

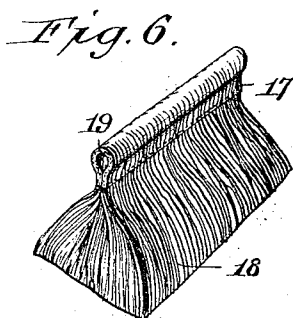
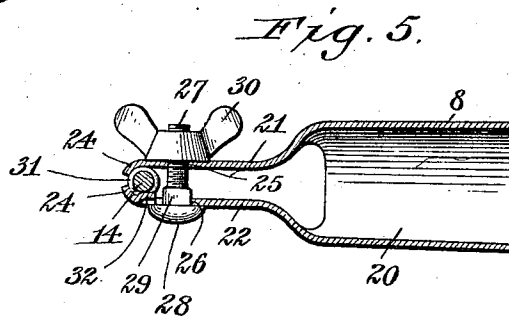
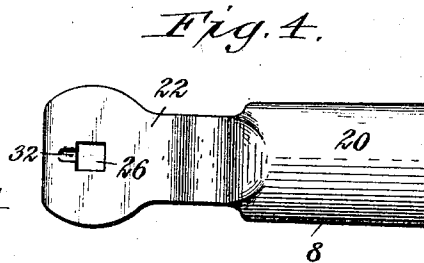
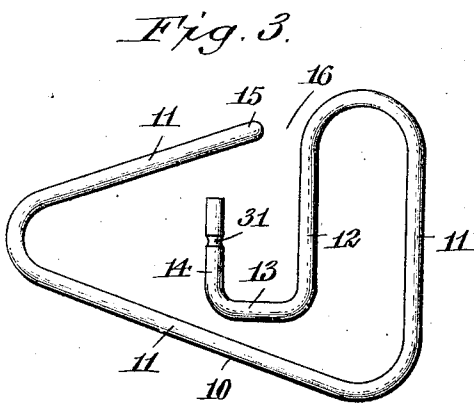
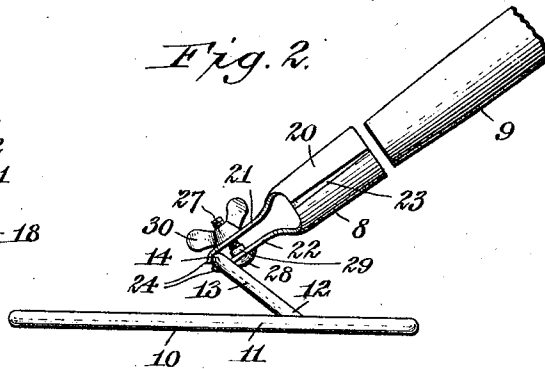
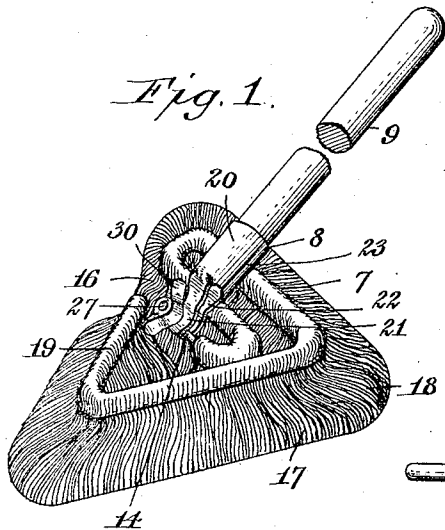
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CONNECTOR FOR MOPS AND THE LIKE

Filed March 27, 1920



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CONNECTOR FOR MOPS AND THE LIKE.

Application filed March 27, 1920. Serial No. 369,189.

To all whom it may concern:

Be it known that I, CHARLES CÁBANA, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Connectors for Mops and the like, of which the following is a specification.

My invention relates to improvements in connectors, and more particularly to that type of connector adapted to connect a handle with a mop head, brush head, or other similar article.

The primary object of my invention is the provision of a device of this character, which is simple in construction, economical in production, and easy to operate.

A further object is to provide a device of this kind having a handle-receiving socket and a clamping portion or members for engaging a portion of a mop head or similar article, and wherein both the mop head and the handle will be effectively connected by the employment of a single clamping element, such as a screw bolt or the like.

A still further object of my invention is the production of a device of this character, stamped from a single sheet of metal and having a socket portion slightly tapered toward one end and slit lengthwise with the slit slightly larger at the narrow end of said socket than at the wide end thereof, and a portion adjoining said socket portion through which a screw bolt or other clamping element is passed and whereby the socket portion is reduced in diameter so as to effectually clamp a handle placed therein.

A still further object of my invention is the production of a device of this kind having parts pivotally connected and frictionally retained and having as an element of safety, means to prevent disengagement of the parts when the friction between the parts is accidentally reduced.

With these and other objects in view, to appear hereinafter, the invention consists in a connector having a handle-receiving socket at one end, a clamping portion extending from one end of said socket, and a clamping element passed through said clamping portion to cause an article to be clamped and at the same time cause a handle inserted into

said socket portion to be clamped while clamping said article.

It further consists in a connector formed of sheet metal fashioned into a socket slit lengthwise and having the slit gradually widened toward one end, said socket having spaced extensions at one end, and a clamping element passed through said extensions for the purpose of clamping an article therebetween and simultaneously clamping a handle within said socket.

It further consists in the novel features of construction, and in the arrangement and combination of parts to be hereinafter described and more particularly pointed out in the subjoined claims.

In the drawings:—

Fig. 1 is a perspective view of a polishing mop having the mop head and the handle thereof connected by means of my improved connector, the handle being shown reduced in length by breaking the same between the ends.

Fig. 2 is a side elevation showing the polishing swab removed from the frame of the mop head and the handle withdrawn from the socket of the connector.

Fig. 3 is a plan view of the frame of the mop head.

Fig. 4 is an enlarged bottom plan view of my improved connector, with the clamping bolt omitted.

Fig. 5 is a central longitudinal section through the connector and the portion of the mop head frame clamped thereby.

Fig. 6 is a sectional perspective view of the swab adapted to be applied to the frame of the mop head.

In the drawings, I have illustrated a polishing-mop head connected to a handle by means of my improved connector, but it is to be understood that a brush or other implement having a transversely-directed securing portion may be substituted for the mop head shown.

The reference numeral 7 designates the mop head, 8 my improved connector, and 9 the handle of the mop. While the mop head shown is particularly adapted for use in connection with my improved connector, it is merely representative of an article of utility capable of being used in connection with my

improved connector; and to better illustrate the advantages of my invention in connection with a mop head of this kind, I have shown the frame of the mop head and the polishing swab in detail.

The frame 10 is preferably formed of stiff wire bent into triangular formation so as to provide a plurality of sides 11 in the same plane and having what I term a "filler portion" 12 formed by directing the wire inwardly from one side within the space bounded by said sides and re-bending the wire upon itself, as at 13 in a different plane to provide an elevated pivot portion 14.

The extremity of the wire forming said frame terminates in a free end 15 at one side of the triangle, thus leaving a gap 16 between it and the filler portion 12. To this frame is applied a flexible mopping element or swab 17 which is composed of a mass of fibrous strands or yarns 18 surmounted by and secured to an extended or longitudinal continuous loop portion 19. This swab is attached to the frame by the simple operation of slipping the longitudinal loop 19 onto the wire by entering the outer or free end 15 of the frame into one end of the loop and then threading said loop upon the side members 11 of the frame and also upon the filler portion 12, leaving, however, the inner or opposite free end of the frame exposed for connection thereto of my improved connector. The swab is retained on the frame by frictional contact therewith and by the adjoining parts being subjected to counteracting pushing and pulling strains set up by the manipulation of the mop. The removal of the swab is the converse.

My improved connector is formed of sheet metal fashioned into a socket portion 20 at one end and two clamping portions or members 21, 22 projecting from one end of said socket portion. As the connector portion is invariably in an inclined position when in use, I will refer to that end thereof having the socket portion as the upper end of the connector, while that end formed by the clamping members 21, 22 may be considered as at the lower end of said connector.

The socket portion 20 is tapered in a downward direction and is slit lengthwise, as at 23, with the slit gradually widened toward its lower end. The clamping members 21, 22 extend from diametrically opposite points of the socket portion at the lower end thereof with the slit of said socket portion in a plane between said clamping members, and said clamping members are bent inwardly to approach each other so as to somewhat restrict the space between the two, as best shown in Fig. 5. The lower or free ends of said clamping members are curved inwardly toward each other, as at 24, forming what may be termed a seat for the pivot portion

14 of the mop frame. As clearly shown in Fig. 5, said pivot portion is slipped between the two clamping members and lies in contact with the inwardly curved ends of the latter, and in rear of said pivot portion the clamping members of said connector are yielding or flexible and provided with alined bolt holes 25, 26, the lower clamping member 22 preferably having its bolt hole square. Through said alined bolt holes a clamping screw bolt 27 is passed, said screw bolt having a head 28 at its lower end, a square portion 29 adjacent said head fitted in the square opening 26 in the lower clamping member 22 and having also a thumb nut 30 applied to the upper projecting end thereof whereby the two clamping members may be drawn together to clamp the pivot portion of the mop frame.

It is to be noted that this clamping bolt is therefore positioned between the seat for the pivot portion of the frame and the socket portion of the connector. The handle 9 has its lower or inner end slightly tapered and when entered in the socket portion of the connector it will be clamped by the tightening of the screw bolt 27 at the same time that the pivot portion of the mop frame is clamped in the connector. The clamping of the handle is assured by reason of the fact that the socket portion of the connector has a slit gradually enlarged toward the clamping bolt and the drawing together of the two clamping members 21, 22 will also cause the lower end of the socket portion to close upon the inserted handle, the slit 23 of the socket portion gradually closing until the opposing walls thereof are substantially parallel, the clamping effect being greater at the lower end of the socket than the upper end, but being gradually imparted along the full length of the socket so that assurance is had of the handle being securely fastened in the socket simultaneously with the clamping of the connector to the mop frame.

While not found necessary to the production of a practicable connector, I nevertheless prefer to provide the pivot portion 14 of the mop frame with a depression 31, preferably in the form of a circumferential groove, and I provide the lower clamping member 22 of the connector with an internal projection 32 adjacent the square bolt hole therein, said projection fitting into the circumferential groove of the pivot portion of the mop frame. This internal projection is preferably in the form of a blister stamped from the metal adjacent the square bolt hole.

While the connector is preferably used as shown in Fig. 1, with the thumb nut at the top, it is quite apparent that it may be reversed so that the head of the screw bolt will be at the top. The advantage of having the thumb nut 30 at the top is the convenience in adjusting the friction between the

pivot portion 14 of the frame and the connector. The friction should at all times be sufficient to retain the handle at any angle it may be placed; but should not be great enough to prevent changing of the angularity of the handle while manipulating the mop and exerting pressure on the handle in an upward or downward direction. The advantage of having the head of the bolt at the top is that there are practically no projecting parts which might come in contact with portions of furniture when reaching underneath while mopping or polishing floors, but to adjust the friction on the pivot portion of the frame, the handle would have to be swung forwardly in order to conveniently manipulate the thumb screw.

While the circumferential groove in the pivot portion of the frame prevents lateral movement of the connector from said pivot portion, and consequently disconnection of the handle from the mop head, I nevertheless find with proper care in the use of the mop that this groove can be dispensed with, as the friction between the connector and the pivot portion 14 of the frame will be sufficient, if properly maintained, to prevent disconnection of the connector from the mop head.

Having thus described my invention, what I claim is:—

1. A connector of the kind described, comprising a socket portion adapted to receive a handle and having a slit formed longitudinally therein and gradually widened toward one end, a pair of integral clamping members projecting from said socket portion, and a clamping device to draw said clamping members toward each other and simultaneously clamp said socket portion on said handle.

2. The combination of a mop head having a transversely-directed pivot-portion provided with a circumferential groove, and a connector comprising a socket portion at one end, a pair of spaced clamping members at the other end between which said pivot-portion is positioned and having aligned bolt holes between said last-mentioned end and said socket portion, and a projection on the inner face of one of said clamping members adjacent its bolt hole, said projection being entered in the circumferential groove of said pivot-portion.

3. The combination of a mop head having a transversely-directed pivot-portion provided with a depression, and a connector comprising a socket portion, a pair of spaced clamping members projecting from one end of said socket portion between which said pivot-portion is positioned, said clamping members having aligned bolt holes between their free ends and said socket portion and a clamping bolt extending through said bolt

holes, one of said clamping members having the metal adjacent its bolt holes blistered inwardly to form a projection fitting into the depression of said pivot-portion.

4. The combination of a mop head having a transversely-directed pivot portion provided with a depression, a connector member having a socket and a pair of clamping members between which said pivot portion is placed, said members having aligned bolt holes and one of said members having a projection on its inner face adapted to enter the depression of said pivot portion, and a clamping bolt passed through said aligned bolt holes.

5. The combination of a mop head having a transversely-directed pivot portion provided with a depression, and a metallic connector having two spaced members connected together at one of their ends and between the free end portions of which said pivot portion is positioned, said clamping members having aligned bolt holes and one of said clamping members having the metal thereof blistered inwardly to form a projection fitting the depression of said pivot portion, and a clamping screw passing through clamping members.

6. The combination of a mop head having a transversely-disposed pivot portion with a depression therein, a connector having a socket and two clamping members connected together at one end by said socket and spaced apart at the other end, said spaced ends having inwardly-directed terminals to form a clamping seat against which said pivot portion is seated and means between said socket and said clamping seat to retain said connector on said pivot portion, one of said clamping members having the metal adjacent its bolt hole blistered inwardly to form a projection fitting into the depression of said pivot portion.

7. The combination of a mop head having a transversely-disposed pivot portion provided with a circumferential groove, an integral connector formed of sheet metal fashioned into a handle-receiving socket and a pair of spaced clamping members projecting from one end of said socket, said socket being slitted lengthwise in a plane between said clamping members, said clamping members having aligned bolt holes between said socket portion and their free ends and having said free ends directed inwardly toward each other with said pivot portion between them, one of said clamping members having the metal adjacent its bolt hole blistered inwardly to form a projection fitting into the circumferential groove of said pivot portion.

In testimony whereof I affix my signature.

CHARLES CÁBANA.