

Nov. 19, 1940.

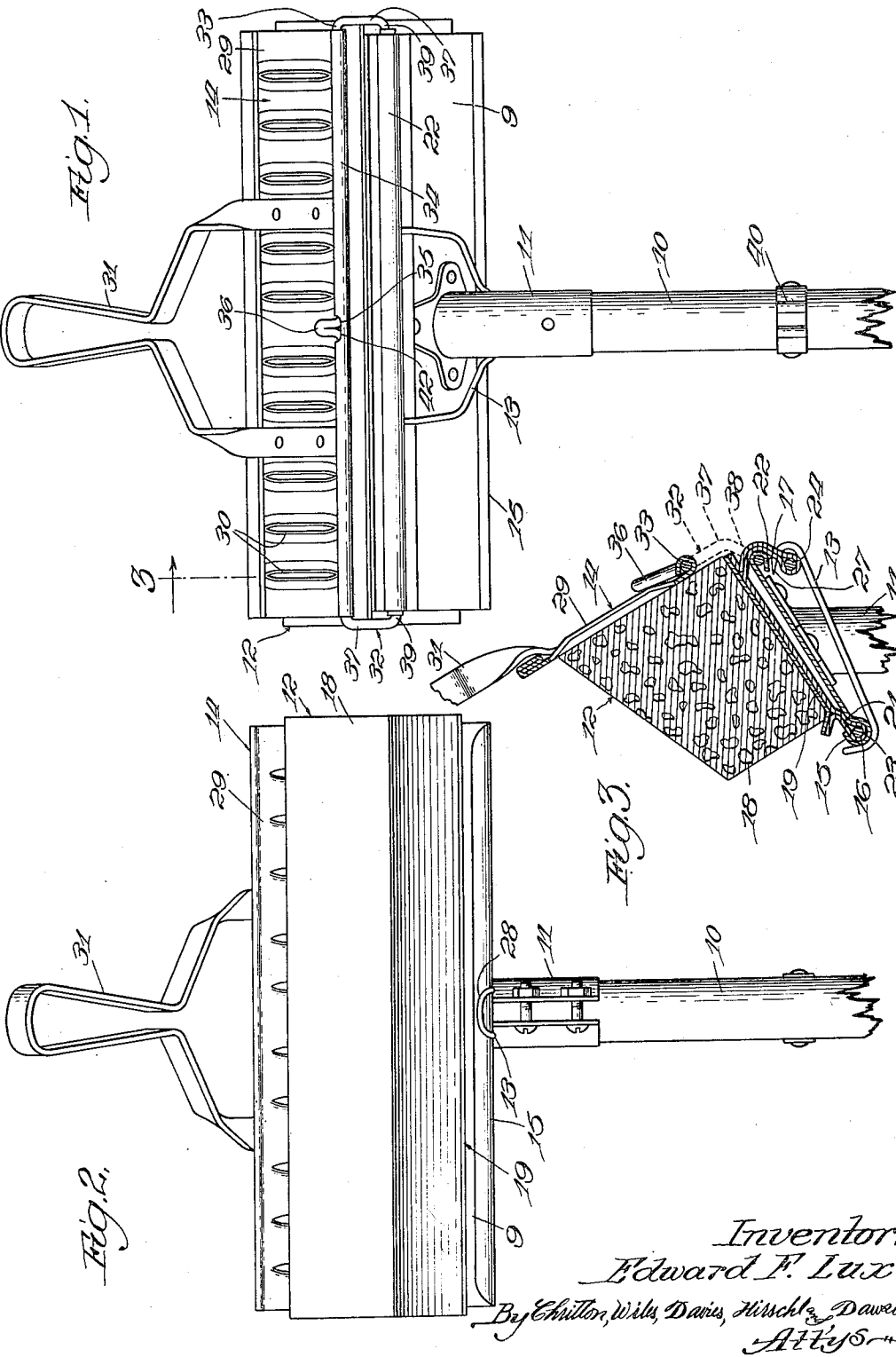
E. F. LUX

2,222,368

MOP

Filed March 20, 1939

2 Sheets-Sheet 1



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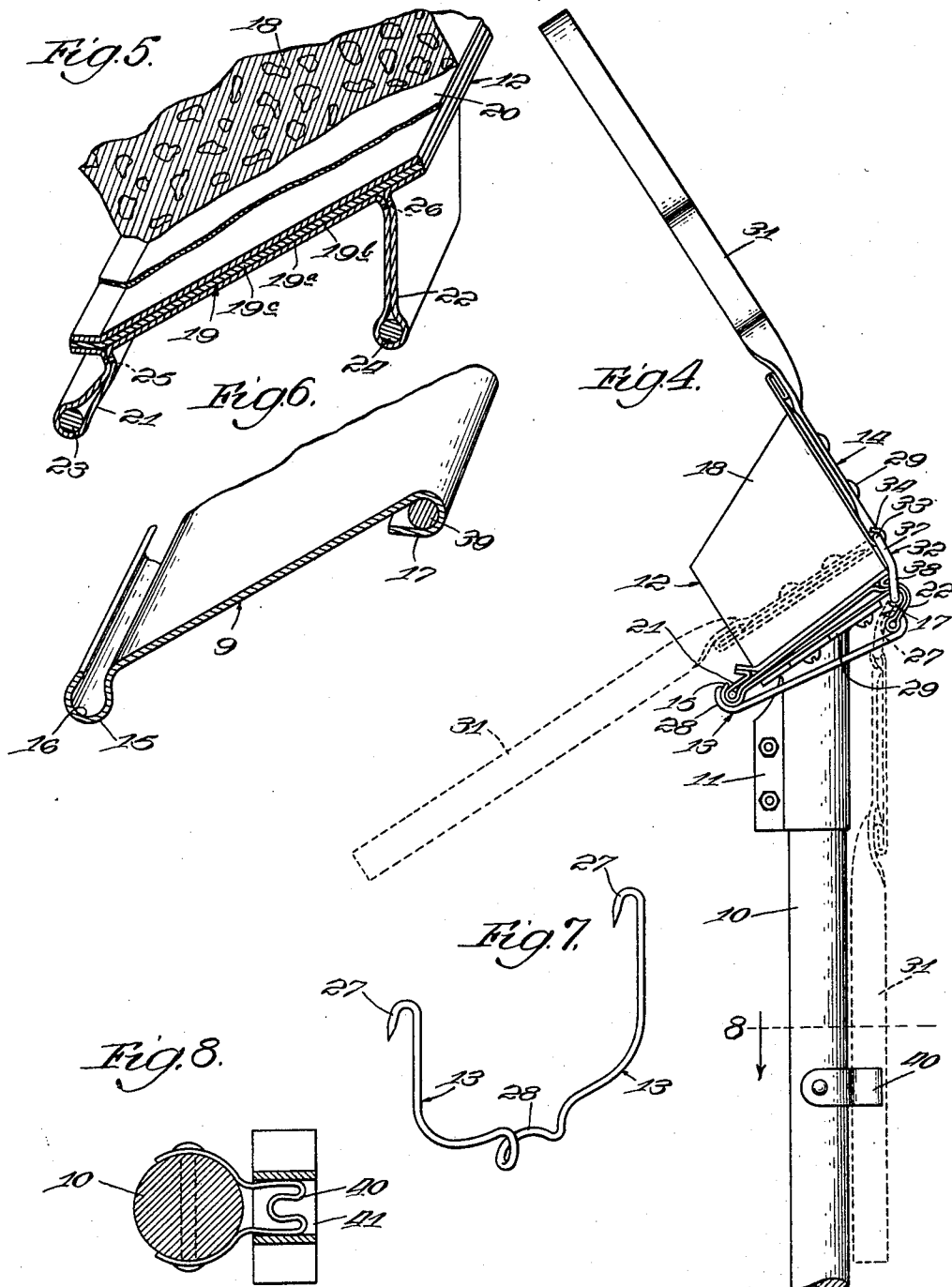
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,222,368

MOP

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7 Claims. (Cl. 15—119)

One phase of my invention relates to the means for securing to the head of the mop the swab portion thereof whether or not it be of such character as to require, or render desirable, the wringing of liquid therefrom, to condition it for use.

Another phase of the invention relates to mops the swab portions of which are wrung to squeeze out the excess of liquid applied to them to condition them for use, as for example in the case of mops used wet for cleaning floors.

My objects generally stated are to provide improvements in mops to the end of reducing the cost of manufacture thereof, providing a sturdy construction, and as to the first-referred-to phase of my invention, to facilitate the removal and replacement, or substitution, of the swab portions of mops, and as to the other phase of my invention, to generally improve upon structures of this kind as hitherto provided.

I have chosen to illustrate in the accompanying drawings both phases of my invention as incorporated in a single structure, a description of these drawings being as follows:

Figure 1 is a rear face view of the mop.

Figure 2 is a front face view of the mop.

Figure 3 is an enlarged cross section of the mop, the section being taken at the line 3 on Fig. 1 and viewed in the direction of the arrow.

Figure 4 is a view in side elevation of the mop showing the wringer device in three different positions, the depending dotted position of the wringer showing the position thereof when not in use; the full line position thereof representing the wringer in position to be actuated for wringing out the swab and the inclined dotted position of the wringer representing the position assumed thereby upon the conclusion of the wringing operation.

Figure 5 is a perspective cross sectional view through the swab portion of the mop showing certain portions thereof broken away.

Figure 6 is a similar view through the head of the mop.

Figure 7 is a perspective view of a clip device for securing the swab portion to the head; and

Figure 8, a plan sectional view taken at the line 8 on Fig. 4 and viewed in the direction of the arrow.

The structure shown comprises a mop head 9 of plate form mounted on the upper end of a mop handle 10 through the medium of a bracket 11 clamped to the handle and secured to the head 9; a swab 12 applied to the head 9; a clip device 13 for holding the swab in place on the

head; and a wringer device 14 for use in removing excess liquid applied to the swab.

The head 9, preferably formed of sheet metal, is provided along one of its longitudinal edges with a flange 15 forming an upwardly opening groove 16 and along its opposite edge with an inwardly-turned flange 17 forming a journal support for a link-forming frame constituting a part of the wringer device hereinafter described.

The swab 12 comprises a body 18 which may be made of any suitable material depending on the particular use to which the mop is to be applied. Thus by way of examples, the swab body 18 may be made of the commonly used cellulose cellular material which, when wet, has the combined characteristics of a sponge and chamois; or sponge, sponge rubber, felt or lamb's wool, depending upon whether the mop is to be used wet, as for example with water when used for washing floors, or dry, or with suitable coating materials applied thereto.

The body portion 18 is carried by a backing strip 19 secured thereto as for example by a layer of any suitable adhesive as represented at 20; the backing strip 19 being provided adjacent its longitudinal edges with flexible loops 21 and 22 extending substantially the full length of the body portion 18 and housing rods 23 and 24. The backing 19 is preferably composed of a sheet 19a of any suitable fabric folded and stitched as represented at 25 and 26 to form the loops 21 and 22, and a sheet, 19b, of metal superposing the formed strip 19a and secured thereto by a layer 19c of any suitable adhesive.

The swab 12 is assembled with the head 9 by telescoping the rod-equipped portion of the loop 21 with the flange 15, this flange preventing displacement of the loop 21 from the socket 16 except by relative lengthwise movement of the head and swab. The loop 22 is then passed around the back edge of the plate 9 as shown in Fig. 4 and is drawn taut and held in such position by the clip 13.

The clip 13 which is removable and replaceable is shown as formed of a single piece of spring wire bent to present hooks 27 having pointed extremities and an intermediate hook portion 28, the hook portions 27 and 28 extending toward each other as shown.

The clip 13 is positioned beneath the head 9 so to straddle the handle 10 and is hooked at its hooks 27 into the loop 22, and then sprung, at its hook 28, over the flange 15 as shown in Fig. 4, the spring tension of the clip 13 holding the swab in tight engagement with the head 9.

As will be readily apparent when it is desired to remove the swab 12 from the head 9 the operator springs the hook 28 out of engagement with the flange 15, permitting the withdrawal of the
 5 hooks 27 from the loop 22 and thereby freeing the swab 12 for lengthwise sliding movement on the head 9 to release it therefrom.

The wringer device 14 comprises a plate-like presser member 29 having cross slots therein as
 10 represented at 30 and provided with a handle 31 rigid therewith; and a frame member 32 hingedly connected with the presser member 29 and with the head 9 and functioning as a connecting link between the member 29 and the head, affording
 15 a fulcrum for the member 29 slightly above the lower surface of the body 18 of the swab.

The frame 32 is shown as formed of a single length of wire affording an upper pintle 33 journaled on the presser member 29 at a flange 34 on
 20 the latter, the edge of this flange being cut away to form an opening 35 substantially midway between its ends through which a projection 36 on the pintle 33 extends. The lower ends of the side members 37 of the frame 32 are forwardly de-
 25 flected as shown at 38 and depend below the body of the head and terminate in inwardly bent portions 39 journaled in the journal support 17.

The normal, inoperating position, of the wringer device is that shown by the dotted depending
 30 representation in Fig. 4 in which position the wringer device is releasably held in place by a spring member 40 carried by the handle 10 and extending into frictional engagement with the walls of a recess 41 in the handle 31.

To operate the wringer device the operator, after submerging the swab in the liquid to be used, swings the wringer device to the full line
 35 position represented in Fig. 4, the frame 32 becoming positioned at the back face of the swab, and then swings the presser member 29 on the fulcrum 33, to the dotted, inclined position shown in this figure, thereby compressing the swab and squeezing out the excess of liquid therein, repeat-
 40 ing submergence and the squeezing operation if desirable. When the swab is in condition for use the operator swings the wringer device back to the normal, inoperating position, in which the device is releasably held by the retainer 40.

The projection 36 is provided to facilitate the
 50 operation of the parts of the wringer device into and out of operating position. In the swinging of the presser member 29 from normal, inoperating position, to operative position, the projection 36 is abutted by the edge 42 of the opening 35 and in the swinging of the member 29 from the in-
 55 clined dotted position (Fig. 4) toward normal, inoperating position the body portion of the member 29 engages the projection 36 thereby causing the member 29 and the link member 32 to swing
 60 as a unitary structure.

While I have illustrated and described a particular construction embodying my invention, I do not wish to be understood as intending to limit it thereto as the same may be variously modified
 65 and altered without departing from the spirit of the invention. In this connection it may be stated that while I have shown my invention embodied in a structure in which the swab is removable and replaceable and the wringer feature is
 70 embodied, it will be understood that the invention is not limited to a construction in which both of these features are embodied.

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

75 1. A mop comprising a head having a groove

along an edge thereof, a swab on said head having a portion along one edge slidable in said groove and interlocked to said head by the wall of said groove and a flexible portion along its opposite edge, and a releasable clip having a hook portion
 5 engaging said head at its groove-equipped portion and hooks engaging said flexible portion.

2. A mop comprising a head, a swab, means securing said swab at one edge to a side of said head, the other edge of said swab having a flexible portion and a releasable clip at the underside of, and extending crosswise of, said head and having a hook portion hooked over the edge of said head at which said swab is connected with said head and hooks engaging said flexible portion.
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3. A mop comprising a head, a swab on said head, and a wringer device comprising a frame hingedly supported along one side of the head and having a projection and a presser element hingedly connected with said frame beyond the hinge support for said frame for engaging said swab, said presser element having stop portions engageable by said projections alternately in the swinging of said element on said frame in opposite directions.
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4. A mop comprising a head, a swab, means for securing said swab at one edge to said head adjacent one side of said head, the opposite edge of said swab having a flexible portion, pivoted presser means for said swab adjacent the opposite side of said head and having a pivot portion engaging said head, said flexible portion being folded over the edge of said head adjacent said presser means and extending through said presser means, and means engaging the free edge of said flexible portion for holding the latter in place.
 25

5. A mop comprising a head, a swab, means for securing said swab at one edge to said head adjacent one side of said head, the opposite edge of said swab having a flexible portion, pivoted presser means for said swab adjacent the opposite side of said head and having a pivot portion engaging said head, said flexible portion being folded over the edge of said head adjacent said presser means and extending through said presser means, and a clip extending crosswise of said head engaging at one end with said head and at its opposite end with the free edge of said flexible portion for holding the latter in place.
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6. A mop comprising a head, a swab, means for securing said swab at one edge to said head adjacent one side of said head, the opposite edge of said swab having a flexible portion, pivoted presser means for said swab adjacent the opposite side of said head and comprising a link pivoted on said head and having arms at its ends and a presser element pivoted on said arms, said flexible portion being folded over the edge of said head adjacent said presser means and extending through the space between said arms, and means engaging the free edge of said flexible portion for holding the latter in place.
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7. A mop comprising a head, a swab on said head, and a wringer device comprising a frame hingedly supported on said head, a presser element hingedly connected with said frame beyond the hinge support for said frame for engaging said swab and means operative in the swinging of said presser element on said frame in opposite directions to effect movement of said frame by said element comprising a pair of spaced apart stops on said element alternately engageable with said frame.
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