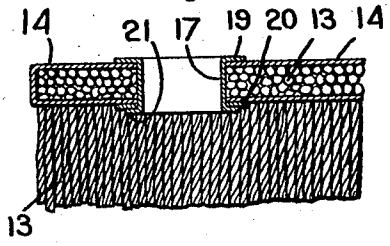
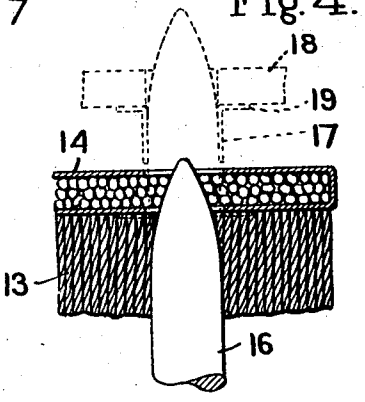


Fig.4.



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UNITED STATES PATENT OFFICE.

WILLIAM H. FISHER, OF BROCKTON, MASSACHUSETTS.

MOP.

Application filed September 11, 1922. Serial No. 587,306.

To all whom it may concern:

Be it known that I, WILLIAM H. FISHER, a citizen of the United States, and resident of Brockton, county of Plymouth, State of Massachusetts, have invented an Improvement in Mops, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to improvements in mops and the general object thereof is to provide a more durable and more efficient mop than has heretofore been produced.

One of the essential features of the invention consists in providing a mop body, formed of assembled strands of fibrous material, having one or more eyelets therethrough introduced by separating the strands without severing the same, said eyelets being adapted to receive suitable studs or projections for holding the mop body upon the mop handle. Preferably the mop body comprises a bundle of strands of fibrous material having a band enclosing the same intermediate of its ends with grommets passing through the band and the portion of the bundle therebetween.

Another feature of the invention consists in providing a mop body of greater width than the holder in which it is to be clamped so that the holder will be prevented from injuring objects against which the mop is forced when in use.

Another object of the invention is to provide a mop body construction provided with eyelets of the character described which may be composed of soft twisted yarns, bundled yarns, drop ply yarns, twine or knitted or woven materials through which the eyelets are passed by separating without severing the strands of yarn.

Another object of the invention is to provide a novel form of mop head or holder having a rounded under surface which will not be liable to scratch or injure the floor.

A further object of the invention is to provide a novel form of mop head having means for positively and effectively engaging the mop body.

Other objects and features of the invention will more fully appear from the following description and the accompanying drawing and will be pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which,

Fig. 1 is an elevation of an improved mop head and handle, the handle being broken away;

Fig. 2 is a vertical sectional view taken on line 2—2 Fig. 1 showing the members of the mop head clamping the mop body therebetween, the stud passing through the eyelet in the mop body being shown in elevation;

Fig. 3 is a detail longitudinal sectional view of a portion of the mop body and eyelet passing therethrough;

Fig. 4 is a detail sectional view of the mop body illustrating the manner in which the eyelet is inserted through the mop body and its enclosing band by separating the strands of the mop body and band without severing the same; and

Fig. 5 is a perspective view of a mop embodying the invention.

The preferred construction illustrated in the accompanying drawing comprises a mop head 1 formed of cast metal, preferably aluminum, or other metal which will not rust, having a handle socket 2 in which a handle 3 is secured by a pin or screw 4 and an integral upper clamping plate 5 preferably presenting a convexedly curved under face 6. The mop head also is provided with a lower clamping plate 7 having a preferably curved upper surface 8 complementary to the under surface 6 of the upper clamping member. The lower clamping plate desirably is provided with integral studs 9 which pass through suitable apertures in the upper clamping plate and the studs are provided with screw threaded upper end portions to receive preferably winged nuts 10 for forcing the clamping plates together. The under surface 11 of the lower clamping plate desirably is convexedly curved and rounded at the junction with the edges or the vertical sides thereof to present a smooth surface which will not scratch or otherwise injure the floor if by chance the mop body becomes separated so that the lower clamping plate strikes the floor.

The edges of one of the clamping plates, preferably the lower clamping plate, is provided with a series of projections or teeth 12 and the other clamping plate with complementary recesses to receive said teeth, these teeth acting to engage the mop body and more firmly retain it in place when the

clamping members are forced together by the nuts 10.

The mop body may be formed of any suitable fibrous material, either hand twisted or braided strands, associated to form a preferably flat bundle, or of knitted or woven material, or yarn of any size or ply.

As illustrated in the accompanying drawing the mop body consists of twisted strands 13 of material of any suitable length assembled to form a flat bundle, the bundle being enclosed by a band 14 of preferably woven material, the opposite portions of which are secured together by lines of stitching 15 located adjacent to the edges of the band and passing through the strands of the mop body.

Suitable apertures are made through opposite portions of the band and the mop body therebetween by separating the strands of the mop body and the warp and weft of the band without severing them. This aperture is provided with a wall or eyelet which preferably is formed by introducing a grommet through said aperture, but may be formed by stiching or in any other suitable manner.

The means for forming the aperture through the mop body and band and for introducing the grommet in the aperture thus formed is graphically illustrated in Fig. 4 in which the means for forming the aperture consists in thrusting a sharp pointed needle 16 upwardly through the bundle and its band, placing the tubular portion 17 of a grommet upon the needle and forcing the grommet through the aperture formed by the needle by a suitable plate 18 which is forced downwardly against the flange 19 of the grommet as the needle 16 is withdrawn. A washer 20 is then placed upon the tubular portion 17 of the eyelet which extends through the mop body and the lower end of the tubular portion of the grommet bent to form a flange 21 which is forced against the washer 20.

The grommets are so located as to receive the studs 19 of the lower clamping plate so that the mop body can be readily assembled upon the head by thrusting the studs through the grommets and thence through the upper clamping plate 5 of the mop head and clamping the plates together by the winged nuts 10 which may then be readily applied to the studs. When the winged nuts 10 are set up the clamping plates are drawn together until they clamp firmly upon the grommets. The plates at the same time engage the body of the mop so that when the mop is in use, and particularly when wet, the body will be firmly clamped between the plates. The presence, however, of the grommets prevent the clamping plates from being set up upon the mop body that the absorption of water by the mop body and the consequent expansion will exert such pressure as to prevent the unscrewing of the winged nuts when it is desired to dismantle the device in order to remove the mop. It has been found in practice that in the absence of the grommets such expansion may take place as absolutely to prevent the dismantling of the device.

The mop body desirably is of a sufficient width to extend well beyond the ends of the clamping plates 5 and 7 so that injury to objects which may be struck by the mop will be prevented. Furthermore, the mop body when the nuts are screwed up tight will also form a protective covering for the longitudinal edge of both plates.

By reason of this construction a mop is provided from which the strands, forming the body of the mop, will not become detached and consequently the undesirable shedding which frequently occurs in mops is prevented. A mop body is thus produced which is more durable than other mop bodies heretofore known. A mop body can readily be assembled upon the head and replaced when worn by unskilled labor.

The grommets of the mop body and the mop head may be made economically of materials which will not rust so that an exceedingly durable mop is provided.

It will be understood that the embodiment of the invention as disclosed herein is of an illustrative character and is not restrictive and that various changes in form and construction of the mop head and mop body may be made within the spirit and scope of the following claims.

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

1. A mop comprising a body formed of strands of fibrous material to form a flat bundle, a band surrounding said bundle intermediate of its ends having a plurality of grommets extending through said band and bundle, a handle having a head comprising a lower clamping plate shorter than the width of the mop presenting a rounded under face and having studs projecting from its upper face through the grommets in the mop body and a complementary clamping member also shorter than the width of the mop having a handle socket and apertures to receive the studs of the lower clamping plate and nuts on said studs acting to clamp the plates together upon said grommets and also to clamp the mop body therebetween whereby in use the mop body will be firmly held between the clamping plates, but prevented by said grommets from being so tightly clamped as to prevent dismantling of the clamping plates and mop.

2. A mop comprising a body formed of strands of fibrous material to form a flat bundle, a band surrounding said bundle in-

termediate of its ends having a plurality of grommets extending through said band and bundle, a handle having a head comprising a lower transversely curved clamping plate shorter than the width of said mop body presenting a rounded under face and having studs projecting from its concavedly curved upper face to pass through the grommets in the mop body and a complementary upper clamping plate also shorter than the width of the mop body having a handle socket and apertures to receive the studs of the lower plate and nuts on said studs acting to clamp the plates together with the mop body therebetween, the mop body when the nuts are screwed up tightly also forming a protective covering for the longitudinal edges of both plates.

3. A mop comprising a body formed of strands of fibrous material to form a flat bundle, a band surrounding said bundle intermediate of its ends having a plurality of grommets extending through said band and bundle, a handle having a head comprising a lower transversely curved clamping plate shorter than the width of said mop body presenting a rounded under face and having studs projecting from its concavedly curved upper face to pass through the grommets and a complementary upper clamping plate also shorter than the width of the mop body having a convexedly curved lower face complementary to the upper face of said clamping plate and provided with a handle socket and with apertures to receive the studs of the lower plate and nuts on said studs acting to clamp the plates together with the mop body therebetween, a series of teeth upon the edges of the lower plate acting to engage the mop body when the plates are clamped together, the mop body when the nuts are screwed up tightly also forming a protective covering for the longitudinal edges of both plates.

In testimony whereof, I have signed my name to this specification.

WILLIAM H. FISHER.