April 28, 1931. A. C. KOOTZ 1,802,949

COMBINED MOP AND WRINGER

Filed Oct. 21, 1929

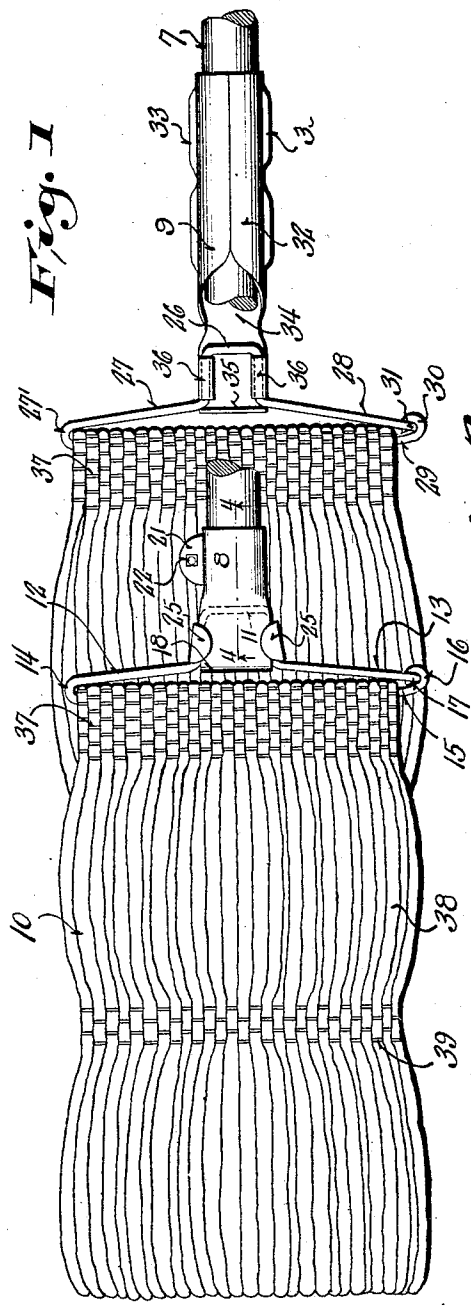


Fig. 1

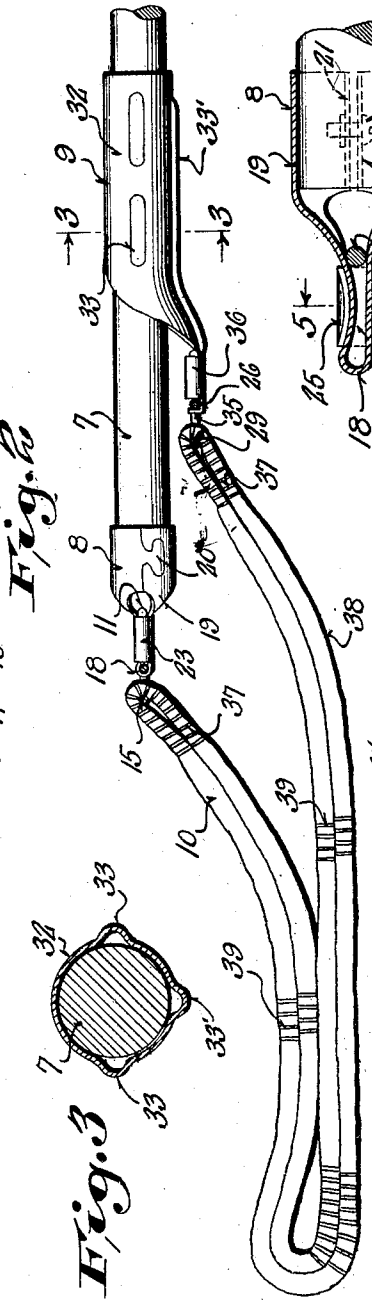


Fig. 2

Fig. 3

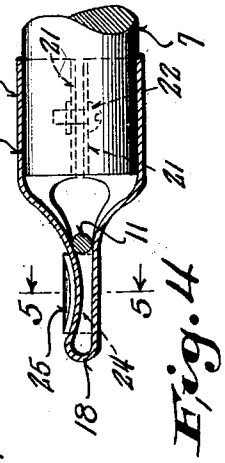


Fig. 4



Fig. 5

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UNITED STATES PATENT OFFICE

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COMBINED MOP AND WRINGER

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The invention relates to a combined mop and wringer.

In devices of this type heretofore proposed the mop pad has been secured at one end to a connector fixedly secured to the end of the operating handle and at its other end to a connector rotatably mounted on the handle. Owing to the fixed connection used between mop pad and the end of the handle, if the handle broke adjacent its lower end the device was practically rendered useless. One of the objects of this invention is to provide a combined mop and wringer in which the connector between the lower end of the handle and the mop pad is readily attachable and detachable from the handle so that in case the handle breaks at this end the mop may be readily restored to its original useful condition.

So far as I am aware, in all mops of the character above described the mop pads have been made by stitching the parts together at one or both ends in conjunction with canvas or other fabric connectors. Such constructions are difficult to run through a wringer when it is desired to wash the same and are expensive and involve the separate operation of securing the ends together. Another object of the present invention is to provide a mop pad formed as an endless, woven fabric in which the end portions that pass through the connectors are of woven fabric structure and in which the portion between the ends is formed for the most part of only the warp or longitudinally extending strands which are woven together at spaced intervals to prevent their catching on projecting portions of the device and facilitate the use of the mop and insure its lying flat when in use, and whereby the entire pad is formed in one operation on the loom and is ready for assembly to the mop.

A further object of the invention is to provide connectors for the pad of sheet metal and wire construction, which may be readily assembled on the handle and connected to the mop pad.

The invention further consists in the several features hereinafter set forth and more particularly defined by claims at the conclusion hereof.

In the drawings Fig. 1 is a plan view of the combined mop and wringer, in operative position, parts of the handle being broken away;

Fig. 2 is a side elevation view of the device;

Fig. 3 is a detail, sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is a detail, vertical, sectional view through one of the connectors, taken on the line 4—4 of Fig. 1;

Fig. 5 is a detail, transverse, sectional view taken on the line 5—5 of Fig. 4.

Referring to the drawings the numeral 7 designates a handle in the form of a round rod, 8 and 9 the connectors and 10 the mop pad.

The connector 8 includes a heavy steel or iron wire formed to provide a U-shaped central portion 11 having branches 12 and 13, the branch 12 extending laterally and being bent, as at 14, to form a transverse mop-receiving portion 15 having an eyed end 16, the other branch 13 having a hook 17 at its end adapted to be engaged in the eye 16. The connector further includes a socket portion of sheet metal to which the wire portion above described is firmly secured and by which the connector is detachably clamped to the handle 7. This socket portion is formed from a sheet metal blank which is bent longitudinally to provide a yoke portion 18 receiving the U-shaped central portion 11 of the wire and is bent rearwardly of said yoke portion to provide a split socket 19. This socket 19 is formed by connecting the top and bottom portions of the pressed metal sheet by an interlocking tongue and groove 20 at one side, shaping these portions into semi-cylindrical halves and providing laterally extending ears 21 at the other separated sides of said top and bottom portions, apertured to receive a clamping bolt 22 for drawing the socket into firm clamping engagement with the handle. To firmly lock the wire to the yoke, in addition to the clamping pressure exerted by the sides of said yoke on the transverse portion of the U-bend 11, extensions 23 of the lower side of the yoke are turned upward-

ly, as at 24 in Fig. 5, and then bent over and against the top side of the yoke, as at 25, and pressed therewith firmly against the side portions of the U-bend 11. This construction provides a combination wire and sheet metal connector in which the sheet metal forms a handle-receiving socket which may be easily clamped to the handle and readily re-attached to the handle by the ordinary housewife in case the lower end of the handle breaks, and one in which the pad-carrying wire is firmly anchored to the sheet metal socket portion of the connector.

The connector 9 includes a heavy steel or iron wire formed similar to the first connector to provide a central U-bend portion 26 having branches 27 and 28, the branch 26 extending laterally and being bent, as at 27′, to form a transverse, mop-receiving portion 29 having an eyed end 30, the other branch 27 having a hook 31 at its end adapted to be engaged in the eye 30. This connector further includes a sleeve 32 formed from a sheet metal blank having raised, hand-gripping portions 33 and a reinforcing rib 33′ and an end portion 34 to which the U-bend 26 is firmly connected by a front flange 35 and side flanges 36. The front flange 35 abuts against the base portions of the legs of the U-bend and the flanges 36 are bent over the legs of the U-bend adjacent this flange and clamp said legs between said flanges and the main body portion of said end 34. The sleeve 32 is adapted to slide and rotate freely on the handle 7.

In each instance the end wire portions of the connectors are sufficiently yieldable to permit the connection and disconnection of the hooks and eyes and it will be observed that these connections are made at the ends of the mop-receiving parts of the wire so that they may be readily manipulated without interference from the mop pad.

The mop pad 10 is preferably in the form of an endless woven band without any seams. At the sections 37, where this band is looped over the parts 15 and 29 of the connectors 8 and 9, the pad is formed as a woven fabric and between these portions the pad is formed by the warp or longitudinally extending stands 38 which are connected together at intervals by the cross-woven strands 39 so as to prevent the strands 38 from getting caught in the connectors. This pad is made at one operation on a suitable loom and except for the catching of the cross threads 39, where several pads are made at one time, is ready for assembly to the mop.

The pad thus formed is readily assembled to the mop by opening the connectors and inserting the parts 15 and 29 of the wires through the looped ends of the pad and connecting the hooks and eyes of said connectors together, as shown in Fig. 1.

With the parts in the position shown in Figs. 1 and 2, the mop is used in the usual manner to clean floors or other places and is generally used wet.

For wringing the mop the connector 9 is slid back toward the outer end of the handle so as to place the pad in an elongated, stretched condition, after which either the handle is turned relative to the connector 9 or said connector is turned relative to the handle so that the pad is twisted about the handle to produce a wringing action in order to expel the water therefrom and thereafter the connector 9 is moved back to the original position for subsequent mopping operations.

I desire it to be understood that this invention is not to be limited to any particular form or arrangement of parts except insofar as such limitations are included in the claims.

What I claim as my invention is:

1. In a mop of the type described, the combination of a handle, a connector having a sheet metal socket portion secured to the handle and a wire formed into a loop having a medially disposed bend in one side clamped between parts of said socket portion and a releasable connection at its ends, a connector having a sheet metal sleeve portion slidably and rotatably mounted on the handle and a wire formed into a loop having a medially disposed bend in one side clamped between portions of said sleeve portion and a releasable connection at its ends, and a mopping pad having looped ends carried in said wire loops.

2. In a mop of the type described, the combination of a handle, a connector having a sheet metal socket portion secured to the handle, a wire having a transversely extending mop pad receiving and supporting portion and a bent portion, said connector having an end portion in which said bent portion is mounted and firmly clamped by parts of said end portion, a connector having a sheet metal sleeve portion slidably and rotatably mounted on said handle and provided with a clamping portion, a wire having a transversely extending mop pad receiving and supporting portion and provided with a bent portion secured to last named connector by said clamping portion, and a mopping pad having ends carried by the transversely extending portions of said connectors.

3. In a mop of the type described, the combination of a handle, a connector having a sheet metal socket portion secured to the handle and an end portion forming a wire receiving pocket, a wire having a transversely extending mop pad receiving and supporting portion and a U-bend portion mounted in said pocket and clamped therein by parts thereof, a connector having a sheet metal sleeve portion slidably and rotatably mounted on said handle and provided with a clamping portion, a wire having a transversely extending mop pad receiving and supporting portion

and a U-bend portion secured to said last named connector by said clamping portion, and a mopping pad having ends carried by the transversely extending portions of said connectors.

In testimony whereof, I affix my signature.

ARTHUR C. KOOTZ.