United States Patent

Moss et al.

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[54] **MOP WITH METAL HEADBAND**

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[52] **U.S. Cl.**.....**15/229 A,** 15/246, 24/21

[51] **Int. Cl.**.....**A47l 13/24,** A47l 13/502

[58] **Field of Search**.....15/115, 147 R, 147 A, 147 B, 15/147 C, 195, 205, 228, 229 R, 229 A, 229 B, 246; 24/21, 73 LA, 278; 15/153

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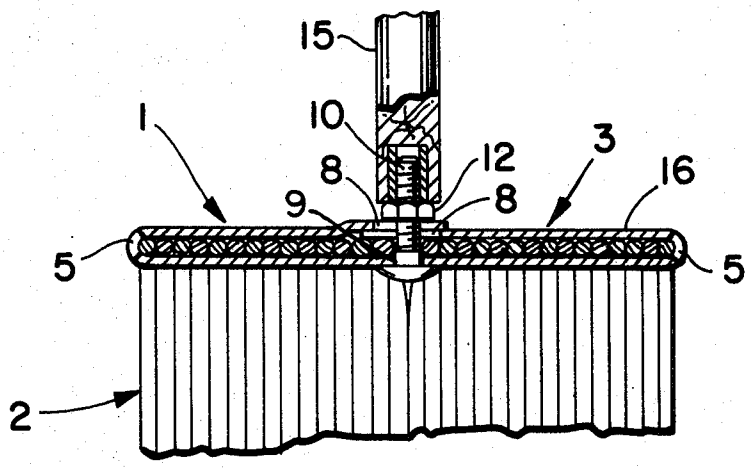
Primary Examiner—Daniel Blum

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[57] **ABSTRACT**

A mop with metal headband formed from a single strip of metal bent to shape around the mop cords intermediate the ends thereof. One end of the metal strip is outwardly offset relative to the other end to permit overlapping of the ends on one side of the headband while still maintaining tight engagement between the headband and mop cords across the entire width of the headband. Aligned slots in the overlapping ends of the metal strip and aperture in the other side of the headband permit ready insertion of a bolt through the headband for firmly clamping the mop cords between the headband, and the bolt also provides an effective means for securing a mop handle to the headband.

9 Claims, 8 Drawing Figures



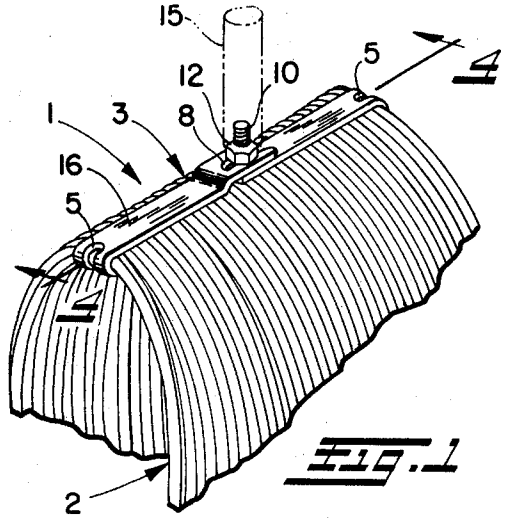


Fig. 1

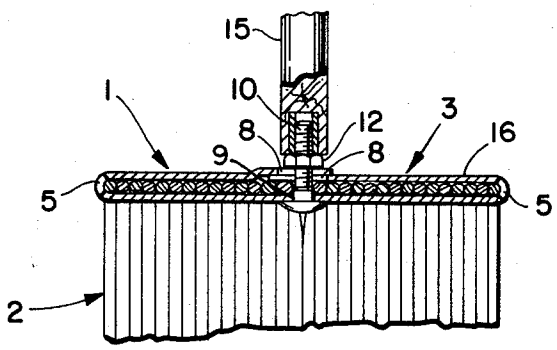


Fig. 4

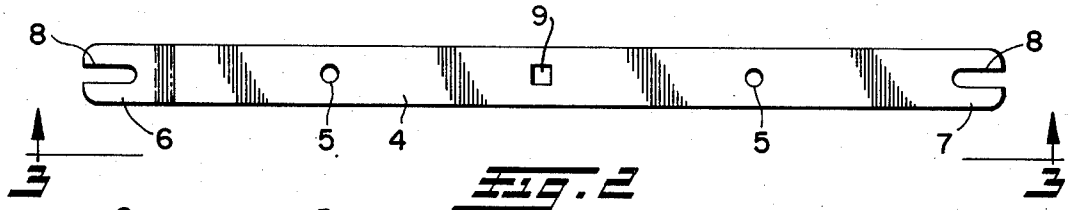


Fig. 2

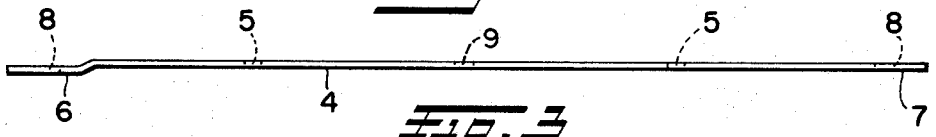


Fig. 3

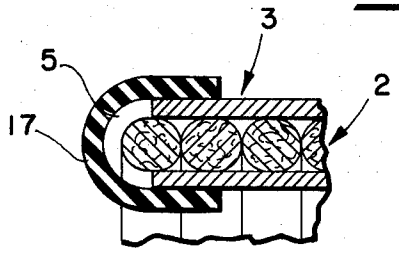


Fig. 5

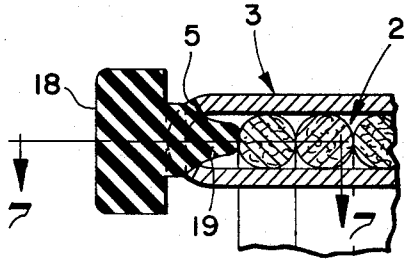


Fig. 6

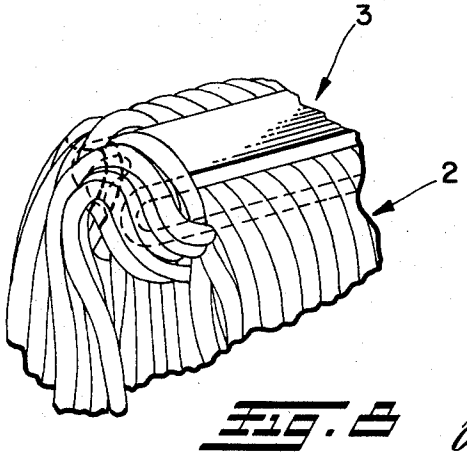


Fig. 8

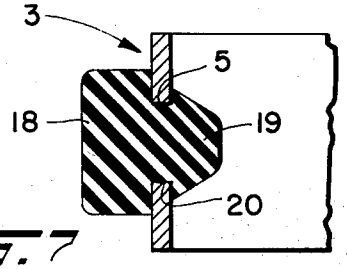


Fig. 7

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MOP WITH METAL HEADBAND

BACKGROUND OF THE INVENTION

This invention relates generally as indicated to a mop with metal headband which is relatively inexpensive to manufacture and requires minimum time and effort to assemble.

Heretofore, one of the primary objections to using metal headbands for mops has been the relatively high cost of manufacture, and metal headbands have also been considered objectionable because of the inherent danger of marring walls and furniture with the headband. Metal headbands usually consist of several parts each requiring one or more machining or stamping operations to make, and a welding operation is also oftentimes required. Moreover, the manner of assembly of the various mop parts and connection of the mop to a mop handle has further added to the cost of manufacture of the mop.

SUMMARY OF THE INVENTION

With the foregoing in mind, it is a principal object of this invention to provide a mop with metal headband which is relatively inexpensive to manufacture and easy to assemble.

Another object is to provide such a mop with metal headband which tightly grips the mop cords.

Still another object is to provide such a mop with metal headband which requires no welding of parts and may readily be connected and disconnected from a mop handle without the use of any tools.

Yet another object is to provide such a mop with metal headband which will not mar furniture and other surfaces.

These and other objects of the present invention may be achieved by forming the metal headband out of a single strip of metal which is bent around the mop cords intermediate the ends thereof. One end of the metal strip is slightly offset relative to the other end to permit overlapping of the ends on one side of the headband while still maintaining contact between the headband and mop cords substantially across the entire width of the headband. The overlapping ends of the metal strip are desirably slotted and there is an aperture in the other side of the headband in alignment with the slots to permit insertion of a bolt through the headband. A nut is threaded onto the outer end of the bolt which when tightened forces the sides of the metal headband toward each other for clamping the mop cords therebetween, and the bolt also provides an effective means for attachment of a mop handle to the headband. In one form of the invention, the headband is coated with a suitable plastic or rubberlike material to prevent marring of surfaces, whereas in another form of the invention bumpers are provided on the edges of the headband for that purpose. Spaced apart holes are also desirably provided in the metal strip to facilitate bending thereof around the mop cords, and the holes may also be effectively used to fasten such bumpers to the headband. In still another form of the invention, the mop cords adjacent the edges of the headband are tied or sewn in such a manner that they overlie such edges to prevent marring.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described and particularly pointed out

in the claims, the following description and the annexed drawings setting forth in detail certain illustrative embodiments of the invention, these being indicative, however, of but a few of the various ways in which the principle of the invention may be employed.

BRIEF DESCRIPTION OF THE DRAWINGS

In the annexed drawings:

FIG. 1 is a fragmentary isometric view of one form of mop with metal headband made in accordance with this invention;

FIG. 2 is a top plan view of the headband material prior to bending around the mop cords;

FIG. 3 is a side elevation view of the headband material of FIG. 2, as seen from the plane of the line 3—3 thereof;

FIG. 4 is a fragmentary transverse section through the headband of FIG. 1, taken on the plane of the line 4—4 thereof;

FIG. 5 is a fragmentary transverse section through one edge of the headband showing a bumper inserted over such edge;

FIG. 6 is a fragmentary transverse section similar to FIG. 5, but showing a modified form of bumper having a grooved plug thereon extending into an opening in the edge of the headband for securing the bumper to the headband;

FIG. 7 is a fragmentary horizontal section through the headband and bumper of FIG. 6, taken on the plane of the line 7—7 thereof; and

FIG. 8 is a fragmentary isometric view of the mop with metal headband in which the mop cords adjacent the edges of the headband are caused to overlie such edges to prevent marring.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now in detail to the drawing and initially to FIGS. 1 and 4 thereof, there is illustrated by way of example a mop 1 in accordance with this invention including a plurality of mop cords 2 secured together in bunched relation intermediate their ends by a metal headband 3, in a manner to be more fully described hereafter.

As best seen in FIGS. 2 and 3, the metal headband 3 is formed from a single strip 4 of metal desirably having a pair of spaced apart openings 5 where the strip is to be subsequently bent to aid in bending thereof. The ends 6 and 7 of the strip 4 also have openings 8 therein, preferably in the form of longitudinal slots intersecting such ends, and there is an aperture 9 in the strip intermediate the ends thereof. The aperture 9 is desirably in the form of a square hole to prevent turning of a carriage bolt 10 when inserted therethrough and through the slots 8 after bending of the strip 4 around the mop cords and overlapping the ends of the strip in the middle of one side of the headband as shown in FIGS. 1 and 4. The longitudinal slots 8 permit passage of the bolt 10 therethrough without having to thread the bolt through the slots and without having to accurately align the slots as would be required if holes were provided instead of slots.

One end 6 of the metal strip 4 is also desirably slightly outwardly offset with respect to the remainder of the strip prior to bending as shown in FIGS. 2 and 3

so that when the strip is bent around the mop cords with the outwardly offset end **6** overlying the other end **7** of the strip (see FIGS. **1** and **4**), both sides of the strip engage the mop cords **2** across substantially the full width of the headband.

During bending of the metal strip **4** around the mop cords **2**, first the straight end **7** and then the offset end **6** of the strip are pressed into engagement with the mop cords to provide the desired overlapping relation between the strip ends. Afterwards the bolt **10** is inserted through the aligned slots **8** in such strip ends from the other side of the headband which has a central opening **9** therein for that purpose as aforesaid, and a nut **12** is threaded onto the bolt **10** and tightly drawn down to firmly clamp the mop cords **2** between the sides of the headband. The bolt **10** also provides a very effective and simple means for threaded attachment of the end of a mop handle **15** to the headband.

If desired, the entire metal headband **3** may be coated with a suitable plastic or rubberlike coating **16** as shown in FIG. **4** to prevent marring of walls, furniture and other surfaces by the headband during use of the mop, or suitable bumpers **17** may be inserted over the edges of the headband as shown in FIG. **5** to prevent marring. The bumpers **17** may firmly grip the sides of the headband as shown in FIG. **5**, or bumpers **18** which have tapered plugs **19** with grooves **20** adjacent the plugs may be used for insertion into the holes **5** in the edges of the headband as shown in FIGS. **6** and **7**. The grooves **20** receive the edges of the holes **5** as shown in FIG. **7**. Preferably, the bumpers **18** are inserted into the holes **5** prior to bending of the metal strip so that the plugs **19** are locked in the holes after bending as shown in FIGS. **6** and **7**.

In still another form of the invention, the mop cords **2** adjacent the edges of the headband **3** may be tied or sewn to overlie such edges as shown in FIG. **8** to guard against marring.

From the foregoing, it will now be apparent that the various metal headbands of the subject invention are relatively inexpensive to manufacture and easy to assemble, and provide an effective and simple means for attachment to a mop handle.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A mop comprising a plurality of mop cords, and a metal headband securing said mop cords together intermediate the ends thereof, said metal headband comprising an elongated strip of metal bent around said mop cords with one end overlying the other end on one side of said headband, means for maintaining the sides of said headband in clamping engagement with the mop cords therebetween, apertures in the edges of said metal headband which facilitate bending of the metal strip around the mop cords, and bumpers extending into said apertures in the edges of said metal headband for securing said bumpers to said edges.

2. The mop of claim **1** wherein one end of said elongated strip of metal is outwardly offset relative to the other end with said outwardly offset end overlying said other end on one side of said headband to provide substantially flat sides engaging the mop cords across substantially the full width of said headband.

3. The mop of claim **1** wherein said bumpers have tapered plugs inserted into said apertures in the edges of said metal headband, and grooves adjacent said plugs for receipt of the edges of said apertures.

4. A mop comprising a plurality of mop cords, and a metal headband securing said mop cords together intermediate the ends thereof, said metal headband comprising an elongated strip of metal bent around said mop cords with one end overlying the other end on one side of said headband, means for maintaining the sides of said headband in clamping engagement with the mop cords therebetween, said last-mentioned means comprising a bolt extending through longitudinally extending slots in the overlapping ends of said metal strip on one side of said headband and through an aligned aperture in the other side of said headband, and a nut threaded onto the projecting end of said bolt, said longitudinally extending slots intersecting the respective ends of said strip to facilitate alignment of said slots and insertion of said bolt therethrough.

5. The mop of claim **4** further comprising a handle having threaded attachment with the projecting end of said bolt.

6. The mop of claim **4** further comprising a plastic covering over the edges of said metal headband to protect against marring.

7. The mop of claim **4** further comprising bumpers extending over the edges of said metal headband to protect against marring.

8. The mop of claim **4** wherein the mop cords adjacent the edges of said metal headband are sewn together to overlie said edges to protect against marring.

9. The mop of claim **4** wherein one end of said elongated strip of metal is outwardly offset relative to the other end with said outwardly offset end overlying said other end on one side of said headband to provide substantially flat sides engaging the mop cords across substantially the full width of said headband.

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