

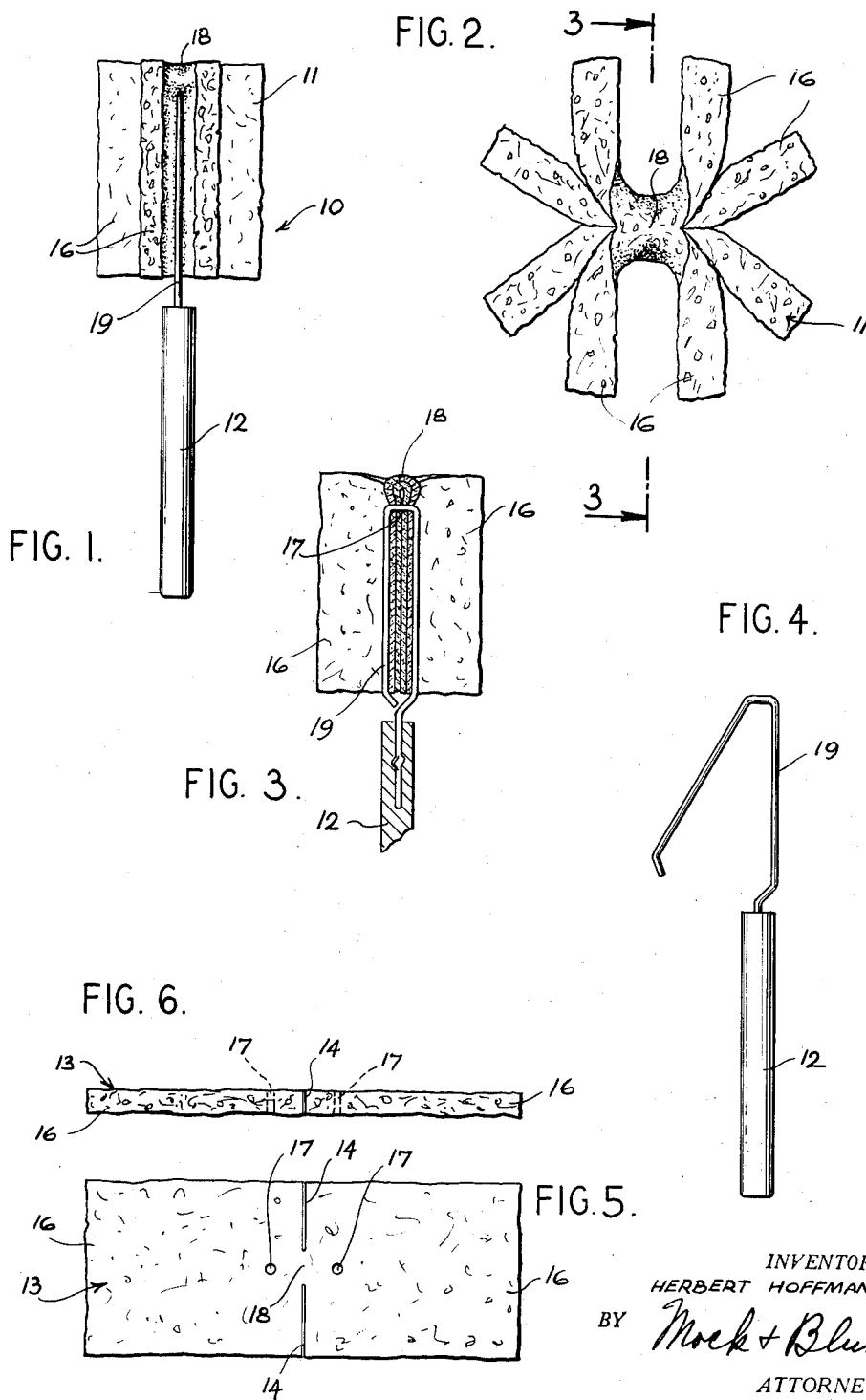
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H. E. HOFFMAN

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SPONGE MOP AND METHOD FOR PRODUCING THE SAME

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SPONGE MOP AND METHOD FOR
PRODUCING THE SAMEHerbert E. Hoffman, Lakewood, Ohio, assignor to
Nylonge Corporation, Cleveland, Ohio, a cor-
poration of Ohio

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The present invention relates, in general, to devices for cleaning and scouring the surfaces of dishes, bottles, kitchen utensils, bathtubs, sinks and for various other miscellaneous cleaning purposes, and it relates more particularly to an improved mop having its absorbent or working portions of a sponge-like material and to an improved method for producing the same.

In the cleaning of the surfaces of dishes, bottles and the like, two types of mops are now customarily employed. One of these types employs a head formed of strands of fibrous absorbent material such as cotton which is generally treated in order to enhance its absorbency. This type of mop possesses numerous drawbacks which render its application to the cleansing and scouring of dishes, bowls and bottles highly undesirable. A principal disadvantage is its extreme softness and hence its inability to easily remove dirt and grime which is found to tenaciously adhere to the surfaces of dishes, bottles and kitchen wear. Further disadvantages lie in the unattractive appearance of these mops, their tendency to shed linters, their high cost, etc. With the advent and exploitation of artificial sponge material, particularly artificial sponge material formed of regenerated cellulose, the use of this sponge material for mop heads has been widely adopted. The employment of artificial sponge in the place of absorbent strand material has overcome many of the drawbacks of the latter. However, the mop heads heretofore employed which are formed of artificial sponge-like material possess numerous disadvantages. The head being generally formed of a single block of material is highly inaccessible to corners and small spaces. Furthermore, the scouring action of the sponge being greatest at the edges, it is apparent that the effectiveness of a block of sponge material as a mophead is greatly limited. Among the many other drawbacks of the mops employing a sponge head is the difficulty of simply attaching a handle to the head without unduly weakening the sponge head or permitting the handle to project through the head.

It is therefore a principal object of the present invention to provide an improved mop, provided with a head formed of sponge-like material.

Another object of the present invention is to provide an improved method for producing a mop having a head formed of sponge-like material. Still another object of the present invention is to provide an improved mop having a head formed of sponge material and characterized by its improved scouring characteristics and ability to reach normally inaccessible surfaces.

A further object of the present invention is to

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provide an improved mop having a head of sponge material and characterized by its inexpensiveness, ruggedness, and ease of production.

The above and further objects of the present invention will become apparent from a reading of the following description together with the accompanying drawings, wherein Figure 1 is a front elevational view of a preferred embodiment of the present invention; Fig. 2 is an enlarged top plan view thereof; Fig. 3 is a reduced sectional view taken along line 3-3 in Fig. 2; Fig. 4 is a side elevational view of the handle illustrated in preassembled form; Fig. 5 is a top plan view of a layer of sponge material which forms the head of the mop and Fig. 6 is a front elevational view thereof. The present invention broadly contemplates the provision of a mop provided with a head formed of a plurality of layers of sponge material clamped together along a portion thereof, and supported by a handle extending parallel to the longitudinal axis of the layers of sponge material. Where in the specification sponge material or sponge-like material is referred to, what is meant is porous compressible material, pliable when moist and capable of absorbing relatively large amounts of water. An example of such material is artificial sponge formed of regenerated cellulose by the viscose method, which material is well known in the art. In a preferred embodiment of the present invention a plurality of layers of sponge material of rectangular shape have a pair of holes formed therein symmetrically spaced relative to the transverse axis and along the longitudinal axis. These layers of sponge material are superimposed and folded along the transverse axis, the holes being axially aligned and a wire bifurcated clamping member is passed through the holes and urged into clamping engagement with the layers of sponge material so that they are compressed along their longitudinal axis and the sponge material radiates from the center clamped portion in starlike fashion. The clamping member terminates in a handle which extends perpendicular to the transverse axis of the sponge layers. In assembling the mop head, a heavy gauge wire clamping member, substantially V-shaped is brought into engagement with the aligned holes of the folded superimposed sponge layers, said aligned holes, preferably being adjacent the upper edge of the mop head. A leg of the clamping member is disposed above the top of the superimposed sponge layers and the other leg passed through the aligned holes. When the crotch of the clamping member engages the holes, the clamping member is rotated about the axis of the holes until the legs straddle the lower portion of

the sponge layers, along their longitudinal axis and the clamping member is forced into closed position so as to tightly engage and compress the mid portions of the layers of sponge material.

Reference is now made to the drawings which illustrate a preferred embodiment of the present invention and wherein 10 designates a mop comprising a mop head 11 which is mounted upon a handle 12 which may be formed of wood, plastic or any other suitable material.

The mop head 11 is formed of a plurality of thick sheets 13 of porous sponge material which are of rectangular cross section. Each of the sheets 13 is provided with a pair of transverse slits 14 which extend toward each other from the front and rear walls of the sheet 13 but do not meet, thus producing a pair of wing members 16 which are integrally joined along the midportion of their abutting sides by a bridge portion 18. Furthermore, a pair of holes 17 are formed in the sheet 13 spaced along the longitudinal axis and symmetrically spaced relative to the transverse axis of the sheet 13. The sheets 13 may be fabricated of any suitable sponge-like material preferably, however, of artificial sponge formed of regenerated cellulose.

The mop head 11 is assembled by superimposing a plurality of the sheets 13, two being illustrated by way of example, so that their edges and slits 14 are aligned. The superimposed sheets are then folded along their transverse axis and the portion 18 bridging the wing members 16 and the holes 17 are brought into substantial alignment. The handle 12 has a relatively stiff wire clamping member 19 mounted at one end thereof, the clamping member being substantially V-shaped in the unassembled condition of the mop head 11. The free leg of the clamping member 19 is passed through the aligned holes 17, the other leg being adjacent the folded bridge portion 18, until the crotch of the member 19 engages the said bridge portion 18, and the handle extends outwardly parallel to the longitudinal axis of the sheets 13. The handle 12 and clamping member 19 are then rotated 180° about the axis of the holes 17 until the handle 12 is parallel to the longitudinal axis of the mop head. The legs of the clamping member 19 are then closed compressing the sponge material engaged between the legs of said clamping member and urging the sponge sheets to radiate from their longitudinal axis and the portion between the clamping legs as may be seen in Fig. 2 of the drawing. It should be pointed out that the procedure requiring the handle 12 and clamping member 19 to be rotated during assembly may be obviated by opening the legs of the clamping member 19 wider than illustrated in Fig. 4 of the drawing, approaching an angle of about 90°. Thus the free leg of the clamping member may be inserted through the aligned holes 17 while the handle 12 is in the direction of its final position and the legs directly closed to complete the assembly of the mop head.

It is apparent from the above that the present invention provides an improved mop characterized by its low cost, simplicity and improved features. Among these features are the large extent of edges available for cleaning and scouring, the efficient use of sponge material, the impossibility of anything, forming the mop head, but the sponge material coming in contact with the surface being scoured or cleaned, and many others too numerous to mention.

While there has been described and illustrated 75

a preferred embodiment of the present invention, it is apparent that numerous alterations and omissions may be made without departing from the spirit thereof.

What is claimed is:

1. A cleaning device of the character described comprising a plurality of superimposed rectangular sheets of porous compressible water absorbent material folded along a substantially central transverse axis thereof and having slits formed along said axis extending from the sides of said sheets to points short of the middle thereof, each of said sheets having a pair of holes formed therein which are in substantial alignment with each other and with the holes formed in said other sheets when in folded condition and a clamping member having a crotch portion positioned within said holes and including a pair of leg members which extend from said crotch portion away from the folded edges of said sheets and engage and compress said sheets along a substantially central longitudinal axis thereof.

2. A cleaning device as claimed in claim 1 wherein the legs of said clamping member extend from the holes in said sheets to the ends remote from the folded portion thereof.

3. The method of producing a mop head of a porous compressible water absorbent material comprising the steps of superimposing a plurality of rectangular sheets of porous compressible water absorbent material having longitudinally spaced holes formed therein and being provided with slits along a substantially central transverse axis thereof extending from the sides of said sheets to points short of the middle thereof, folding said superimposed sheets about said transverse axis until said holes are in substantial axial alignment, passing a leg of an open clamping member including a pair of legs joined by a crotch portion through said holes until said crotch portion is positioned within said holes and then closing said leg members along a substantially central longitudinal axis of said sheets to engage and compress said sheets between said leg members.

4. A cleaning device of the character described comprising a plurality of superimposed rectangular sheets of porous compressible water absorbent material folded along a substantially central transverse axis thereof and having slits formed along said axis extending from the sides of said sheets to points short of the middle thereof, each of said sheets having a pair of holes formed therein which are in substantial alignment with each other when in folded condition, and a clamping member including a pair of connected leg members which have portions thereof positioned within said holes and which extend away from the folded edges of said sheets and engage and compress said sheets along a substantially central longitudinal axis thereof.

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