March 31, 1931. H. HERTZBERG 1,798,419

REVERSIBLE MOP

Filed March 27, 1930

Fig. 1.

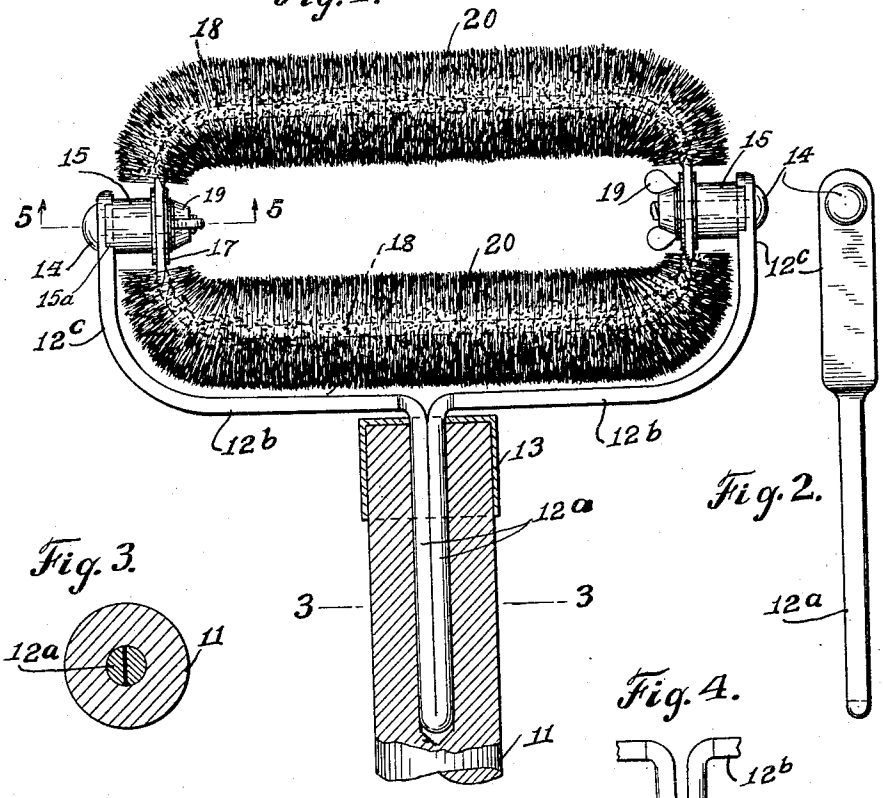


Fig. 2.

Fig. 3.

Fig. 4.

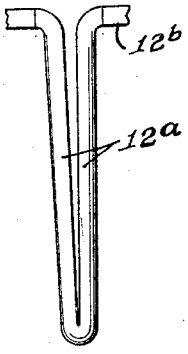


Fig. 5.

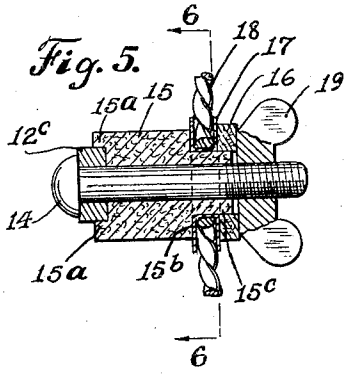
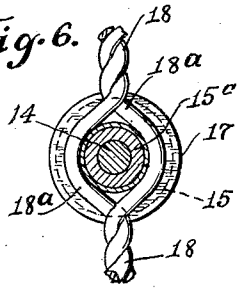


Fig. 6.



Harry Hertzberg Inventor

By his Attorney

Martin Joachimson

Patented Mar. 31, 1931 1,798,419

UNITED STATES PATENT OFFICE

HARRY HERTZBERG, OF BROOKLYN, NEW YORK

REVERSIBLE MOP

Application filed March 27, 1930. Serial No. 439,325.

This invention relates to dry mops of the reversible type and more particularly to that class of such mops in which the mop material is held by twisted wire-strands which are bent to form a closed loop.

It is the object of the present invention to provide improved means for mounting the mop rotatably in its frame.

It is a further object of this invention to prevent interference of the mop material with the frame and for adjusting the position of the mop relatively to the frame.

With these and other objects in view the invention also consists in certain novel features of construction, combination and arrangements of parts which will be more fully described in these specifications and finally pointed out in the appended claims.

The invention is shown in the accompanying drawings which form a material part of this specification and in which:

Fig. 1 is a front elevation of my improved reversible mop. A part of the handle is shown in section to show the manner of fastening the frame thereto.

Fig. 2 is a side elevation of the mop frame.

Fig. 3 is a transverse section on line 3—3 of Fig. 1.

Fig. 4 is a detail elevation of the stem of the mop frame when disengaged from the handle.

Fig. 5 is a detail of the mop axis partly in section on line 5—5 of Fig. 1.

Fig. 6 is a detail section on line 6—6 of Fig. 5.

Referring to Fig. 1 of the drawings, 11 is a mop handle which is provided with an axial aperture in one end. A yoke with arms 12*b*—12*c* and stem 12*a*, is held in the said axial aperture of handle 11 by means of stem 12*a*. This yoke consists preferably of a single metallic bar of semicircular cross-section in its middle portion which is folded upon itself to form stem 12*a* as shown in Fig. 4. The adjacent flat faces of the bar forming said stem have a tendency to spring apart by their resiliency and to form an angle with each other. The end of the handle 11 is protected by a ferrule 13 provided with an aperture in alinement with that of handle 11. When stem 12*a* is driven into that aperture the two adjacent faces of 12*a* are forced to lie flat against each other and exert a strong pressure and consequent friction against the surrounding wall formed by handle 12 which friction holds yoke 12 permanently fixed to said handle.

The two free ends 12*c* of the forked yoke have each an aperture therethrough in horizontal direction which apertures are in alinement with each other and each hold a bolt 14 tightly fitted therein. On each of said bolts 14 is mounted a bushing 15 provided at one of its end-faces with a transverse groove so that parallel ledges 15*a* are formed thereon. Between these ledges the parallel ends 12*c* of the forked frame are accommodated and prevent rotary motion of bushings 15 on bolts 14 (see Fig. 5). The opposite ends of bushings 15 have a shoulder 15*b* and a tubular projection 15*c* on which the mop frame 18 is rotatably mounted and which also carries a washer 16 which may be pressed against the mop frame and the latter against shoulder 15*b* by means of a wing nut 19. Bushings 15 and washers 16 are preferably made of vulcanized fibre or similar material which has a high coefficient of friction. The mop frame 18 consists preferably of a plurality of wire strands between which soft mop material 20 is intertwisted. This frame with the mop material thereon has the shape of a closed loop preferably of the elongated form shown in Fig. 1. On diametrically opposite sides of this loop rings 18*a* are formed in the frame 18 and these rings embrace a preferably metallic collar 17 provided with two parallel flanges on the outside of rings 18*a*. These collars 17 are held tightly by the twist of the wire strands which form the rings 18*a*. Collars 17 with frame 18 are mounted to rotate freely on the tubular projections 18*c* and their wide flanges provide a large surface for clamping them and frame 18 between shoulders 15*b* and washer 16 when nuts 19 are tightened against them.

The above described novel construction has many features of advantage over similar older devices. One of the most important advantages is the feature that the mop ma-

terial near the axis of the forked frame does nut rub against the frame parts 12*c* which is accomplished by the bushings 15 which form distance pieces between the mop frame 18 and the forked supporting frame 12. Another feature of advantage is provided by the flanged collar 17 which permits a smooth and uniform rotary motion of the frame 18 on its axis and also provides means for an efficient clamping action.

The construction of the supporting frame 12 of a single and continuous metallic rod which by the spring action of stem 12*a* forms efficient holding means on handle 11 eliminates separate fastening means, assures alinement of the bolts 14 and simplifies manufacturing operations whereby the cost of the device can be considerably reduced.

While I have above described a preferred form of my invention it shall be understood that modifications may be made in the design and arrangements of parts, or in the construction of details which come within the scope and spirit of the invention as claimed.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A mop including a handle, a forked yoke on said handle, said yoke having two parallel arms, pivot-bolts held by said arms in axial alinement to each other, a looped frame rotatably mounted on said pivot bolts, mop material on said frame and distance pieces between said mop frame and each of said arms providing means to hold said mop material spaced from said arms.

2. A mop including a handle, having an axial aperture, a forked yoke on said handle consisting of a single metallic bar doubled upon itself in its middle portion to form a stem for insertion into said handle, said stem consisting of two parts tending to spread apart by their resiliency to exert pressure against the handle surrounding said stem, arms integral with said stem outside of said handle, a looped mop frame pivotally held between said arms and means on each arm to clamp said frame thereto.

3. A mop including a handle, a forked yoke on said handle having two arms parallel to each other, pivot-bolts in said arms in axial alinement with each other, a looped frame rotatably mounted on said pivot bolts, said frame consisting of twisted wire strands, mop material intertwisted between said strands and a pair of flanged collars held by the twist of said strands in axial alinement at opposite ends of said frame, said collars being mounted on said pivot bolts for rotation thereon, and means on said bolts to clamp said collars against said frame.

4. A mop including a handle, a forked yoke on said handle having parallel arms, pivot bolts on said arms in axial alinement with each other, a bushing on each bolt between said arms, a looped mop frame rotatably mounted on said bushings, means to clamp said frame against said bushings to hold said frame in fixed position on said yoke and means holding said bushings in fixed position on said arms.

Signed at Brooklyn, in the county of Kings and State of New York, this 20th day of March, A. D. 1930.

HARRY HERTZBERG.