MOPS WITH REPLACEABLE MOP HEADS AND EXTRACTOR MECHANISM

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One object of our present invention is to devise a novel mop which can be economically manufactured, and wherein, when the brush or sponge material has been worn, it can be replaced by unskilled labor. The handle, handle socket and the body portion do not need replacement and are capable of long and extensive use.

A further object of this invention is to provide for manual extraction of the sponge material by means of a novel extractor fixed to the backing of the sponge material and replaceable therewith, the extractor being preferably formed from a wire rod having a handle portion which locks with the handle of the mop.

A further object of the invention is to devise a novel body portion in the form of a plate deflected to provide a channel, and to fasten the forward half of the sponge material to the body portion, whereby the rear half of the sponge material can be flexed towards and against the front half of the sponge material to effect the extracting operation.

With the foregoing and other objects in view as will hereinafter clearly appear, our invention comprehends a novel mop with replaceable cleaning elements, and provided with novel extracting means.

For the purpose of illustrating the invention, we have shown in the accompanying drawing, a preferred embodiment of it which we have found in practice to give satisfactory results. It is, however, to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized, and the invention is not limited, except by the scope of the appended claims, to the exact arrangement and organization of these instrumentalities as herein shown.

Figure 1 is a perspective view of a mop with replaceable cleaning elements and with novel extractor means embodying our invention.

Figure 2 is a sectional elevation, the section being taken substantially on line 2—2 of Figure 1.

Figure 3 is an exploded view showing some of the component parts in section.

Figure 4 is a sectional view similar to Fig. 2 showing the extractor in operation.

Figure 5 is a detail of sockets.

Similar numerals of reference indicate corresponding parts.

Referring to the drawings:

The mop has a body portion 1 in the form of a plate of sheet metal or other suitable material having a flat rear portion 2 in the form of a plate which merges at its front end into an upwardly directed flange 3 which merges into a forwardly extending flat portion 4 terminating in a depending flange 5, thereby forming a channel 6 to receive the back of a brush 7.

The rear portion 2 of the body portion is upwardly deflected at 8 and 9 to form a clearance for an extractor and to position the forward flange of a handle socket 10 secured thereto by a fastening device 11. The handle socket 10 receives a handle 12 fixed thereto by a fastening device 13.

Sponge material 14 has fixed to its rear half a rigid plate or strip 15 and the front half has a canvas strip 16 fixed to it and also to the rigid plate 15. A pair of bolts 17 fixed to the canvas strip pass through openings 18 in the back of the brush and openings 19 in body portion at the flat portion 4, and are provided with thumb nuts 20.

The extractor 21 is in the form of a spring wire bent upon itself to form a grasping handle, and bent intermediate its ends inwardly as at 22 to form spring portions to interlock with the handle socket and retain the extractor in its inoperative position. The free ends of the extractor are bent to form loops 23 which can be sprung into the space between bars 24 soldered or welded or otherwise fixed to the plate 15. The flexible backing has holes to accommodate the bars 24. It will be apparent that the extractor can be removed by pressing its sides together to release the sides of the extractor from the sockets formed by the bars 24.

As the extractor is in the handle socket is sectional to provide a longitudinal space or groove between the sections as at 25 to receive the locking portion of the extractor. The locking portion of the wire can however be pushed further to lock against the upper section of the handle socket.

In the extracting operation, the operator holds the handle 12 in one hand, and with his other hand swings the extractor downwardly, thereby causing the rear half of the sponge material to be pressed against the front half and effect the extracting operation.

When the brush or sponge material or both become worn, they can be readily replaced by unskilled labor since it is only necessary to remove the two thumb nuts, assemble the parts and replace the thumb nuts. The body portion, handle socket and extractor are permanent parts which do not require replacement.

The rigid member defines the line of fold of the sponge material.

The sponge material is in the form of a block of absorbent cleaning material having a rear foldable portion and a front stationary portion forming substantially one-half of the block when assembled in a mop. Means are provided to secure the stationary portion to the body portion. The spaced bars connected with the rigid plate or strip are positioned above the backing to form between them and the backing non-circular socket openings to receive the free ends of the extractor handle. These socket openings are preferably substantially rectangular.

The side arms of the extractor handle are inwardly deflected intermediately of their ends to be of less spacing than the width of the mop handle so that when the extractor handle is sprung over the mop handle the side arms are tensioned and expanded to retain the free ends of the side arms in their socket openings.

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

1. A mop, comprising a body portion, a handle secured at its forward end to said body portion, a mop head comprising a block of absorbent cleaning material having a forward stationary portion and a rear foldable portion, means to secure the stationary portion to the body portion, a rigid strip secured to the top face of the foldable portion, a flexible backing secured to and covering substantially the top face of said block and of said strip, said rigid strip having spaced bars positioned above the backing and forming between them and the backing non-circular socket openings open at opposite sides, an extractor handle having side arms with inwardly deflected portions intermediate their ends and having their free ends loop-shaped, said socket openings and be non-rotatable therein, the space between the inwardly deflected portions being less than the width.
of the mop handle, whereby when the extractor handle is moved over the mop handle the side arms are expanded to tension their free ends and retain such ends in the socket openings and maintain the block portions in horizontal alignment.

2. The construction defined in claim 1, wherein the body portion has a rear plate portion spaced above said block to provide clearance for the bars and extractor handle when the extractor handle is locked with the mop handle.

3. In a mop, a top cover plate, a mop handle secured thereto, a block of absorbent cleaning material positioned beneath said top plate, a flexible backing secured to the top face of said block, means to fasten only the front portion of said block to said top plate to provide a non-foldable front section and a rear foldable section, a rigid plate secured to the top of said foldable section beneath the flexible backing and having a pair of spaced sockets extending above the flexible backing, and an extractor handle having spring side arms forward portions of which extend between the top plate and the flexible backing the forward ends of said portions being outwardly bent and interlocking with said sockets, said side arms, when the block sections are in mopping position in horizontal alignment, being locked with the mop handle and maintaining the foldable block section in horizontal alignment with the non-foldable block section.

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