June 30, 1953 P. S. VOSBIKIAN ET AL 2,643,407

MOP AND EXTRACTOR THEREFOR

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Fig. 1.

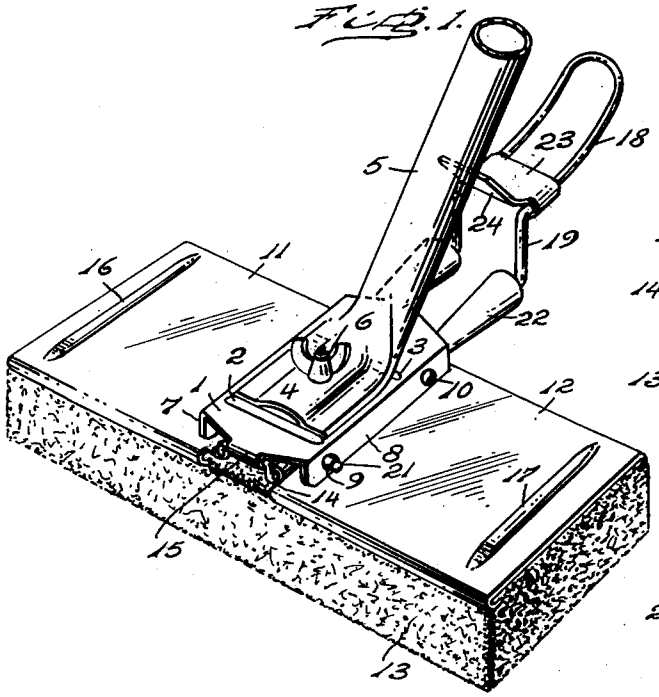


Fig. 3.

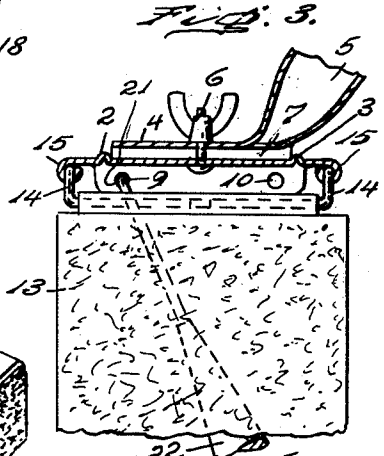


Fig. 4.

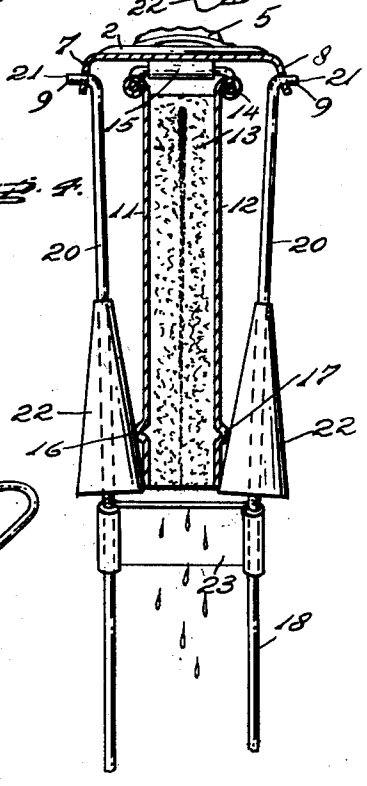
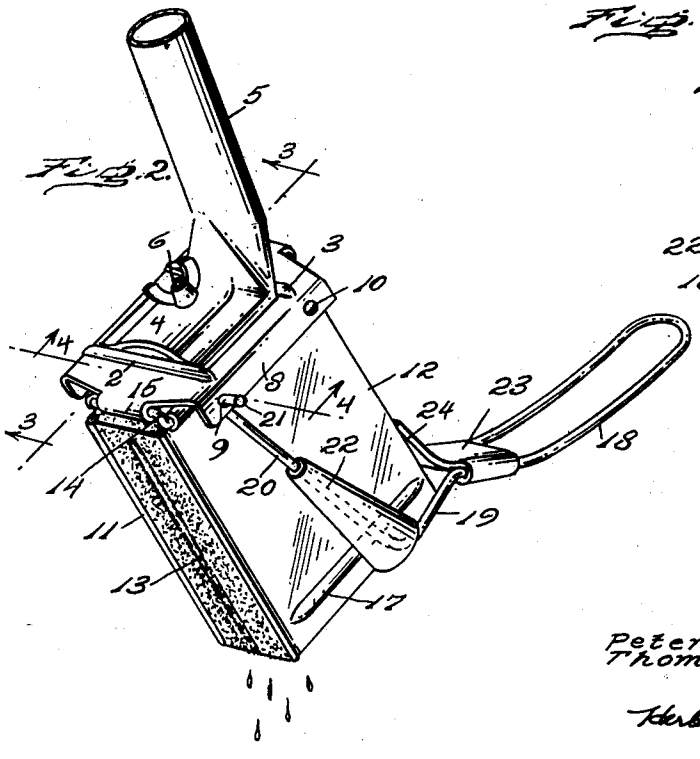


Fig. 2.



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MOP AND EXTRACTOR THEREFOR

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11 Claims. (Cl. 15—119)

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The object of this invention is to devise a novel mop and extractor which will enable one to extract the dirty water from the absorbent material of the mop without the hands of the operator coming into contact with the dirty water.

A further object of the invention is to devise a novel extractor which can be applied to and removed from the body portion of the mop without the aid of tools, and which is provided with cone shaped pressure members to force head sections of the mop towards each other to compress the absorbent mop material.

With the foregoing and other objects in view, as will hereinafter clearly appear, our invention comprehends a novel mop and extractor therefor.

It further comprehends a novel construction and arrangement of an extractor having a selected hinge connection with the body portion of a mop, the latter having head sections pivoted offcenter to the body portion, and the extractor having cones adapted to ride on raised ribs on the head sections during the extracting operation.

For the purpose of illustrating the invention, we have shown in the accompanying drawings, a typical embodiment 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 to the exact arrangement and organization of these instrumentalities as herein set forth.

Figure 1 is a perspective view of a mop and extractor, embodying our invention.

Figure 2 is a perspective view with the extractor in extracting position relative to the mop.

Figure 3 is a section on line 3—3 of Figure 2.

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

Similar numerals of reference indicate corresponding parts.

Referring to the drawings:

The mop has a body portion 1 having raised ribs 2 and 3 which are parallel to each other to receive the rectangularly shaped forward end 4 of a handle 5 which is fixed to the body portion in the position to which it has been angularly adjusted by a bolt and nut 6. The body portion has opposite sides downwardly deflected to form limiting flanges 7 and 8, each of which has longitudinally spaced pivot openings 9 and 10.

Head sections 11 and 12 have absorbent material 13 secured to their bottom faces in any desired manner. The inner marginal portions of the head sections are looped over to receive U-

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shaped pivot pins 14 around which opposite end marginal portions of the body portion are deflected as at 15. It will thus be clear that the head sections are pivotally connected in offset relation with the body portion. The section 11 has a raised rib 16 tapering from its free ends towards its center, and the head section 12 has a similar raised rib 17, these ribs being located near the free ends of the head sections.

The extractor is formed from a wire or rod deflected upon itself to provide at one end a grasping handle 18 having parallel and preferably curved stretches which merge into right angle stretches 19 connected with right angle stretches 20 terminating in offset ends 21 forming pivots to be received in selected pivot openings 9 or 10. Pressure members 22 in the form of cones are carried by the stretches 20 and are preferably loosely mounted thereon. The cones may be free to move towards the body portion but their rearward movement is limited by the angle stretches 19.

The forward ends of the two stretches of the grasping portion 18 are connected by a clip or strap 23 which may have a portion 24 to form a stop to limit the extent of relative movement between the handle and the head sections.

The operation will now be clear to those skilled in this art and is as follows.

The mop is moved along the surface to be cleaned in the usual manner, the flanges 7 and 8 limiting the pivotal movement in one direction of the head sections so that the absorbent material is substantially in a flat condition during the operation.

When it is desired to extract the dirty water or other solution employed from the absorbent material, the operator, holding the handle 5 in one hand, moves the handle 18 downwardly with the other hand. This causes the low points of the cone to move the head sections towards each other and as the downward movement of the handle 18 continues the cones ride up on the ribs 16 and 17 with increasing pressure as the larger diameter of the cones rides on the ribs 16 and 17 as will be clear from the position of the component parts in Figure 2. The stop portion 24 limits the relative movement of the extractor and handle of the mop and the extent of the squeezing action on the absorbent material.

As shown, the extractor is pivoted in the pivot openings 9, and we provide openings 10 for reversal of the extractor in case the sponge material becomes worn at the forward end portion of the mop.

The pivotal movement in one direction of the head sections is limited by the flanges 7 and 8.

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

1. The combination with a mop having a body portion with head sections pivoted at their inner ends to the body portion and offcenter of the body portion, an extractor, adapted to swing in a path to contact the head sections when they are pivoted into a juxtaposed position with each other, having spaced members pivoted at their front ends to and offcenter of the body portion, and cone shaped pressure members on said spaced members with the smaller end of the cones initially contacting said head sections and pressing them together during movement in one direction of said spaced members, the pivotal axis of the extractor extending transversely to the hinge axis of each head section and so related thereto as to cause the pressure members to contact on their pivotal movement the head sections and press them towards each other.

2. The combination with a mop comprising a body portion having depending side flanges with pivot openings at opposite ends and head sections pivoted offcenter to opposite end portions of the body portion, and having their movement in one direction limited by said flanges, an extractor, adapted to swing in a path to contact the head sections when they are pivoted into a juxtaposed position with each other, comprising a carrier having two forwardly extending stretches spaced from each other and terminating in pivot members received in said pivot openings, and cones mounted on said stretches and having the smaller ends of the cones initially contacting the top faces of the head sections, the pivotal axis of the extractor extending transversely to the hinge axis of each head section and so related thereto as to cause the cones on pivotal movement in one direction of the extractor to contact the head sections and press them towards each other.

3. The construction defined in claim 2, wherein the pivot openings comprise longitudinally spaced openings at opposite sides of the body portion.

4. In a mop, a body portion having opposite sides downwardly deflected to form flanges with each flange having longitudinally spaced pivot openings for selective reception of an extractor, head sections having their inner ends spaced from each other beneath said body portion, U-shaped pivot pins at opposite ends of the body portion pivotally connecting the head sections to the body portion, the end portions of the body portion being bent over the pivot pins to retain them in position, sponge material secured to said head sections, and a handle connected with the body portion.

5. The construction defined in claim 4, having in combination therewith an extractor comprising a rod deflected upon itself to form a grasping handle and two straight stretches terminating in outwardly bent pivot forming members to be received in said selected pivot openings, and cones rotatably mounted on said straight stretches having their smaller ends initially presented to the top faces of the head sections, the pivotal axis of the extractor extending transversely to the hinge axis of each head section and so related thereto as to cause when the extractor is swung downwardly a gradually increasing pressure against said head sections to move them towards each other.

6. In a mop, a body portion having opposite sides deflected downwardly and provided with a pivot receiving opening near each end of the body portion, head sections having their inner ends spaced from each other beneath said body portion, U-shaped pivot pins insertable from opposite ends of the body portion into the head sections and retained in position by deflected portions of the body portion, each head section near the outer end of its top face having a raised rib tapering downwardly from its central portion towards opposite sides of its head section, an extractor having pivot portions to be received in said selected pivot openings, cones, one for each head section, rotatably mounted on the extractor having their smaller ends initially contacting the top faces of the head sections, said cones riding on said ribs during their final swinging movement in an extracting direction, sponge material secured to the bottom face of the head sections, the pivotal axis of the extractor extending transversely to the hinge axis of each head section and so related thereto as to cause the cones to contact on pivotal movement of the extractor in one direction the head sections and press them towards each other, and a handle secured to said body portion.

7. A mop comprising head sections having their inner portions pivoted to each other in spaced relationship to form a unit of structure, a body portion having its sides overhanging the head sections and having depending side flanges limiting the pivotal movement in one direction of the head sections, said flanges having at one end pivot openings, the end portions of the body portion being connected with the pintles of the said pivotal connection between the head sections, a handle connected with the body portion, and an extractor having stretches the ends of which are received in said pivot openings, said extractor being adapted to swing in a path of contact with the head sections, and tubular members on said stretches, the pivotal axis of the extractor extending transversely to the hinge axis of each head section and so related thereto as to cause the tubular members to contact the head sections and press them towards each other.

8. The construction defined in claim 7, wherein the head sections have raised ribs on which said tubular members ride, said ribs tapering downwardly from their central portions towards the sides of the head sections.

9. In a mop, a body portion, head sections having their inner ends in hinged relationship with said body portion, sponge material on the bottoms of the head sections, an extractor having spaced stretches pivotally connected at their forward ends to the body portion, and tubular pressure members on said stretches, the pivotal axis of the extractor extending transversely to the hinge axis of each head section and so related thereto as to cause the pressure members to contact on pivotal movement of the extractor in one direction the head sections and press them towards each other.

10. In a mop, a body portion, head sections having their inner ends in hinged relationship with said body portion, sponge material on the bottoms of the head sections, said head sections having ramps tapering downwardly from their central portion towards the sides of the head sections, an extractor having spaced stretches pivotally connected at their forward ends to the body portion, and tubular pressure members on said stretches, the pivotal axis of the extractor

extending transversely to the hinge axis of the head sections and so related thereto as to cause the pressure members on pivotal movement of the extractor to ride on the ramps and press the head sections towards each other.

11. In a mop, a body portion, head sections carried by the body portion and having their inner juxtaposed portions hinged together in spaced relationship, sponge material on the bottoms of the head sections, a handle fixed to the body portion, and an extractor having spaced stretches pivotally connected at their forward ends to the body portion, the pivotal axis of the extractor extending transversely to the hinge axis of each head section and so related thereto as to cause the stretches, on pivotal movement of the extractor in one direction, to pass transversely over the head sections to press them towards each other.

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