June 3, 1969 TERUKO SHINAGAWA 3,447,182

MOP HOLDER

Filed Sept. 25, 1967 Sheet 1 of 3

Fig. 1.

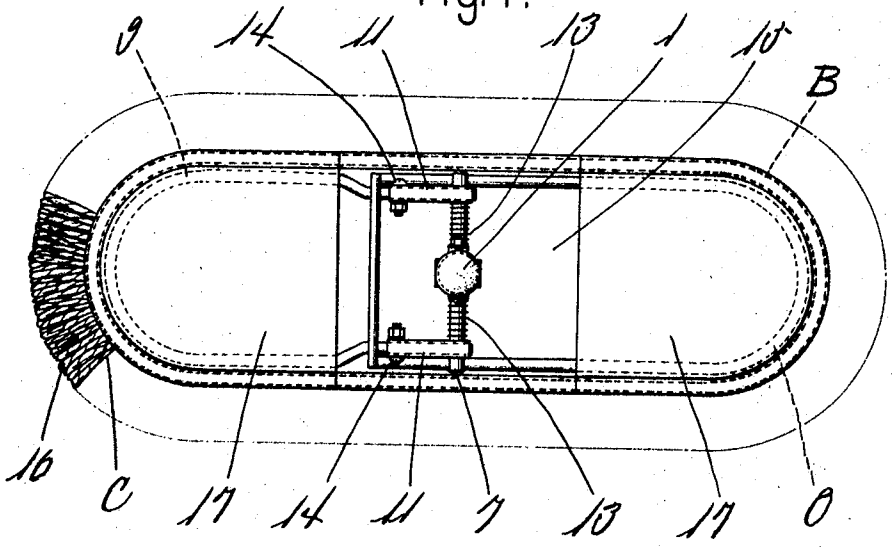
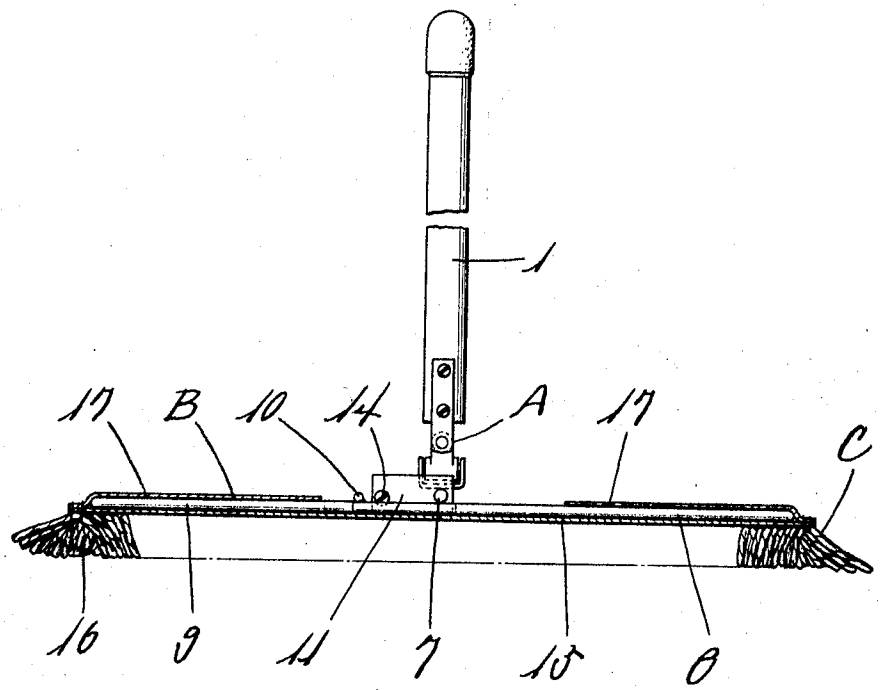


Fig. 2.



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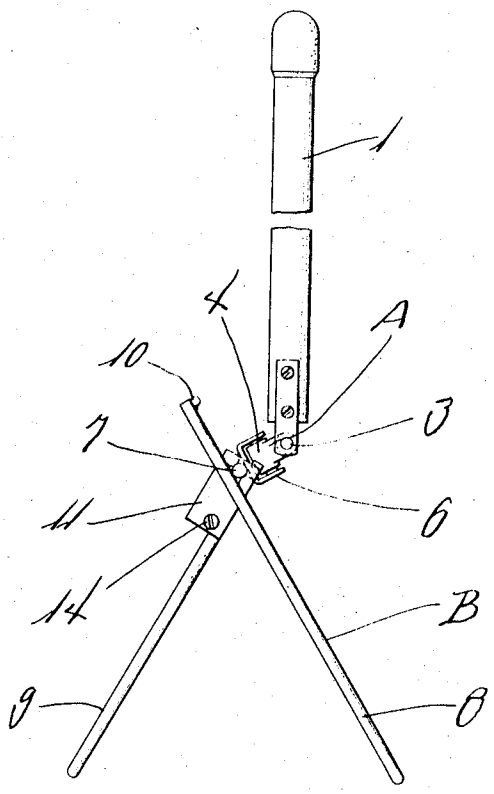
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Fig. 3.



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Fig. 4.

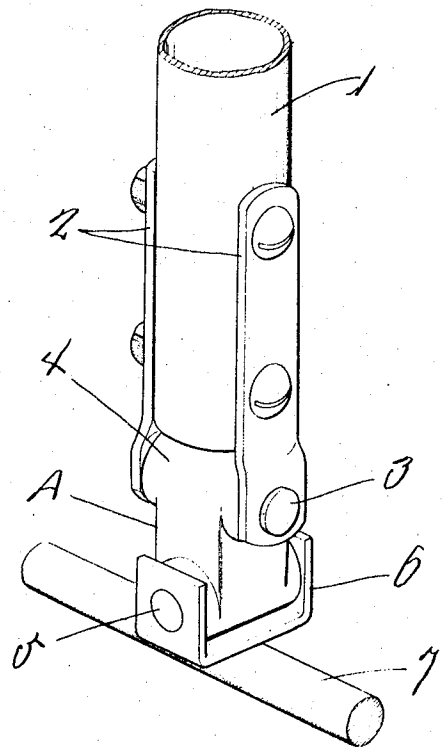
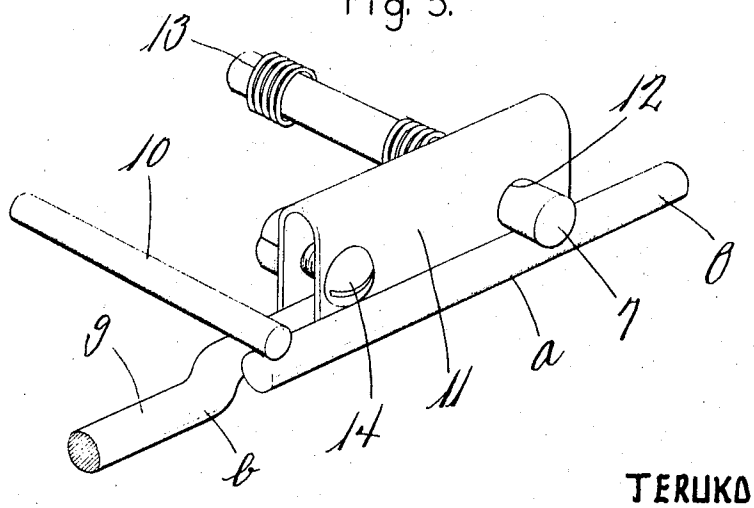


Fig. 5.



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United States Patent Office 3,447,182
Patented June 3, 1969

3,447,182

MOP HOLDER

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Filed Sept. 25, 1967, Ser. No. 670,326
Claims priority, application Japan, Nov. 29, 1966, 41/78,214
Int. Cl. A47l *13/252*
U.S. Cl. 15—147 1 Claim

ABSTRACT OF THE DISCLOSURE

A collapsible holder for a pocketed mop. A pair of coplanar wing members are mounted around a central shaft which is attached to the mop holder by a universal joint. Mounting members are rigidly secured to one of the wing members and pivoted on the central shaft, and have protuberances projecting outwardly and holding the other wing member with a supporting rod against the first wing member with the frames in a collapsible position. The arrangement permits collapsing of the wing member downwardly relative to the shaft simply by exerting an upward force on the mop handle, and returning it to the coplanar position by a downward force on the mop handle.

The present invention relates to a mop holder, capable of having a pocketed mop mounted on a pair of wing members mounted on the lower end of a handle without touching either of the wing members with the hands.

A conventional mop holding frame, in which, when the foldable mop holding frame is moved from the extended position to a folded position or opened from a folded position to an extended position, it is necessary to fix and release the engaging portion between the frame portions by grasping the grips located on one of the frame portions. Therefore, attachment and detachment of the mop must be carried out by touching the mop or its holding frame with the hand, so that it is troublesome and extremely unsanitary.

The present invention provides the advantage that it is not necessary to touch the mop or the mop holding frame with the hand unlike the conventional mop holder mentioned above, so that it is exceedingly sanitary, and that the holding frame is folded by lifting up the handle while stepping on the both ends of the mop cloth and is expanded by lowering the handle with both ends of the folded holding frame pressing down against the floor, so that attachment and detachment of the mop is carried out very easily.

The construction, function and advantages are clarified by the detailed explanation of the accompanying drawings.

FIGURE 1 is a plan view of a mop holder according to the present invention.

FIGURE 2 is a side view of the mop holder, partially in section.

FIGURE 3 is a side view of the mop holder, which is in the folded state.

FIGURE 4 is a perspective view of the universal joint part of the mop holder.

FIGURE 5 is a perspective view showing a part of the holding frame of the mop holder.

As illustrated in the drawings, a mop holder according to the present invention comprises a pair of mop holding wing members in the form of generally U-shaped slightly resilient frameworks **8** and **9** which together constitute frame B connected to the lower end of a long handle **1** by means of a universal joint A, these mop holding frame B adapted to have a mop C removably mounted

thereon. The universal joint A consists of a connecting member **4** pivoted on a shaft **3** extending between the lower ends of a pair of supporting pieces **2** fixed to the both right and left sides of the lower end of the handle **1** and a supporting frame **6** pivoted on a shaft **5**, which is at right angles to the shaft **3** on the lower portion of said member **4**. Said supporting frame **6** is rockable around the shaft **5** as a center and is also rockable together with the member **4** around the shaft **3** as a center. To the lower end of the supporting frame **6** is welded the central portion of a lateral shaft **7**. The mop holding frame B consists of a first wing member **8** and a second wing member **9**, which are formed respectively by bending a metallic rod into a U-shape. Then the ends of both side rods *a* of the first wing member **8** are welded to the lower side of the ends of said lateral shaft **7**, and to the upper sides of the terminal portions of said side rods *a* are also welded the lower parts of the ends of a supporting rod **10**. The outer end portion, bent into an arc, of the second wing member **9** is equal to the main frame **8** in width, and the parts near the terminal portions of the side rods *b* of the sub-frame **9** are bent inwards so as to be parallel to the insides of the side rods *a* of the first wing member.

On the terminal ends of the side rods *b* of said second wing member **9** are respectively fixed terminal members **11**, and in holes **12** in said terminal members **11** is rotatably positioned the lateral shaft **7**. A coil spring **13** is secured to the lateral shaft **7** between said terminal member **11** and the supporting frame **6**, urging member **11** against the inside of the side rods *a* of the first wing member **8**. Consequently, during assembly after the coil spring **13** and the terminal member **11** are fitted around the lateral shaft **7**, the side rods *a* of the first wing member **8** must be welded to the lateral shaft **7**. On the outside of each said terminal member **11** is mounted a protrusion **14**, which in the illustrated example is a round head of a bolt which is inserted into a hole in the terminal member **11** and fixed with a nut.

When the first wing member **8** and the second wing member **9** are unfolded to be in the same plane as each other, said protrusion **14** is arranged to touch the upper side of the side rods *a* of the first wing member **8**, and the supporting rod **10** also serves to prevent the side rods *b* of the second wing member **9** from rotating upwardly above the said plane. Also, said supporting rod **10** serves to prevent the ends of side rods *a* of the first wing member **8** from expanding.

The mop C is made by attaching a lot of strings **16** to a base cloth, both ends of which are formed in an arc, and at both ends of the base cloth **15** are formed pocket portions **17**, which can be fitted over the opposite ends of the mop holding frame B, that is, the outer end, bent into an arc, of the first wing member **8** and the outer end, bent into an arc, of the second wing member **9**.

In use of the mop holder according to the present invention, if the handle **1** is lifted up after the upfolded mop supporting frame B is placed on the floor and both ends thereof are restrained softly by both feet, the lateral shaft **7** is lifted up, so that the first wing member **8** and the second wing member **9** are rotated downwards around the shaft **7** as a center. In this case, the terminal portion of the side rods *a* of the first wing member **8** pass over the protrusion **14** and rotates upwards. However, since the side rods *a* of the first wing member **8** are connected with the supporting rod **10** so as to be unable to expand outwards, when the side rods *a* pass over the protrusion **14** the side rods *b* of the second wing member **9** compress the spring **13** and move inwards to permit the side rods *a* to pass over the protrusion **14**.

The condition when the first wing member **8** and the second wing member **9** are rotated downwards as men-

tioned above is shown in FIGURE 3. If the handle **1** is lowered downward after the individual end portions of the first wing member **8** and the second wing member **9** rotated downwards and located at the openings of the pocket portions **17** at the ends of the mop C placed on the floor, the universal joint. A is lowered downwards and then the first wing member **8** and the second wing member **9** are rotated upwards around the shaft **7** a center. Then the individual end portions of the first wing member **8** and the second wing member **9** are inserted into the pocket portions **7**, and the wing members are horizontally positioned. At this moment, the side rods of the first wing member **8** pass over the protrusion **14** mounted on the terminal member **11** located at the rods *b* of the second wing member **9** and are positioned therebelow. In this case, the side rods *b* of the second wing member **9** compress the spring **13** and move it inwards.

In FIGURE 2 is shown a condition when the individual end portions of the first wing member **8** and the second wing member **9** of the mop holding frame B are inserted into the pocket portions **17** at both ends of the mop and hold the top C as in the above description. When the mop C is to be detached from frame B both ends of the mop C mounted on the mop holding frame B are gently held by the feet and the handle **1** is lifted upwards so that the first wing member **8** and the second wing member **9** are rotated downwards around the shaft **7** as a center, and then the mop C can be easily detached from the mop holding frame B.

The mop holder according to the present invention can have the mop C easily attached to and detached from the mop holding frame B without touching the mop holding frame B and the mop C with the hand, so that it is exceedingly sanitary and convenient. When the wing members **8** and **9** of the holding frame B are unfolded, the side rods *a* of the first wing member **8** come in contact with the lower side of the protrusion **14** located at the outside of the terminal member **11** of the second wing member **9** and the side rods *b* of the second wing member **8** come in contact with the supporting rod **10** at the end of the first wing member **8**, and both wing members are prevented from upward rotation, so that the holding frame B is fixed in the unfolded condition. Therefore, if wiping operation on the floor and the like is carried out with the mop C attached to said holding frame B, the mop C does not come off. Besides, by giving elasticity to the second wing member **9** itself, the terminal member **11** located at the end of the side rods *b* are kept in pressing contact with the inside of the side rods *a* of the first wing member **8**. In this case the spring **13** can be omitted.

I claim:

1. A collapsible holder for a pocketed mop comprising a central shaft, a universal joint on the mid portion of said shaft, a handle pivotally connected to said universal joint, a first wing member in the form of a generally U-shaped, open, slightly resilient framework, having the ends of the legs thereof rigidly attached to the bottoms of the ends of said central shaft, a supporting rod fixed between the tops of the ends of the legs of said first wing member, a second wing member in the form of a generally U-shaped, open, slightly resilient framework, the ends of the legs thereof being offset slightly inwardly of the ends of the first framework, mounting members rigidly secured to the upper sides of said inwardly offset portions and rotatably mounted on said central shaft inwardly of the points at which said first wing member is attached thereto, spring means between said universal joint and said mounting members urging said mounting members outwardly along said shaft, and protuberances on said mounting members projecting outwardly of said offset portions and spaced from said shaft toward the closed end of said second wing member, the ends of the legs of said first wing member being held beneath said protuberances when the wing members are in a coplanar position and said supporting rod being against the tops of the legs of said second wing member for preventing further rotational movement of the wing members past the coplanar position, whereby the wings can be pivoted from the coplanar position to a position in which they are collapsed downwardly from the coplanar position solely by exerting a vertically upward force on the mop handle and can be pivoted back to the coplanar position solely by exerting a vertically downward force on the mop handle.

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DANIEL BLUM, *Primary Examiner.*