Nov. 17, 1959 P. S. VOSBIKIAN ET AL 2,912,710

REPLACEABLE MOP HEADS

Filed Sept. 8, 1955 2 Sheets-Sheet 1

Fig. 1.

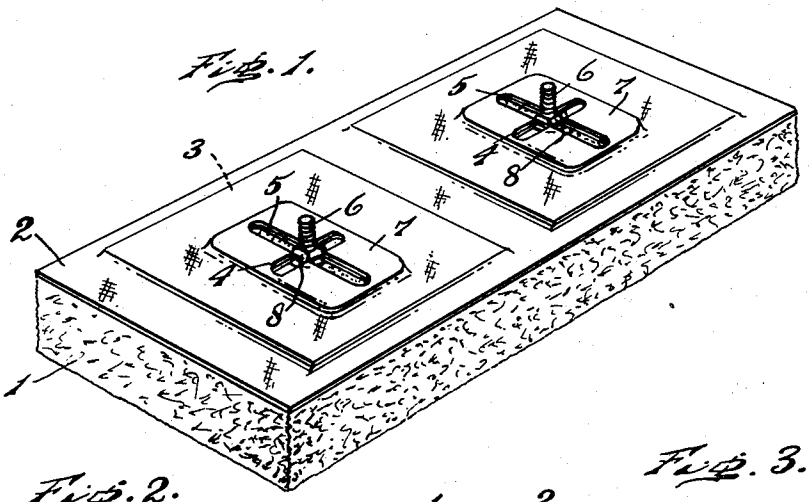



Fig. 2.

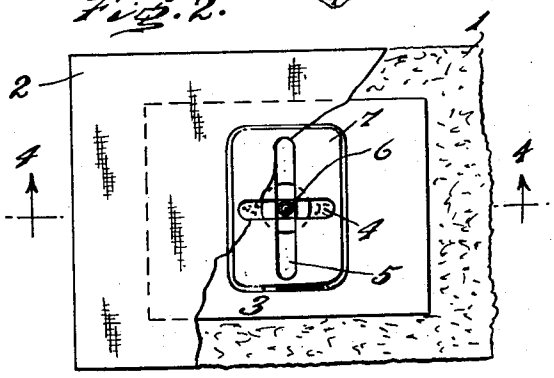



Fig. 3.

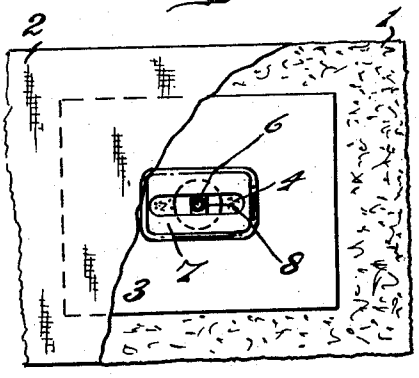



Fig. 4.

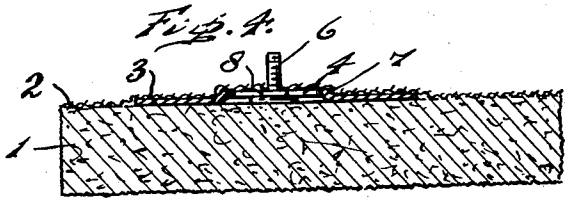



Fig. 5.

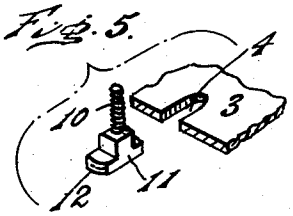
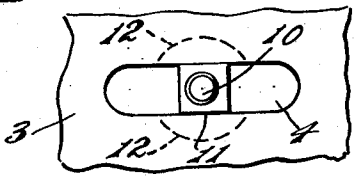



Fig. 6.




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Nov. 17, 1959 P. S. VOSBIKIAN ET AL 2,912,710

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Filed Sept. 8, 1955 2 Sheets-Sheet 2

Fig. 7.

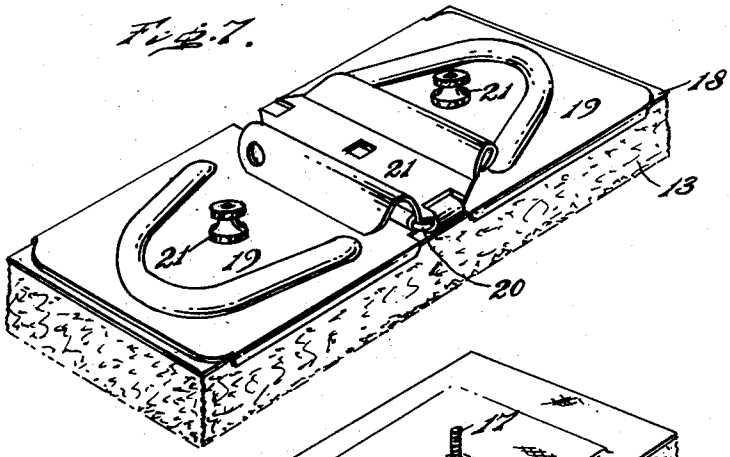



Fig. 8.

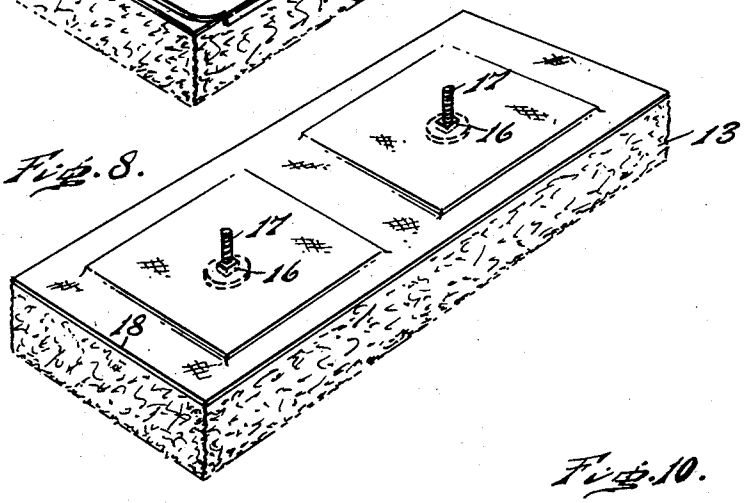



Fig. 9.

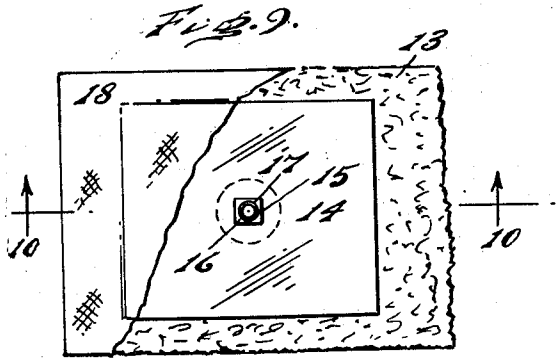
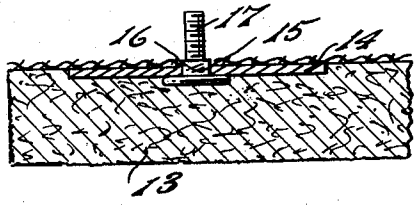



Fig. 10.




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# REPLACEABLE MOP HEADS

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Application September 8, 1955, Serial No. 533,197

2 Claims. (Cl. 15—244)

The object of this invention is to devise a novel replaceable mop head in which the fastening bolts for securing the mop head to the mop form an integral part of the mop head.

The part which wears out and must be replaced is a unit structure consisting of a block of sponge material, its flexible cover, stiffening plates or strips glued to the top face of the sponge material, and fastening bolts adjustable in the plates.

In the type of mop herein shown, two bolts are longitudinally spaced from each other so that they will align with holes in backing members pivotally connected off-center and connected at the central portion of the sponge material to the body portion of the mop. When the backing members are pressed downwardly, either manually or mechanically, one half of the sponge material is pressed against the other half to effect the extracting operation.

The plates or strips are preferably of aluminum and are spaced from the edges of the sponge material and from each other at the central portion of the sponge material, and are of substantial area so that they can be effectively fastened to the sponge material. The top face of the block of sponge material has a flexible cover, such as for example canvas or other suitable material, which covers the entire top face of the block except for holes to receive bolts.

The bolts may be interlocked with the plates to prevent their turning, and are adjustable in slots in the plates.

With the foregoing and other objects in view, our invention comprehends a novel replaceable mop head.

It further comprehends a novel construction and arrangement of the block of sponge material, its cover, its plates and the fastening bolts.

For the purpose of illustrating the invention, we have shown in the accompanying drawings preferred embodiments of it which, in practice, will give satisfactory and reliable 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 set forth.

Figure 1 is a perspective view of a replaceable mop head embodying our invention.

Figure 2 is a top plan view, partly broken away of Figure 1.

Figure 3 is a top plan view, partly broken away of another embodiment of the invention.

Figure 4 is a section on line 4—4 of Figure 2.

Figure 5 is a detail in perspective of another form of fastening bolt.

Figure 6 is a top plan view on an enlarged scale showing the bolt of Figure 5 as having been inserted in its slot in a plate and turned to retain it in its adjusted location.

Figure 7 is a perspective view of another embodiment of the invention in conjunction with their backing members.



Figure 8 is a perspective view of a modified block unit as ready for replacing a unit which has worn out.

Figure 9 is a top plan view partly broken away of Figure 8.

Figure 10 is a section on line 10—10 of Figure 9.

The cleaning portion of the mop head consists of a block of sponge material, such as for example cellulose sponge. The block is preferably rectangular and when one side portion has become worn, the block can be reversed. This block 1 has its top face entirely covered by a cover 2 of canvas or other suitable material.

Plates or strips 3 are glued to the sponge material, and these plates are preferably of aluminum or other suitable material. These plates are spaced from each other at the central portion of the block, and also from juxtaposed edges of the block. In Figures 1 and 2, the plates are provided with slots 4 extending longitudinally of the block and with slots 5 which extend transversely of the block and communicate with the slots 4. These slots receive fastening bolts 6 and each plate 3 is upwardly deflected in an area 7 surrounding the slots to provide for free movement of the heads of the bolts when the location of the bolts is not fixed.

In the embodiment seen in Figure 3, the slots 5 are omitted.

The bolts are of the carriage type bolts having a square shoulder 8 above the head of the bolt, the shoulder fitting and being freely moveable in its slot 4 or 5.

In the embodiment seen in Figures 5 and 6, a special bolt is shown at 10 having the sides of the head and shoulder cut away as at 11 to provide wings 12 on the head. This bolt can be inserted into a slot 4 from below the plate and when turned the shoulder can be within the slot to prevent turning of the bolt, and the wings will be beneath the plate and prevent relative upward movement of the bolt and plate.

In the embodiment seen in Figures 7 to 10, inclusive, the bolts have fixed locations in their plates.

A rectangular block of sponge material 13 is the same as that shown in Figures 1 to 4. Two aluminum plates 14 are glued to the top face of the sponge material and have their inner edges spaced from each other. The plates 14 are provided with rectangular holes 15 to receive the rectangular shoulders 16 of the bolts 17, the heads of the bolts being beneath the plates. A flexible strip 18 covers the top faces of the block and plates and is secured thereto. Pressure members for the extracting operation are shown at 19, and the inner ends of such members are spaced from each other and are connected by pintles 20 with a body portion 21 to which the mop handle is secured. The pressure members are actuated either manually or mechanically to move them downwardly to effect the extracting operation, and the replaceable cleaning unit, comprising the block of sponge material, plates, cover and bolt, is removably secured to the pressure members by nuts 22, the plates being apertured to receive the shanks of the bolts.

It will be apparent that in this embodiment of the invention the holes in the plates and the bolts have a fixed location.

The same type of pressure members and body portion is employed with the embodiments seen in the other figures of the drawings.

All that it is necessary to do to replace a cleaning unit is to remove the nuts, pass the bolts of a new unit through the openings in the pressure members and replace the nuts.

The mop handle, body portion and pressure members assembly are parts which do not have to be replaced.

The plates have a substantial area since the sponge material is flexible, absorbent and compressible.

The rectangular block of sponge material has been es-

pecially designed as a unit to overcome certain detrimental conditions met with in practice. The block is connected at only two points to the two pressure members, and these points are longitudinally spaced from each other and located substantially half way between the front and rear faces of the block. When the block of sponge material is pressed against the floor and moved in any direction, for example forwardly, there is a tendency for the sponge material to roll under the pressure members. This causes the deterioration and shredding of the sponge material at the edge portions of the block, with consequent reduction in the life of the sponge material.

This objection has been overcome by securing the fastening bolts to plates which cover substantial portions of the block beneath the pressure members and terminate at their edges the requisite distance from the edges of the block at the top face of the block, and together with the canvas cover cause the block to maintain its original conformation.

The spacing of the bolt receiving holes in the handle bracket or body portion in different types of mops varies both longitudinally and laterally, and the longitudinal and lateral slots provides for positioning of the bolts to register with differently spaced holes in the handle bracket or body portion.

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

1. A replaceable mop head, comprising a rectangular block of sponge material, rectangular plates secured to the top face of the block with their sides terminating near the sides of the block and with their inner ends spaced from each other to provide for folding the block upon itself to extract liquid therefrom, said plates each having a flat, centrally raised portion with a longitudinal slot extending across a transverse slot and communicating therewith, bolts extending upwardly through the slots and slidable therein, with the heads of the bolts beneath the raised portions of the plates, said slots providing for positioning the bolts relatively to the sides and ends of the block, and nuts for the bolts.



2. A replaceable mop head, comprising an elongated block of absorbent material, rectangular plates secured to the top face of the block with their sides terminating near the sides of the block, with their outer ends terminating near the ends of the block and with their inner ends spaced from each other to permit folding of the block upon itself to extract liquid therefrom, each of said plates being of uniform thickness and having a flat, centrally raised portion provided with a longitudinally extending slot closed at its ends and with a laterally extending slot closed at its ends, said slots intercommunicating at their central portions and having the side walls of their slots parallel, a cover secured to the top faces of the plates except at the slots and to the top face of the block, and bolts in the slots having heads between the plates and the block and having shoulders above the heads having opposite side walls parallel to slidingly engage the side walls of the slots and preventing turning of the bolts in their slots.


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