Feb. 6, 1951 S. P. VAUGHN 2,540,768

SPONGE MOP AND HOLDER THEREFOR

Filed March 11, 1946

FIG. 1

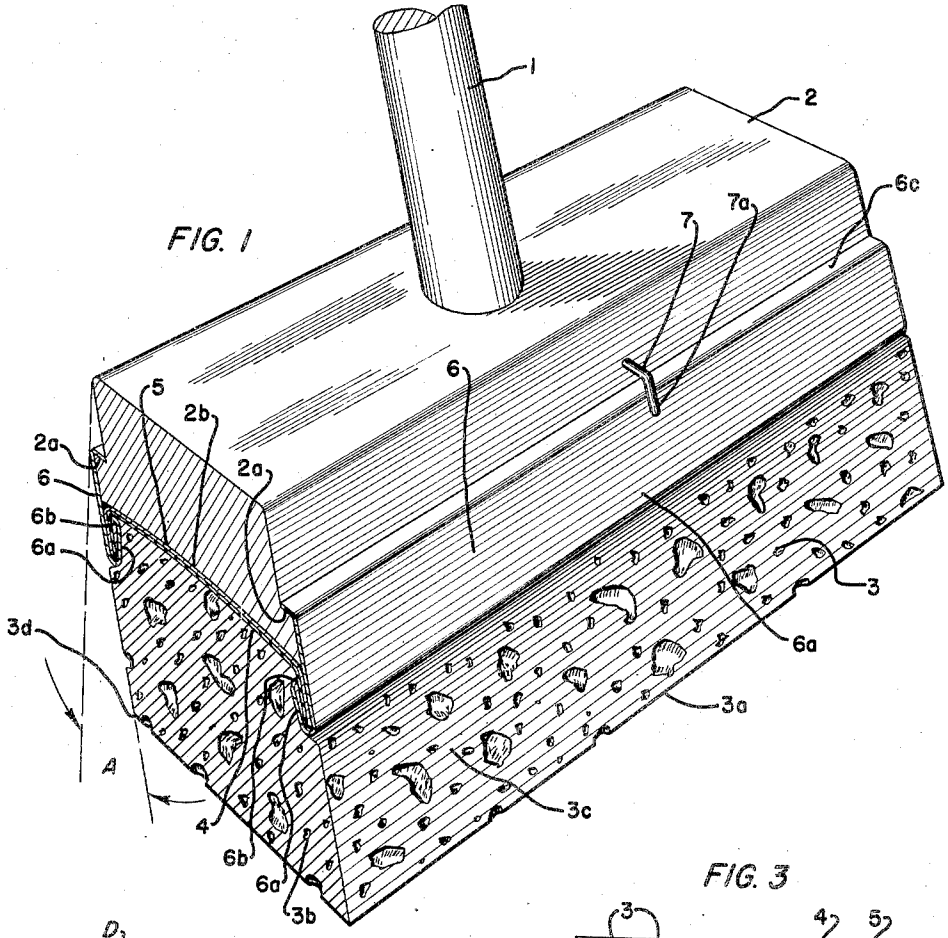
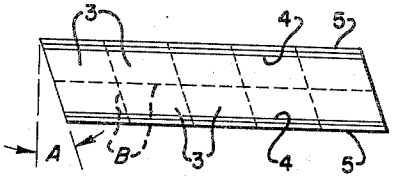


FIG. 3



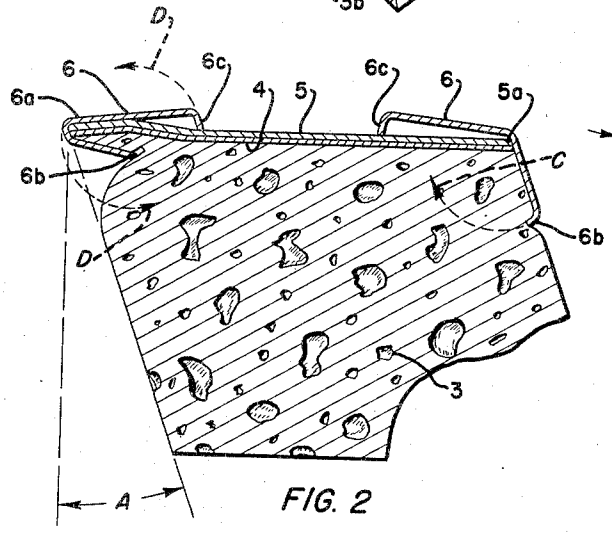


FIG. 2

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Patented Feb. 6, 1951

2,540,768

UNITED STATES PATENT OFFICE

2,540,768

SPONGE MOP AND HOLDER THEREFOR

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Application March 11, 1946, Serial No. 653,462

7 Claims. (Cl. 15—244)

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My invention relates to cleaning devices generally, but more particularly to mops and means for attaching spongy materials such as cellulose and rubber sponge or analogous compressible materials to a holder or backing such as a mop head and the objects of my invention are:

First, to provide a mop of this class having novel and improved means for attaching compressible materials such as cellulose sponge and rubber sponge to a flexible backing and to a holding member such as a head of a mop in such a manner that the sponge element may be readily attached to or detached from the mop head.

Second, to provide a mop of this class having a sponge member of such shape and of such form that the water may be squeezed readily therefrom merely by pressing straight down on the handle of the mop toward the mop head and compressing the sponge member between the mop head and a flat foraminous screen or other flat surface.

Third, to provide a mop of this class particularly adapted for cleaning walls and floors or the like which is very simple and attractive and clean in appearance.

Fourth, to provide a mop of this class having a sponge member extending downwardly and forwardly at its toe portion and arranged to provide buffing means adapted to clean corners of rooms and provide resilient engagement with base boards or the like.

Fifth, to provide a mop of this class having quick detachable means for the sponge member which is readily and easily secured in connection with the sponge member and backing for holding the same securely in connection with a mop head.

Sixth, to provide a mop of this class which is very simple and economical of construction, efficient in operation and which will not readily deteriorate or get out of order.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon forming a part of this application in which:

Figure 1 is a perspective view of my mop showing portions broken away and in section to facilitate the illustration; Figure 2 is a transverse sectional view of the sponge of my mop showing the method of securing the connecting clips thereto

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and Figure 3 is an end elevational view of a block of sponge showing a method of attaching backing thereto and further showing the division of said block of sponge into a plurality of mop sponge members.

Similar characters or reference refer to similar parts and portions throughout the several views of the drawings.

The handle 1, mop head 2, sponge 3, adhesive 4, backing 5, connecting clips 6 and the latch members 7 constitute the principal parts and portions of my mop.

The preferred construction of the sponge member 3 in connection with the backing 5 and adhesive 4 is best illustrated in Figure 3 of the drawings in which the backing 5 is secured on opposite sides of a large block of sponge by means of the adhesive 4. The large block of sponge is then cut as shown by broken lines B into the sponge members 3 whereupon the front side of each of the sponge members 3 extends upwardly and backwardly corresponding to angle A as shown in Figure 3 of the drawings which is substantially 20° to 30°. It will be noted that the adhesive 4 is preferably a waterproof adhesive and that the backing 5 is preferably a clothlike flexible material. The sponge member 3 is made of a block of cellulose or rubber sponge material and this block formed as shown in Figure 3 of the drawings is provided with a downwardly and forwardly extending edge portion 3a forming the toe of the sponge as shown best in Figure 1 of the drawings. The preferred cross sectional shape of the sponge member 3 as shown in Figure 1 of the drawings is polygonal wherein the normally upper and lower sides of the sponge member are relatively flat and the upper side of said sponge member is disposed at an obtuse angle to the front side of said sponge member and the lower side is disposed at an acute angle to the front side of said sponge member. Thus the toe 3a of the sponge member 3 is disposed forwardly of the upper forward edge thereof, as shown best in Figure 1 of the drawings. The connecting clips 6 are preferably made of sheet metal and are secured to the sponge member 3 and the backing 5 together with the adhesive 4 as shown best in Figure 2 of the drawings. The connecting clips 6 are each provided with folded portions 6a as shown in Figure 1 of the drawings which are formed into connection with the sponge member 3, adhesive 4 and backing 5 in substantially the manner as shown in Figure 2 of the drawings. The clip 6 is first positioned in place at the edge 5a of the backing 5 then the one edge

6b of the connecting clip 6 is folded in the direction as indicated by the arrow C whereupon it is clamped into the folded portion 6a and may be pivoted as indicated by the arrows D into a substantially vertical position as shown in Figure 1 of the drawings, wherein the connecting clip members 6 engage the longitudinally disposed ledge portions 2a of the mop head 2 at opposite sides thereof. These projecting ledge portions 2a are integral with the main body of the mop head 2 which may be made of wood, plastic or any other suitable material. The normally lower side of this mop head 2 is provided with a slight cross sectional curvature 2b as shown best in Figure 1 of the drawings. Engaging the curvature 2b is the backing 5 secured to the sponge member 3 by the adhesive 4. The latch members 7 are substantially L-shaped metallic members pivotally mounted in connection with the mop head 2 and adapted to engage the outer sides of the connecting clips 6 outwardly of the latch engaging flanges 6c thereof, as shown best in Figure 1 of the drawings. The cross sectional shape of these connecting clips 6 as shown in Figure 1 of the drawings presents a neat appearance wherein the folded portion 6a at one side and the latch engaging flange 6c at the other side of the section provides neat smooth structure extending longitudinally of the mop head. Secured on the mop head 2 substantially at the middle thereof and extending upwardly and backwardly at an angle is the handle 1 which may be made of wood or other suitable material as desired.

The operation of my mop is substantially as follows: When the lower surface 3b of the sponge member 3 is horizontal, the front side 3c forms an acute angle therewith at the toe 3a of said sponge 3. Thus the toe 3a extends forwardly of the mop head 2 and the front connecting clip 6 when in operation. So disposed, this toe portion 3a of the sponge 3 readily extends into corners and provides a leading buffer portion adapted to contact mop boards or other structure adjacent, the corners being cleaned by the toe portion 3a. As shown in Figures 1, 2 and 3 of the drawings, the angle A is substantially 20° to 30° and this angle A is similar at the front side 3c of the sponge member 3 providing proper lead of the toe 3a. When the handle 1 is disposed approximately 45° to the plane of the floor or wall being cleaned, the heel 3d of the sponge member 3 is slightly compressed, whereby the toe portion 3a clears the surface of the wall or floor being cleaned, preventing said toe portion 3a from folding underneath the mop and being deflected backwardly. The normal resilience of the sponge 3 tends to force the ledge engaging flanges 6c of the connection clips 6 in engagement with the ledge portions 2a of the mop head 2. When the connecting clips 6 together with the sponge 3 and the backing 5 are removed from the mop head 2 the connecting clips 6 tend to pivot backwardly into the solid line position as shown at the left side of Figure 2 of the drawings due to the resilient character of the sponge material 3. It will be noted, however, that when cellulose sponge material is allowed to dry thoroughly it has a tendency to become stiff and hard, therefore, the resilience thereof is reduced and the latch members 7 are employed in the position as shown in Figure 1 of the drawings to prevent lateral displacement of the ledge engaging portions 6c of the connection clips 6 from the ledges 2a of the mop head 2. When the "L-shaped" portions 7a of these latch members 7 are pivoted upwardly,

the ledge engaging flange portions 6c may be readily laterally displaced from the ledge portions 2a by pressure exerted at the folded portions 6a at the outer sides of the connecting clips 7 below the lower edge portions of the mop head 2.

While the particular construction illustrated in the drawing indicates what is commonly known as a mop, it will be understood that by eliminating the handle of the mop it may be readily used as a sponge brush.

Though I have shown and described a particular construction, combination and arrangement of parts and portions, I do not wish to be limited to the particular construction, combination and arrangement, but desire to include in the scope of my invention the construction, combination and arrangement substantially as set forth in the appended claims.

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

1. In a mop, a sponge member, flexible material adhered to one side of said sponge member; connecting clips having folded portions engaging said sponge member and said flexible material, said connecting clips having ledge engaging flange portions extending inwardly toward the middle of said sponge member and a mop head having outwardly projecting ledge portions at opposite sides thereof engaged by the inwardly extending flange portions of said connecting clips.

2. In a mop of the class described, the combination of a block of sponge material, a flexible backing adhered to one side of said block of sponge material, connecting clips having substantially "U-shaped" folded portions at one edge in which opposite edges of said fabric material are clamped, each of said connecting clips having inwardly extending ledge engaging flange portions, a substantially solid mop head having outwardly extending ledge portions at opposite sides thereof engaged by the inwardly extending flange portions of said connecting clips.

3. In a mop of the class described, the combination of a block of sponge material, a flexible backing adhered to one side of said block of sponge material, connecting clips having substantially "U-shaped" folded portions at one edge in which opposite edges of said fabric material are clamped, each of said connecting clips having inwardly extending ledge engaging flange portions, a substantially solid mop head having outwardly extending ledge portions at opposite sides thereof engaged by the inwardly extending flange portions of said connecting clips, substantially "L-shaped" latch members in connection with said mop head extending downwardly at the outer side of said connecting clips adapted to maintain said ledge engaging flanges in position on the outwardly extending ledge portions of said mop head member.

4. In a mop of the class described, the combinaton of a sponge member, polygonal in cross section, having the upper side thereof disposed at an abtuse angle to the front side thereof and having the lower side thereof disposed at an acute angle to the front side thereof; a flexible fabric backing adhered to the upper side of said sponge member, connection clips secured to said backing and having inwardly disposed ledge engaging portions, a mop head having outwardly extending ledges engaged by said inwardly extending engaging portions of said connection clips.

5. In a mop of the class described, the combination of a sponge member having a flexible backing material adhered to one side thereof, said backing disposed in substantially channel shaped cross section; connecting clips having substantially "U-shaped" folded portions in which the angular edge portions of said "U-shaped" in cross section backing is positioned, each of said connection clips having upwardly and inwardly extending edge portions and a mop head having outwardly projecting portions engaged by the upwardly and inwardly extending portions of said connecting clips.

6. In a mop of the class described, the combination of a sponge member having a flexible backing material adhered to one side thereof said backing disposed in substantially channel shaped cross section, connecting clips having substantially "U-shaped" folded portions in which the angular edge portions of said "U-shaped" in cross section backing is positioned, each of said connection clips having upwardly and inwardly extending edge portions and a mop head having outward projecting portions engaged by the upwardly and inwardly extending portions of said connecting clips, pivoted latch members in connection with said mop head engaging the outer sides of said connection clips.

7. In a mop, a sponge member having upper corner portions, clips having folded portions engaging said upper corner portions of said sponge member, said connecting clips having ledge-engaging flange portions extending inwardly toward the middle of said sponge member, and a mop head having outwardly projecting ledge portions at opposite sides thereof engaged by the inwardly extending flange portions of said connecting clips.

SIDNEY P. VAUGHN.

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