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SWIVEL DUST MOP HOLDER

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2 Sheets-Sheet 1

Fig. 1

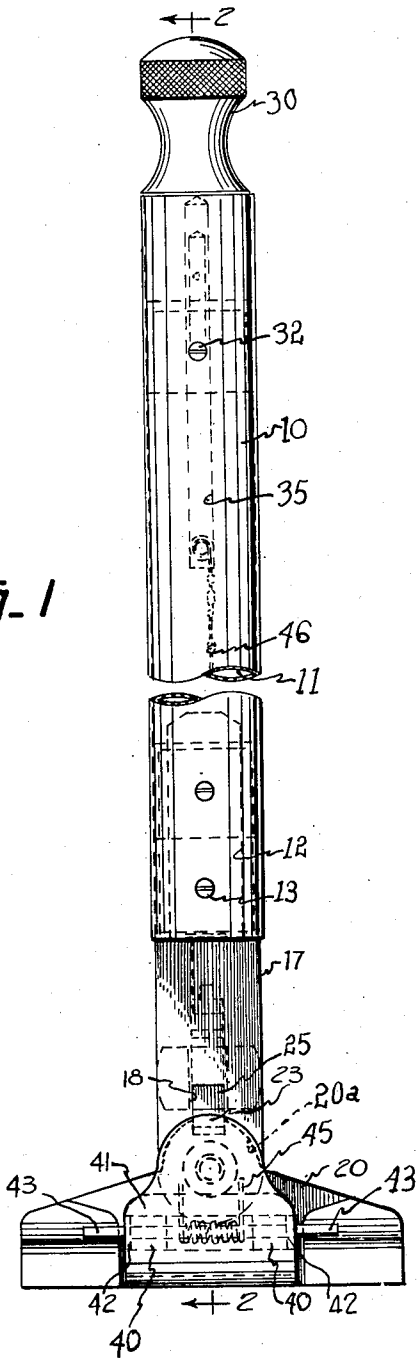
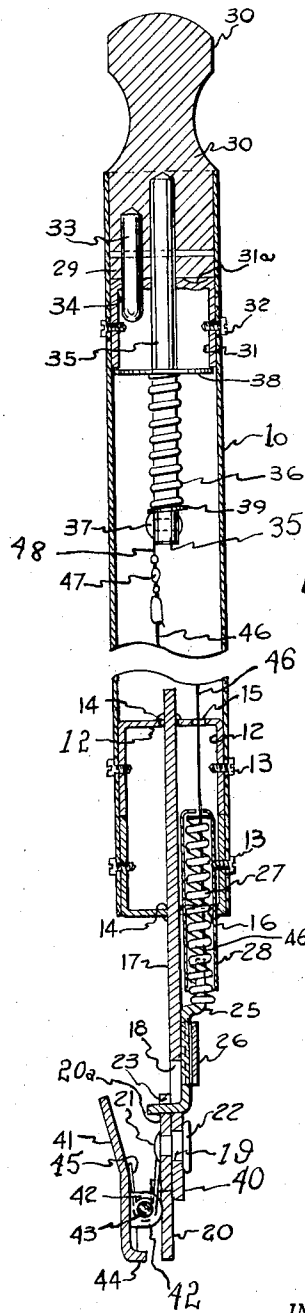


Fig. 2



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Fig. 3

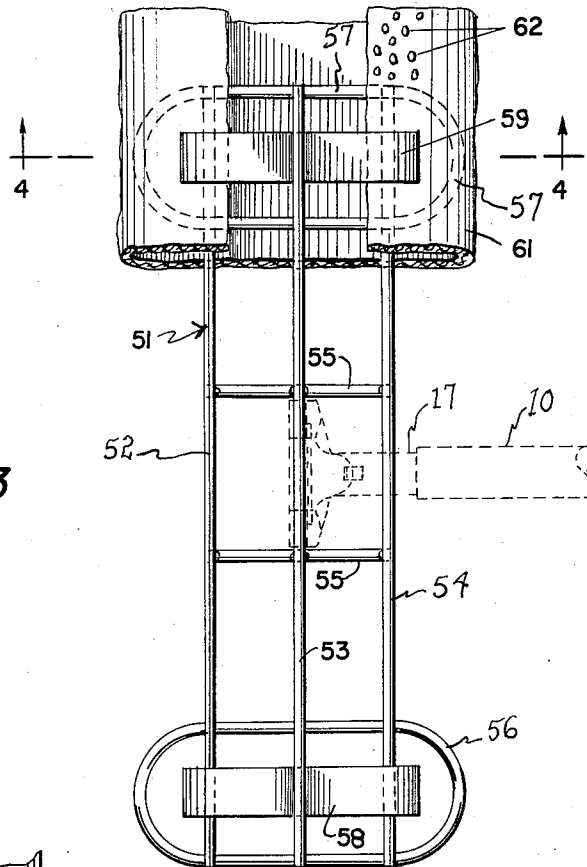
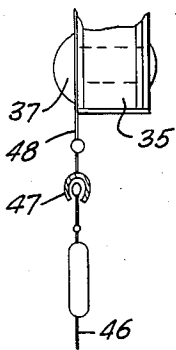


Fig. 5

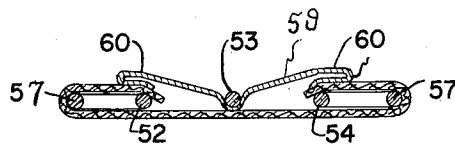


Fig. 4

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SWIVEL DUST MOP HOLDER

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3 Claims. (Cl. 15—144)

This invention is directed to adjustable, portable mops, and particularly of the type having removably mounted adjustable heads and having completely removable fabric mopping members which may be quickly and easily laundered and remounted on the head frame.

It is an important object of my invention to provide an adjustably mounted head frame for a dust mop and having manually adjustable means and mechanisms on the normally grippable end portion of the mop handle for selectively releasing the means which swivelly mounts the head frame so as to provide an easily portable mechanism on the mop handle to either release or re-lock the mop head frame into a swivelly pivoted position and to then re-lock same against pivoting movements with respect to the handle means.

A further object of my invention is the provision of a swivelly mounted head frame for a dust mop or the like, and having spring means on the head frame for quickly and easily attaching a flexible, washable fabric head, said latter means permitting quick and easy removal of such fabric head.

A further object of my invention is the provision of a transversely pivoted mounting plate for a dust mop and clamping means thereon adapted to releasably mount the handle portion upon a head frame, and having an elongated hollow handle with manually rotatable and retractable members having an operative connection with a mechanism for releasably locking the mounting plate and its head frame in any one of a number of angular positions with respect to said handle.

Other and further important objects of my invention will be apparent from the following descriptive and appended claims.

On the drawings:

Fig. 1 is an elevation of the mop handle and swivelly connected mounting plate and clamp thereon, with an intermediate portion thereof being broken away.

Fig. 2 is a cross sectional view taken on a vertical plane longitudinally indicated substantially by the lines 2—2 in Fig. 1.

Fig. 3 is a top plan view of the mop head frame having a cut-away portion of the fabric mop head mounted on one end portion thereof with a portion of the mop holder shown in dotted lines.

Fig. 4 is a cross-sectional view taken substantially on the line 4—4 of Fig. 3.

Fig. 5 is an enlarged detailed view illustrating a portion of the retractable and manually operable means.

As shown on the drawings:

Referring to Figs. 1 and 2, numeral 10 designates an elongated metal tubular handle which defines an elongated passage or chamber 11. A passaged and apertured metal casing or plug 12, preferably made of sheet metal and in two parts, is secured in the normally lower end portion of the chamber 11 of handle 10 by means of a plurality of screws 13 which pass through suitably spaced apertures formed in the wall of metal handle 10, and which screws

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thread into suitably threaded passages formed in casing 12. Casing or plug 12 has a pair of slots 14 formed in the central portion of its opposite ends, and also has an upper aperture 15 and a larger lower aperture 16 in its opposite end walls respectively, as indicated in Fig. 2.

An elongated metal bar 17 is securely mounted in the slots 14 and with respect to the casing 12, said bar projecting from the normally lower end thereof as there indicated. The lower end of the bar 17 has a transverse slot 18 formed therein and also a lower aperture 19 which is adapted to receive a portion of a pivoting bolt or shoulder rivet.

Numeral 20 designates a metal mounting plate or holder which is of greater width than bar 17 and which has a projecting integral arcuate extension 20a and a central aperture therein.

The arcuate extension 20a of the transversely extending mounting plate 20 has a central aperture in which a threaded pivoting bolt or shoulder rivet 21 is mounted, and the latter may be either secured by means of a nut or by a rivet shoulder 22, which has an inwardly extending bushing portion or shoulder which forms a bearing engaged by the edges defining the central aperture. This provides for transverse pivotal movement of mounting plate or holder 20 and parts attached thereto so that the mop head may be positioned in any one of several angular positions in relation to the mop handle. Extension 20a of plate 20 has a peripheral recess 23 formed therein and opening on its upper edge, as shown in Fig. 2 and in dotted lines in Fig. 1. An angular locking bolt, slide lock or dog 25, shown in Fig. 2, is carried by and slidably mounted on a flat face of the metal bar 17, the same being slidably mounted by means of a U-shaped bracket or angular staple 26 which is secured by welding or the like to the opposite edges of bar 17 to thereby provide a tunnel through which the slide lock 25 slides. The forward and normally lower end of slide lock 25 is bent at substantially right angles and extends into and through the slot 18 of bar 17, as shown in Fig. 2. The opposite and upper end of slide lock 25 is preferably angularly off-set and apertured, for a purpose which will be explained hereinafter. A coil metal spring 27 encircles the upper end portion of the slide lock 25 and has one end abutting the off-set portion of the slide lock 25. The spring 27 extends into a metal cylindrical sleeve or casing 28 which is secured in the larger aperture 16 in casing 12 and projects outwardly therefrom as indicated in Figure 2. The inner end of the sleeve 28 is formed to provide a seat for engaging the inner end of the spring 27. Thus, it will be appreciated that the spring 27 is confined by the sleeve 28 and yieldably urges the lower end of the slide lock away from the casing 12. The metal sleeve 28 is secured to the lower wall of the plug 12, as viewed in Figure 2 by being press-fit into the aperture 16.

Referring to Figs. 1 and 2, numeral 30 designates a metal grippable handle or knob whose integral round shank portion is slidably and rotatably mounted in the normally upper end of the tubular handle 10. Said knob 30 has its outer end portion preferably knurled, as indicated in Fig. 1.

As shown in Fig. 2, a metal shell or casing 31, which has threaded apertures formed in its opposite sides, is mounted in the chamber 11 a short distance inward of the upper end of the tubular handle 10, such mounting of the casing 31 within the chamber 11 being accomplished by means of screws 32 which extend through holes formed on opposite sides of handle 10 as shown. Said shell 31 has a central lower passage formed therein and has two spaced apart apertures or holes formed in its upper portion and through which a metal rod and a

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pin normally extend. Numeral 29 designates an apertured upper plug which is securely mounted in the upper end of handle 10. Plug 29 has two spaced apart holes in registry with the upper holes in metal shell 31. Said casing 31 has a depression or recess 31a in its upper wall, as shown in Fig. 2.

A metal pin 33 has one end portion press-fit in an aperture formed in the shank portion of knob 30 and its projecting end portion is adapted to removably seat in the hole 34 of shell 31, and the aligned hole in plug 29 when the knob is in the normally mounted position illustrated in Figs. 1 and 2. A metal connecting shaft or pin 35 has one end portion press-fit in the central aperture of knob 30 and same extends through and slidably engages the three aligned central apertures in metal shell 31, in a washer 38 and in plug 29, as illustrated in Fig. 2.

Numerical 36 is a coil-compressible metal spring mounted about the projecting end portion of shaft 35, and its lower end bears against a washer 39 which in turn bears against a rivet 37 which is mounted in a hole in the lower end of shaft 35. The upper end of spring 36 bears against the washer 38 which, in turn, bears against the shell 31.

A metal cable 46, which is preferably a relatively thin band of steel, is hooked and inserted in the apertured upper end of the slide lock 25, and is connected at its upper end to a swivel 47. A short metal wire 48 is connected to swivel 47 and its upper end is connected to the rivet 37 on the end of shaft 35.

Retraction of knob 30 beyond a distance necessary to withdraw pin 33 from its seated position will permit its rotation to temporarily seat the end of pin 33 in recess 31a.

Mounted on a central portion of the mounting plate 20 is a metal knuckle 40, preferably by means of welding. The knuckle 40 has a passage extending therethrough. A metal clamp 41 having apertured ears 42 formed integral with its lateral edges has such ears bent at right angles to align the apertures thereby. A pintle 43 extends through the passage of said ears and through said knuckle 40 to thereby pivotally mount said clamp 41 with respect to the mounting plate 20. The forward and normally lower edge portion of clamp 41 is bent angularly to form a hook 44 of substantial width which engages and impinges a part of the frame of the mop head hereinafter described so as to securely hold it against the face of plate 20. Said clamp is pressed toward closed position by means of spiral spring 45 which is mounted about the central portion of said pintle 43, and the ends of same engage plate 20 and clamp 41 respectively. In assembling, the pintle 43 is inserted through the ears 42, the spaced apart knuckles 40 and through spring 45.

Referring to Figs. 3 and 4, numeral 51 designates generally a metal head frame or rack composed of a plurality, preferably three, of spaced apart metal rods or bars 52, 53 and 54, which are connected together by intermediate connecting rods 55 which are spaced apart a distance at least as great as the width of the clamp previously described. Said rods 55 are welded to bars 52, 53 and 54 at their points of intersection.

A pair of metal loops 56 and 57 made of rods are secured by welding on the opposite end portions of bars 52, 53 and 54 substantially as shown in Fig. 3. The end portions of said loops 56 and 57 extend a short distance beyond the two outer bars 52 and 54 as illustrated.

A pair of metal leaf springs 58 and 59, which have their central portions humped to form a central recess in each thereof, are removably mounted as shown in Figs. 3 and 4 and with their recessed portions impinging the central bar 53. The opposite ends of each of said springs 58 and 59 are doubled back to form hook-like end portions 60 which normally press against the two outer bars 52 and 54, as illustrated in Fig. 4.

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A flexible mop head 61 of suitable absorbent fabric material is preferably formed from a rectangular panel of such material. The two opposite edge portions of such mop head 61 are adapted to be releasably clamped and held on the frame 51 by said springs 58 and 59, such edge portions being inserted beneath the free ends of said springs while such springs are temporarily flexed upwardly. When inserted, the fabric head 61 is thereby held impinged between said springs and the bars 52 and 54, and such head 61 may be quickly and easily removed for laundering and replacement.

One doubled back edge portion of fabric head 61 may be stitched at its opposite ends, for example by stitching 62 as shown in Fig. 3, to form a pocket which is mounted about one end portion of the head frame, and then the opposite edge portion is folded about the opposite side of the head frame and releasably secured by the springs 58 and 59 as stated.

An important and novel structural feature of my construction of the means for swivelly and pivotally mounting the head as has been hereinbefore described, is that whenever the user of the mop desires to wipe remote and difficult areas which are under various articles of furniture, or in corners which are partially obstructed by furniture, the user may quickly and easily release the mop head frame and any dust-absorbent head thereon by merely gripping the knob and retracting it to unseat the slidable locking bolt from the slot or recess in the edge portion of the mounting plate on which the clamp is pivoted. When such retraction and optional partial rotation of said knob is effected, the mounting plate and clamp, and consequently the mop head, are released for free swivelling and pivoting movement and the user upon such unlocking action may swing the handle in either direction, according to whether the user desires the mop head to swivel freely in an arc to the left or to swivel freely in an arc to the right.

It will be understood that when the mop head is rendered free to swivel to the right, the left end portion of the mop head will be forward and farther away from the user, and further, the free swivelling of such mop head will enable the user to make the edge portions of the absorbent unit on the mop head to easily follow the contour of furniture and other obstructions, also permitting the user to completely reach into relatively narrow spaces while either one or the other end portion of the head is directed in a substantially forward position. These advantages in use are quickly and easily made possible without the user bending over and without the use of any tools or manual screwing adjustments.

A further novel advantage and accomplishment of my invention is the aforesaid clamping means whereby the novel mop head frame is quickly and easily attached or detached into or out of swivelling or hinged movement in a generally forward or rearward direction. Additionally, the described novel means for releasably attaching a fabric head permits quick and easy detachment of the head for laundering and permits optional immediate replacement of another head in the process of cleaning.

As many changes could be made in the above construction, and as many apparently widely different embodiments of my invention within the scope of the claims could be construed without departing from the spirit and scope thereof, it is intended that all matter contained in the accompanying specification shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A mop holder comprising an elongated tubular handle; a clamp device connected to one end of said handle for pivotal movement about an axis perpendicular to the longitudinal axis of said handle, said clamp device being adapted to releasably engage a mop head frame and including a mounting plate having a peripheral recess; a lock member slidably and non-rotatably mounted on said handle slidable between a locked position wherein one

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end thereof is disposed within said recess to prevent pivotal movement of said clamp device and an unlocked position wherein said lock member end is withdrawn from said recess and out of engagement with said mounting plate whereby said clamp device is free to pivot with respect to said handle; a plug disposed within and secured to said handle adjacent the end thereof opposite said clamp device, said plug having an aperture therethrough radially spaced from the longitudinal axis of said handle and a depression diametrically disposed with respect to said aperture; a grippable knob rotatably and slidably mounted on the end of said handle opposite said clamp device, said knob having a longitudinally extending pin depending from one end thereof; cable means disposed within said handle operatively interconnecting said knob and lock member, said knob being slidable and rotatable between a first position wherein said knob abuts said plug and said pin extends through said plug and said lock member is in its locked position and a second position wherein said pin is seated in said depression to maintain said knob longitudinally spaced from said plug and said lock member is withdrawn from said recess and out of engagement with said mounting plate.

2. A mop holder substantially as set forth in claim 1, in which spring means are provided for yieldably urging said knob toward said plug.

3. A mop holder comprising, an elongated tubular handle; a clamp device connected to one end of said handle for pivotal movement with respect to said handle, said clamp device being adapted to releasably engage a mop head frame, said clamp device including a mounting plate having a peripheral recess; a lock member slidably and non-rotatably mounted on said handle slidable between a locked position, wherein one end thereof is disposed

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in said recess to prevent pivotal movement of said clamp device and an unlocked position, wherein said lock member end is withdrawn from said recess and out of engagement with said mounting plate whereby said clamp device is free to pivot with respect to said handle; a grippable knob slidably mounted on the end of said handle opposite said clamp device; cable means disposed within said handle having its ends operatively connected, respectively, to said lock member and said knob, said knob being slidable between a first position, wherein said lock member is in its locked position and a second position, wherein said lock member is withdrawn from said recess and out of engagement with said mounting plate; spring means for yieldably urging said knob to its first position; a plug secured and disposed within said handle adjacent the end thereof opposite said clamp device, said knob abutting said plug when in its first position; and releasable retaining means associated with said knob and plug for maintaining said knob in said second position.

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