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LEVER-WRINGING SPONGE MOP

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FIG. 2

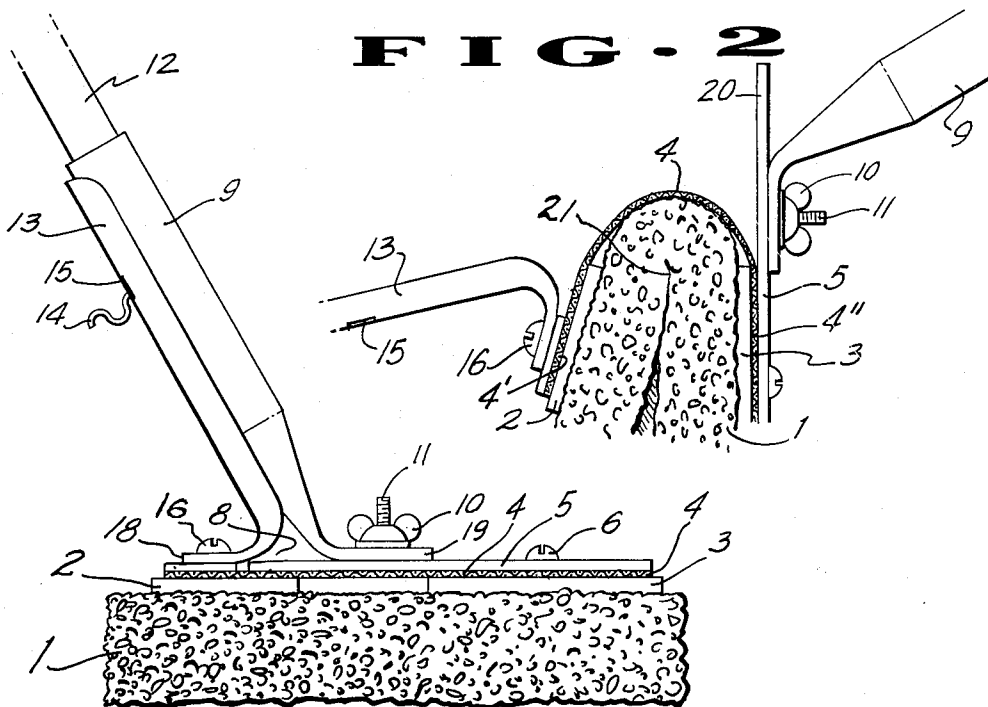
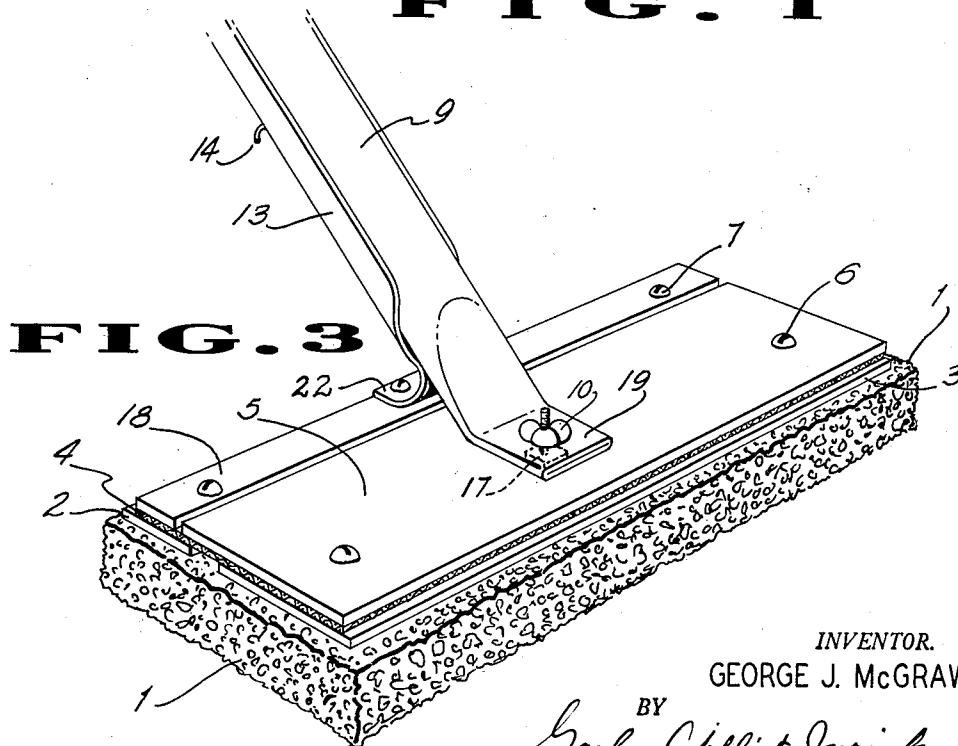


FIG. 1



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LEVER-WRINGING SPONGE MOP

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4 Claims. (Cl. 15—119)

This invention deals with a sponge mop employing a flat removable sponge on top of which is attached a base to which a handle foot may be fastened. More specifically, it relates to a sponge mop having a slit base carrying a lever for facilitating the wringing of said sponge:

Among the novel features of the present invention are a wringing lever arm adjacent to and lockable with the mop handle foot, a continuous anchored web backing to protect the sponge during wringing, an inexpensive, yet adequate, base for the handle foot and wringing lever, and other features to be further described.

The invention may be more readily understood by reference to the drawing in which Figure 1 depicts a side view of the mop, the handle foot wringing lever arm and the base. A partial side view of the mop in wringing position is shown in Figure 2, while Figure 3 illustrates an isometric top view of the main assembly of the mop and the attachments thereto. Similar numerals refer to similar parts in the various views.

Referring again to the drawing, numeral 1 represents a flat, porous sponge, preferably one of cellulose, and of oblong shape. On the top surface of sponge 1 and cemented lengthwise thereto, are flat rigid sheets 2 and 3, preferably of tempered hardboard or other water-resistant composition board, preferably of $\frac{1}{8}$ " thickness, more or less. Forward sheet 3 is wider than rear sheet 2, and an open space of about $\frac{1}{8}$ " is made available therebetween. Cemented to the upper surfaces of sheets 2 and 3, and straddling the open space, is fabric sheet 4 which may be of webbing, fabric, cloth, light canvas, or the like. It is preferred that this fabric sheet extend over substantially all of sheets 2 and 3 as well as the space therebetween. Mounted over fabric 4 on hardboard sheet 2, is plate 18 which preferably is of metal ($\frac{1}{16}$ " or less in thickness) and is not as wide as hardboard sheet 2 disposed underneath.

Top plate 5, which also preferably is of metal similar to plate 18, covers sheet 3 disposed below it, as well as the open space between sheets 2 and 3, and also overlaps onto and over sheet 2 and is disposed adjacent to plate 18, and separated therefrom by a short gap 8. Plate 5 is held in place by flat sheet-metal screws 6, while plate 18 is held in place by similar screws 7, all of which are screwed into hardboard sheets 3 and 2 respectively.

Welded, riveted or screwed to top plate 18, by weld, rivet or screw 16, is the lower curved end 22 of lever arm 13, which arm is used for wringing the mop. This lever arm 13 projects upwardly at the same angle as mop handle 12, which fits into handle foot 9, the lower part 19, of which is flattened and bent to seat over top plate 5. Screw 11 and wing nut 10 are employed to securely fasten foot end 19 to plate 5, and the lower portion 17 of the shank of screw 11 is made square, fitting in complementary square holes in plate 5 and flat foot end 19, so as to prevent rotation of the mop independently of the handle 12.

Handle foot 9 has, projecting from its rear surface, a

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short corrugated metal strip 14 which can be pushed through square hole 15 in lever arm 13 so that the corrugation would catch on the edge of the hole keeping arm 13 in yielding locked and nesting relation with foot 9.

The width of plate 18 preferably is about a half the width of sheet 2 disposed thereunder. The preferred size of the sponge is $4\frac{1}{2}$ " x 8" x 1" and it is desirable to have the sponge project about $\frac{1}{4}$ " in front of sheet 3 and about $\frac{1}{8}$ " behind sheet 2. At the sides, the sponge preferably projects about ($\frac{1}{4}$ "). Lever handle 13 preferably is about 6" long.

When the mop is in use and becomes soaked with water (such sponges should never be wrung dry), it is wrung by grasping handle 12 in one hand and pulling out lever arm 13 with the other hand in an arc as shown in Figure 2. It will be observed that when the wringing pressure is applied in this manner to the sponge, there is a tendency for the folded portion of the sponge 21 to be forced outwardly, which tendency is counteracted by the continuous web 4 acting as a support for the folded sponge portion, thus preventing deformation and gradual disintegration thereof. Such disintegration would take place if the support 4 consisted of straps, rather than a continuous sheet. It will also be observed that lever arm 13 returns in nesting relation with foot 9 and thus does not project in the way to catch on articles or clothes during the mopping operation. Also, since plate 5 overlaps over sheet 2, the base is strong enough to withstand the mopping force imposed at foot end 19 without in any way causing independent movement of any portion of the entire sponge assembly.

When the sponge has become useless or unusable, it may be readily removed by unscrewing screws 6 and 7, so that the mop carrying sheets 2 and 3 and web 4 may be discarded and a new mop unit may be attached to plates 5 and 18 by means of screws 6 and 7.

It is possible to recess plate 5 under foot end 19 or to corrugate it adjacent the foot end sides so as to prevent any turning of end 19 over top plate 5. The latter plate as well as plate 18, may be made of thin rigidized metal, aluminum, plated sheet iron, or the like.

The advantage of the flexible retaining means 4 will be appreciated when it is compared with a hinge type action in which the sponge, attached to two rigid hinged plates, is squeezed for wringing purposes. In the latter case, the sponge portion adjacent the hinge is squeezed excessively to the point of damage, while the sponge portion furthest from the hinge receives very little wringing pressure. Also, it has been found that when fabric sheet 4 is cemented to the complete upper surfaces of sheets 2 and 3, and further held in place by screws 6 and 7, it outlasts considerably webs which are cemented only at the edges of sheets 2 and 3.

It will be understood that if sponge 1 were backed with straps rather than a continuous sheet 4, the wringing operation would cause some water to be forced outwardly between the straps, causing an undesirable splashing condition which would not be encountered if the present continuous sheet 4 were employed. Also, such sheet 4 would give rise to a uniform and equalized wringing pressure in said sponge.

I claim:

1. In a lever wringing sponge mop having a single rectangular, flat sponge operated by a handle inserted in a foot attached to a plate mounted on said sponge, said sponge being wrung by moving a lever arm attached to an adjoining plate away from said handle, the invention comprising a narrow, rectangular, rigid, water-resistant sheet cemented lengthwise to the top of said sponge, a second wider rectangular sheet separated by a space from the first sheet and cemented lengthwise to the top of said

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sponge, a continuous web of flexible fabric covering both said sheets and the space separating them and cemented to the tops of said sheets, a rigid plate removably attached to and disposed over a portion of the first sheet, a second rigid plate removably attached to and covering said second sheet and extending over a portion of said first sheet to adjacent the edge of said first plate, fastening means for fastening onto said second plate the foot of the mop handle in non-rotating relation thereto, and a lever arm attached to the top of said first plate, and projecting under said handle foot and lockable thereto.

2. A sponge mop according to claim 1 including locking means in which the locking means is a yieldable locking means enabling the lever arm to be yieldably locked to coacting means on said foot.

3. A sponge mop according to claim 1 in which the first plate is about one-half the width of the first sheet disposed thereunder.

4. In a lever wringing sponge mop carrying a single flat sponge and operated by a handle inserted in a foot attached to a plate mounted on said sponge, said sponge being wrung by downward folding thereof in a direction such that the fold extends from one side of the mop to the other, the invention comprising a narrow, rigid, water-resistant sheet cemented to the top rear portion of the sponge and extending from side to side thereof, a second wider sheet disposed on the remaining top portion of the

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sponge and separated by a space from the first sheet, a continuous sheet of flexible fabric covering both said previously mentioned sheets and the space separating them and cemented to the tops of said both sheets, a rigid plate attached to and disposed over a portion of the first sheet and covering the top rear portion thereof, a second rigid plate removably attached to and covering said second sheet and extending over the forward portion of the first sheet to adjacent the forward edge of said first plate, and fastening means for fastening onto said second plate the foot of the mop handle in non-rotating relation thereto.

References Cited in the file of this patent

UNITED STATES PATENTS

15	2,044,075	Jelenfy	June 16, 1936
	2,204,806	Lorenz et al.	June 18, 1940
	2,469,060	Vosbikian et al.	May 3, 1949
	2,515,403	Greenleaf et al.	July 18, 1950
20	2,632,192	Mallory	Mar. 24, 1953
	2,641,787	Vosbikian et al.	June 16, 1953
	2,677,837	Channell	May 11, 1954
	2,694,210	Bitzer et al.	Nov. 16, 1954
	2,701,888	Vosbikian et al.	Feb. 15, 1955

FOREIGN PATENTS

25	596,139	Germany	Apr. 27, 1934
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