

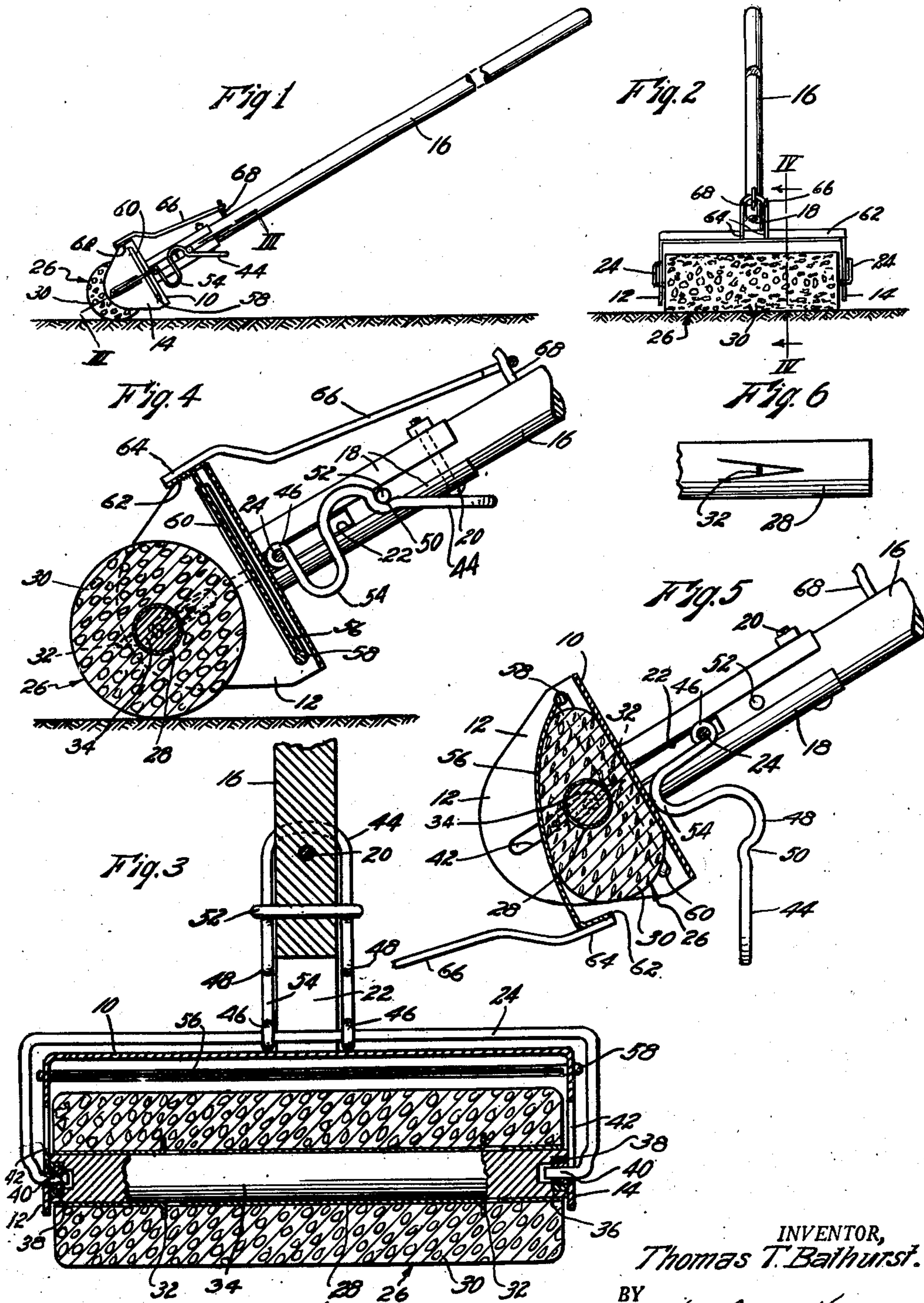
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COMBINATION MOP, SCRUBBER, AND WRINGER

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COMBINATION MOP, SCRUBBER, AND WRINGER

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1 Claim. (Cl. 15—119)

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This invention relates to improvements in rotary surface cleaners, and has particular reference to a cleaner device comprising a mop drum made of a thick layer of porous, elastically compressible material such as cellulose sponge or air foam rubber adapted to be moved in rolling contact with the surface to be cleaned, which will cause alternate compression and expansion of said sponge thus creating a vacuum therein, by means of which particles of dirt are drawn into said sponge, and may be washed therefrom.

Another object is the provision of means whereby the sponge may be intermittently compressed in hot water, thereby flushing the pores of the sponge to remove the accumulated dirt therefrom.

Other objects are sturdiness and economy of construction, ease and efficiency of operation, and adaptability for use in cleaning floors, side wall or overhead surfaces.

With these objects in view as well as other objects which will appear during the course of the specification, reference will be had to the drawing wherein:

Fig. 1 is a side elevational view of a rotary surface cleaner embodying this invention.

Fig. 2 is front elevational view of the rotary surface cleaner as shown in Fig. 1.

Fig. 3 is an enlarged sectional view taken on line III—III of Fig. 1 with the parts in the operation position on the floor surface.

Fig. 4 is a sectional view taken on line IV—IV of Fig. 2.

Fig. 5 is a sectional view similar to that shown in Fig. 4 with the parts shown in position to squeeze the fluid from the mop member.

Fig. 6 is a fragmentary elevational view of one end portion of the core member showing one of the mop detents or tines which serve to hold the mop in fixed position thereto.

Like reference characters refer to similar parts throughout the several views, and the numeral 10 designates a frame of substantially planar form having down turned end walls 12 and 14. Mounted rigidly adjacent the center portion of frame 10 and disposed at substantially a right angle thereto is an operating handle 16 which is positioned in a split socket 18 and secured therein by a bolt 20. In the lower end of handle 16 is a slot 22 through which the bail 24 for carrying the mop drum 26 passes. The mop drum comprises a tubular core member 28 on which is mounted a tubular mop member 30 which is made of a porous resiliently compressible material such as cellulose sponge or air foam rubber. This core member 28 is provided with

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struck-out detents 32 which are forced into the mop member 30 as the inner core member 34 is forced into the member 28 as it is positioned in the mop member. This inner core member 34 is recessed at its opposite ends at 36 to receive ball bearings 38 to receive the axially disposed ends 40 of bail 24. The bail member 24 extends through elongated slots 42 formed vertically in the end walls of 12 and 14.

The weight of the device is such that as it is moved over the surface to be cleaned that the porous mop member 30 will be compressed to squeeze out cleaning fluid that has been deposited therein. As each portion of the mop member is relieved of its floor pressure as it moves out of contact therewith it will expand due to its resiliency and cause a partial vacuum in the pores thereof which will serve to draw the cleaning material with the dirt particles into the mop member. This operation may be continued until the cleaning fluid becomes laden with particles of dirt, thus cleaning the surface without leaving an objectional amount of liquid thereon.

When the cleaning fluid becomes too saturated with dirt the operator can squeeze the mop member 30 by means of the lever 44 which is generally of symmetrical hairpin shape and is attached at its free ends by loops 46 which engage about the bail wire 24. The legs 48 of lever 44 are substantially S-shaped and are provided adjacent its outer closed end with notches 50 which are engageable on cross pin 52 to normally force the mop member outwardly to the mopping position, see Fig. 4. When it is desired to squeeze the liquid from the mop the lever is moved to the position shown in Fig. 5 with the off set portions 54 of legs 46 resting against frame 10 so that the upper portion of mop 30 will be compressed against the under surface of frame 10. This is accomplished by raising the bail above frame 10 in slot 42 to move the axle ends 40 upwardly in slots 42. Other means is also provided to further squeeze the mop which comprises a resilient sheet metal member 56 provided at its one end portion with rod 58 which projects beyond its opposite edges to pass through transverse slots 60 formed in end walls 12 and 14, and provided at its other end portion with a down turned flange 62 to which is rigidly attached the free ends 64 of the hairpin shaped handle 66 which normally is held in position by means of a pin 68 mounted in handle 16.

Before lever 44 is moved from the position shown in Fig. 4 to the position shown in Fig. 5,

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the sheet metal member 56 is moved from between mop 30 and frame 10 with the rod 58 in the opposite ends of slots 60.

During the squeezing operation as shown in Fig. 5 the operator grasps handle 66 to force the member 56 to contact the mop member 30 whereby 30 is compressed to force the dirt laden liquid therefrom. It has been found convenient to repeat this squeezing operation several times in hot water to eliminate substantially all the dirt therefrom. When so cleaned the mop drum is ready to receive a new change of the cleaning fluid and can again be used to clean surfaces as above described. This operation may be repeated for a long period of time and until the mop material is worn out.

For scrubbing the floor after cleaning fluid has been applied as described it is desirable to lower the lever as shown in Fig. 5 with the lever 66 shown in the raised position as in Fig. 4. When so positioned the mop drum will be secured against rotation for scrubbing the surface, for any desired length of time, after which the lever 44 may again be raised and latched into position to secure the mop drum in the free rolling position. Due to the large circumference of the mop member the mop may be positioned at various positions for scrubbing thus increasing the useful life of the mop.

What I claim as new and desire to protect by Letters Patent is:

A combination mop and scrubber comprising a frame having a planar central section and end members extending at right angles to said central section, said end sections having slots formed therein at right angles to said central section, a drum having a porous, resiliently compressible covering disposed between the end sections of said frame, a bail the respective arms of which

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extend inwardly through said slots and rotatably engage the ends of said drum, whereby said drum may be rotated about its axis and moved transversely to its axis, a lever engaging said bail and cooperating with said frame whereby said drum may be selectively positioned and secured out of contact with said central frame section, in which position said drum is freely rotatable, or in compressing contact with said central frame section, in which position said drum is secured against rotation, and a planar compression member having pivot members at the opposite ends thereof carried for pivotal movement in slots formed therefor in said end frame sections parallel to said central frame section, whereby when said pivot members are in one end of said slots said compression member is parallel with and adjacent said central frame section, and when said pivot members are in the other end of said slots said compression member may be pivoted to engage the side of said drum opposite said central frame section.

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