March 22, 1960 M. SALMON 2,929,087

MOP

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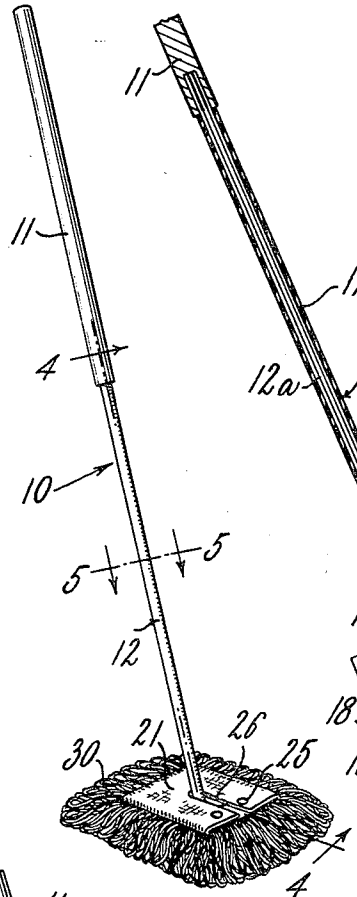


Fig. 1

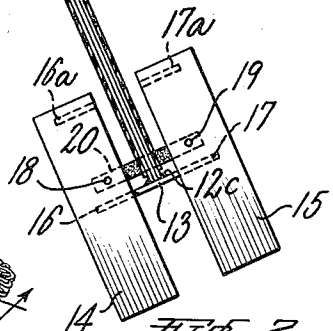


Fig. 2

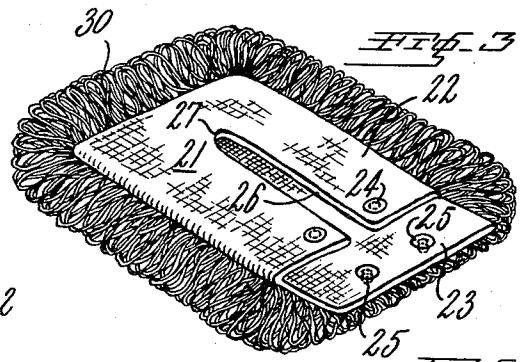


Fig. 3

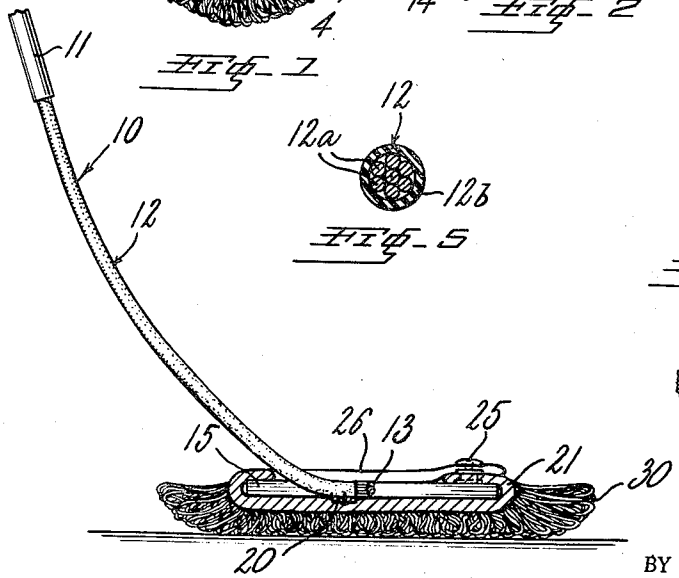


Fig. 4

Fig. 5

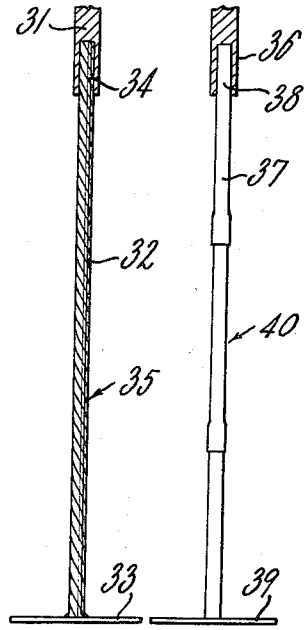


Fig. 6

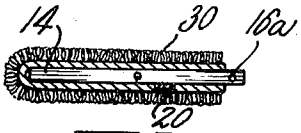


Fig. 3a

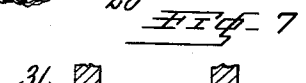


Fig. 7

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MOP

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1 Claim. (Cl. 15—229)

The present invention relates to mops for floors and like surfaces, and particularly to mops as are designed for use in households, in offices, or in any other location.

Floor mops have long been known items of cleaning equipment. Mops generally in use are constructed of a relatively long handle of wood, metal, or other stiff and non-flexible material, and possess a mop head of cloth construction permanently attached to the lower end of the handle.

The above described conventional mop construction has a number of disadvantages. It is often difficult to manipulate and move such mop underneath the furniture, without the user kneeling down on the floor. Also, and especially in close quarters, it is rather difficult for the user to find a comfortable position for holding the mop while in operation. Finally, proper cleaning of the mop head is difficult, and may require complicated cleaning apparatus.

It is, therefore, one of the objects of the present invention to provide means contributing to a very efficient and inexpensive mop structure which affords an unusual degree of flexibility during use.

Another object of the present invention is to provide means facilitating the manufacture of a handle for floor mops and other appliances used for cleaning purposes so constructed as to permit easy bending of the handle by the user, while the mop or like head is firmly supported, for instance, on a floor or like surface.

Yet another object of the present invention is to provide a floor mop having a mop head support constructed of a plurality of sections mounted for pivotal movement with respect to one another.

A further object of the present invention is to provide means ensuring great movability of the head of the appliance which is readily removable from its support for replacement or other purposes.

Still a further object of the invention is to provide a floor mop which combines flexibility of operation with simplicity and economy of construction.

These and other objects of the invention will become apparent from the following specification thereof, taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a view in perspective of a mop constructed in accordance with the invention and shown in operative position;

Fig. 2 is a plan view of the mop of Fig. 1, the mop head being removed and the handle being shown in section and partly broken away;

Fig. 3 is a view in perspective of the mop head;

Fig. 3*a* shows diagrammatically a modified mop body;

Fig. 4 is a vertical section taken along lines 4—4 of Fig. 1, the mop handle being shown in bent position and partly broken away;

Fig. 5 is a transverse section of the mop handle the section being taken along lines 5—5 of Fig. 1;

Fig. 6 is a vertical section illustrating a modification of the structure of the lower handle portion, the outer handle portion being broken away; and

Fig. 7 shows still a further modification of the flexible, but relatively rigid handle portion similar to that shown in Fig. 6.

Referring now more particularly to the drawing, there is shown in Fig. 1 a cleaning appliance **10** made in accordance with the invention. This appliance in the form of a mop device has a relatively long and stiff handle part **11** made from wood or light metal and a relatively shorter lower handle part **12** having a core made of resilient material, such as adjacent steel wires **12***a* connected together at their upper and lower ends as by welding and surrounded by a tube **12***b* of resilient material such as plastic, plastic composition or rubber.

The lower ends of steel wires **12***c* are welded to a cross pin **13**, the free ends **16** and **17** of which are inserted in a support consisting of plate-shaped blocks or sections **14** and **15** which can pivot about the pin ends **16** and **17**. Blocks **14** and **15** are interconnected with each other by means of a rubber band **20** fixed to one face of the blocks **14** and **15** at **18** and **19**, respectively. Thus, the rubber tube **12***b* rests on the median portion of rubber band **20** when the handle is flexed during use (Fig. 4). Over this holder frame **14**, **15** is slid a pocket-shaped body **21** having a central slot **26** terminating in a rounded end **27** (Fig. 3).

The upper surface **22** of said pocket-shaped body **21** is provided with complementary snap buttons **24**, **25**, the latter being positioned on a flap **23** of pocket **21**. The under-face of pocket **21** is provided with mop forming loops **30**, whereas the surface **22** of the pocket is devoid of such loops and may be used in conjunction or successively with the looped mop portion provided on the under-face of pocket **21**.

Pocket **21** is so shaped that, as can be seen from Figs. 1 and 2, it can be placed over the holder blocks **14**, **15**, whereafter the flap **23** is closed so that the cleaning appliance can be employed with various mop structures if desired.

Fig. 4 shows the appliance **10** in position of use, whereby the lower relatively yieldable portion **12** may be bent relative to the rigid handle portion **11** and the cross pin **13** carrying the wooden blocks **14**, **15** and the mop body **21** as seen. Thus, whether the mop body **21** is applied to a surface with straightened handle portion **12** or with the latter in flexed condition, in which latter case handle portion **12** abuts the median portion of rubber band **20**, the mop always remains in its substantially fully flat operational condition and without changing its position. As is well apparent from Fig. 2, handle **11** may be readily withdrawn from the lower portion **12** and the entire appliance may be disassembled at will.

The springy and relatively flexible portion **12***a* may be replaced by a steel cable-shaped portion **35** having the spirally shaped steel wires **32** fitted at **34** into a suitable recess of upper rigid handle portion **31**. **33** is the cross pin to which the lower end of lower handle portion **35** is welded.

Fig. 7 shows a yieldable and flexible lower handle portion **40** made from rattan or like pliable and flexible natural plant material having the sections **37** with the upper end **38** releasingly inserted within the lower sleeve **36** of an upper rigid handle portion. **39** is the cross pin which is secured to the lower end of the flexible but rigid lower handle portion **40** in any appropriate manner (not shown).

It is well understood that pin **13** may be inserted, instead as indicated in Fig. 2, in bores **16***a*, **17***a* at adjacent ends of blocks **14** and **15**, whereby substantially the entire length of blocks **14** and **15** may be employed for supporting the mop or like cleaning body during mopping operation.

A further interconnecting band of rubber or like ma-

terial (not shown) may be attached, if desired, adjacent said ends of said blocks in the proximity of said bores 16*a*, 17*a* in which pin 13 then pivots.

In such case the mop body 21 may carry only mop forming loops 30 and the mop body 21 may be slid over the forward ends of said blocks 14 and 15 for position therealong and for closure at the aforesaid adjacent block ends near bores 16*a*, 17*a*. In this case, the surfaces of the mop may be selectively employed for cleaning operations (Fig. 3*a*).

It is, of course, understood, that the pocket-shaped body 21 as shown in Fig. 3 may carry on surface 22 also mop-forming loops, if desired. Thus, interchangeability of the mop body engaged by the holding blocks or sections 14, 15 and versatility of use of the mop body will be greatly facilitated, the mop body being thus employable simultaneously on opposite surfaces to be cleaned or treated. If desired, instead of two separate blocks 14, 15 a single support block having spaced tubular sleeves or eyes at one end thereof may be employed, in which the ends 16, 17 of pin 13 may be readily inserted.

It can thus be seen, that there has been provided according to the invention a very efficacious household or like appliance for cleaning or treating surfaces which are sometimes only accessible under great difficulties, said appliance being characterized by a handle, and a mop head support for cleaning means attached to one end of said handle, at least a portion of said handle adjacent said support for said cleaning means being constructed of relatively rigid and flexible material, whereby said handle may be bent relative to a surface to which said cleaning means is applied while the latter remains unchanged in its applied position when bending or releasing said handle portion.

Various changes and modifications may be made without departing from the spirit and scope of the present invention and it is intended that such obvious changes and modifications be embraced by the annexed claim.

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

A mop structure comprising a support, a mop body connected to said support, a core of flexible elongated steel wires connected together at their opposite ends, a cross pin having a median part fixed to and extending transversely to said core at one of said ends, a rigid handle secured to and aligned with said core at the opposite end and forming a prolongation of said core, a tubular resilient covering surrounding said core and terminating short of said cross pin, said mop body being movable with said support relative to said core of steel wires so that said core may be moved relative to said rigid handle during use of said mop, said support including two spaced apart sections pivotally mounted on said cross pin at opposite ends thereof, and a rubber band extending across the space between said two sections and terminally secured to said sections, said core with said surrounding tubular covering being in abutting relation with the median portion of said rubber band when the handle is flexed in position of use, said median portion being disposed between said two sections.

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